



**Welcome** to the 2005 Weed Control Results for the Iowa State University Weed Science Program. We are pleased to present this report to you in an electronic format. Included are the individual experiments and supplemental information. We hope you find this format convenient and useful.

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## **Caveat**

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The information in this report is not to be used for publication without the express consent of the Weed Science Program Project Leader. Information contained within does not constitute a recommendation or endorsement of product use. Recommendations for weed control in field crops are available from Iowa State University Extension, Iowa State University, Ames, Iowa.

## **Acknowledgements**

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- Dow AgroSciences
- Dupont Crop Protection
- FMC Corporation
- Garst Seeds
- Gowan Company
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## **Acknowledgements (continued)**

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- UAP – Loveland Industries
- United Suppliers, Inc.
- Valent USA Corporation

## Abbreviations

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Results contained in the ISU Weed Control Results report are generated by Agriculture Research Manager (ARM) software and uses various abbreviations for treatment, application timing, crop and weed species, and observation information.

### Treatment and application information

<u>Abbreviation</u>	<u>Description</u>
% v/v	Percent volume of product per volume mix basis
% w/v	Percent weight of product per volume mix basis
% w/w	Percent weight of product per weight mix basis
DPOST	Directed postemergence timing
EPOST	Early postemergence timing
EPP	Early preplant timing
FALL	Fall timing
FL OZ/A	Fluid ounces product per acre
GAL/100 GAL	Gallons per 100 gallons mix
LB A/A	Pounds active ingredient per acre
LB AE/A	Pounds acid equivalent per acre
LB/100 GAL	Pounds dry product per 100 gallons mix
LB/A	Pounds product per acre
LPOST	Late postemergence timing
MPOST	Mid-postemergence timing
OZ WT/A	Ounces dry product per acre
POST	Postemergence timing
PPI	Preplant incorporated timing
PRE	Preemergence timing
PT/100 GAL	Pints per 100 gallons mix
PT/A	Pints material per acre
QT/A	Quarts material per acre
SPIKE	Spike corn timing
SPOST	Sequential postemergence timing

### Crop and weed species information

Crop and weed species are designated with the 5-letter Bayer code.

<u>Abbreviation</u>	<u>Common name</u>	<u>Genus species</u>
ABUTH	velvetleaf	<i>Abutilon theophrasti</i>
AMATA	common waterhemp	<i>Amaranthus rudis</i>
AMBEL	common ragweed	<i>Ambrosia elatior</i> L.
CHEAL	common lambsquarters	<i>Chenopodium album</i>
ERBVI	woolly cupgrass	<i>Eriochloa villosa</i>

## Abbreviations (continued)

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### Crop and weed species information

<u>Abbreviation</u>	<u>Common name</u>	<u>Genus species</u>
ERICA	horseweed	<i>Erigeron canadensis</i> L.
GLXMA	soybean	<i>Glycine max</i>
HIBTR	Venice mallow	<i>Hibiscus trionum</i> L.
IPOHE	ivy leaf morning glory	<i>Ipomoea hederacea</i> (L.) Jacq.
POLPY	Pennsylvania smartweed	<i>Polygonum pensylvanicum</i>
SETFA	giant foxtail	<i>Setaria faberi</i>
SETLU	yellow foxtail	<i>Setaria lutescens</i>
SETSS	foxtail species mix	<i>Setaria</i>
SORVU	shattercane	<i>Sorghum bicolor</i> (L.) Moench.
TAROF	common dandelion	<i>Taraxacum officinale</i>
XANST	common cocklebur	<i>Xanthium strumarium</i>
ZEAMD	corn	<i>Zea mays</i>

### Observation information

Visual estimates of % crop phytotoxicity and weed control are compared to an untreated control and made on a 0 to 100 rating scale (0 percent = no crop phytotoxicity or weed control; 100 percent = complete crop death or weed control). Corn stand for 30 inch row spacing is measured at 17.42 row feet and is equivalent to 1/1000<sup>th</sup> acre.

<u>Abbreviation</u>	<u>Description</u>
BU/A	Bushels per acre
CONTROL	% control
DA-A	Days after application timing code A
PHYTO	% phytotoxicity – crop injury
STAND	Crop stand

## Products used in 2005 Research Program

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
<b>Herbicide</b>		
2, 4-D LV4 4 SL	2, 4-D LV4	Agrilience
Accent 75 DG	Nicosulfuron	Dupont
AE FO 39866 00 SL18 L4 1.67 SL	Glufosinate	Bayer CropScience
Aim 2 EW	Carfentrazone	FMC
Assure II 0.88 EC	Quizalofop-P	Dupont
Atrazine 4 L	Atrazine	Syngenta
Atrazine 90 DF	Atrazine	Syngenta
Authority 75 DF	Sulfentrazone	Dupont
Balance Pro 4 SC	Isoxaflutole	Bayer CropScience
Barrage HF 4.7 SL	2, 4-D LV ester	Helena Chemical Co.
Basagran 4 SL	Bentazon	BASF
Beacon 75 DF	Primisulfuron	Syngenta
Buctril 4 EC	Bromoxynil	Bayer CropScience
Callisto 4 SC	Mesotrione	Syngenta
Cinch 7.64 EC	S-metolachlor	Dupont
Clarity 4 SL	Dicamba	BASF
Classic 25 DG	Chlorimuron ethyl	Dupont
Cobra 2 EC	Lactofen	Valent
Define 4 SC	Flufenacet	Bayer CropScience
Degree 3.8 CS	Acetochlor & MON 4660	Monsanto
DPX-E9636 25 DF	Rimsulfuron	Dupont
Dual II Magnum 7.64 EC	S-metolachlor & CGA-154281	Syngenta
Equip 32 WG	Foramsulfuron & iodosulfuron	Bayer CropScience
FirstRate 84 WG	Cloransulam	Dow AgroSciences
Flexstar 1.88 HL	Fomesafen & adjuvant	Syngenta
Gangster FR	Cloransulam-methyl	Valent
Gangster V	Flumioxazin	Valent
Glyphomax 3 SL (lb ae)	Glyphosate	Dow AgroSciences
Glyphomax XRT 4 SL (lb ae)	Glyphosate	Dow AgroSciences
Gramoxone Inteon 2 SL	Paraquat	Syngenta
GWN-3039	-	Gowan Company
GWN-3041	-	Gowan Company
Harmony GT XP 75 DF	Thifensulfuron	Dupont
Harness 7 EC	Acetochlor & MON 4660	Monsanto
Impact 2.8 SC	Topramezone	AMVAC Chemical
Imperium 7 EC	EPTC & acetochlor	Gowan Company

## Products used in 2005 Research Program (continued)

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
<b>Herbicide</b>		
KIH-485 60 WG	-	Kumiai Chemical
Liberty 1.67 SL	Glufosinate	Bayer CropScience
MANA-Ace 6.4 EC	-	Makhteshim-Agan
Option 35 WDG	Foramsulfuron	Bayer CropScience
Outlook 6 EC	Dimethenamid-P	BASF
Parallel II 7.8 EC	Metolachlor	Makhteshim-Agan
Pendimax 3.3 EC	Pendimethalin	Dow AgroSciences
Phoenix 2 EC	Lactofen	Valent
Princep 4 L	Simazine	Syngenta
Prowl H2O 3.8 EC	Pendimethalin	BASF
Python 80 WG	Flumetsulam	Dow AgroSciences
Raptor 1 SL	Imazamox	BASF
Roundup Original 3 SL (lb ae)	Glyphosate	Monsanto
Roundup Original Max 4.5 SL (lb ae)	Glyphosate	Monsanto
Roundup WeatherMAX 4.5 SL (lb ae)	Glyphosate	Monsanto
Select 2 EC	Clethodim	Valent
Select Max 1 EC	Clethodim	Valent
Stalwart C 7.8 EC	Metolachlor	Sipcam Agro USA
Surpass 6.4 EC	Acetochlor & dichlormid	Dow AgroSciences
Targa 0.88 EC	Quizalofop	Gowan Company
Touchdown Total 4.17 L (lb ae)	Glyphosate	Syngenta
Ultra Blazer 2 SL	Acifluorfen	BASF
V-10139	-	Valent
V-10149	-	Valent
Valor SX 51 WG	Flumioxazin	Valent
Weedone LV4 3.8 SL	2, 4-D ester	Bayer CropScience
<b>Herbicide Prepackage Mixture</b>		
Ace+Atraz 5.28 L	-	Makhteshim-Agan
Basis 75 SG	Rimsulfuron & thifensulfuron	Dupont
Bicep II Magnum 5.5 L	S-metolachlor & atrazine & CGA-154281	Syngenta
Bicep Lite II Magnum 6 L	S-metolachlor & atrazine & CGA-154281	Syngenta
Boundary 6.5 EC	S-metolachlor & metribuzin & CGA-154281	Syngenta
Buctril+Atrazine 3 SC	Bromoxynil & atrazine	Bayer CropScience
Camix 3.67 SE	S-metolachlor & mesotrione	Syngenta

## Products used in 2005 Research Program (continued)

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
<b>Herbicide Prepackage Mixture</b>		
Cinch ATZ 5.5 L	S-metolachlor & atrazine	Dupont
Degree Xtra 4.04 CS	Acetochlor & safener & atrazine	Monsanto
Distinct 70 WG	Dicamba & diflufenzopyr	BASF
Domain 60 DF	Flufenacet & metribuzin	Bayer CropScience
Extreme 2.17 SL	Imazethapyr & glyphosate	BASF
FulTime 4 SC	Acetochlor & safener & atrazine	Dow AgroSciences
Fusion 2.66 EC	Fluazifop-P & fenoxaprop	Syngenta
Gangster	Cloransulam-methyl & flumioxazin	Valent USA Corp.
G-Max Lite 5 SL	Dimethenamid & atrazine	BASF
Guardsman Max 5 SC	Dimethenamid-P & atrazine	BASF
Harness Xtra 5.6 EC	Acetochlor & safener & atrazine	Monsanto
Harness Xtra 6 SE	Acetochlor & safener & atrazine	Monsanto
Hornet WDG 68.5 WG	Flumetsulam & clopyralid	Dow AgroSciences
Keystone 5.25 SE	Acetochlor & atrazine	Dow AgroSciences
Lexar 3.7 SE	S-metolachlor & mesotrione & atrazine	Syngenta
Lumax 3.95 SE	S-metolachlor & mesotrione & atrazine	Syngenta
MANA-283 5.97 SL	-	Makhteshim-Agan
MANA-284 5.5 SL	-	Makhteshim-Agan
Marksman 3.2 FL	Dicamba & atrazine	BASF
Pursuit Plus 2.95 SL	Imazethapyr & pendimethalin	BASF
Radius 4 SC	Flufenacet & isoxaflutole	Bayer CropScience
Stalwart Xtra 5.5 L	Atrazine & metolachlor	Sipcam Agro USA
Steadfast 75 WG	Nicosulfuron & rimsulfuron	Dupont
<b>Fungicide</b>		
Domark 1.9 ME	Tetraconazole	Valent
Folicur 3.6 F	Tebuconazole	Bayer CropScience
Stratego 2.08 EC	Propiconazole & trifloxystrobin	Bayer CropScience
Absolute 4.17 SC	Trifloxystrobin & tebuconazole	Bayer CropScience
<b>Insecticide</b>		
Baythroid 2 EC	Cyfluthrin	Bayer CropScience

## Products used in 2005 Research Program (continued)

Commercial Name or Experimental Number	Common Name or Experimental Number	Company
<b>Additive &amp; Classification</b>		
28%N	Urea ammonium nitrate	United Suppliers
Agridex	Crop oil concentrate	-
AMS (S-Sul ammonium sulfate)	Sprayable ammonium sulfate	American Plant Food
AMSol	Liquid ammonium sulfate	United Suppliers
Choice Weather Master	Water conditioning agent	UAP-Loveland Ind.
Citraplex Zn	Zinc sulfate	UAP-Loveland Ind.
COC (Herbimax Crop Oil Concentrate)	Oil-surfactant adjuvant	UAP-Loveland Ind.
Destiny	Modified vegetable oil and non-ionic surfactant	Agriliance, LLC.
Effective	Premium oil surfactant/water conditioner	UAP-Loveland Ind.
Induce	Non-ionic low foam wetter/spreader adjuvant	Helena Chemical Co.
LI 166	-	UAP-Loveland Ind.
LI 168	-	UAP-Loveland Ind.
LI 169	-	UAP-Loveland Ind.
LI 170	-	UAP-Loveland Ind.
MSO (Meth Oil)	Methylated seed oil plus surfactant	UAP-Loveland Ind.
NIS (Activator 90)	Non-ionic surfactant/penetrant	UAP-Loveland Ind.

## Weather Data – Year 2005

Data obtained from Iowa State University, Department of Agronomy, Crop, Soil, and Environmental Sciences, Iowa Environmental Mesonet - Iowa Ag Climate Network. Web address:

<http://mesonet.agron.iastate.edu/agclimate/index.php>

Experiment locations

Ames, IA

Nashua, IA

Ogden, IA (Ames, IA weather data used for Ogden experiment location)

Temperature and Precipitation, 2005  
Ames, IA

Date	April			May			June			July			August		
	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip
	max	min	inch	max	min	inch	max	min	inch	max	min	inch	max	min	inch
1	53	35	0.00	45	33	0.00	77	59	0.00	76	58	0.00	86	65	0.00
2	61	30	0.00	52	33	0.00	83	56	0.00	79	55	0.00	87	66	0.00
3	72	40	0.00	57	31	0.00	80	61	0.00	84	61	0.00	89	72	0.36
4	80	47	0.00	69	31	0.00	78	63	0.94	79	61	0.00	77	64	0.00
5	76	52	0.00	73	43	0.00	77	58	0.00	78	58	0.00	78	57	0.00
6	69	46	0.00	77	51	0.00	89	57	0.00	79	57	0.00	81	53	0.00
7	67	42	0.00	81	60	0.00	89	68	0.00	82	62	0.00	86	54	0.00
8	68	39	0.00	82	61	0.00	76	60	0.50	84	63	0.00	88	60	0.00
9	77	49	0.00	72	55	0.00	80	66	0.00	88	66	0.00	92	65	0.25
10	77	56	0.00	82	48	0.00	80	65	0.33	87	66	0.00	85	62	0.00
11	66	53	1.65	66	51	0.00	78	63	0.33	85	65	0.00	82	66	0.31
12	57	44	0.07	56	43	0.66	81	58	0.32	85	61	0.00	77	64	0.88
13	59	39	0.00	60	45	0.00	81	60	0.00	88	66	0.00	71	59	0.36
14	66	37	0.00	52	40	0.00	73	60	0.00	89	68	0.00	74	53	0.00
15	70	42	0.00	59	37	0.00	73	55	0.00	91	69	0.00	79	54	0.00
16	70	51	0.10	67	41	0.00	80	53	0.00	91	68	0.00	81	57	0.00
17	79	51	0.00	76	51	0.00	82	56	0.00	92	66	0.43	80	61	0.37
18	78	55	0.00	67	56	0.41	82	55	0.00	81	62	0.45	85	66	0.12
19	75	61	0.00	82	51	0.00	82	57	0.00	84	59	0.00	87	61	0.00
20	68	55	0.15	66	53	0.00	86	60	0.20	90	69	0.68	84	64	0.00
21	57	49	0.16	69	50	0.19	86	65	0.00	88	69	0.21	81	62	0.00
22	65	32	0.20	79	55	0.00	90	69	0.00	87	69	0.00	74	56	0.00
23	49	32	0.00	79	54	0.00	90	70	0.00	93	71	0.00	73	54	0.00
24	59	31	0.00	76	53	0.00	91	69	0.29	92	70	0.00	73	57	0.00
25	64	34	0.00	71	50	0.33	84	64	0.43	91	70	0.72	80	64	0.00
26	49	36	0.00	72	47	0.00	88	70	0.51	71	57	0.65	81	62	0.21
27	56	35	0.00	68	44	0.00	90	64	0.89	71	52	0.00	84	54	0.00
28	54	33	0.00	71	45	0.00	83	66	0.00	78	51	0.00	82	57	0.00
29	54	33	0.00	68	49	0.25	85	70	0.25	82	60	0.00	85	55	0.00
30	52	30	0.00	75	48	0.00	81	61	0.00	83	63	0.00	82	56	0.0
31				70	56	0.00				78	64	0.14	81	53	0.00
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	65	42	2.32	69	47	1.83	83	62	4.98	84	63	3.28	81	60	2.86

Temperature and Precipitation, 2005  
Nashua, IA

Date	April			May			June			July			August		
	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip	temp °F		precip
	max	min	inch	max	min	inch	max	min	inch	max	min	inch	max	min	inch
1	51	30	0.00	45	33	0.00	81	60	0.00	74	57	0.00	88	62	0.00
2	57	28	0.00	46	29	0.00	84	56	0.00	77	55	0.00	89	67	0.00
3	72	39	0.00	54	21	0.00	81	58	0.00	80	61	0.60	87	73	0.13
4	81	46	0.00	67	29	0.00	79	62	0.79	79	62	0.00	76	58	0.57
5	72	51	0.00	75	41	0.00	77	59	0.00	76	57	0.00	81	55	0.00
6	72	48	0.00	78	51	0.04	91	56	0.00	81	56	0.00	81	54	0.00
7	65	42	0.00	80	57	0.49	91	65	0.00	82	60	0.00	86	54	0.00
8	70	38	0.00	80	59	0.53	74	60	1.46	83	64	0.00	87	62	0.00
9	76	44	0.00	71	57	0.00	79	63	0.00	87	67	0.00	91	65	0.65
10	78	54	0.00	73	53	0.00	84	66	0.08	88	66	0.00	81	64	0.00
11	69	58	0.62	62	50	0.49	82	64	0.00	86	63	0.00	75	66	0.53
12	59	42	0.48	50	40	1.42	82	61	0.00	87	60	0.00	75	63	0.00
13	59	36	0.00	59	46	0.07	83	61	0.17	89	63	0.00	73	57	0.00
14	68	33	0.00	50	39	0.00	71	60	0.06	92	67	0.00	74	52	0.00
15	71	41	0.00	51	36	0.00	70	56	0.00	92	67	0.00	78	52	0.00
16	56	50	0.39	58	32	0.06	78	51	0.00	91	68	0.00	81	56	0.00
17	78	45	0.00	77	48	0.00	81	52	0.00	92	69	0.00	82	60	0.00
18	80	53	0.00	65	55	0.35	83	54	0.00	80	63	0.50	84	64	3.80
19	73	56	0.48	75	50	0.00	84	57	0.00	86	58	0.00	87	59	0.00
20	68	52	0.00	66	52	0.00	88	60	0.22	89	67	0.80	81	63	0.00
21	55	47	0.02	61	48	0.65	86	66	0.00	86	69	0.65	76	56	0.00
22	62	36	0.29	75	51	0.01	89	65	0.00	87	65	0.00	71	52	0.00
23	46	31	0.00	72	50	0.00	92	70	0.00	90	72	0.00	73	51	0.00
24	57	28	0.00	76	50	0.00	90	64	2.90	90	69	0.31	73	53	0.00
25	57	35	0.05	68	49	0.16	81	65	1.64	89	68	1.00	79	63	0.00
26	50	35	0.01	71	45	0.06	87	66	0.00	71	56	0.00	79	62	0.29
27	53	32	0.00	66	45	0.00	90	68	0.00	72	52	0.00	82	54	0.00
28	52	27	0.00	69	47	0.00	82	63	0.54	77	51	0.00	78	52	0.00
29	52	28	0.00	71	47	0.00	84	66	0.08	80	59	0.00	82	56	0.00
30	51	28	0.00	75	44	0.00	80	60	0.00	85	64	0.00	79	56	0.00
31				74	52	0.01				82	64	0.00	79	53	0.00
	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum	Avg		Sum
	max	min	precip	max	min	precip	max	min	precip	max	min	precip	max	min	precip
	64	40	2.34	66	45	4.34	83	61	7.94	84	63	3.86	80	59	5.97

## Experiment Directory

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### Ames, IA – Field corn experiments

#### No-tillage

- ACN-1 Fall and spring applied KIH-485, Dual II Magnum, Parallel II, Outlook, Define and others for weed control in no-tillage corn production, Ames, IA, 2005.
- ACN-2 Various application timings of Define, Dual II Magnum, Harness, and Outlook for weed control in no-tillage corn production, Ames, IA, 2005.
- ACN-3 Early preplant applications of Valor SX alone and in tank-mixture with Dual II Magnum for weed control in no-tillage corn production, Ames, IA, 2005.
- ACN-4 DPX-E9636 plus Roundup WeatherMAX one pass and Basis-based two pass programs in no-tillage corn production, Ames, IA, 2005.
- ACN-5 Early preplant applications of Valor SX plus Atrazine and followed by Roundup Original MAX for weed control in no-tillage corn production, Ames, IA, 2005.
- ACN-6 Preemergence applied Gramoxone Inteon, alone, and with 2, 4-D ester followed by post-emergence Lexar applications in no-tillage corn production, Ames, IA, 2005.

#### Minimum-tillage

- ACC-1 Preemergence Keystone, Hornet, FulTime, Bicep II Magnum and Harness Xtra and postemergence Hornet, Glyphomax and Roundup WeatherMAX in corn, Ames, IA, 2005.
- ACC-2 Preemergence and postemergence applied one pass and preemergence followed by post-emergence two pass herbicide systems in corn, Ames, IA, 2005.
- ACC-3 Preplant incorporated Imperium applied alone and followed by postemergence Roundup WeatherMAX in corn, Ames, IA, 2005.
- ACC-4 Postemergence application timings of Harmony GT XP, Atrazine, Distinct, and Roundup Original in corn, Ames, IA, 2005.
- ACC-6 Preemergence and postemergence application timings of Prowl H20 in corn, Ames, IA, 2005.
- ACC-7 Preemergence applications of Radius, Balance Pro, Degree Xtra, Atrazine, Lumax and Lexar in corn, Ames, IA, 2005.
- ACC-8 Preemergence applied Dual II Magnum followed by postemergence applied Atrazine, GWN-3041, Hornet, GWN-3039, Steadfast, and Callisto in corn, Ames, IA, 2005.
- ACC-9 Preemergence applied KIH-485 plus postemergence Roundup WeatherMAX and post-emergence tank-mixtures with Roundup WeatherMAX in corn, Ames, IA, 2005.
- ACC-10 Preemergence Lumax, Lexar, Camix, Dual II Magnum and others and postemergence Touchdown Total, Callisto, and Roundup WeatherMAX in corn, Ames, IA, 2005.
- ACC-11 Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Ames, IA, 2005.
- ACC-12 Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Ames, IA, 2005.
- ACC-13 Postemergence applied Option, Distinct, Equip, Steadfast, Callisto, and Clarity in corn, Ames, IA, 2005.
- ACC-14 Postemergence applications of Steadfast, Impact, Atrazine, Callisto, Accent, Option, Distinct and others for weed control in corn, Ames, IA, 2005.
- ACC-15 Preemergence followed by postemergence applications of Impact, Atrazine, Callisto and Distinct for weed control in corn, Ames, IA, 2005.

## Experiment Directory (continued)

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### Ames, IA – Field corn experiments

#### Minimum-tillage

- ACC-16 Preemergence applied Balance Pro, Atrazine, Radius, Degree Xtra and postemergence Liberty, Option, Equip, Define and others in corn, Ames, IA, 2005.
- ACC-17 Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Ames, IA, 2005.
- ACC-18 Postemergence control of volunteer corn in continuous corn, Ames, IA, 2005.
- ACC-19 Preemergence Balance Pro, Atrazine, Harness Xtra and postemergence applied Liberty, Roundup WeatherMAX, Degree Xtra and others in corn, Ames, IA, 2005.
- ACC-20 Two pass and one pass systems utilizing Outlook, Roundup, Liberty, and Distinct in corn, Ames, IA, 2005.
- ACC-21 Preemergence applied Define and postemergence applied Liberty, Option, Callisto, Buctril plus Atrazine and others in corn, Ames, IA, 2005.
- ACC-22 Preemergence applied MANA-Ace, Surpass, Harness, and Degree in corn, Ames, IA, 2005.
- ACC-23 Preemergence applied prepackaged Ace plus Atrazine and Degree Xtra, and tank-mixtures of MANA-Ace and Degree with Atrazine in corn, Ames, IA, 2005.
- ACC-24 Preemergence applied Guardsman Max in various tank-mixtures and early postemergence Guardsman Max, Outlook, Marksman and others in corn, Ames, IA, 2005.
- ACC-25 Preemergence applied MANA-283, MANA-284, and Bicep II Magnum in corn, Ames, IA, 2005.
- SHC-1 Preemergence applications of KIH-485, Dual II Magnum and Harness for shattercane control in corn, Ames, IA, 2005.

### Ames, IA – Soybean experiments

#### Minimum-tillage

- ASC-1 Postemergence applications of Roundup WeatherMAX, Harmony GT, Classic, and Select in stacked trait soybean, Ames, IA, 2005.
- ASC-3 Postemergence applications of Select Max, V-10139 and Assure II with glyphosate for glyphosate-resistant volunteer corn control in soybean, Ames, IA, 2005.
- ASC-4 Postemergence applications of TARGA and Select with and without Roundup WeatherMAX for glyphosate-resistant corn and weed control in soybean, Ames, IA, 2005.
- ASC-5 Preemergence applied Gangster, Pendimax, Python, Pursuit Plus, Prowl H2O and postemergence FirstRate, Glyphomax and others in soybean, Ames, IA, 2005.
- ASC-6 Preemergence applied Valor SX and postemergence Roundup Original MAX, alone, and with Domark in soybean, Ames, IA, 2005.
- ASC-7 Gangster preemergence followed by postemergence FirstRate, Cobra, Select Max, V-10139, or Select for weed control in soybean, Ames, IA, 2005.
- ASC-8 Postemergence applications of Baythroid 2, Folicur, and Stratego in soybean, Ames, IA, 2005.
- ASC-9 Postemergence applications of Roundup WeatherMAX in soybean with various adjuvant replacements for AMS, Ames, IA, 2005.

## Experiment Directory (continued)

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Ames, IA – Fallow experiment

ANF-1 Aim, Barrage, and Roundup Original MAX applied in no-tillage cropping conditions for burndown weed control, Ames, IA, 2005.

Nashua, IA – Corn experiments

Minimum-tillage

NCC-1 Preemergence and postemergence applied herbicides in corn, Nashua, IA, 2005.

NCC-2 Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Nashua, IA, 2005.

NCC-3 Preemergence applied KIH-485 plus postemergence Roundup WeatherMAX and postemergence tank-mixtures with Roundup WeatherMAX in corn, Nashua, IA, 2005.

NCC-4 Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Nashua, IA, 2005.

NCC-5 Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Nashua, IA, 2005.

Nashua, IA – Soybean experiment

Minimum-tillage

NSC-1 Preemergence and postemergence applied herbicides in soybean, Nashua, IA, 2005.

Ogden, IA – Corn experiments

Minimum-tillage

OCW-1 Postemergence applied Steadfast and Steadfast plus Callisto plus Atrazine with various adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.

OCW-2 Postemergence applications of Steadfast with various tank-mix partners and adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.

OCW-3 Preemergence applications of KIH-485, Dual II Magnum and Harness for woolly cupgrass control in corn, Ogden, IA, 2005.

Ogden, IA – Soybean experiment

Minimum-tillage

OSW-1 Gangster preemergence followed by postemergence FirstRate, Cobra, Select Max, V-10139, or Select for woolly cupgrass control in soybean, Ogden, IA, 2005.

# Iowa State University

**Fall and spring applied KIH-485, Dual II Magnum, Parallel II, Outlook, Define and others for weed control in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010 Initiation Date: 11-16-04

Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate fall and spring (preemergence) applications of KIH-485, Dual II Magnum, Stalwart C, Parallel II, Outlook, Surpass and Define for crop phytotoxicity and weed control in no-tillage corn production.

**Conclusions:** There were no significant corn stand differences between treatments. None of the treatments caused corn injury. Weed species occurring in the untreated control included: giant foxtail, light to medium pressure; velvetleaf, common waterhemp and common lambsquarters, light pressure. All, year 2004 fall (FALL) applied treatments, demonstrated excellent (> 90%) giant foxtail and common waterhemp control when observed on April 29, 2005. However, only KIH-485 provided excellent velvetleaf and common lambsquarters control. Surpass and Define provided at least 93% common lambsquarters control, but less than 80% velvetleaf control. Stalwart C, Dual II Magnum and Parallel II treatments provided 60 to 83 % common lambsquarters control on April 29. Outlook provided 78% common lambsquarters control and the remaining FALL treatments gave at least 93% control.

On May 25, all treatments provided excellent giant foxtail and common waterhemp control, whether applied FALL or preemergence (PRE). KIH-485 demonstrated 70 to 80% velvetleaf control with both application timings; however no other treatments provided more than 53% control. KIH-485 gave at least 92% control of common lambsquarters, regardless of application time; all other treatments provided significantly greater common lambsquarters control for PRE over FALL applications.

Giant foxtail control on June 27 ranged from 80 to 90% for all treatments and timings, except for FALL applied Surpass and Define with 65 and 63% control, respectively. When observed on September 23, giant foxtail control was similar to that observed on June 27 for most treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8575  
Planting Date: 04-29-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The study area was left un-tilled from the 2004 soybean cropping year. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 30% at planting. Clarity plus 28%N was applied postemergence to the entire study area on June 1 at 12.0 fl oz/A plus 2.0 qt/A, respectively, to manage broadleaf weeds.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	11-16-04	04-29-05
Application Method:	SPRAY	SPRAY
Application Timing:	FALL	PRE
Applic. Placement:	BROSOI	BROSOI
Air Temp., Unit:	60 F	53 F
% Relative Humidity:	75	35
Wind Velocity, Unit:	7 MPH	8 MPH
Soil Temp., Unit:	47 F	52 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	70

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -
Stage Scale:	-	-
	-	-

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1- 2 LEAF
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTLY:1 L
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYLEDON
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-NUM
Stage Scale:	-	0.5-1.5
Density, Unit:	- -	0-2 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Fall and spring applied KIH-485, Dual II Magnum, Parallel II, Outlook, Define and others for weed control in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA	
Rating Data Type								STAND	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-29-05	04-29-05	04-29-05	04-29-05	04-29-05	05-25-05	05-25-05	
Trt-Eval Interval								91 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	26 DA-B	26 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Stg	Appl Code							
1	Untreated								27	0	0	0	0	0	0
2	KIH-485	60 WG		0.223 LB A/A	5.95 OZ WT/A		FALL A		28	99	90	99	98	0	93
3	KIH-485 Roundup WeatherMAX	60 WG 4.5 SL		0.223 LB A/A 0.77 LB AE/A	5.95 OZ WT/A 22.0 FL OZ/A		PRE B PRE B		29	0	0	0	0	0	99
4	KIH-485	60 WG		0.268 LB A/A	7.15 OZ WT/A		FALL A		28	99	96	99	99	0	96
5	KIH-485 Roundup WeatherMAX	60 WG 4.5 SL		0.268 LB A/A 0.77 LB AE/A	7.15 OZ WT/A 22.0 FL OZ/A		PRE B PRE B		27	0	0	0	0	0	98
6	Dual II Magnum	7.64 EC		1.91 LB A/A	2.0 PT/A		FALL A		29	99	47	99	83	0	93
7	Dual II Magnum Roundup WeatherMAX	7.64 EC 4.5 SL		1.91 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		28	0	0	0	0	0	96
8	Stalwart C	7.8 EC		1.95 LB A/A	2.0 PT/A		FALL A		27	99	50	99	60	0	93
9	Stalwart C Roundup WeatherMAX	7.8 EC 4.5 SL		1.95 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		27	0	0	0	0	0	95
10	Parallel II	7.8 EC		1.95 LB A/A	2.0 PT/A		FALL A		30	99	37	99	60	0	92
11	Parallel II Roundup WeatherMAX	7.8 EC 4.5 SL		1.95 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		28	0	0	0	0	0	95
12	Outlook	6 EC		0.98 LB A/A	21.0 FL OZ/A		FALL A		28	99	52	99	78	0	95
13	Outlook Roundup WeatherMAX	6 EC 4.5 SL		0.98 LB A/A 0.77 LB AE/A	21.0 FL OZ/A 22.0 FL OZ/A		PRE B PRE B		29	0	0	0	0	0	95
14	Surpass	6.4 EC		2.4 LB A/A	3.0 PT/A		FALL A		28	99	77	99	95	0	93
15	Surpass Roundup WeatherMAX	6.4 EC 4.5 SL		2.4 LB A/A 0.77 LB AE/A	3.0 PT/A 22.0 FL OZ/A		PRE B PRE B		27	0	0	0	0	0	96
16	Define SC	4 SC		0.78 LB A/A	25.0 FL OZ/A		FALL A		28	99	67	99	93	0	95
17	Define SC Roundup WeatherMAX	4 SC 4.5 SL		0.78 LB A/A 0.77 LB AE/A	25.0 FL OZ/A 22.0 FL OZ/A		PRE B PRE B		29	0	0	0	0	0	93
LSD (P=.05)								3.2	0.0	13.0	0.0	8.0	0.0	4.4	
Standard Deviation								1.9	0.0	7.8	0.0	4.8	0.0	2.6	
CV								6.74	0.0	25.68	0.0	12.19	0.0	2.93	

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								ABUTH CONTROL PERCENT 05-25-05 26 DA-B	AMATA CONTROL PERCENT 05-25-05 26 DA-B	CHEAL CONTROL PERCENT 05-25-05 26 DA-B	ZEAMD PHYTO PERCENT 06-27-05 59 DA-B	SETFA CONTROL PERCENT 06-27-05 59 DA-B	SETFA CONTROL PERCENT 09-23-05 147 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	KIH-485	60	WG	0.223 LB A/A	5.95 OZ WT/A		FALL A		70	98	92	0	83	82
3	KIH-485 Roundup WeatherMAX	60 4.5	WG SL	0.223 LB A/A 0.77 LB AE/A	5.95 OZ WT/A 22.0 FL OZ/A		PRE B PRE B		75	99	95	0	85	85
4	KIH-485	60	WG	0.268 LB A/A	7.15 OZ WT/A		FALL A		80	99	95	0	87	87
5	KIH-485 Roundup WeatherMAX	60 4.5	WG SL	0.268 LB A/A 0.77 LB AE/A	7.15 OZ WT/A 22.0 FL OZ/A		PRE B PRE B		75	99	95	0	90	90
6	Dual II Magnum	7.64	EC	1.91 LB A/A	2.0 PT/A		FALL A		35	98	65	0	80	77
7	Dual II Magnum Roundup WeatherMAX	7.64 4.5	EC SL	1.91 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		40	99	95	0	85	82
8	Stalwart C	7.8	EC	1.95 LB A/A	2.0 PT/A		FALL A		37	95	50	0	82	78
9	Stalwart C Roundup WeatherMAX	7.8 4.5	EC SL	1.95 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		37	99	95	0	85	85
10	Parallel II	7.8	EC	1.95 LB A/A	2.0 PT/A		FALL A		32	93	38	0	80	77
11	Parallel II Roundup WeatherMAX	7.8 4.5	EC SL	1.95 LB A/A 0.77 LB AE/A	2.0 PT/A 22.0 FL OZ/A		PRE B PRE B		37	98	92	0	88	85
12	Outlook	6	EC	0.98 LB A/A	21.0 FL OZ/A		FALL A		37	93	63	0	83	82
13	Outlook Roundup WeatherMAX	6 4.5	EC SL	0.98 LB A/A 0.77 LB AE/A	21.0 FL OZ/A 22.0 FL OZ/A		PRE B PRE B		43	99	92	0	85	82
14	Surpass	6.4	EC	2.4 LB A/A	3.0 PT/A		FALL A		43	95	80	0	65	65
15	Surpass Roundup WeatherMAX	6.4 4.5	EC SL	2.4 LB A/A 0.77 LB AE/A	3.0 PT/A 22.0 FL OZ/A		PRE B PRE B		53	99	95	0	88	87
16	Define SC	4	SC	0.78 LB A/A	25.0 FL OZ/A		FALL A		43	95	80	0	63	63
17	Define SC Roundup WeatherMAX	4 4.5	SC SL	0.78 LB A/A 0.77 LB AE/A	25.0 FL OZ/A 22.0 FL OZ/A		PRE B PRE B		42	98	93	0	70	72
LSD (P=.05)									9.7	3.7	9.4	0.0	9.7	11.1
Standard Deviation									5.8	2.2	5.6	0.0	5.8	6.7
CV									12.66	2.4	7.27	0.0	7.58	8.88

# Iowa State University

## Various application timings of Define, Dual II Magnum, Harness, and Outlook for weed control in no-tillage corn production, Ames, IA, 2005.

Trial ID: ACN 2  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 03-23-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate several application timings of Define, Dual II Magnum, Harness, and Outlook for crop phytotoxicity and residual weed control. Additionally, the effect of weed competition on corn yield will be determined. Application timings included: three preplant and a preemergence timing.  
**Conclusions:** No significant differences were determined between treatments in corn stand. No corn injury was observed from any herbicide treatment. Giant foxtail pressure was light to moderate in the study area and control by the treatments was 91 to 97%, 84 to 92%, 80 to 92%, and 80 to 89%, when observed on May 23, June 8, June 30, and September 23, respectively. When averaged across application timings (data not shown) Define, Dual II, Harness, and Outlook provided 82, 86, 86 and 88% giant foxtail control on September 23, respectively. Averaged over herbicides (data not show), giant foxtail control on September 23 was 85, 84, 86, and 87% for EPP1, EPP2, EPP3, and EPP4 application timings, respectively.  
Velvetleaf, common waterhemp, and common lambsquarters control was light in the study area. No treatment provided acceptable velvetleaf control when observed on May 23, and June 8. Common waterhemp control was excellent with the treatments on May 23, while on June 8, control was considered fair to excellent. Averaged across application timings (data not shown), common waterhemp control on June 8 was 83, 94, 96, and 96% with Define, Dual II, Harness, and Outlook, respectively. Averaged over herbicides (data not show), common waterhemp control on June 8 was 92, 89, 95, and 93% for EPP1, EPP2, EPP3, and EPP4 application timings, respectively. Common lambsquarters control was good to excellent when observed on May 23 and June 8 with the treatments. Averaged across application timings (data not shown), common lambsquarters control on June 8 was 91, 89, 94, and 92% with Define, Dual II, Harness, and Outlook, respectively. Averaged over herbicides (data not show), common lambsquarters control on June 8 was 89, 89, 93, and 94% for EPP1, EPP2, EPP3, and EPP4 application timings, respectively.  
Treatment corn yields ranged from 205 to 223 bu/A. Few significant differences between treatments in corn yield were determined. All treatment yields were significantly higher than the untreated control. Averaged across application timings (data not shown), corn yields were 208, 213, 214, and 214 bu/A with Define, Dual II, Harness, and Outlook, respectively. Averaged over herbicides (data not show), corn yields were 213, 211, 213, and 214 bu/A for EPP1, EPP2, EPP3, and EPP4 application timings, respectively. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-05-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 6  
Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The study area was left un-tilled from the 2004 soybean cropping year. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 50 to 60% at planting. Callisto plus COC plus AMS was applied postemergence at 3.0 fl oz/A plus 1.0 qt/A plus 1.5 lb/A to the entire study area on June 8 to control broadleaf weeds.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

# Iowa State University

Overall Moisture Conditions: NORMAL

## APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	03-23-05	04-07-05	04-21-05	05-06-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP1	EPP2	EPP3	PRE
Applic. Placement:	BROS0I	BROS0I	BROS0I	BROS0I
Air Temp., Unit:	47 F	68 F	62 F	68 F
% Relative Humidity:	38	28	67	65
Wind Velocity, Unit:	3 MPH	6 MPH	9 MPH	3 MPH
Soil Temp., Unit:	40 F	57 F	57 F	63 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	20	0	100	80

## CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -	ZEAMD -	ZEAMD -
Stage Scale:	-	-	-	-
	-	-	-	-

## WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA -	SETFA 1-2 LEAF	SETFA 1-2 LEAF
Stage Scale:	-	-	0.25 IN	0.25-0.5
Density, Unit:	- -	- -	0-1 FT2	0-1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH -	ABUTH COTYLEDON	ABUTH COTYL-2 L
Stage Scale:	-	-	0.25 IN	0.25-0.5
Density, Unit:	- -	- -	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA -	AMATA COTYLEDON
Stage Scale:	-	-	-	0.25 IN
Density, Unit:	- -	- -	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-2 L	CHEAL COTYL-8 L	CHEAL 2-NUM
Stage Scale:	-	0.5 IN	0.5 IN	0.5-2 IN
Density, Unit:	- -	0-2 FT2	0-2 FT2	0-2 FT2

## APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM	TERRA PRO
Operating Pressure:	35	35	35	30
Nozzle Size:	11003	11003	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Various application timings of Define, Dual II Magnum, Harness, and Outlook for weed control in no-tillage corn production, Ames, IA, 2005.

Trial ID: ACN 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD				
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO				
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT				
Rating Date								08-04-05	05-23-05	05-23-05	05-23-05	05-23-05	05-23-05	06-08-05				
Trt-Eval Interval								90 DA-D	17 DA-D	17 DA-D	17 DA-D	17 DA-D	17 DA-D	33 DA-D				
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code										
1	Untreated								31	0	0	0	0	0				
2	Define SC Roundup WeatherMAX	4 4.5	SC SL	0.72 0.77	LB LB	A/A A/A	23.0 22.0	FL FL	OZ/A OZ/A	EPP1 EPP1	A A	30	0	92	37	97	86	0
3	Dual II Magnum Roundup WeatherMAX	7.64 4.5	EC SL	1.6 0.77	LB LB	A/A A/A	1.67 22.0	PT/A FL	OZ/A OZ/A	EPP1 EPP1	A A	31	0	93	31	98	83	0
4	Harness Roundup WeatherMAX	7 4.5	EC SL	2.19 0.77	LB LB	A/A A/A	2.5 22.0	PT/A FL	OZ/A OZ/A	EPP1 EPP1	A A	31	0	95	46	99	97	0
5	Outlook Roundup WeatherMAX	6 4.5	EC SL	0.84 0.77	LB LB	A/A A/A	18.0 22.0	FL FL	OZ/A OZ/A	EPP1 EPP1	A A	30	0	96	42	99	96	0
6	Define SC Roundup WeatherMAX	4 4.5	SC SL	0.72 0.77	LB LB	A/A A/A	23.0 22.0	FL FL	OZ/A OZ/A	EPP2 EPP2	B B	31	0	91	33	94	95	0
7	Dual II Magnum Roundup WeatherMAX	7.64 4.5	EC SL	1.6 0.77	LB LB	A/A A/A	1.67 22.0	PT/A FL	OZ/A OZ/A	EPP2 EPP2	B B	31	0	93	38	99	96	0
8	Harness Roundup WeatherMAX	7 4.5	EC SL	2.19 0.77	LB LB	A/A A/A	2.5 22.0	PT/A FL	OZ/A OZ/A	EPP2 EPP2	B B	31	0	96	46	99	98	0
9	Outlook Roundup WeatherMAX	6 4.5	EC SL	0.84 0.77	LB LB	A/A A/A	18.0 22.0	FL FL	OZ/A OZ/A	EPP2 EPP2	B B	31	0	96	42	99	98	0
10	Define SC Roundup WeatherMAX	4 4.5	SC SL	0.72 0.77	LB LB	A/A A/A	23.0 22.0	FL FL	OZ/A OZ/A	EPP3 EPP3	C C	31	0	93	33	98	98	0
11	Dual II Magnum Roundup WeatherMAX	7.64 4.5	EC SL	1.6 0.77	LB LB	A/A A/A	1.67 22.0	PT/A FL	OZ/A OZ/A	EPP3 EPP3	C C	32	0	93	39	99	98	0
12	Harness Roundup WeatherMAX	7 4.5	EC SL	2.19 0.77	LB LB	A/A A/A	2.5 22.0	PT/A FL	OZ/A OZ/A	EPP3 EPP3	C C	31	0	95	44	99	98	0
13	Outlook Roundup WeatherMAX	6 4.5	EC SL	0.84 0.77	LB LB	A/A A/A	18.0 22.0	FL FL	OZ/A OZ/A	EPP3 EPP3	C C	31	0	96	47	99	99	0
14	Define SC Roundup WeatherMAX	4 4.5	SC SL	0.72 0.77	LB LB	A/A A/A	23.0 22.0	FL FL	OZ/A OZ/A	PRE PRE	D D	30	0	93	38	98	98	0
15	Dual II Magnum Roundup WeatherMAX	7.64 4.5	EC SL	1.6 0.77	LB LB	A/A A/A	1.67 22.0	PT/A FL	OZ/A OZ/A	PRE PRE	D D	31	0	96	38	99	96	0
16	Harness Roundup WeatherMAX	7 4.5	EC SL	2.19 0.77	LB LB	A/A A/A	2.5 22.0	PT/A FL	OZ/A OZ/A	PRE PRE	D D	30	0	97	50	99	99	0
17	Outlook Roundup WeatherMAX	6 4.5	EC SL	0.84 0.77	LB LB	A/A A/A	18.0 22.0	FL FL	OZ/A OZ/A	PRE PRE	D D	31	0	95	38	99	98	0
LSD (P=.05)								1.5	0.0	2.3	12.5	2.0	3.9	0.0				
Standard Deviation								1.3	0.0	2.0	10.8	1.8	3.4	0.0				
CV								4.08	0.0	2.25	28.76	1.91	3.73	0.0				

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	SETFA	SETFA	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	BU/A
Rating Date										06-08-05	06-08-05	06-08-05	06-08-05	06-30-05	09-23-05	09-30-05
Trt-Eval Interval										33 DA-D	33 DA-D	33 DA-D	33 DA-D	55 DA-D	140 DA-D	147 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	171
2	Define SC Roundup WeatherMAX	4.5	SC SL	0.72	LB AE/A	23.0	FL OZ/A	EPP1 A		85	32	84	88	83	81	210
3	Dual II Magnum Roundup WeatherMAX	7.64	EC SL	1.6	LB AE/A	1.67	PT/A	EPP1 A		88	27	95	87	88	87	216
4	Harness Roundup WeatherMAX	7	EC SL	2.19	LB AE/A	2.5	PT/A	EPP1 A		88	33	96	91	84	83	207
5	Outlook Roundup WeatherMAX	6	EC SL	0.84	LB AE/A	18.0	FL OZ/A	EPP1 A		88	35	94	90	87	87	218
6	Define SC Roundup WeatherMAX	4	SC SL	0.72	LB AE/A	23.0	FL OZ/A	EPP2 B		84	32	74	91	80	80	205
7	Dual II Magnum Roundup WeatherMAX	7.64	EC SL	1.6	LB AE/A	1.67	PT/A	EPP2 B		88	33	93	85	87	86	214
8	Harness Roundup WeatherMAX	7	EC SL	2.19	LB AE/A	2.5	PT/A	EPP2 B		88	33	94	91	84	83	208
9	Outlook Roundup WeatherMAX	6	EC SL	0.84	LB AE/A	18.0	FL OZ/A	EPP2 B		87	33	95	89	86	86	215
10	Define SC Roundup WeatherMAX	4	SC SL	0.72	LB AE/A	23.0	FL OZ/A	EPP3 C		85	30	88	91	83	83	206
11	Dual II Magnum Roundup WeatherMAX	7.64	EC SL	1.6	LB AE/A	1.67	PT/A	EPP3 C		88	33	96	92	88	85	210
12	Harness Roundup WeatherMAX	7	EC SL	2.19	LB AE/A	2.5	PT/A	EPP3 C		92	36	98	96	92	89	217
13	Outlook Roundup WeatherMAX	6	EC SL	0.84	LB AE/A	18.0	FL OZ/A	EPP3 C		90	34	96	93	89	88	217
14	Define SC Roundup WeatherMAX	4	SC SL	0.72	LB AE/A	23.0	FL OZ/A	PRE D		86	31	84	95	83	83	211
15	Dual II Magnum Roundup WeatherMAX	7.64	EC SL	1.6	LB AE/A	1.67	PT/A	PRE D		90	34	93	90	88	87	213
16	Harness Roundup WeatherMAX	7	EC SL	2.19	LB AE/A	2.5	PT/A	PRE D		92	37	97	96	89	88	223
17	Outlook Roundup WeatherMAX	6	EC SL	0.84	LB AE/A	18.0	FL OZ/A	PRE D		91	33	97	95	91	89	207
LSD (P=.05)										3.9	7.6	4.9	4.1	4.1	4.7	15.6
Standard Deviation										3.4	6.6	4.2	3.6	3.6	4.1	13.5
CV										4.11	21.41	4.87	4.17	4.38	5.1	6.44

# Iowa State University

## Early preplant applications of Valor SX alone and in tank-mixture with Dual II Magnum for weed control in no-tillage corn production, Ames, IA, 2005.

Trial ID: ACN 3  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 04-08-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this no-tillage study was to evaluate various early preplant application timings of Valor SX alone and in tank-mixture with Dual II Magnum for corn phytotoxicity, weed control and yield.

**Conclusions:** Significant differences between treatments in corn stand were observed on June 27. Significant corn injury was observed with many of the treatments which could have resulted in these differences. Injury persisted with the treatments through June 10, thirty-seven days after EPP5 application timing. EPP treatments applied closer to planting generally resulted in higher corn injury.

All application timings of Valor SX plus Roundup Original MAX provided poor to fair giant foxtail control when observed on June 3 and 10. Treatments of Valor SX that included Dual II Magnum plus Roundup Original MAX provided good to excellent control on May 20, June 3 and 10. Velvetleaf and ivyleaf morningglory control was unacceptable with all treatment combinations and timings when observed on May 20, June 3 and 10. Good to excellent common waterhemp and common lambsquarters control was observed on all observation dates with all treatment combinations and application timings. Corn yields between treatments were variable ranging from 208 to 225 bu/A. The yield differences were not significant between treatments or the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-05-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4  
Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The study area was left un-tilled from the 2004 soybean cropping year. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 50 to 60% at planting. Roundup Original MAX plus AMS was applied postemergence at 22 fl oz/A plus 5 gal/100 gal to the entire study area on June 9.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	04-08-05	04-15-05	04-21-05	04-28-05	05-04-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	EPP1	EPP2	EPP3	EPP4	EPP5
Applic. Placement:	BROS0I	BROS0I	BROS0I	BROS0I	BROS0I
Air Temp., Unit:	66 F	70 F	62 F	54 F	67 F
% Relative Humidity:	47	27	67	31	25
Wind Velocity, Unit:	9 MPH	2 MPH	9 MPH	3 MPH	5 MPH
Soil Temp., Unit:	55 F	57 F	57 F	54 F	53 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	30	30	100	40	40

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -	ZEAMD -	ZEAMD -	ZEAMD -
Stage Scale:	-	-	-	-	-
	-	-	-	-	-

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA 1 LEAF	SETFA 1-2 LEAF	SETFA 1-2 LEAF	SETFA 1-2 LEAF
Stage Scale:	-	0.25 IN	0.25 IN	0.25-0.5	0.5 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	0-1 FT2	0-1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH -	ABUTH COTYLEDON	ABUTH COTYL-2 L	ABUTH COTYL-2 L
Stage Scale:	-	-	0.25 IN	0.25-0.5	0.25-0.5
Density, Unit:	- -	- -	< 1 FT2	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA -	AMATA COTYLEDON	AMATA COTYL-1 L
Stage Scale:	-	-	-	0.25 IN	0.25 IN
Density, Unit:	- -	- -	- -	< 1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL COTYL-2 L	CHEAL COTYL-4 L	CHEAL COTYL-8 L	CHEAL COTYL-NUM	CHEAL 2-NUM
Stage Scale:	0.5 IN	0.5 IN	0.5 IN	0.5-1	0.5-1.5
Density, Unit:	0-2 FT2	0-3 FT2	0-3 FT2	0-3 FT2	0-3 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE -	IPOHE -	IPOHE COTYLEDON	IPOHE COTYL-3 L
Stage Scale:	-	-	-	1 IN	1.5 IN
Density, Unit:	- -	- -	- -	< 1 FT2	< 1 FT

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	HAND BOOM	HAND BOOM	HAND BOOM	HAND BOOM	TERRA PRO
Operating Pressure:	35	35	35	35	30
Nozzle Size:	11003	11003	11003	11003	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Early preplant applications of Valor SX alone and in tank-mixture with Dual II Magnum for weed control in no-tillage corn production, Ames, IA, 2005.

Trial ID: ACN 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		ZEAMD STAND 17.5 FT 07-27-05 84 DA-E	ZEAMD PHYTO PERCENT 05-20-05 16 DA-E	SETFA CONTROL PERCENT 05-20-05 16 DA-E	ABUTH CONTROL PERCENT 05-20-05 16 DA-E	AMATA CONTROL PERCENT 05-20-05 16 DA-E	CHEAL CONTROL PERCENT 05-20-05 16 DA-E	IPOHE CONTROL PERCENT 05-20-05 16 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									31	0	0	0	0	0	0
2	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP1	A	32	1	73	65	97	95	53
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A							
	AMS		DF	2.5	LB/A			EPP1	A							
3	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP1	A	32	4	98	84	99	97	66
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP1	A							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP1	A							
4	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP2	B	32	3	80	72	97	95	51
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B							
	AMS		DF	2.5	LB/A			EPP2	B							
5	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP2	B	30	8	96	85	99	99	74
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP2	B							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP2	B							
6	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP3	C	31	8	90	74	99	96	54
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C							
	AMS		DF	2.5	LB/A			EPP3	C							
7	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP3	C	31	10	97	85	99	99	76
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP3	C							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP3	C							
8	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP4	D	32	8	85	71	99	99	63
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP4	D							
	AMS		DF	2.5	LB/A			EPP4	D							
9	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP4	D	32	15	98	81	99	99	73
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP4	D							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP4	D							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP4	D							
10	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP5	E	31	8	89	74	99	98	69
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A			EPP5	E							
11	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP5	E	30	16	97	77	99	99	83
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP5	E							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP5	E							
12	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP5	E	31	0	96	41	99	98	38
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A			EPP5	E							
LSD (P=.05)										1.4	5.4	5.2	15.1	2.2	2.8	13.0
Standard Deviation										1.0	3.7	3.6	10.4	1.5	1.9	9.0
CV										3.11	57.08	4.31	15.49	1.65	2.16	15.51

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-03-05	06-03-05	06-03-05	06-03-05	06-03-05	06-03-05	06-10-05
Trt-Eval Interval										30 DA-E	30 DA-E	30 DA-E	30 DA-E	30 DA-E	30 DA-E	37 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP1	A	0	58	64	91	89	46	4
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP1	A							
3	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP1	A	3	96	75	97	94	54	5
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP1	A							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP1	A							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP1	A							
4	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP2	B	3	60	60	94	93	46	6
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP2	B							
5	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP2	B	8	95	70	98	94	69	10
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP2	B							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP2	B							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP2	B							
6	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP3	C	6	73	65	93	91	44	10
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP3	C							
7	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP3	C	9	96	73	97	97	61	14
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP3	C							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP3	C							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP3	C							
8	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP4	D	6	70	56	94	92	48	10
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP4	D							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP4	D							
9	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP4	D	11	96	68	99	95	54	15
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP4	D							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP4	D							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP4	D							
10	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP5	E	6	74	60	95	93	59	11
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP5	E							
11	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP5	E	11	97	70	98	96	55	16
	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP5	E							
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP5	E							
12	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	EPP5	E	0	96	31	99	94	35	0
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP5	E							
	AMS		DF	2.5	LB/A	2.5	LB/A	EPP5	E							
LSD (P=.05)										4.2	6.7	18.7	3.0	3.4	15.1	3.8
Standard Deviation										2.9	4.7	13.0	2.1	2.4	10.4	2.6
CV										55.64	6.14	22.52	2.38	2.75	21.96	31.27

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval								SETFA CONTROL PERCENT 06-10-05 37 DA-E	ABUTH CONTROL PERCENT 06-10-05 37 DA-E	AMATA CONTROL PERCENT 06-10-05 37 DA-E	CHEAL CONTROL PERCENT 06-10-05 37 DA-E	IPOHE CONTROL PERCENT 06-10-05 37 DA-E	ZEAMD YIELD BU/A 10-01-05 150 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	211
2	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 2.5	LB A/A LB AE/A LB/A	2.0 22.0 2.5	OZ WT/A FL OZ/A LB/A	EPP1 A EPP1 A EPP1 A	51	63	90	89	43	217
3	Valor SX Dual II Magnum Roundup Original MAX AMS	51 7.64 4.5	WG EC SL DF	0.064 1.6 0.77 2.5	LB A/A LB A/A LB AE/A LB/A	2.0 1.67 22.0 2.5	OZ WT/A PT/A FL OZ/A LB/A	EPP1 A EPP1 A EPP1 A EPP1 A	94	71	97	91	51	221
4	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 2.5	LB A/A LB AE/A LB/A	2.0 22.0 2.5	OZ WT/A FL OZ/A LB/A	EPP2 B EPP2 B EPP2 B	53	60	94	93	41	222
5	Valor SX Dual II Magnum Roundup Original MAX AMS	51 7.64 4.5	WG EC SL DF	0.064 1.6 0.77 2.5	LB A/A LB A/A LB AE/A LB/A	2.0 1.67 22.0 2.5	OZ WT/A PT/A FL OZ/A LB/A	EPP2 B EPP2 B EPP2 B EPP2 B	93	70	98	94	60	221
6	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 2.5	LB A/A LB AE/A LB/A	2.0 22.0 2.5	OZ WT/A FL OZ/A LB/A	EPP3 C EPP3 C EPP3 C	64	64	93	90	39	221
7	Valor SX Dual II Magnum Roundup Original MAX AMS	51 7.64 4.5	WG EC SL DF	0.064 1.6 0.77 2.5	LB A/A LB A/A LB AE/A LB/A	2.0 1.67 22.0 2.5	OZ WT/A PT/A FL OZ/A LB/A	EPP3 C EPP3 C EPP3 C EPP3 C	95	73	97	95	53	208
8	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 2.5	LB A/A LB AE/A LB/A	2.0 22.0 2.5	OZ WT/A FL OZ/A LB/A	EPP4 D EPP4 D EPP4 D	61	56	93	90	43	225
9	Valor SX Dual II Magnum Roundup Original MAX AMS	51 7.64 4.5	WG EC SL DF	0.064 1.6 0.77 2.5	LB A/A LB A/A LB AE/A LB/A	2.0 1.67 22.0 2.5	OZ WT/A PT/A FL OZ/A LB/A	EPP4 D EPP4 D EPP4 D EPP4 D	94	68	99	91	48	224
10	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 2.5	LB A/A LB AE/A LB/A	2.0 22.0 2.5	OZ WT/A FL OZ/A LB/A	EPP5 E EPP5 E EPP5 E	66	58	91	90	40	210
11	Valor SX Dual II Magnum Roundup Original MAX AMS	51 7.64 4.5	WG EC SL DF	0.064 1.6 0.77 2.5	LB A/A LB A/A LB AE/A LB/A	2.0 1.67 22.0 2.5	OZ WT/A PT/A FL OZ/A LB/A	EPP5 E EPP5 E EPP5 E EPP5 E	94	69	97	96	46	220
12	Dual II Magnum Roundup Original MAX AMS	7.64 4.5	EC SL DF	1.6 0.77 2.5	LB A/A LB AE/A LB/A	1.67 22.0 2.5	PT/A FL OZ/A LB/A	EPP5 E EPP5 E EPP5 E	91	29	99	93	31	219
LSD (P=.05)									7.6	19.0	2.8	3.8	14.0	16.6
Standard Deviation									5.3	13.1	2.0	2.6	9.7	11.5
CV									7.41	23.22	2.24	3.1	23.62	5.26

# Iowa State University

**DPX-E9636 plus Roundup WeatherMAX one pass and Basis-based two pass programs in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 4  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 04-08-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to demonstrate the efficacy of 1-pass DPX-E9636 plus Roundup WeatherMAX and Basis-based two pass programs in no-tillage corn production.

**Conclusions:** There were no significant differences between treatments in corn stand. EPP and PRE treatments did not result in corn injury when observed on June 7, thirty-three days after planting. Crop injury on June 16, nine days after POST application timing, ranged from 5 to 10% with Roundup WeatherMAX plus DPX-E9636, Roundup WeatherMAX plus DPX-E9636 plus Harmony GT, Roundup WeatherMAX plus DPX-E9636 plus Clarity, and Roundup WeatherMAX plus DPX-E9636 plus Atrazine. Injury from any other POST treatments was not greater than 5%.

EPP treatments provided excellent control of all weed species when evaluated on May 2. PRE applied Harness Xtra provided excellent giant foxtail control on June 7, prior to POST applied treatments. No other PRE treatments provided acceptable giant foxtail control on June 7. No PRE treatments provided acceptable velvetleaf and ivyleaf morningglory control. PRE Basis, without Atrazine, demonstrated rate responsive common waterhemp and common lambsquarters control, while remaining PRE treatments provided excellent control on June 7.

Giant foxtail control ranged from 85 to 99% when observed on June 30 following sequential POST and total POST applications made on June 7. PRE applied Basis plus POST Roundup WeatherMAX and the lowest PRE rate (0.333 oz wt/A) of Basis with Atrazine plus POST Roundup WeatherMAX, provided a range of 80 to 99% control of velvetleaf, common waterhemp and common lambsquarters. All other PRE followed by POST treatments provided at least 88% control of these three weed species on June 30. POST Roundup WeatherMAX plus DPX-E9636 plus Harmony GT and PRE Cinch ATZ plus POST Steadfast plus Callisto plus Atrazine provided 87 and 85% control of ivyleaf morningglory, respectively. No other treatments demonstrated acceptable ivyleaf morningglory control. Results from weed control observations on August 3 were very similar to those occurring June 30. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACO.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-05-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation prior to planting and preemergence (PRE) applications. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 50 to 60% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	04-08-05	05-06-05	06-07-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	EPP	PRE	POST
Applic. Placement:	BROSOI	BROSOI	BROFOL
Air Temp., Unit:	66 F	68 F	88 F
% Relative Humidity:	47	65	50
Wind Velocity, Unit:	9 MPH	3 MPH	12 MPH
Soil Temp., Unit:	55 F	63 F	72 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	30	80	60

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD -	ZEAMD V 5
Stage Scale:	-	-	DESC
Height, Unit:	-	-	9 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA -	SETFA 1-4 L, 2T
Stage Scale:	-	-	0.25-5 IN
Density, Unit:	- -	- -	0-1 FT2
Weed 2 Code, Stage:	ABUTH	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	-	0.25-4 IN
Density, Unit:	- -	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA 2-NUM
Stage Scale:	-	-	0.5-4 IN
Density, Unit:	- -	- -	0-1 FT2
Weed 4 Code, Stage:	CHEAL COTYL-2 L	CHEAL -	CHEAL 2-NUM
Stage Scale:	-	-	0.5-5 IN
Density, Unit:	0-2 FT2	- -	0-3 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE -	IPOHE COTYL-NUM
Stage Scale:	-	-	1-5 IN
Density, Unit:	- -	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	HAND BOOM	TERRA PRO	TERRA PRO
Operating Pressure:	35	30	30
Nozzle Size:	11003	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**DPX-E9636 plus Roundup WeatherMAX one pass and Basis-based two pass programs in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 4  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD
										STAND	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
										08-05-05	05-02-05	05-02-05	05-02-05	05-02-05	05-02-05	06-07-05
										91 DA-B	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	0 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									30	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	31	0	0	0	0	0	0
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	30	0	0	0	0	0	0
		25	WG DF	0.0156	LB A/A LB/A	1.0	OZ WT/A LB/A	POST	C							
4	Roundup WeatherMAX DPX-E9636 Harmony GT XP AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	31	0	0	0	0	0	0
		25	WG DF	0.0156	LB A/A LB/A	1.0	OZ WT/A LB/A	POST	C							
		75	WG DF	0.00294	LB A/A LB/A	0.063	OZ WT/A LB/A	POST	C							
5	Roundup WeatherMAX DPX-E9636 Clarity AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	30	0	0	0	0	0	0
		25	WG DF	0.0156	LB A/A LB/A	1.0	OZ WT/A LB/A	POST	C							
		4	SL DF	0.125	LB A/A LB/A	4.0	FL OZ/A LB/A	POST	C							
6	Roundup WeatherMAX DPX-E9636 Atrazine AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	30	0	0	0	0	0	0
		25	WG DF	0.0156	LB A/A LB/A	1.0	OZ WT/A LB/A	POST	C							
		90	DF DF	0.5	LB A/A LB/A	8.9	OZ WT/A LB/A	POST	C							
7	Roundup WeatherMAX Harness AMS	4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C	31	0	0	0	0	0	0
		7	EC DF	1.31	LB A/A LB/A	1.5	PT/A LB/A	POST	C							
8	Steadfast Callisto Atrazine AMS	75	WG SC	0.035	LB A/A LB/A	0.75	OZ WT/A LB/A	POST	C	30	0	0	0	0	0	0
		4	SC DF	0.0469	LB A/A LB/A	1.5	FL OZ/A LB/A	POST	C							
		90	DF DF	0.75	LB A/A LB/A	13.3	OZ WT/A LB/A	POST	C							
9	Basis COC Roundup WeatherMAX AMS	75	WG L DF	0.0156	LB A/A % V/V LB/A	0.333	OZ WT/A % V/V LB/A	PRE	B	30	0	0	0	0	0	0
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							
10	Basis COC Roundup WeatherMAX AMS	75	WG L DF	0.0313	LB A/A % V/V LB/A	0.67	OZ WT/A % V/V LB/A	PRE	B	31	0	0	0	0	0	0
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							
11	Basis COC Roundup WeatherMAX AMS	75	WG L DF	0.0469	LB A/A % V/V LB/A	1.0	OZ WT/A % V/V LB/A	PRE	B	31	0	0	0	0	0	0
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							
12	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L DF	0.0156	LB A/A LB/A % V/V LB/A	0.333	OZ WT/A LB/A % V/V LB/A	PRE	B	31	0	0	0	0	0	0
		90	DF DF	1.0	LB A/A LB/A	17.8	OZ WT/A LB/A	PRE	B							
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							
13	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L DF	0.0313	LB A/A LB/A % V/V LB/A	0.67	OZ WT/A LB/A % V/V LB/A	PRE	B	30	0	0	0	0	0	0
		90	DF DF	1.0	LB A/A LB/A	17.8	OZ WT/A LB/A	PRE	B							
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							
14	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L DF	0.0469	LB A/A LB/A % V/V LB/A	1.0	OZ WT/A LB/A % V/V LB/A	PRE	B	31	0	0	0	0	0	0
		90	DF DF	1.0	LB A/A LB/A	17.8	OZ WT/A LB/A	PRE	B							
		4.5	SL DF	0.77	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST	C							

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPHE	ZEAMD
Rating Data Type										STAND	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-05-05	05-02-05	05-02-05	05-02-05	05-02-05	05-02-05	06-07-05
Trt-Eval Interval										91 DA-B	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	0 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
15	Basis	75	WG	0.0156	LB A/A	0.333	OZ WT/A	EPP A	A	31	99	99	99	99	99	0
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP A	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP A	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST C	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST C	C							
16	Basis	75	WG	0.0313	LB A/A	0.67	OZ WT/A	EPP A	A	29	99	99	99	99	99	0
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP A	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP A	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST C	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST C	C							
17	Basis	75	WG	0.0469	LB A/A	1.0	OZ WT/A	EPP A	A	30	99	99	99	99	99	0
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP A	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP A	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST C	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST C	C							
18	Harness Xtra	6	SC	2.25	LB A/A	3.0	PT/A	PRE B	B	31	0	0	0	0	0	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST C	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST C	C							
19	Cinch ATZ	5.5	SL	1.03	LB A/A	1.5	PT/A	PRE B	B	30	0	0	0	0	0	0
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST C	C							
	Callisto	4	SC	0.0469	LB A/A	1.5	FL OZ/A	POST C	C							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	POST C	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST C	C							
	COC		L	1.0	% V/V	1.0	% V/V	POST C	C							
LSD (P=.05)										1.7	0.0	0.0	0.0	0.0	0.0	0.0
Standard Deviation										1.0	0.0	0.0	0.0	0.0	0.0	0.0
CV										3.39	0.0	0.0	0.0	0.0	0.0	0.0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-07-05	06-07-05	06-07-05	06-07-05	06-07-05	06-16-05	06-30-05
Trt-Eval Interval										0 DA-C	0 DA-C	0 DA-C	0 DA-C	0 DA-C	9 DA-C	23 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	0	0
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	5	0
4	Roundup WeatherMAX DPX-E9636 Harmony GT XP AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	10	0
5	Roundup WeatherMAX DPX-E9636 Clarity AMS	4.5	SL WG SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	8	0
6	Roundup WeatherMAX DPX-E9636 Atrazine AMS	4.5	SL WG DF DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	5	0
7	Roundup WeatherMAX Harness AMS	4.5	SL EC DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		0	0	0	0	0	2	0
8	Steadfast Callisto Atrazine AMS	75	WG SC DF	0.035	LB A/A	0.75	OZ WT/A	POST C		0	0	0	0	0	5	0
9	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE B		43	37	77	87	33	0	0
10	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE B		52	43	85	95	37	0	0
11	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE B		60	45	88	98	40	0	0
12	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE B		52	40	95	99	40	0	0
13	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE B		65	47	95	99	45	0	0
14	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE B		75	53	95	99	48	0	0
15	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	EPP A		45	38	87	96	35	0	0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	IPHE	ZEAMD	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-07-05	06-07-05	06-07-05	06-07-05	06-07-05	06-16-05	06-30-05
Trt-Eval Interval										0 DA-C	0 DA-C	0 DA-C	0 DA-C	0 DA-C	9 DA-C	23 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
16	Basis	75	WG	0.0313	LB A/A	0.67	OZ WT/A	EPP	A	52	52	92	98	42	0	0
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
17	Basis	75	WG	0.0469	LB A/A	1.0	OZ WT/A	EPP	A	62	58	95	99	47	0	0
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
18	Harness Xtra	6	SC	2.25	LB A/A	3.0	PT/A	PRE	B	96	40	99	99	35	0	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
19	Cinch ATZ	5.5	SL	1.03	LB A/A	1.5	PT/A	PRE	B	77	33	99	99	30	5	0
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	C							
	Callisto	4	SC	0.0469	LB A/A	1.5	FL OZ/A	POST	C							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
	COC		L	1.0	% V/V	1.0	% V/V	POST	C							
LSD (P=.05)										9.5	14.5	6.6	4.2	5.4	1.5	0.0
Standard Deviation										5.8	8.8	4.0	2.5	3.3	0.9	0.0
CV										16.15	34.26	7.6	4.5	14.49	43.87	0.0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD	SETFA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-30-05	06-30-05	06-30-05	06-30-05	06-30-05	08-03-05	08-03-05
Trt-Eval Interval										23 DA-C	23 DA-C	23 DA-C	23 DA-C	23 DA-C	57 DA-C	57 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		92	95	92	92	57	0	92
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		95	92	96	96	67	0	95
4	Roundup WeatherMAX DPX-E9636 Harmony GT XP AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		95	98	95	93	87	0	95
5	Roundup WeatherMAX DPX-E9636 Clarity AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		95	96	99	99	78	0	93
6	Roundup WeatherMAX DPX-E9636 Atrazine AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		95	96	99	99	68	0	95
7	Roundup WeatherMAX Harness AMS	4.5	SL EC DF	0.77	LB AE/A	22.0	FL OZ/A	POST C		99	98	99	99	70	0	99
8	Steadfast Callisto Atrazine AMS	75	WG SC DF	0.035	LB A/A	0.75	OZ WT/A	POST C		93	98	99	99	57	0	93
9	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE B		85	85	88	83	68	0	85
10	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE B		88	92	93	95	60	0	88
11	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE B		90	90	88	96	70	0	90
12	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE B		88	80	98	99	75	0	88
13	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE B		93	94	95	99	67	0	93
14	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE B		92	88	98	98	80	0	92
15	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	EPP A		88	91	91	94	55	0	87

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD	SETFA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-30-05	06-30-05	06-30-05	06-30-05	06-30-05	08-03-05	08-03-05
Trt-Eval Interval										23 DA-C	23 DA-C	23 DA-C	23 DA-C	23 DA-C	57 DA-C	57 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
16	Basis	75	WG	0.0313	LB A/A	0.67	OZ WT/A	EPP	A	91	93	92	95	67	0	90
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
17	Basis	75	WG	0.0469	LB A/A	1.0	OZ WT/A	EPP	A	87	88	96	99	72	0	88
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A							
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
18	Harness Xtra	6	SC	2.25	LB A/A	3.0	PT/A	PRE	B	96	92	99	99	65	0	96
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
19	Cinch ATZ	5.5	SL	1.03	LB A/A	1.5	PT/A	PRE	B	98	98	99	99	85	0	95
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	C							
	Callisto	4	SC	0.0469	LB A/A	1.5	FL OZ/A	POST	C							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	POST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C							
	COC		L	1.0	% V/V	1.0	% V/V	POST	C							
LSD (P=.05)										6.7	10.3	6.5	6.5	21.9	0.0	5.3
Standard Deviation										4.1	6.2	4.0	3.9	13.3	0.0	3.2
CV										4.64	7.1	4.38	4.32	20.24	0.0	3.71

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	IPOHE
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-03-05	08-03-05	08-03-05	08-03-05
Trt-Eval Interval										57 DA-C	57 DA-C	57 DA-C	57 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	95	93	88	57
3	Roundup WeatherMAX DPX-E9636 AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	92	98	96	65
4	Roundup WeatherMAX DPX-E9636 Harmony GT XP AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	95	96	93	85
5	Roundup WeatherMAX DPX-E9636 Clarity AMS	4.5	SL WG SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	96	98	99	77
6	Roundup WeatherMAX DPX-E9636 Atrazine AMS	4.5	SL WG DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	96	99	99	68
7	Roundup WeatherMAX Harness AMS	4.5	SL EC DF	0.77	LB AE/A	22.0	FL OZ/A	POST	C	95	98	98	70
8	Steadfast Callisto Atrazine AMS	75	WG SC DF	0.035	LB A/A	0.75	OZ WT/A	POST	C	98	99	99	55
9	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE	B	86	88	85	63
10	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE	B	91	96	95	60
11	Basis COC Roundup WeatherMAX AMS	75	WG L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE	B	92	95	95	65
12	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	PRE	B	78	95	99	75
13	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0313	LB A/A	0.67	OZ WT/A	PRE	B	94	96	99	63
14	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0469	LB A/A	1.0	OZ WT/A	PRE	B	88	99	99	78
15	Basis Atrazine COC Roundup WeatherMAX AMS	75	WG DF L SL DF	0.0156	LB A/A	0.333	OZ WT/A	EPP	A	93	98	93	55

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	IPOHE
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-03-05	08-03-05	08-03-05	08-03-05
Trt-Eval Interval										57 DA-C	57 DA-C	57 DA-C	57 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
16	Basis	75	WG	0.0313	LB A/A	0.67	OZ WT/A	EPP	A	93	93	93	63
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A				
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A				
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C				
17	Basis	75	WG	0.0469	LB A/A	1.0	OZ WT/A	EPP	A	88	98	98	70
	Atrazine	90	DF	1.0	LB A/A	17.8	OZ WT/A	EPP	A				
	COC		L	1.0	% V/V	1.0	% V/V	EPP	A				
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C				
18	Harness Xtra	6	SC	2.25	LB A/A	3.0	PT/A	PRE	B	92	99	99	63
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C				
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C				
19	Cinch ATZ	5.5	SL	1.03	LB A/A	1.5	PT/A	PRE	B	98	99	99	80
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	C				
	Callisto	4	SC	0.0469	LB A/A	1.5	FL OZ/A	POST	C				
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	POST	C				
	AMS		DF	2.0	LB/A	2.0	LB/A	POST	C				
	COC		L	1.0	% V/V	1.0	% V/V	POST	C				
LSD (P=.05)										11.4	5.7	7.2	21.1
Standard Deviation										6.9	3.5	4.4	12.8
CV										7.9	3.8	4.83	20.05

# Iowa State University

**Early preplant applications of Valor SX plus Atrazine and followed by Roundup Original MAX for weed control in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 5

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 04-21-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate early preplant applications of Valor SX alone, Valor SX plus Atrazine and Valor SX plus Atrazine plus 2,4-D ester for corn phytotoxicity, weed efficacy and yield. Early preplant treatments were followed by a postemergence application of Roundup Original MAX.

**Conclusions:** No significant differences were determined between treatments in corn stand. Corn injury from EPP treatments that included Valor was observed on May 20, twenty-nine days after application timing and fifteen days after planting. Corn injury occurred primarily as necrosis of lower leaves and persisted through the July 6 observation date.

Giant foxtail, velvetleaf, common waterhemp and common lambsquarters control was good to excellent with EPP treatments involving Atrazine, Valor and 2,4-D ester when observed on May 20. EPP applied Roundup Original MAX provided mostly poor control of these species on May 20.

Giant foxtail and velvetleaf control on June 3 and 13 was fair with EPP Atrazine and generally good to excellent with remaining treatments, except for Roundup Original MAX applied, alone. Common waterhemp and common lambsquarters control remained good to excellent with all treatments on June 3 and 13, except for Roundup Original MAX. Following POST applied Roundup Original MAX, excellent control of all species was observed with the treatments on July 6, twenty-one days after application. No significant differences in corn yield were determined between treatments that included Valor. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-05-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4

Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The study area was left un-tilled from the 2004 soybean cropping year. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 50 to 60% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	04-21-05	06-15-05
Application Method:	SPRAY	SPRAY
Application Timing:	EPP	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	62 F	69 F
% Relative Humidity:	67	66
Wind Velocity, Unit:	9 MPH	3 MPH
Soil Temp., Unit:	57 F	65 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	0

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 6 - V 7
Stage Scale:	-	DESC
Height, Unit:	-	16 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA 1-2 LEAF	SETFA 1-4 L, 4T
Stage Scale:	0.25 IN	1-14 IN
Density, Unit:	0-2 FT <sup>2</sup>	0-15 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH COTYLEDON	ABUTH 2-8 LEAF
Stage Scale:	0.25 IN	1-12 IN
Density, Unit:	< 1 FT <sup>2</sup>	0-1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	1-18 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL COTYL-8 L	CHEAL NUMEROUS
Stage Scale:	0.25-0.5	1-18 IN
Density, Unit:	0-1 FT <sup>2</sup>	0-1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	HAND BOOM	HAND BOOM
Operating Pressure:	35	35
Nozzle Size:	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Early preplant applications of Valor SX plus Atrazine and followed by Roundup Original MAX for weed control in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 5 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-27-05	05-20-05	05-20-05	05-20-05	05-20-05	05-20-05	06-03-05
Trt-Eval Interval										97 DA-A	29 DA-A	29 DA-A	29 DA-A	29 DA-A	29 DA-A	43 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B	32	0	0	0	0	0	0
2	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP A	A	31	0	41	34	56	73	0
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B							
3	Atrazine	90 DF		1.0 LB A/A	1.11 LB/A			EPP A	A	31	0	89	85	99	99	0
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP A	A							
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B							
4	Valor SX	51 WG		0.064 LB A/A	2.0 OZ WT/A			EPP A	A	32	8	97	97	99	99	8
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP A	A							
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B							
5	Atrazine	90 DF		1.0 LB A/A	1.11 LB/A			EPP A	A	31	11	98	98	99	99	10
	Valor SX	51 WG		0.064 LB A/A	2.0 OZ WT/A			EPP A	A							
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	EPP A	A							
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B							
6	Atrazine	90 DF		1.0 LB A/A	1.11 LB/A			EPP A	A	31	14	99	99	99	99	16
	Valor SX	51 WG		0.064 LB A/A	2.0 OZ WT/A			EPP A	A							
	2, 4-D ester	3.8 EC		0.95 LB A/A	1.0 QT/A			EPP A	A							
	COC	L		1.0 QT/A	1.0 QT/A			EPP A	A							
	Roundup Original MAX AMS	4.5 SL	DF	0.77 LB AE/A	22.0 FL OZ/A	17.0 LB/100 GAL	17.0 LB/100 GAL	POST B	B							
	AMS	DF		17.0 LB/100 GAL	17.0 LB/100 GAL			POST B	B							
LSD (P=.05)										1.9	5.8	5.1	9.6	3.9	5.9	4.2
Standard Deviation										1.2	3.9	3.4	6.4	2.6	3.9	2.8
CV										3.97	71.5	4.81	9.26	3.41	5.01	49.36

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-03-05	06-03-05	06-03-05	06-03-05	06-13-05	06-13-05
Trt-Eval Interval										43 DA-A	43 DA-A	43 DA-A	43 DA-A	53 DA-A	53 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B	0	0	0	0	0	0
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
2	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	23	33	38	56	0	21
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
3	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	69	75	91	97	0	63
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
4	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A	89	83	95	94	11	83
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
5	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	86	94	97	96	14	81
	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
6	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	91	95	97	97	20	86
	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A						
	2, 4-D ester	3.8	EC	0.95	LB A/A	1.0	QT/A	EPP	A						
	COC	L	L	1.0	QT/A	1.0	QT/A	EPP	A						
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
LSD (P=.05)										10.5	18.2	7.3	5.8	3.5	11.5
Standard Deviation										7.0	12.1	4.8	3.9	2.3	7.6
CV										11.7	19.22	6.93	5.25	30.63	13.69

# Iowa State University

Weed Code				ABUTH CONTROL PERCENT		AMATA CONTROL PERCENT		CHEAL CONTROL PERCENT		ZEAMD PHYTO PERCENT		ZEAMD PHYTO PERCENT		SETFA CONTROL PERCENT	
Rating Data Type				06-13-05 53 DA-A		06-13-05 53 DA-A		06-13-05 53 DA-A		06-23-05 62 DA-A		07-06-05 76 DA-A		07-06-05 76 DA-A	
Rating Unit															
Rating Date															
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B	0	0	0	0	0	0	99
2	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	EPP A	EPP A	33	34	46	0	0	0	99
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B							
3	Atrazine	90	DF	1.0 LB A/A	1.11 LB/A	17.0 LB/100 GAL	EPP A	EPP A	75	88	95	0	0	0	99
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	EPP A	EPP A							
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B							
4	Valor SX	51	WG	0.064 LB A/A	2.0 OZ WT/A	17.0 LB/100 GAL	EPP A	EPP A	83	93	89	10	5	5	99
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	EPP A	EPP A							
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B							
5	Atrazine	90	DF	1.0 LB A/A	1.11 LB/A	17.0 LB/100 GAL	EPP A	EPP A	94	96	95	13	5	5	99
	Valor SX	51	WG	0.064 LB A/A	2.0 OZ WT/A	17.0 LB/100 GAL	EPP A	EPP A							
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	EPP A	EPP A							
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B							
6	Atrazine	90	DF	1.0 LB A/A	1.11 LB/A	17.0 LB/100 GAL	EPP A	EPP A	93	95	97	18	9	9	99
	Valor SX	51	WG	0.064 LB A/A	2.0 OZ WT/A	17.0 LB/100 GAL	EPP A	EPP A							
	2, 4-D ester	3.8	EC	0.95 LB A/A	1.0 QT/A	17.0 LB/100 GAL	EPP A	EPP A							
	COC	L	L	1.0 QT/A	1.0 QT/A	17.0 LB/100 GAL	EPP A	EPP A							
	Roundup Original MAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0 FL OZ/A	17.0 LB/100 GAL	POST B	POST B							
LSD (P=.05)									18.6	8.3	4.7	4.8	1.5	0.0	
Standard Deviation									12.3	5.5	3.1	3.2	1.0	0.0	
CV									19.63	8.12	4.44	47.43	32.66	0.0	

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	YIELD
Rating Unit										PERCENT	PERCENT	PERCENT	BU/A
Rating Date										07-06-05	07-06-05	07-06-05	10-01-05
Trt-Eval Interval										76 DA-A	76 DA-A	76 DA-A	163 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B	99	99	99	201
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
2	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	99	99	99	212
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
3	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	99	99	99	221
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
4	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A	99	99	99	212
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
5	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	99	99	99	224
	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
6	Atrazine	90	DF	1.0	LB A/A	1.11	LB/A	EPP	A	99	99	99	215
	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	EPP	A				
	2, 4-D ester	3.8	EC	0.95	LB A/A	1.0	QT/A	EPP	A				
	COC	L	L	1.0	QT/A	1.0	QT/A	EPP	A				
	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B				
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B				
LSD (P=.05)										0.0	0.0	0.0	16.2
Standard Deviation										0.0	0.0	0.0	10.8
CV										0.0	0.0	0.0	5.03

# Iowa State University

**Preemergence applied Gramoxone Inteon, alone, and with 2, 4-D ester followed by postemergence Lexar applications in no-tillage corn production, Ames, IA, 2005.**  
 Trial ID: ACN 6 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ames **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50010 **Initiation Date:** 04-29-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this no-tillage corn study was to assess burndown efficacy and season long weed control of preemergence applied Gramoxone Inteon alone and in tank-mixture with 2,4-D ester followed by early postemergence applications of Lexar. Preemergence applied tank-mixtures of Gramoxone Inteon with Lexar were also evaluated for one-pass burndown and season long weed control.

**Conclusions:** Differences in corn stand between treatments were not significant. PRE applied treatments provided excellent giant foxtail, velvetleaf, and common lambsquarters control when observed on May 6 and 16, seven and seventeen days after application, respectively. Horseweed control with PRE Gramoxone Inteon was rate responsive and ranged from 75 to 85% when applied alone, and 78 to 90% when combined with 2,4-D ester. Horseweed did not exhibit a rate response with PRE Gramoxone Inteon plus Lexar treatments. Horseweed control with these treatments was 80% on May 6 and 96 to 98% on May 16. Roundup WeatherMAX plus Degree Xtra provided 35 and 82% horseweed control on May 6 and 16, respectively. No PRE treatment resulted in corn injury when observed on May 16.

PRE treatments with Lexar or Degree Xtra provided good to excellent giant foxtail, velvetleaf, common lambsquarters and horseweed control when observed on May 24. PRE treatments of Gramoxone Inteon, alone, and tank-mixed with 2,4-D ester did not provide adequate giant foxtail and velvetleaf control on May 24. These treatments, however, did provide excellent control of common lambsquarters. Poor to fair horseweed control was provided by PRE Gramoxone Inteon and fair to good control by Gramoxone Inteon plus 2,4-D ester on May 24.

Corn injury resulting from POST applied Lexar was observed on June 2, nine days following application. No injury was observed on July 6. Giant foxtail, velvetleaf, and common lambsquarters control on June 2 improved to excellent with the PRE treatments following the application of Lexar POST. All PRE followed by POST and PRE only treatments provided excellent giant foxtail, velvetleaf, common lambsquarters, and horseweed control when observed on July 6. An exception was PRE Roundup Original MAX plus Degree Xtra which provided only fair velvetleaf and horseweed control. Treatment corn yields ranged from 176 to 212 bu/A. None of the yield differences between treatments were significant: all yields were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** GARST 8575  
**Planting Date:** 04-29-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 30200 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The study area was left un-tilled from the 2004 soybean cropping year. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 10 to 15% at planting.

### SOIL DESCRIPTION

**% OM:** 4.4 **Texture:** WEBSTER CLAY LOAM  
**pH:** 6.2 **Soil Name:** CLARION, WEBSTER, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	04-29-05	05-24-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	EPOST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	53 F	77 F
% Relative Humidity:	35	38
Wind Velocity, Unit:	8 MPH	3 MPH
Soil Temp., Unit:	52 F	71 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	70	0

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 2 - V 3
Stage Scale:	-	DESC
Height, Unit:	-	4 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA 1- 2 LEAF	SETFA 1- 4 LEAF
Stage Scale:	0.25 IN	0.5-1 IN
Density, Unit:	< 1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH COTLY-1 L	ABUTH COTLY-1 L
Stage Scale:	0.25 IN	0.25-0.5
Density, Unit:	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	CHEAL COTYL-NUM	CHEAL 2-6 LEAF
Stage Scale:	0.25-2 IN	0.5 IN
Density, Unit:	0-2 FT2	< 1 FT2
Weed 4 Code, Stage:	ERICA NUMEROUS	ERICA NUMEROUS
Stage Scale:	0.5-5 IN	1-8 IN
Density, Unit:	0-3 FT2	0-3 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	HAND BOOM
Operating Pressure:	30	35
Nozzle Size:	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Gramoxone Inteon, alone, and with 2, 4-D ester followed by postemergence Lexar applications in no-tillage corn production, Ames, IA, 2005.**

Trial ID: ACN 6 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	SETFA	ABUTH	CHEAL	ERICA	ZEAMD	SETFA
Rating Data Type									STAND	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									07-29-05	05-06-05	05-06-05	05-06-05	05-06-05	05-16-05	05-16-05
Trt-Eval Interval									91 DA-A	7 DA-A	7 DA-A	7 DA-A	7 DA-A	17 DA-A	17 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Unit	Appl Code							
1	Untreated								0	0	0	0	0	0	0
2	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	40.0 FL OZ/A	PRE	A	30	99	99	93	75	0	99
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
	NIS	L	0.25 % V/V	0.25 % V/V	0.25 % V/V	EPOST	B								
3	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	48.0 FL OZ/A	PRE	A	30	99	99	93	78	0	99
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
	NIS	L	0.25 % V/V	0.25 % V/V	0.25 % V/V	EPOST	B								
4	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	64.0 FL OZ/A	PRE	A	30	99	99	96	85	0	99
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
	NIS	L	0.25 % V/V	0.25 % V/V	0.25 % V/V	EPOST	B								
5	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	40.0 FL OZ/A	PRE	A	29	99	99	96	78	0	99
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	16.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
6	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	48.0 FL OZ/A	PRE	A	29	99	99	96	83	0	99
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	16.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
7	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	64.0 FL OZ/A	PRE	A	29	99	99	96	85	0	99
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	16.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	EPOST	B							
8	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	40.0 FL OZ/A	PRE	A	29	99	99	96	80	0	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
9	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	48.0 FL OZ/A	PRE	A	30	99	99	96	80	0	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
10	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	64.0 FL OZ/A	PRE	A	29	99	99	96	80	0	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	PRE	A							
	NIS	L	0.125 % V/V	0.125 % V/V	0.125 % V/V	PRE	A								
11	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	22.0 FL OZ/A	PRE	A	29	95	99	52	35	0	99
	Degree Xtra	4.04	CS	3.03 LB A/A	96.0 FL OZ/A	96.0 FL OZ/A	PRE	A							
LSD (P=.05)									2.3	0.0	0.0	4.1	6.3	0.0	0.0
Standard Deviation									1.4	0.0	0.0	2.4	3.7	0.0	0.0
CV									5.08	0.0	0.0	2.88	5.34	0.0	0.0

# Iowa State University

Weed Code									ABUTH	CHEAL	ERICA	ZEAMD	SETFA	ABUTH	CHEAL
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									05-16-05	05-16-05	05-16-05	05-24-05	05-24-05	05-24-05	05-24-05
Trt-Eval Interval									17 DA-A	17 DA-A	17 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								0	0	0	0	0	0	0
2	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	PRE	A		99	96	78	0	62	38	95
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
	NIS		L	0.25 % V/V	0.25 % V/V	EPOST	B								
3	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	PRE	A		99	96	80	0	65	40	95
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
	NIS		L	0.25 % V/V	0.25 % V/V	EPOST	B								
4	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	PRE	A		99	98	85	0	62	40	96
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
	NIS		L	0.25 % V/V	0.25 % V/V	EPOST	B								
5	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	PRE	A		99	96	85	0	62	38	98
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
6	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	PRE	A		99	99	88	0	60	40	99
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
7	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	PRE	A		99	99	90	0	65	40	99
	2, 4-D ester	3.8	EC	0.475 LB AE/A	16.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	EPOST	B								
8	Gramoxone Inteon	2	SL	0.625 LB A/A	40.0 FL OZ/A	PRE	A		99	99	98	2	99	98	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
9	Gramoxone Inteon	2	SL	0.75 LB A/A	48.0 FL OZ/A	PRE	A		99	99	96	0	99	96	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
10	Gramoxone Inteon	2	SL	1.0 LB A/A	64.0 FL OZ/A	PRE	A		99	99	96	0	99	98	99
	Lexar	3.7	SE	2.77 LB A/A	96.0 FL OZ/A	PRE	A								
	NIS		L	0.125 % V/V	0.125 % V/V	PRE	A								
11	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A	PRE	A		99	99	82	0	96	88	99
	Degree Xtra	4.04	CS	3.03 LB A/A	96.0 FL OZ/A	PRE	A								
LSD (P=.05)									0.0	2.5	7.3	1.5	4.2	4.9	3.0
Standard Deviation									0.0	1.4	4.3	0.9	2.5	2.9	1.8
CV									0.0	1.62	5.34	574.46	3.57	5.1	1.98

# Iowa State University

Weed Code									ERICA	ZEAMD	SETFA	ABUTH	CHEAL	ERICA	ZEAMD	
Rating Data Type									CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									05-24-05	06-02-05	06-02-05	06-02-05	06-02-05	06-02-05	07-06-05	
Trt-Eval Interval									0 DA-B	9 DA-B	9 DA-B	9 DA-B	9 DA-B	9 DA-B	43 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated								0	0	0	0	0	0	0	0
2	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	0.625 0.125 % V/V 2.77 LB A/A 0.25 % V/V	40.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	60	8	99	99	99	75	0	0
3	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	0.75 0.125 % V/V 2.77 LB A/A 0.25 % V/V	48.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	62	8	99	99	99	80	0	0
4	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	1.0 0.125 % V/V 2.77 LB A/A 0.25 % V/V	64.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	77	8	98	99	99	82	0	0
5	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	0.625 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	40.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	80	7	99	98	99	90	0	0
6	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	0.75 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	48.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	88	10	98	99	99	92	0	0
7	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	1.0 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	64.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	87	8	98	98	99	90	0	0
8	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	0.625 2.77 LB A/A 0.125 % V/V	40.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	98	3	99	98	99	99	0	0
9	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	0.75 2.77 LB A/A 0.125 % V/V	48.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	98	0	98	95	99	98	0	0
10	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	1.0 2.77 LB A/A 0.125 % V/V	64.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	98	0	99	98	99	98	0	0
11	Roundup WeatherMAX Degree Xtra	4.5 4.04	SL CS	0.77 3.03 LB A/A	22.0 FL OZ/A 96.0 FL OZ/A	FL OZ/A FL OZ/A	PRE PRE	A A	90	0	98	92	99	92	0	0
LSD (P=.05)									12.2	4.3	2.6	2.7	0.0	7.9	0.0	0.0
Standard Deviation									7.2	2.6	1.5	1.6	0.0	4.6	0.0	0.0
CV									9.43	52.64	1.71	1.77	0.0	5.7	0.0	0.0

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									SETFA CONTROL PERCENT 07-06-05 43 DA-B	ABUTH CONTROL PERCENT 07-06-05 43 DA-B	CHEAL CONTROL PERCENT 07-06-05 43 DA-B	ERICA CONTROL PERCENT 07-06-05 43 DA-B	ZEAMD YIELD BU/A 10-10-05 164 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated								0	0	0	0	0
2	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	0.625 LB A/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	40.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	93	99	99	99	188
3	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	0.75 LB A/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	48.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	95	99	99	99	176
4	Gramoxone Inteon NIS Lexar NIS	2 L 3.7 L	SL L SE L	1.0 LB A/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	64.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A % V/V FL OZ/A % V/V	PRE PRE EPOST EPOST	A A B B	95	99	99	99	191
5	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	0.625 LB A/A 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	40.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	93	99	99	99	202
6	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	0.75 LB A/A 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	48.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	96	99	99	99	209
7	Gramoxone Inteon 2, 4-D ester NIS Lexar NIS	2 3.8 L 3.7 L	SL EC L SE L	1.0 LB A/A 0.475 LB AE/A 0.125 % V/V 2.77 LB A/A 0.25 % V/V	64.0 FL OZ/A 16.0 FL OZ/A 0.125 % V/V 96.0 FL OZ/A 0.25 % V/V	FL OZ/A FL OZ/A % V/V FL OZ/A % V/V	PRE PRE PRE EPOST EPOST	A A A B B	95	99	99	99	197
8	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	0.625 LB A/A 2.77 LB A/A 0.125 % V/V	40.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	93	96	99	99	194
9	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	0.75 LB A/A 2.77 LB A/A 0.125 % V/V	48.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	90	96	99	98	212
10	Gramoxone Inteon Lexar NIS	2 3.7 L	SL SE L	1.0 LB A/A 2.77 LB A/A 0.125 % V/V	64.0 FL OZ/A 96.0 FL OZ/A 0.125 % V/V	FL OZ/A FL OZ/A % V/V	PRE PRE PRE	A A A	92	96	99	96	189
11	Roundup WeatherMAX Degree Xtra	4.5 4.04	SL CS	0.77 LB AE/A 3.03 LB A/A	22.0 FL OZ/A 96.0 FL OZ/A	FL OZ/A FL OZ/A	PRE PRE	A A	92	65	99	77	194
LSD (P=.05)									3.6	8.1	0.0	6.0	37.4
Standard Deviation									2.1	4.8	0.0	3.5	21.7
CV									2.5	5.53	0.0	4.01	12.24

# Iowa State University

**Preemergence Keystone, Hornet, FulTime, Bicep II Magnum and Harness Xtra and postemergence Hornet, Glyphomax and Roundup WeatherMAX in corn, Ames, IA, 2005.**  
 Trial ID: ACC 1 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ames **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50010 **Initiation Date:** 05-09-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate preemergence applied Keystone, Hornet, FulTime, Surpass, Bicep II Magnum, Harness Xtra and postemergence Hornet, Atrazine, Callisto, Glyphomax and Roundup WeatherMAX for crop phytotoxicity and weed control in corn.  
**Conclusions:** No significant differences between treatments for corn stand were determined. PRE applied treatments demonstrated excellent crop safety when observed on June 2 and 9, prior to any postemergence applications. Excellent giant foxtail, common waterhemp, and common lambsquarters control was observed with the PRE treatments on June 9. Velvetleaf and ivyleaf morningglory control ranged from mostly poor to good with PRE treatments on June 9.  
 Negligible corn injury was observed from POST1 applied treatments on June 15 and none following POST2 or DPOST. Giant foxtail, velvetleaf, and common lambsquarters control improved to good to excellent with PRE followed by POST1 and POST2 applications when observed on June 30, July 18, and August 16. Ivyleaf morningglory control on these dates improved following POST1 and POST2 applications; however, few treatments provided good control.  
 PRE only treatments continued to generally provide good giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control on June 30, July 18, and August 16, except FulTime and Surpass, which did not control velvetleaf. Ivyleaf morningglory control with PRE only treatments on these dates was generally poor to fair. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 53-34  
**Planting Date:** 05-09-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 30200 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

**% OM:** 6.6 **Texture:** CANISTEO CLAY LOAM  
**pH:** 7.3 **Soil Name:** CLARION, WEBSTER, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	05-10-05	06-09-05	06-15-05	07-08-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST1	POST2	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	74 F	80 F	72 F	79 F
% Relative Humidity:	48	58	62	65
Wind Velocity, Unit:	3 MPH	8 MPH	10 MPH	0 MPH
Soil Temp., Unit:	68 F	71 F	65 F	82 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	20	100	20	40

## CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4	ZEAMD V 6	ZEAMD V 8 - V 9
Stage Scale:	-	DESC	DESC	DESC
Height, Unit:	-	9 IN	14 IN	42 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 1-4 LEAF	SETFA 1-3 LEAF
Stage Scale:	-	0.25-2 IN	0.5-10 IN	0.25-1 IN
Density, Unit:	- -	< 1 FT2	0-1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-8 L	ABUTH COTYL-2 L
Stage Scale:	-	0.25-4 IN	0.25-10	0.25-1 IN
Density, Unit:	- -	0-2 FT2	0-2 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA NUMEROUS	AMATA COTYL-4 L
Stage Scale:	-	-	0.5-10	0.25-1 IN
Density, Unit:	- -	- -	0-2 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL -	CHEAL NUMEROUS	CHEAL 2-4 LEAF
Stage Scale:	-	-	0.5-10	0.2-6 IN
Density, Unit:	- -	- -	0-3 FT2	< 1 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-NUM	IPOHE COTYL-NUM	IPOHE COTYL-NUM
Stage Scale:	-	0.5-3.5	1-8 IN	0.5-5 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	30	30	30	40
Nozzle Size:	11002	11002	11002	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence Keystone, Hornet, FulTime, Bicep II Magnum and Harness Xtra and postemergence Hornet, Glyphomax and Roundup WeatherMAX in corn, Ames, IA, 2005.**

Trial ID: ACC 1 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA		
Rating Data Type								STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL		
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-29-05	06-02-05	06-09-05	06-09-05	06-09-05	06-09-05		
Trt-Eval Interval								80 DA-A	23 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									30	0	0	0	0	0
2	Keystone	5.25	SE	3.48	LB A/A	2.65	QT/A	PRE	A	30	0	0	99	95	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	PRE	A						
3	Keystone	5.25	SE	3.48	LB A/A	2.65	QT/A	PRE	A	31	0	0	98	58	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST1	B						
	Atrazine	90	DF	0.75	LB A/A	0.83	LB/A	POST1	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST1	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST1	B						
4	Keystone	5.25	SE	3.48	LB A/A	2.65	QT/A	PRE	A	32	0	0	98	52	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST1	B						
	Callisto	4	SC	0.0234	LB A/A	0.75	FL OZ/A	POST1	B						
	Atrazine	90	DF	0.25	LB A/A	0.28	LB/A	POST1	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST1	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST1	B						
5	Keystone	5.25	SE	3.48	LB A/A	2.65	QT/A	PRE	A	31	0	0	99	53	99
	Hornet WDG	68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	POST1	B						
	Callisto	4	SC	0.0156	LB A/A	0.50	FL OZ/A	POST1	B						
	Atrazine	90	DF	0.252	LB A/A	0.28	LB/A	POST1	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST1	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST1	B						
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	32	0	0	98	50	99
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	32	0	0	96	30	99
8	FulTime	4	CS	1.75	LB A/A	1.75	QT/A	PRE	A	30	0	0	95	28	99
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST2	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST2	C						
9	Keystone	4	CS	1.5	LB A/A	1.50	QT/A	PRE	A	29	0	0	95	32	98
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST2	C						
	AMS		DF	2.50	LB/A	2.5	LB/A	POST2	C						
10	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST2	C	31	0	0	0	0	0
	AMS		DF	2.5	LB/A	2.50	LB/A	POST2	C						
11	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	31	0	0	99	62	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST1	B						
	Atrazine	90	DF	0.5	LB A/A	0.556	LB/A	POST1	B						
	COC		L	1.0	% V/V	1.0	% V/V	POST1	B						
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST1	B						
12	Harness Xtra	6	SC	1.8	LB A/A	1.2	QT/A	PRE	A	29	0	0	96	33	99
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C						
13	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	C	29	0	0	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C						
	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	DPOST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	DPOST	D						
14	Roundup WeatherMAX	4.5	SL	0.75	LB AE/A	21.3	FL OZ/A	POST2	C	30	0	0	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST2	C						
LSD (P=.05)								3.4	0.0	0.0	2.3	14.6	1.0		
Standard Deviation								2.0	0.0	0.0	1.4	8.7	0.6		
CV								6.61	0.0	0.0	1.96	24.72	0.87		

# Iowa State University

Weed Code									CHEAL	IPOHE	ZEAMD	ZEAMD	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	PHYTO	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-09-05	06-09-05	06-15-05	06-22-05	06-22-05	06-22-05	
Trt-Eval Interval									30 DA-A	30 DA-A	6 DA-B	13 DA-B	13 DA-B	13 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99	92	2	0	99	95
3	Keystone Hornet WDG Atrazine 28% UAN COC	5.25 68.5 90 L L	SE WG DF L L	3.48 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	2.65 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	65	5	0	98	96
4	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	98	65	3	0	98	99
5	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0156 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.50 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	65	3	0	99	98
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	62	0	0	98	40
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	93	28	0	0	96	12
8	FulTime Glyphomax XRT AMS	4 4 4	CS SL DF	1.75 0.75 2.5	LB A/A LB AE/A LB/A	1.75 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	96	25	0	0	95	28
9	Keystone Glyphomax XRT AMS	4 4 4	CS SL DF	1.5 0.75 2.50	LB A/A LB AE/A LB/A	1.50 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	96	35	0	0	95	32
10	Glyphomax XRT AMS	4 4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.50	PT/A LB/A	POST2 POST2	C C	0	0	0	0	0	0
11	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 90 L L	L SC DF L L	2.9 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.1 3.0 0.556 1.0 2.5	QT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	98	77	3	0	99	99
12	Harness Xtra Roundup WeatherMAX AMS	6 4.5 4.5	SC SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	27	0	0	96	33
13	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5 4.5	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	0	0	0	0	0	0
14	Roundup WeatherMAX AMS	4.5 4.5	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	0	0	0	0	0	0
LSD (P=.05)										2.2	20.9	2.7	0.0	2.3	8.9
Standard Deviation										1.3	12.5	1.6	0.0	1.4	5.3
CV										1.85	32.31	133.3	0.0	1.96	11.8

# Iowa State University

Weed Code									AMATA	CHEAL	IPOHE	ZEAMD	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-22-05	06-22-05	06-22-05	06-30-05	06-30-05	06-30-05	
Trt-Eval Interval									13 DA-B	13 DA-B	13 DA-B	15 DA-C	15 DA-C	15 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	77	0	96	93
3	Keystone Hornet WDG Atrazine 28% UAN COC	5.25 68.5 90 L L	SE WG DF L L	3.48 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	2.65 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	96	0	95	96
4	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	87	0	96	96
5	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0156 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.50 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	90	0	96	95
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	98	52	0	96	40
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	80	12	0	95	12
8	FulTime Glyphomax XRT AMS	4 4 DF	CS SL DF	1.75 0.75 2.5	LB A/A LB AE/A LB/A	1.75 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	96	25	0	96	95
9	Keystone Glyphomax XRT AMS	4 4 DF	CS SL DF	1.5 0.75 2.50	LB A/A LB AE/A LB/A	1.50 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	98	96	30	0	98	96
10	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.50	PT/A LB/A	POST2 POST2	C C	0	0	0	0	99	95
11	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 90 L L	L SC DF L L	2.9 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.1 3.0 0.556 1.0 2.5	QT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	98	0	99	99
12	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SC SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	27	0	99	95
13	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	0	0	0	0	99	96
14	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	0	0	0	0	99	96
LSD (P=.05)										1.0	1.7	16.7	0.0	2.5	8.0
Standard Deviation										0.6	1.0	10.0	0.0	1.5	4.8
CV										0.87	1.47	23.56	0.0	1.66	6.07

# Iowa State University

Weed Code									AMATA	CHEAL	IPOHE	ZEAMD	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-30-05	06-30-05	06-30-05	07-18-05	07-18-05	07-18-05	
Trt-Eval Interval									15 DA-C	15 DA-C	15 DA-C	33 DA-C	33 DA-C	33 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	70	0	96	93
3	Keystone Hornet WDG Atrazine 28% UAN COC	5.25 68.5 90 L L	SE WG DF L L	3.48 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	2.65 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	90	0	95	96
4	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	80	0	96	96
5	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0156 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.50 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	82	0	96	95
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	96	48	0	96	38
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	80	12	0	95	12
8	FulTime Glyphomax XRT AMS	4 4 4	CS SL DF	1.75 0.75 2.5	LB A/A LB AE/A LB/A	1.75 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	77	0	96	93
9	Keystone Glyphomax XRT AMS	4 4 4	CS SL DF	1.5 0.75 2.50	LB A/A LB AE/A LB/A	1.50 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	83	0	98	96
10	Glyphomax XRT AMS	4 4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.50	PT/A LB/A	POST2 POST2	C C	95	95	83	0	99	92
11	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 90 L L	L SC DF L L	2.9 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.1 3.0 0.556 1.0 2.5	QT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	90	0	99	99
12	Harness Xtra Roundup WeatherMAX AMS	6 4.5 4.5	SC SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	77	0	99	95
13	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5 4.5	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	98	95	85	0	99	98
14	Roundup WeatherMAX AMS	4.5 4.5	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	98	96	85	0	99	92
LSD (P=.05)										1.5	2.6	15.0	0.0	2.5	10.3
Standard Deviation										0.9	1.6	8.9	0.0	1.5	6.1
CV										0.97	1.74	12.98	0.0	1.66	7.81

# Iowa State University

Weed Code									AMATA	CHEAL	IPOHE	ZEAMD	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-18-05	07-18-05	07-18-05	08-16-05	08-16-05	08-16-05	
Trt-Eval Interval									33 DA-C	33 DA-C	33 DA-C	62 DA-C	62 DA-C	62 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Keystone Hornet WDG	5.25 68.5	SE WG	3.48 0.128	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	70	0	96	93
3	Keystone Hornet WDG Atrazine 28% UAN COC	5.25 68.5 90 L L	SE WG DF L L	3.48 0.128 0.75 2.5 1.0	LB A/A LB AE/A LB A/A % V/V % V/V	2.65 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	90	0	96	98
4	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	80	0	96	99
5	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0156 0.252 2.5 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.50 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	80	0	95	96
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	96	48	0	95	33
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	78	10	0	95	12
8	FulTime Glyphomax XRT AMS	4 4 DF	CS SL DF	1.75 0.75 2.5	LB A/A LB AE/A LB/A	1.75 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	73	0	98	93
9	Keystone Glyphomax XRT AMS	4 4 DF	CS SL DF	1.5 0.75 2.50	LB A/A LB AE/A LB/A	1.50 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	82	0	98	98
10	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.50	PT/A LB/A	POST2 POST2	C C	95	93	82	0	96	93
11	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 90 L L	L SC DF L L	2.9 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.1 3.0 0.556 1.0 2.5	QT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	90	0	99	99
12	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SC SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	75	0	99	98
13	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	99	98	85	0	99	99
14	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	98	92	85	0	96	95
LSD (P=.05)										1.0	3.2	15.4	0.0	2.8	9.8
Standard Deviation										0.6	1.9	9.2	0.0	1.7	5.8
CV										0.67	2.16	13.49	0.0	1.86	7.37

# Iowa State University

Weed Code									AMATA	CHEAL	IPOHE	
Rating Data Type									CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	
Rating Date									08-16-05	08-16-05	08-16-05	
Trt-Eval Interval									62 DA-C	62 DA-C	62 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Keystone Hornet WDG	5.25 68.5	SE WG	3.48	LB A/A LB AE/A	2.65 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	70
3	Keystone Hornet WDG Atrazine 28% UAN COC	5.25 68.5 90	SE WG DF L L	3.48	LB A/A LB AE/A LB A/A % V/V % V/V	2.65 3.0 0.83 2.5 1.0	QT/A OZ WT/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	90
4	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90	SE WG SC DF L L	3.48	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	77
5	Keystone Hornet WDG Callisto Atrazine 28% UAN COC	5.25 68.5 4 90	SE WG SC DF L L	3.48	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.50 0.28 2.5 1.0	QT/A OZ WT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	80
6	FulTime	4	CS	3.35	LB A/A	3.35	QT/A	PRE	A	99	94	47
7	Surpass	6.4	EC	2.0	LB A/A	2.5	PT/A	PRE	A	99	72	10
8	FulTime Glyphomax XRT AMS	4 4	CS SL DF	1.75	LB A/A LB AE/A LB/A	1.75 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	67
9	Keystone Glyphomax XRT AMS	4 4	CS SL DF	1.5	LB A/A LB AE/A LB/A	1.50 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	78
10	Glyphomax XRT AMS	4	SL DF	0.75	LB AE/A LB/A	1.5 2.50	PT/A LB/A	POST2 POST2	C C	96	90	65
11	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 90	L SC DF L L	2.9	LB A/A LB A/A LB A/A % V/V % V/V	2.1 3.0 0.556 1.0 2.5	QT/A FL OZ/A LB/A % V/V % V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	88
12	Harness Xtra Roundup WeatherMAX AMS	6 4.5	SC SL DF	1.8	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	67
13	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.75	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	99	99	82
14	Roundup WeatherMAX AMS	4.5	SL DF	0.75	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	98	87	68
LSD (P=.05)									1.4	6.4	17.2	
Standard Deviation									0.9	3.8	10.3	
CV									0.93	4.34	16.16	

# Iowa State University

**Preemergence and postemergence applied one pass and preemergence followed by postemergence two pass herbicide systems in corn, Ames, IA, 2005.**

Trial ID: ACC 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010 Initiation Date: 05-09-05

Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate one pass and two pass herbicide application systems for crop phytotoxicity, weed control and corn yield.

**Conclusions:** Differences in corn stand between treatments were not significant. No PRE treatments resulted in corn injury. POST applications resulted in 5 to 10% injury when observed on June 15 and 23; LPOST caused no injury. The predominant foxtail species (SETSS) in the study were giant and yellow. Overall, foxtail, velvetleaf, common waterhemp, common lambsquarters, and Pennsylvania smartweed control was good to excellent with the treatments on June 23, July 11, and September 22, except for PRE Balance Pro plus Define. This treatment provided fair foxtail, and fair to good velvetleaf and Pennsylvania smartweed control on September 22. All treatments provided fair to good ivyleaf morningglory control on September 22. Corn yields ranged from 168 to 220 bu/A, and significant differences were determined between some treatments. All treatment yields were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETSS	FOXTAIL, SETARIA SP.	SETARIA SP.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
6.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-09-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-10-05	06-08-05	06-15-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	74 F	75 F	69 F
% Relative Humidity:	48	70	66
Wind Velocity, Unit:	3 MPH	2 MPH	2 MPH
Soil Temp., Unit:	68 F	76 F	65 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	20	80	0

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4	ZEAMD V 6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	5 IN	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETSS -	SETSS 1-4 LEAF	SETSS 1-4 LEAF
Stage Scale:	-	0.25-4 IN	0.5-12 IN
Density, Unit:	- -	2-10 FT <sup>2</sup>	0-3 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-3 L	ABUTH COTYL-8 L
Stage Scale:	-	0.25-3.5	0.25-9 IN
Density, Unit:	- -	0-3 FT <sup>2</sup>	0-2 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM	AMATA NUMEROUS
Stage Scale:	-	0.25-3 IN	0.5-12 IN
Density, Unit:	- -	0-3 FT <sup>2</sup>	0-2 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL -	CHEAL 2-NUM	CHEAL NUMEROUS
Stage Scale:	-	0.25-3.5	0.5-12 IN
Density, Unit:	- -	0-5 IN	0-3 IN
Weed 5 Code, Stage:	IPOHE -	IPOHE 2-5 LEAF	IPOHE NUMEROUS
Stage Scale:	-	1-3 IN	1-8 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>	< 1 FT <sup>2</sup>
Weed 6 Code, Stage:	POLPY -	POLPY 2-4 LEAF	POLPY NUMEROUS
Stage Scale:	-	1-3 IN	1-6 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>	< 1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35
Nozzle Size:	11002	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence and postemergence applied one pass and preemergence followed by postemergence two pass herbicide systems in corn, Ames, IA, 2005.**

Trial ID: ACC 2

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETSS
Rating Data Type									STAND	PHYTO	PHYTO	PHYTO	PHYBLEACH	CONTROL
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									06-27-05	05-31-05	06-15-05	06-23-05	06-23-05	06-23-05
Trt-Eval Interval									48 DA-A	21 DA-A	7 DA-B	15 DA-B	15 DA-B	15 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								30	0	0	0	0	0
2	Lumax	3.95	SE	2.96 LB A/A	3.0	QT/A	PRE	A	32	0	0	0	0	92
3	Balance Pro	4	SC	0.078 LB A/A	2.5	FL OZ/A	PRE	A	31	0	0	0	0	73
	Define SC	4	SC	0.65 LB A/A	20.8	FL OZ/A	PRE	A						
4	Harness Xtra	6	SE	1.8 LB A/A	1.2	QT/A	PRE	A	32	0	0	0	0	99
	Roundup Original MAX AMS	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0 LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
5	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	PRE	A	32	0	0	0	0	99
	Roundup Original MAX AMS	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0 LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
6	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	POST	B	31	0	8	5	0	99
	Roundup Original MAX AMS	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0 LB/100 GAL	17.0	LB/100 GAL	POST	B						
7	Lumax	3.95	SE	1.97 LB A/A	2.0	QT/A	POST	B	30	0	10	5	0	99
	Touchdown Total AMS	4.17	SL	0.78 LB AE/A	24.0	FL OZ/A	POST	B						
			DF	17.0 LB/100 GAL	17.0	LB/100 GAL	POST	B						
8	Roundup Original MAX AMS	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C	30	0	0	0	0	99
			DF	17.0 LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
LSD (P=.05)									3.4	0.0	1.8	0.0	0.0	7.8
Standard Deviation									2.0	0.0	1.0	0.0	0.0	4.4
CV									6.33	0.0	44.54	0.0	0.0	5.39

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	IPOHE	POLPY	ZEAMD
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-23-05	06-23-05	06-23-05	06-23-05	06-23-05	07-11-05
Trt-Eval Interval										15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	26 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	95	99	99	82	99	0
3	Balance Pro Define SC	4	SC	0.078	LB A/A	2.5	FL OZ/A	PRE	A	83	92	96	62	82	0
4	Harness Xtra Roundup Original MAX AMS	6	SE	1.8	LB A/A	1.2	QT/A	PRE	A	92	99	99	93	90	0
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
5	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A	93	99	99	90	90	0
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
6	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	POST	B	99	99	99	98	99	0
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
7	Lumax Touchdown Total AMS	3.95	SE	1.97	LB A/A	2.0	QT/A	POST	B	99	99	99	99	99	0
		4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
8	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	90	99	96	88	88	0
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
LSD (P=.05)										6.6	1.8	2.1	10.8	4.9	0.0
Standard Deviation										3.8	1.0	1.2	6.2	2.8	0.0
CV										4.62	1.19	1.39	8.05	3.44	0.0

# Iowa State University

Weed Code										SETSS	ABUTH	AMATA	CHEAL	IPOHE	POLPY
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-11-05	07-11-05	07-11-05	07-11-05	07-11-05	07-11-05
Trt-Eval Interval										26 DA-C	26 DA-C	26 DA-C	26 DA-C	26 DA-C	26 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	92	93	99	99	82	99
3	Balance Pro Define SC	4	SC	0.078	LB A/A	2.5	FL OZ/A	PRE	A	73	83	90	95	65	82
4	Harness Xtra Roundup Original MAX AMS	6	SE	1.8	LB A/A	1.2	QT/A	PRE	A	99	95	99	99	93	95
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
5	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A	99	95	99	99	90	93
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
6	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	POST	B	99	95	99	99	95	99
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
7	Lumax Touchdown Total AMS	3.95	SE	1.97	LB A/A	2.0	QT/A	POST	B	99	98	99	99	95	99
		4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
8	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	99	92	96	93	88	90
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
LSD (P=.05)										7.8	7.1	3.6	3.5	12.4	7.5
Standard Deviation										4.4	4.0	2.0	2.0	7.1	4.3
CV										5.39	4.97	2.39	2.33	9.29	5.23

# Iowa State University

Weed Code										SETSS	ABUTH	AMATA	CHEAL	IPOHE	POLPY
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										09-22-05	09-22-05	09-22-05	09-22-05	09-22-05	09-22-05
Trt-Eval Interval										99 DA-C	99 DA-C	99 DA-C	99 DA-C	99 DA-C	99 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	90	93	99	99	78	99
3	Balance Pro Define SC	4	SC	0.078	LB A/A	2.5	FL OZ/A	PRE	A	70	83	90	93	63	82
4	Harness Xtra Roundup Original MAX AMS	6	SE	1.8	LB A/A	1.2	QT/A	PRE	A	99	98	99	99	93	95
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
5	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A	99	96	99	99	78	93
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
6	Degree Xtra Roundup Original MAX AMS	4.04	CS	2.02	LB A/A	2.0	QT/A	POST	B	98	96	99	98	85	99
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
7	Lumax Touchdown Total AMS	3.95	SE	1.97	LB A/A	2.0	QT/A	POST	B	96	99	99	99	85	99
		4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
8	Roundup Original MAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	98	88	96	72	83	92
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C						
LSD (P=.05)										8.0	7.4	3.6	5.1	17.7	7.6
Standard Deviation										4.6	4.2	2.0	2.9	10.1	4.3
CV										5.65	5.14	2.39	3.56	14.24	5.27

## Iowa State University

Weed Code										ZEAMD
Rating Data Type										YIELD
Rating Unit										BU/A
Rating Date										10-10-05
Trt-Eval Interval										153 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									31
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	205
3	Balance Pro	4	SC	0.078	LB A/A	2.5	FL OZ/A	PRE	A	191
	Define SC	4	SC	0.65	LB A/A	20.8	FL OZ/A	PRE	A	
4	Harness Xtra	6	SE	1.8	LB A/A	1.2	QT/A	PRE	A	200
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C	
5	Degree Xtra	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A	191
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C	
6	Degree Xtra	4.04	CS	2.02	LB A/A	2.0	QT/A	POST	B	198
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B	
7	Lumax	3.95	SE	1.97	LB A/A	2.0	QT/A	POST	B	220
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	B	
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B	
8	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C	168
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST	C	
LSD (P=.05)										29.1
Standard Deviation										16.6
CV										9.48

# Iowa State University

## Preplant incorporated Imperium applied alone and followed by postemergence Roundup WeatherMAX in corn, Ames, IA, 2005.

Trial ID: ACC 3  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-04-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preplant incorporated Imperium applied alone and followed by postemergence Roundup WeatherMAX for crop phytotoxicity, weed control and corn yield.

**Conclusions:** No significant differences in corn stand were determined between treatments. PPI applied Imperium resulted in 2 to 5% corn injury when observed on May 31, twenty-seven days after application. Giant foxtail, common waterhemp and common lambsquarters control was good to excellent with all treatments on all observation dates. Reduced rates of Imperium and Bicep II Magnum gave unacceptable velvetleaf and common cocklebur control on June 9, prior to sequential postemergence (POST) applications of Roundup WeatherMAX. Control of these species improved to excellent following the POST applications. Remaining Imperium treatments demonstrated a rate response for velvetleaf and common cocklebur control. Control of these species was unacceptable with the lowest rate of Imperium, while the highest rate provided fair to good control. No significant differences in corn yield between herbicide treatments were determined. All treatment yields, however, were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-05-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Preplant treatments were incorporated two passes with a field cultivator operating 2 to 3 inches deep. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-04-05	06-09-05
Application Method:	SPRAY	SPRAY
Application Timing:	PPI	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	63 F	80 F
% Relative Humidity:	23	63
Wind Velocity, Unit:	8 MPH	5 MPH
Soil Temp., Unit:	53 F	71 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	40	100

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 5 - V 6
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM
Stage Scale:	-	0.5-2 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL 4-NUM
Stage Scale:	-	0.5-5 IN
Density, Unit:	- -	< 1 FT2
Weed 5 Code, Stage:	XANST -	XANST 2-8 LEAF
Stage Scale:	-	1-6 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	35	35
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preplant incorporated Imperium applied alone and followed by postemergence Roundup WeatherMAX in corn, Ames, IA, 2005.**

Trial ID: ACC 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								09-29-05	05-31-05	06-09-05	06-09-05	06-09-05	06-09-05	06-09-05	
Trt-Eval Interval								148 DA-A	27 DA-A	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								29	0	0	0	0	0	0
2	Imperium	7 EC		4.38 LB A/A	5.0 PT/A		PPI	A	30	3	0	98	88	98	95
3	Imperium	7 EC		5.25 LB A/A	6.0 PT/A		PPI	A	30	5	5	98	93	99	95
4	Imperium	7 EC		2.63 LB A/A	3.0 PT/A		PPI	A	30	2	0	95	72	99	90
	Roundup WeatherMAX	4.5 SL		0.77 LB AE/A	22.0 FL OZ/A		POST	B							
	AMS	DF		17.0 LB/100 GAL	17.0 LB/100 GAL		POST	B							
5	Bicep II Magnum	5.5 L		1.79 LB A/A	1.3 QT/A		PPI	A	30	0	0	93	48	95	93
	Roundup WeatherMAX	4.5 SL		0.77 LB AE/A	22.0 FL OZ/A		POST	B							
	AMS	DF		17.0 LB/100 GAL	17.0 LB/100 GAL		POST	B							
LSD (P=.05)									0.8	3.8	0.0	5.0	6.8	1.9	6.4
Standard Deviation									0.4	2.0	0.0	2.6	3.6	1.0	3.4
CV									1.44	102.06	0.0	3.46	5.96	1.32	4.56

# Iowa State University

Weed Code									XANST	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									CONTROL	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-09-05	06-16-05	06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	
Trt-Eval Interval									0 DA-B	7 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Imperium	7	EC	4.38	LB A/A	5.0	PT/A	PPI	A	53	0	0	96	88	98	90
3	Imperium	7	EC	5.25	LB A/A	6.0	PT/A	PPI	A	80	0	0	98	92	99	90
4	Imperium	7	EC	2.63	LB A/A	3.0	PT/A	PPI	A	45	0	0	99	99	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B							
5	Bicep II Magnum	5.5	L	1.79	LB A/A	1.3	QT/A	PPI	A	47	0	0	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B							
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B							
LSD (P=.05)										23.0	0.0	0.0	2.6	3.2	1.9	0.0
Standard Deviation										12.2	0.0	0.0	1.4	1.7	1.0	0.0
CV										27.14	0.0	0.0	1.74	2.26	1.31	0.0

# Iowa State University

Weed Code									XANST	SETFA	ABUTH	AMATA	CHEAL	XANST	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-24-05	07-11-05	07-11-05	07-11-05	07-11-05	07-11-05	
Trt-Eval Interval									15 DA-B	32 DA-B	32 DA-B	32 DA-B	32 DA-B	32 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Imperium	7	EC	4.38	LB A/A	5.0	PT/A	PPI	A	53	96	82	98	88	48
3	Imperium	7	EC	5.25	LB A/A	6.0	PT/A	PPI	A	80	96	88	99	88	75
4	Imperium	7	EC	2.63	LB A/A	3.0	PT/A	PPI	A	99	98	95	98	92	98
	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST	B						
5	Bicep II Magnum	5.5	L	1.79	LB A/A	1.3	QT/A	PPI	A	99	98	96	96	95	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
LSD (P=.05)										11.0	3.2	8.9	2.8	4.5	14.5
Standard Deviation										5.8	1.7	4.7	1.5	2.4	7.7
CV										8.82	2.21	6.52	1.87	3.32	12.1

# Iowa State University

Weed Code									SETFA	ABUTH	AMATA	CHEAL	XANST	ZEAMD	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	BU/A	
Rating Date									08-04-05	08-04-05	08-04-05	08-04-05	08-04-05	10-18-05	
Trt-Eval Interval									56 DA-B	56 DA-B	56 DA-B	56 DA-B	56 DA-B	167 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	104
2	Imperium	7	EC	4.38	LB A/A	5.0	PT/A	PPI	A	96	78	98	87	48	214
3	Imperium	7	EC	5.25	LB A/A	6.0	PT/A	PPI	A	96	88	99	88	73	204
4	Imperium	7	EC	2.63	LB A/A	3.0	PT/A	PPI	A	98	95	98	92	98	215
	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST	B						
5	Bicep II Magnum	5.5	L	1.79	LB A/A	1.3	QT/A	PPI	A	98	95	96	95	98	223
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
LSD (P=.05)										3.2	10.7	2.8	6.2	16.3	21.1
Standard Deviation										1.7	5.7	1.5	3.3	8.7	11.2
CV										2.21	7.99	1.87	4.55	13.66	5.85

# Iowa State University

## Postemergence application timings of Harmony GT XP, Atrazine, Distinct, and Roundup Original in corn, Ames, IA, 2005.

Trial ID: ACC 4  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-05-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The objective of this study was to evaluate application timings of Harmony GT XP tank-mixed with Atrazine, Distinct, or Roundup Original or crop phytotoxicity and weed efficacy in corn.

**Conclusions:** Significant differences in corn stand were determined between several treatments. Differences were attributable to planting rate variability and not herbicide treatment. Crop phytotoxicity observations were made around seven days following application and EPOST treatments resulted in no corn injury; 3 to 5% injury occurred from MPOST treatments; 8 to 10% injury from LPOST treatments; and no injury from DPOST treatments.

In general, Cinch applied PRE to the study area provided good to excellent residual giant foxtail and common waterhemp control. Following all POST application timings velvetleaf control ranged from 58 to 99%, common lambsquarters from 78 to 99%, and ivyleaf morningglory from 23 to 88% when observed on July 11. Overall, LPOST treatments provided the best velvetleaf control on July 11. EPOST treatments of Harmony GT, Harmony GT plus Roundup Original, MPOST Harmony GT plus Roundup Original, and DPOST Harmony GT provided only poor to fair velvetleaf control. Nearly all POST applied treatment timings provided good to excellent common lambsquarters control on July 11, except EPOST Harmony GT. Ivyleaf morningglory control was generally the highest when treatments were applied DPOST. Weed control observations made on July 25, generally reflected those taken on July 11. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-05-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	05-06-05	05-24-05	06-02-05	06-09-05	06-17-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST	LPOST	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	76 F	77 F	77 F	80 F	81 F
% Relative Humidity:	51	38	46	63	31
Wind Velocity, Unit:	8 MPH	3 MPH	4 MPH	5 MPH	0 MPH
Soil Temp., Unit:	63 F	71 F	69 F	71 F	73 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	100	0	10	100	0

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 1 - V 2	ZEAMD V 3 - V 4	ZEAMD V 5 - V 6	ZEAMD V 7
Stage Scale:	-	DESC	DESC	DESC	DESC
Height, Unit:	-	1.5 IN	5 IN	12 IN	24 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA 1-2 LEAF	SETFA 1-2 LEAF	SETFA 1-2 LEAF	SETFA 1-4 LEAF
Stage Scale:	-	0.25 IN	0.25 IN	0.25-0.5	0.25-0.2
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYLEDON	ABUTH COTYL-3 L	ABUTH COTYL-5 L	ABUTH COTYL-10
Stage Scale:	-	0.25 IN	0.25-1 IN	0.25-4 IN	0.25-12
Density, Unit:	- -	0-1 FT2	< 1 FT2	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA -	AMATA 2-NUM	AMATA 2-NUM
Stage Scale:	-	-	-	0.25-1 IN	0.25-1 IN
Density, Unit:	- -	- -	- -	< 1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYLEDON	CHEAL 2-NUM	CHEAL 2-NUM	CHEAL NUMEROUS
Stage Scale:	-	0.25 IN	0.25-0.75	0.25-4 IN	0.5-16 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	0-3 FT2	0-3 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYLEDON	IPOHE COTYL-3 L	IPOHE COTYL-NUM	IPOHE COTYL-NUM
Stage Scale:	-	0.5 IN	0.5-1.5	1-4 IN	1-8 IN
Density, Unit:	- -	< 1 FT2	0-1 FT2	0-1 FT2	0-1 FT2

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	TERRA PRO	HAND	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	30	35	30	30	30
Nozzle Size:	11002	11003	11002	11002	11003
Spray Volume, Unit:	10 GPA	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Postemergence application timings of Harmony GT XP, Atrazine, Distinct, and Roundup Original in corn, Ames, IA, 2005.

Trial ID: ACC 4  
 Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	
Rating Data Type								STAND	PHYTO	PHYTO	PHYTO	PHYTO	CONTROL	CONTROL	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								08-04-05	06-01-05	06-09-05	06-16-05	06-24-05	06-24-05	06-24-05	
Trt-Eval Interval								90 DA-A	8 DA-B	7 DA-C	7 DA-D	7 DA-E	23 DA-B	23 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Untreated									31	0	0	0	0	0
2	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	0	0	0	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B						
3	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	0	0	0	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B						
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	EPOST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B						
4	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	0	0	0	96
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B						
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B						
5	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	30	0	0	0	0	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B						
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	EPOST	B						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B						
6	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	29	0	0	0	0	93
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B						
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B						
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B						
7	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	30	0	5	0	0	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C						
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C						
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C						
8	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	3	0	0	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C						
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	MPOST	C						
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C						
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C						
9	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	30	0	5	0	0	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C						
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C						
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C						
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C						
10	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	5	0	0	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C						
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	MPOST	C						
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	C						
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C						
11	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	31	0	5	0	0	95
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C						
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C						
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C						
12	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	29	0	0	8	0	93
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D						
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D						
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D						
13	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	30	0	0	10	0	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D						
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D						
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D						
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D						

# Iowa State University

Weed Code										ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH
Rating Data Type										STAND	PHYTO	PHYTO	PHYTO	PHYTO	CONTROL	CONTROL
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-04-05	06-01-05	06-09-05	06-16-05	06-24-05	06-24-05	06-24-05
Trt-Eval Interval										90 DA-A	8 DA-B	7 DA-C	7 DA-D	7 DA-E	23 DA-B	23 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
14	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	31	0	0	10	0	99	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	Roundup Original	3	SL		0.75 LB AE/A	32.0	FL OZ/A	LPOST	D							
	NIS		L		0.25 % V/V	0.25	% V/V	LPOST	D							
	AMS		DF		2.0 LB/A	2.0	LB/A	LPOST	D							
15	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	31	0	0	5	3	95	93
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex		L		1.0 % V/V	1.0	% V/V	LPOST	D							
	AMS		DF		2.0 LB/A	2.0	LB/A	LPOST	D							
16	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	31	0	0	0	0	95	47
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	AMS		DF		2.0 LB/A	2.0	LB/A	DPOST	E							
	Agridex		L		1.0 % V/V	1.0	% V/V	DPOST	E							
17	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	30	0	0	0	0	95	87
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex		L		1.0 % V/V	1.0	% V/V	DPOST	E							
	AMS		DF		2.0 LB/A	2.0	LB/A	DPOST	E							
18	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	31	0	0	0	0	99	96
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Roundup Original	3	SL		0.75 LB AE/A	32.0	FL OZ/A	DPOST	E							
	NIS		L		0.25 % V/V	0.25	% V/V	DPOST	E							
	AMS		DF		2.0 LB/A	2.0	LB/A	DPOST	E							
19	Cinch	7.64	EC		1.6 LB A/A	1.67 PT/A		PRE	A	32	0	0	0	0	95	90
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex		L		1.0 % V/V	1.0	% V/V	DPOST	E							
	AMS		DF		2.0 LB/A	2.0	LB/A	DPOST	E							
LSD (P=.05)										1.9	0.0	1.1	1.1	1.1	3.5	16.0
Standard Deviation										1.2	0.0	0.7	0.7	0.7	2.1	9.7
CV										3.8	0.0	53.93	37.75	377.49	2.31	11.81

# Iowa State University

Weed Code										AMATA	CHEAL	IPHOE	ZEAMD	SETFA	ABUTH	AMATA
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-24-05	06-24-05	06-24-05	07-01-05	07-01-05	07-01-05	07-01-05
Trt-Eval Interval										23 DA-B	23 DA-B	23 DA-B	29 DA-C	29 DA-C	29 DA-C	29 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	87	47	0	95	77	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
3	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	99	55	0	93	80	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
4	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	96	55	0	96	90	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
5	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	90	53	0	95	72	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	EPOST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
6	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	96	67	0	93	81	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
7	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	95	95	47	0	95	92	95
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
8	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	99	40	0	95	85	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
9	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	99	60	0	96	88	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
10	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	96	53	0	98	78	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	MPOST	C							
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
11	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	98	58	0	95	91	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
12	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	96	92	62	0	93	91	96
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D							
13	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	99	67	0	93	91	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							
14	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	99	73	0	99	90	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	LPOST	D							
	NIS		L	0.25	% V/V	0.25	% V/V	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							

# Iowa State University

Weed Code										AMATA	CHEAL	IPHE	ZEAMD	SETFA	ABUTH	AMATA
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-24-05	06-24-05	06-24-05	07-01-05	07-01-05	07-01-05	07-01-05
Trt-Eval Interval										23 DA-B	23 DA-B	23 DA-B	29 DA-C	29 DA-C	29 DA-C	29 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
15	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	98	98	70	0	95	93	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex	L		1.0	% V/V	1.0	% V/V	LPOST	D							
	AMS	DF		2.0	LB/A	2.0	LB/A	LPOST	D							
16	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	96	52	43	0	95	62	98
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
17	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	88	80	0	95	90	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
18	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	99	83	0	99	99	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	DPOST	E							
	NIS	L		0.25	% V/V	0.25	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
19	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	90	85	0	95	93	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
LSD (P=.05)										3.0	5.8	19.0	0.0	3.0	17.0	3.1
Standard Deviation										1.8	3.5	11.4	0.0	1.8	10.3	1.9
CV										1.98	3.99	19.66	0.0	2.04	12.7	2.02

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 07-01-05 29 DA-C	IPOHE CONTROL PERCENT 07-01-05 29 DA-C	ZEAMD PHYTO PERCENT 07-11-05 32 DA-D	SETFA CONTROL PERCENT 07-11-05 32 DA-D	ABUTH CONTROL PERCENT 07-11-05 32 DA-D	AMATA CONTROL PERCENT 07-11-05 32 DA-D	CHEAL CONTROL PERCENT 07-11-05 32 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Cinch Harmony GT XP AMS Agrindex	7.64 75	EC WG DF L	1.6 0.00391 2.0 1.0	LB A/A LB A/A LB/A % V/V	1.67 0.083 2.0 1.0	PT/A OZ WT/A LB/A %V/V	PRE EPOST EPOST EPOST	A B B B	78	43	0	95	73	98	78
3	Cinch Harmony GT XP Atrazine Agrindex AMS	7.64 75	EC WG DF L DF	1.6 0.00391 0.75 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	1.67 0.083 13.3 1.0 2.0	PT/A OZ WT/A OZ WT/A % V/V LB/A	PRE EPOST EPOST EPOST EPOST	A B B B B	99	48	0	93	80	98	99
4	Cinch Harmony GT XP Distinct Agrindex AMS	7.64 75	EC WG WG L DF	1.6 0.00391 0.175 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	1.67 0.083 4.0 1.0 2.0	PT/A OZ WT/A OZ WT/A % V/V LB/A	PRE EPOST EPOST EPOST EPOST	A B B B B	93	53	0	95	88	98	93
5	Cinch Harmony GT XP Roundup Original NIS AMS	7.64 75	EC WG SL L DF	1.6 0.00391 0.75 0.25 2.0	LB A/A LB A/A LB AE/A % V/V LB/A	1.67 0.083 32.0 0.25 2.0	PT/A OZ WT/A FL OZ/A % V/V LB/A	PRE EPOST EPOST EPOST EPOST	A B B B B	88	48	0	95	63	98	88
6	Cinch Distinct Agrindex AMS	7.64 70	EC WG L DF	1.6 0.175 1.0 2.0	LB A/A LB A/A % V/V LB/A	1.67 4.0 1.0 2.0	PT/A OZ WT/A % V/V LB/A	PRE EPOST EPOST EPOST	A B B B	95	60	0	93	80	99	95
7	Cinch Harmony GT XP AMS Agrindex	7.64 75	EC WG DF L	1.6 0.00391 2.0 1.0	LB A/A LB A/A LB/A % V/V	1.67 0.083 2.0 1.0	PT/A OZ WT/A LB/A % V/V	PRE MPOST MPOST MPOST	A C C C	90	43	0	95	92	95	90
8	Cinch Harmony GT XP Atrazine Agrindex AMS	7.64 75	EC WG DF L DF	1.6 0.00391 0.75 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	1.67 0.083 13.3 1.0 2.0	PT/A OZ WT/A OZ WT/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	99	33	0	95	82	98	99
9	Cinch Harmony GT XP Distinct Agrindex AMS	7.64 75	EC WG WG L DF	1.6 0.00391 0.175 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	1.67 0.083 4.0 1.0 2.0	PT/A OZ WT/A OZ WT/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	99	53	0	96	86	99	99
10	Cinch Harmony GT XP Roundup Original NIS AMS	7.64 75	EC WG SL L DF	1.6 0.00391 0.75 0.25 2.0	LB A/A LB A/A LB AE/A % V/V LB/A	1.67 0.083 32.0 0.25 2.0	PT/A OZ WT/A FL OZ/A % V/V LB/A	PRE MPOST MPOST MPOST MPOST	A C C C C	93	50	0	98	77	98	92
11	Cinch Distinct Agrindex AMS	7.64 70	EC WG L DF	1.6 0.175 1.0 2.0	LB A/A LB A/A % V/V LB/A	1.67 4.0 1.0 2.0	PT/A OZ WT/A % V/V LB/A	PRE MPOST MPOST MPOST	A C C C	98	50	0	95	88	99	98
12	Cinch Harmony GT XP AMS Agrindex	7.64 75	EC WG DF L	1.6 0.00391 2.0 1.0	LB A/A LB A/A LB/A % V/V	1.67 0.083 2.0 1.0	PT/A OZ WT/A LB/A % V/V	PRE LPOST LPOST LPOST	A D D D	95	53	0	93	90	96	93
13	Cinch Harmony GT XP Distinct Agrindex AMS	7.64 75	EC WG WG L DF	1.6 0.00391 0.175 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	1.67 0.083 4.0 1.0 2.0	PT/A OZ WT/A OZ WT/A % V/V LB/A	PRE LPOST LPOST LPOST LPOST	A D D D D	99	60	0	93	91	99	99
14	Cinch Harmony GT XP Roundup Original NIS AMS	7.64 75	EC WG SL L DF	1.6 0.00391 0.75 0.25 2.0	LB A/A LB A/A LB AE/A % V/V LB/A	1.67 0.083 32.0 0.25 2.0	PT/A OZ WT/A FL OZ/A % V/V LB/A	PRE LPOST LPOST LPOST LPOST	A D D D D	96	68	0	99	88	99	95

# Iowa State University

Weed Code										CHEAL	IPHOE	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-01-05	07-01-05	07-11-05	07-11-05	07-11-05	07-11-05	07-11-05
Trt-Eval Interval										29 DA-C	29 DA-C	32 DA-D	32 DA-D	32 DA-D	32 DA-D	32 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
15	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	58	0	95	93	98	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex	L		1.0	% V/V	1.0	% V/V	LPOST	D							
	AMS	DF		2.0	LB/A	2.0	LB/A	LPOST	D							
16	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	62	58	0	95	58	98	68
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
17	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	90	83	0	95	93	99	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
18	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	67	0	99	99	99	99
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	DPOST	E							
	NIS	L		0.25	% V/V	0.25	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
19	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	95	82	0	95	96	99	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
LSD (P=.05)										7.2	20.6	0.0	2.9	20.5	3.0	7.8
Standard Deviation										4.4	12.4	0.0	1.8	12.4	1.8	4.7
CV										5.0	23.31	0.0	1.96	15.56	1.96	5.33

# Iowa State University

Weed Code										IPHOE	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPHOE
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-11-05	07-25-05	07-25-05	07-25-05	07-25-05	07-25-05	07-25-05
Trt-Eval Interval										32 DA-D	38 DA-E	38 DA-E	38 DA-E	38 DA-E	38 DA-E	38 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	40	0	95	71	98	77	38
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
3	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	47	0	93	75	98	99	47
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
4	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	53	0	95	85	98	93	53
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
5	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	43	0	93	55	98	85	43
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	EPOST	B							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	EPOST	B							
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
6	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	58	0	93	80	99	95	58
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	EPOST	B							
	Agridex		L	1.0	% V/V	1.0	% V/V	EPOST	B							
	AMS		DF	2.0	LB/A	2.0	LB/A	EPOST	B							
7	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	37	0	95	90	95	88	35
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
8	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	28	0	95	78	98	99	23
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Atrazine	90	DF	0.75	LB A/A	13.3	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
9	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	50	0	96	85	99	99	48
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
10	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	48	0	96	73	98	90	47
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	MPOST	C							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	MPOST	C							
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
11	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	50	0	95	85	99	98	48
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	C							
	Agridex		L	1.0	% V/V	1.0	% V/V	MPOST	C							
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	C							
12	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	48	0	93	88	96	93	43
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D							
13	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	58	0	93	92	99	99	58
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex		L	1.0	% V/V	1.0	% V/V	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							
14	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	68	0	98	85	99	96	67
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	LPOST	D							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	LPOST	D							
	NIS		L	0.25	% V/V	0.25	% V/V	LPOST	D							
	AMS		DF	2.0	LB/A	2.0	LB/A	LPOST	D							

# Iowa State University

Weed Code										IPHOE	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPHOE
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-11-05	07-25-05	07-25-05	07-25-05	07-25-05	07-25-05	07-25-05
Trt-Eval Interval										32 DA-D	38 DA-E	38 DA-E	38 DA-E	38 DA-E	38 DA-E	38 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
15	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	57	0	95	90	98	99	55
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	LPOST	D							
	Agridex	L		1.0	% V/V	1.0	% V/V	LPOST	D							
	AMS	DF		2.0	LB/A	2.0	LB/A	LPOST	D							
16	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	58	0	95	70	98	75	50
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
17	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	88	0	95	95	99	99	85
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
18	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	73	0	99	98	99	98	72
	Harmony GT XP	75	WG	0.00391	LB A/A	0.083	OZ WT/A	DPOST	E							
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	DPOST	E							
	NIS	L		0.25	% V/V	0.25	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
19	Cinch	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	88	0	95	98	99	99	88
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	DPOST	E							
	Agridex	L		1.0	% V/V	1.0	% V/V	DPOST	E							
	AMS	DF		2.0	LB/A	2.0	LB/A	DPOST	E							
LSD (P=.05)										24.0	0.0	2.8	24.4	3.0	8.7	24.4
Standard Deviation										14.4	0.0	1.7	14.8	1.8	5.3	14.6
CV										27.53	0.0	1.87	18.85	1.96	5.96	29.07

# Iowa State University

## Preemergence and postemergence application timings of Prowl H2O in corn, Ames, IA, 2005.

Trial ID: ACC 6  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-09-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate the effects of various postemergence application timings of Prowl H2O on corn phytotoxicity, weed control and yield.  
**Conclusions:** Corn stand differences between treatments were not significant. Corn stand in the untreated control was significantly less than most treatments due to heavy giant foxtail competition. No corn injury occurred from PRE, POST1, or POST2 applied treatments when observed on June 27, except for Prowl H2O applied at the 2x rate of 5.0 pt/A. Corn injury symptoms on June 27 and subsequent observation dates occurred as brace root malformation. Corn injury on July 4 and through August 24 ranged from 0 to 30%, with the highest injury associated with the 2x Prowl H2O treatment.  
Giant foxtail, common waterhemp and common lambsquarters control was excellent when observed on June 2 with PRE applied Guardsman MAX. Velvetleaf control was fair. Following all POST application timings, excellent overall weed control was observed. Treatment corn yields ranged from 201 to 222 bu/A, and no significant differences were determined between them. All treatment yields, however, were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-09-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	05-10-05	05-23-05	06-08-05	06-15-05	06-21-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST1	POST2	POST3	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BRODIR
Air Temp., Unit:	74 F	81 F	75 F	72 F	81 F
% Relative Humidity:	48	69	70	82	67
Wind Velocity, Unit:	3 MPH	10 MPH	2 MPH	10 MPH	0 MPH
Soil Temp., Unit:	68 F	69 F	76 F	65 F	76 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	20	0	80	20	60

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMD -	ZEAMD SPIKE	ZEAMD V 4	ZEAMD V 6	ZEAMD V 7
Stage Scale:	-	DESC	DESC	DESC	DESC
Height, Unit:	-	0.75 IN	5 IN	12 IN	24 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA 1-2 LEAF	SETFA 1-4 LEAF	SETFA 1-4 L, 3T	SETFA -
Stage Scale:	-	0.25 IN	0.25-4 IN	0.25-6 IN	-
Density, Unit:	- -	< 1 FT2	< 1 FT2	0-1 FT2	- -
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYLEDON	ABUTH COTYL-3 L	ABUTH COTYL-8 L	ABUTH 2-8 LEAF
Stage Scale:	-	0.25 IN	0.25-3.5	0.25-12	1-10 IN
Density, Unit:	- -	0-3 FT2	0-3 FT2	0-3 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA -	AMATA -	AMATA -
Stage Scale:	-	-	-	-	-
Density, Unit:	- -	- -	- -	- -	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL -	CHEAL -	CHEAL -	CHEAL -
Stage Scale:	-	-	-	-	-
Density, Unit:	- -	- -	- -	- -	- -

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35	35	40
Nozzle Size:	11002	11003	11003	11003	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Preemergence and postemergence application timings of Prowl H2O in corn, Ames, IA, 2005.

Trial ID: ACC 6  
 Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type									STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									09-29-05	06-02-05	06-02-05	06-02-05	06-02-05	06-02-05
Trt-Eval Interval									142 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								27	0	0	0	0	0
2	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	30	0	99	68	99	99
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
3	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	29	0	99	72	99	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5	PT/A	PRE	A						
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
4	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	30	0	99	72	99	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5	PT/A	POST1	B						
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
5	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	30	0	99	70	99	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5	PT/A	POST2	C						
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
6	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	29	0	99	67	99	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5	PT/A	POST3	D						
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
7	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	29	0	99	68	99	99
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5	PT/A	DPOST	E						
8	Guardsman Max	5	SC	1.56 LB A/A	2.5	PT/A	PRE	A	30	0	99	67	99	99
	Prowl H2O	3.8	EC	2.38 LB A/A	5.0	PT/A	POST2	C						
	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 17.0 LB/100 GAL	22.0	FL OZ/A 17.0 LB/100 GAL	POST3	D						
LSD (P=.05)									2.2	0.0	0.0	10.4	0.0	0.0
Standard Deviation									1.3	0.0	0.0	6.0	0.0	0.0
CV									4.4	0.0	0.0	9.87	0.0	0.0

# Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-27-05	06-27-05	06-27-05	06-27-05	06-27-05	07-14-05	
Trt-Eval Interval									12 DA-D	12 DA-D	12 DA-D	12 DA-D	12 DA-D	29 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	95	99	99	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
3	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	96	99	99	2
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
4	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	99	99	99	3
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST1	B						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
5	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	98	99	99	8
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST2	C						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
6	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	95	99	99	5
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST3	D						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
7	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	0	99	96	99	99	5
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	DPOST	E						
8	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	3	99	99	99	99	23
	Prowl H2O	3.8	EC	2.38	LB A/A	5.0	PT/A	POST2	C						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D						
LSD (P=.05)									1.8	0.0	3.4	0.0	0.0	3.8	
Standard Deviation									1.0	0.0	1.9	0.0	0.0	2.1	
CV									244.95	0.0	2.29	0.0	0.0	36.82	

# Iowa State University

Weed Code									SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									07-14-05	07-14-05	07-14-05	07-14-05	08-15-05	08-15-05
Trt-Eval Interval									29 DA-D	29 DA-D	29 DA-D	29 DA-D	61 DA-D	61 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	98	99	99	2	96
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
3	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	98	99	99	3	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5 PT/A		PRE	A						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
4	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	99	99	99	5	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5 PT/A		POST1	B						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
5	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	99	99	99	10	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5 PT/A		POST2	C						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
6	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	95	99	99	5	99
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5 PT/A		POST3	D						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
7	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	99	99	99	7	99
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
	Prowl H2O	3.8	EC	1.19 LB A/A	2.5 PT/A		DPOST	E						
8	Guardsman Max	5	SC	1.56 LB A/A	2.5 PT/A		PRE	A	99	99	99	99	27	99
	Prowl H2O	3.8	EC	2.38 LB A/A	5.0 PT/A		POST2	C						
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0 FL OZ/A		POST3	D						
	AMS		DF	17.0 LB/100 GAL	17.0 LB/100 GAL		POST3	D						
LSD (P=.05)									0.0	3.0	0.0	0.0	5.4	1.4
Standard Deviation									0.0	1.7	0.0	0.0	3.0	0.8
CV									0.0	2.03	0.0	0.0	42.3	0.95

# Iowa State University

Weed Code									ABUTH	AMATA	CHEAL	ZEAMD	ZEAMD	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	YIELD	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	BU/A	
Rating Date									08-15-05	08-15-05	08-15-05	08-24-05	10-10-05	
Trt-Eval Interval									61 DA-D	61 DA-D	61 DA-D	64 DA-E	153 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	41
2	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	98	99	98	2	207
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
3	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	98	99	99	3	204
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	PRE	A					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
4	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	99	99	99	3	213
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST1	B					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
5	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	99	99	99	12	204
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST2	C					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
6	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	95	99	99	8	201
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	POST3	D					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
7	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	99	99	99	8	222
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
	Prowl H2O	3.8	EC	1.19	LB A/A	2.5	PT/A	DPOST	E					
8	Guardsman Max	5	SC	1.56	LB A/A	2.5	PT/A	PRE	A	99	99	99	30	206
	Prowl H2O	3.8	EC	2.38	LB A/A	5.0	PT/A	POST2	C					
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST3	D					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST3	D					
LSD (P=.05)										3.0	0.0	1.4	4.7	31.7
Standard Deviation										1.7	0.0	0.8	2.7	17.8
CV										2.03	0.0	0.94	32.84	9.53

# Iowa State University

## Preemergence applications of Radius, Balance Pro, Degree Xtra, Atrazine, Lumax and Lexar in corn, Ames, IA, 2005.

Trial ID: ACC 7  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-09-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this corn study was to evaluate preemergence applied Balance Pro plus Degree Xtra plus Atrazine, Radius plus Atrazine, Lumax plus Atrazine and Lexar for crop phytotoxicity, weed control, and corn yield.

**Conclusions:** Differences in corn stand between treatments were not significant, although the stand in the untreated control was significantly less than other treatments due to heavy giant foxtail competition. Negligible corn injury was observed from the treatments on May 26 and June 10.

Good to excellent giant foxtail, velvetleaf, common waterhemp, common lambsquarters and Pennsylvania smartweed control was provided by the treatments when observed on May 26, sixteen days after application. Ivyleaf morningglory control was good. Treatments continued to provide good to excellent control of all species when observed on June 10, except ivyleaf morningglory. Control of ivyleaf morningglory was fair to good. Corn yields ranged from 200 to 227 bu/A and significant differences were determined between several treatments. All treatment yields were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34  
Planting Date: 05-09-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM  
pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	05-10-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	74 F
% Relative Humidity:	48
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	68 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	20

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Preemergence applications of Radius, Balance Pro, Degree Xtra, Atrazine, Lumax and Lexar in corn, Ames, IA, 2005.

Trial ID: ACC 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code		ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY	IPHE										
Rating Data Type	Rating Unit	STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL										
Rating Date	Trt-Eval Interval	17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT										
		07-29-05	05-26-05	05-26-05	05-26-05	05-26-05	05-26-05	05-26-05	05-26-05										
		80 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code										
1	Untreated										29	0	0	0	0	0	0	0	0
2	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	PRE	A		32	0	97	98	99	99	98	89	
	Degree Xtra	4.04	CS	3.03	LB A/A	3.0	QT/A	PRE	A										
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	PRE	A										
3	Radius	4	SC	0.656	LB A/A	21.0	FL OZ/A	PRE	A		31	0	95	99	99	99	99	88	
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A										
4	Radius	4	SC	0.75	LB A/A	24.0	FLOZ/A	PRE	A		32	1	96	99	99	99	99	88	
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A										
5	Radius	4	SC	0.875	LB A/A	28.0	FL OZ/A	PRE	A		32	1	98	99	99	99	99	88	
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A										
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A		32	1	99	99	99	99	99	90	
	Atrazine	4	SL	0.75	LB A/A	1.5	PT/A	PRE	A										
7	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A		31	1	96	99	99	99	99	93	
LSD (P=.05)												1.8	2.9	2.4	1.1	0.0	0.0	1.1	6.9
Standard Deviation												1.2	1.9	1.6	0.8	0.0	0.0	0.8	4.6
CV												3.94	271.83	1.92	0.89	0.0	0.0	0.89	6.08

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY	IPHOE	ZEAMD
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	BU/A
Rating Date										06-10-05	06-10-05	06-10-05	06-10-05	06-10-05	06-10-05	06-10-05	10-10-05
Trt-Eval Interval										31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	153 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	32
2	Balance Pro	4	SC	0.0625	LB A/A	2.0	FL OZ/A	PRE	A	0	89	86	98	99	96	85	212
	Degree Xtra	4.04	CS	3.03	LB A/A	3.0	QT/A	PRE	A								
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	PRE	A								
3	Radius	4	SC	0.656	LB A/A	21.0	FL OZ/A	PRE	A	0	85	89	97	99	97	78	200
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A								
4	Radius	4	SC	0.75	LB A/A	24.0	FL OZ/A	PRE	A	0	88	94	98	99	98	83	210
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A								
5	Radius	4	SC	0.875	LB A/A	28.0	FL OZ/A	PRE	A	0	93	94	98	99	99	81	210
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	PRE	A								
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	1	90	99	99	99	99	88	227
	Atrazine	4	SL	0.75	LB A/A	1.5	PT/A	PRE	A								
7	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	1	88	98	99	99	99	89	205
LSD (P=.05)										2.0	4.7	3.2	3.2	0.0	2.9	14.2	18.2
Standard Deviation										1.4	3.2	2.1	2.2	0.0	2.0	9.5	12.3
CV										384.42	4.21	2.69	2.57	0.0	2.33	13.29	6.62

# Iowa State University

**Preemergence applied Dual II MAGnum followed by postemergence applied Atrazine, GWN-3041, Hornet, GWN-3039, Steadfast, and Callisto in corn, Ames, IA, 2005.**  
 Trial ID: ACC 8 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ames **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50010 **Initiation Date:** 05-05-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate preemergence applied Dual II Magnum followed by various postemergence applied products including Atrazine, GWN-3041, Hornet WDG, GWN-3039, Steadfast, and Callisto for crop phytotoxicity, weed control and corn yield.  
**Conclusions:** Significant differences in corn stand were determined between several treatments. Differences were attributable to planting rate variability and not herbicide treatment. Additionally, the untreated control stand was significantly less than the other treatments due to heavy giant foxtail competition. POST treatments resulted in corn injury ranging from 5 to 18% when observed on June 16, seven days after application. Corn injury from the treatments was considered negligible when observed on June 24, fifteen days after application.  
 Dual II Magnum was applied PRE to the study area to provide giant foxtail control. Additional giant foxtail control was provided by treatments involving Atrazine or Steadfast. Velvetleaf, common waterhemp, and common lambsquarters control was generally good to excellent when observed on July 9 and August 5. Exceptions included: POST Atrazine plus GWN-3041 for velvetleaf control, Hornet WDG plus GWN-3041, Steadfast plus GWN-3041, Steadfast, and GWN-3041 for common lambsquarters control. Significant differences in corn yields between treatments were determined. Corn yields ranged from 173 to 215 bu/A. All treatment yields were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 53-34  
**Planting Date:** 05-05-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 30200 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

**% OM:** 6.6 **Texture:** CANISTEO CLAY LOAM  
**pH:** 7.3 **Soil Name:** CLARION, WEBSTER, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-06-05	06-09-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	76 F	80 F
% Relative Humidity:	51	58
Wind Velocity, Unit:	8 MPH	5 MPH
Soil Temp., Unit:	63 F	71 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	100

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 5 - V 6
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 1T
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-2 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-6 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-3 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-5 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA



# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-09-05	07-09-05	07-09-05	07-09-05	08-05-05	08-05-05	08-05-05	08-05-05
Trt-Eval Interval										30 DA-B	30 DA-B	30 DA-B	30 DA-B	57 DA-B	57 DA-B	57 DA-B	57 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	88	80	93	98	88	75	93	98
	Atrazine	4	SL	0.75	LB A/A	1.5	PT/A	POST	B								
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	COC		L	1.0	QT/A	1.0	QT/A	POST	B								
3	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	82	98	93	82	78	99	93	82
	Hornet WDG	68.5	WG	0.086	LB AE/A	2.0	OZ WT/A	POST	B								
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
4	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	82	96	96	93	80	99	98	93
	GWN-3039	67.5	WG	0.253	LB A/A	6.0	OZ WT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
5	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	99	98	77	99	99	98	68
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN		L	4.0	QT/A	4.0	QT/A	POST	B								
6	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	99	95	96	75	99	95	95	72
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN		L	4.0	QT/A	4.0	QT/A	POST	B								
7	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	85	99	93	33	85	99	93	32
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
8	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	95	99	99	99	95	99	99	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B								
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	POST	B								
	COC		L	1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B								
LSD (P=.05)										4.6	8.7	4.2	9.6	5.4	11.2	3.6	15.1
Standard Deviation										2.6	5.0	2.4	5.5	3.1	6.4	2.0	8.6
CV										3.36	5.95	2.85	7.92	3.92	7.67	2.45	12.71

# Iowa State University

Weed Code									ZEAMD	
Rating Data Type									YIELD	
Rating Unit									BU/A	
Rating Date									10-18-05	
Trt-Eval Interval									165 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									35
2	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	209
	Atrazine	4	SL	0.75	LB A/A	1.5	PT/A	POST	B	
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B	
	COC		L	1.0	QT/A	1.0	QT/A	POST	B	
3	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	185
	Hornet WDG	68.5	WG	0.086	LB AE/A	2.0	OZ WT/A	POST	B	
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
4	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	189
	GWN-3039	67.5	WG	0.253	LB A/A	6.0	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
5	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	207
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	4.0	QT/A	4.0	QT/A	POST	B	
6	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	200
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	4.0	QT/A	4.0	QT/A	POST	B	
7	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	173
	GWN-3041	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
8	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	215
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	POST	B	
	COC		L	1.0	% V/V	1.0	% V/V	POST	B	
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B	
LSD (P=.05)										22.2
Standard Deviation										12.6
CV										7.16



# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-06-05	06-07-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	76 F	86 F
% Relative Humidity:	51	47
Wind Velocity, Unit:	8 MPH	10 MPH
Soil Temp., Unit:	63 F	72 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	30

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5
Stage Scale:	-	DESC
Height, Unit:	-	8 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 1T
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-10 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-4L
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM
Stage Scale:	-	0.5-3.5
Density, Unit:	- -	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.5-5 IN
Density, Unit:	- -	0-3 FT2
Weed 5 Code, Stage:	POLPY -	POLPY 4-10 LEAF
Stage Scale:	-	1-4 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence applied KIH-485 plus postemergence Roundup WeatherMAX and postemergence tank-mixtures with Roundup WeatherMAX in corn, Ames, IA, 2005.**

Trial ID: ACC 9 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY
Rating Data Type										STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-27-05	05-31-05	05-31-05	05-31-05	05-31-05	05-31-05	05-31-05
Trt-Eval Interval										52 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									29	0	0	0	0	0	0
2	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.111 LB 0.63 LB 17 LB/100 GAL	A/A AE/A GAL	2.93 OZ 18.0 FL 17.0 LB/100 GAL	WT/A OZ/A GAL	PRE POST POST	A B B	29	0	85	50	95	83	53
3	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.223 LB 0.63 LB 17 LB/100 GAL	A/A AE/A GAL	5.87 OZ 18.0 FL 17.0 LB/100 GAL	WT/A OZ/A GAL	PRE POST POST	A B B	29	0	93	85	98	93	88
4	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.223 LB 0.63 LB 17 LB/100 GAL	A/A AE/A GAL	5.87 OZ 18.0 FL 17.0 LB/100 GAL	WT/A OZ/A GAL	POST POST POST	B B B	30	0	0	0	0	0	0
5	Roundup WeatherMAX AMS	4.5 SL DF		0.63 LB 17 LB/100 GAL	AE/A GAL	18.0 FL 17.0 LB/100 GAL	OZ/A GAL	POST POST	B B	30	0	0	0	0	0	0
6	Harness Roundup WeatherMAX AMS	7 EC 4.5 SL DF		1.21 LB 0.63 LB 17 LB/100 GAL	A/A AE/A GAL	1.38 PT 18.0 FL 17.0 LB/100 GAL	A/A OZ/A GAL	POST POST POST	B B B	29	0	0	0	0	0	0
LSD (P=.05)										1.8	0.0	4.3	5.5	1.7	3.2	3.2
Standard Deviation										1.0	0.0	2.4	3.0	0.9	1.7	1.7
CV										3.29	0.0	7.93	13.46	2.94	5.94	7.4

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-18-05	06-18-05	06-18-05	06-18-05	06-18-05	06-18-05
Trt-Eval Interval										11 DA-B	11 DA-B	11 DA-B	11 DA-B	11 DA-B	11 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.111 0.63 17	LB A/A LB AE/A LB/100 GAL	2.93 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	99	99	99	96	96
3	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	99	99	99	99	93
4	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	7	99	99	99	98	93
5	Roundup WeatherMAX AMS	4.5	SL DF	0.63 17	LB AE/A LB/100 GAL	18.0 17.0	FL OZ/A LB/100 GAL	POST POST	B B	7	99	99	99	98	88
6	Harness Roundup WeatherMAX AMS	7 4.5	EC SL DF	1.21 0.63 17	LB A/A LB AE/A LB/100 GAL	1.38 18.0 17.0	PT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	8	99	99	99	98	93
LSD (P=.05)										3.6	0.0	0.0	0.0	3.7	4.7
Standard Deviation										2.0	0.0	0.0	0.0	2.0	2.6
CV										54.61	0.0	0.0	0.0	2.48	3.35

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-06-05	07-06-05	07-06-05	07-06-05	07-06-05	07-06-05
Trt-Eval Interval										29 DA-B	29 DA-B	29 DA-B	29 DA-B	29 DA-B	29 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.111 0.63 17	LB A/A LB AE/A LB/100 GAL	2.93 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	98	93	98	95	96
3	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	99	98	99	98	95
4	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	7	99	99	99	96	95
5	Roundup WeatherMAX AMS	4.5	SL DF	0.63 17	LB AE/A LB/100 GAL	18.0 17.0	FL OZ/A LB/100 GAL	POST POST	B B	3	90	92	93	88	93
6	Harness Roundup WeatherMAX AMS	7 4.5	EC SL DF	1.21 0.63 17	LB A/A LB AE/A LB/100 GAL	1.38 18.0 17.0	PT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	5	99	93	96	93	95
LSD (P=.05)										3.3	1.7	3.1	3.4	2.9	2.6
Standard Deviation										1.8	0.9	1.7	1.9	1.6	1.4
CV										73.03	1.17	2.13	2.32	2.01	1.81

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-24-05	08-24-05	08-24-05	08-24-05	08-24-05	08-24-05
Trt-Eval Interval										78 DA-B	78 DA-B	78 DA-B	78 DA-B	78 DA-B	78 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.111 0.63 17	LB A/A LB AE/A LB/100 GAL	2.93 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	96	96	99	96	96
3	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE POST POST	A B B	0	99	98	99	98	95
4	KIH-485 Roundup WeatherMAX AMS	60 4.5	WG SL DF	0.223 0.63 17	LB A/A LB AE/A LB/100 GAL	5.87 18.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	0	99	99	95	95	96
5	Roundup WeatherMAX AMS	4.5	SL DF	0.63 17	LB AE/A LB/100 GAL	18.0 17.0	FL OZ/A LB/100 GAL	POST POST	B B	0	92	93	93	88	93
6	Harness Roundup WeatherMAX AMS	7 4.5	EC SL DF	1.21 0.63 17	LB A/A LB AE/A LB/100 GAL	1.38 18.0 17.0	PT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	0	95	96	96	92	95
LSD (P=.05)										0.0	2.9	4.0	3.0	3.4	3.4
Standard Deviation										0.0	1.6	2.2	1.6	1.9	1.9
CV										0.0	1.97	2.74	2.05	2.37	2.38

# Iowa State University

**Preemergence Lumax, Lexar, Camix, Dual II Magnum and others and postemergence Touchdown Total, Callisto, and Roundup WeatherMAX in corn, Ames, IA, 2005.**

Trial ID: ACC 10

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-05-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for crop phytotoxicity, weed control and corn yield.

**Conclusions:** Corn stand differences were not significant between treatments. All application timings demonstrated excellent crop safety and only minor corn injury was observed from a few treatments. Following all postemergence application timings, giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control was good to excellent with most treatments when observed on July 14 and October 3. Exceptions included: PRE Lumax at 3.0 qt/A and Lexar at 3.5 qt/A, which provided fair velvetleaf control; and EPOST and POST Roundup WeatherMAX, which generally provided fair and good giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control, respectively. Ivyleaf morningglory control was difficult with most treatments when observed on July 14 and October 3. Treatments that provided 90% and higher ivyleaf morningglory control on these dates included POST Callisto plus Atrazine, LPOST Roundup WeatherMAX, and POST Roundup WeatherMAX followed by DPOST Roundup WeatherMAX. Corn yields ranged from 209 to 229 bu/A. Few significant differences in yield were determined between treatments. All treatment yields were significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-05-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

## SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	05-06-05	06-02-05	06-09-05	06-15-05	06-21-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST	LPOST	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BRODIR
Air Temp., Unit:	76 F	77 F	80 F	69 F	81 F
% Relative Humidity:	51	46	63	66	67
Wind Velocity, Unit:	8 MPH	4 MPH	5 MPH	3 MPH	0 MPH
Soil Temp., Unit:	63 F	69 F	71 F	65 F	76 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	100	10	100	0	60

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 3 - V 4	ZEAMD V 5 - V 6	ZEAMD V 6 - V 7	ZEAMD V 8
Stage Scale:	-	DESC	DESC	DESC	DESC
Height, Unit:	-	5 IN	12 IN	14 IN	26 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF	SETFA 1-4 L, 3T	SETFA 1-4 L, 4T	SETFA 1-4 LEAF
Stage Scale:	-	0.25-1.5	0.25-4 IN	0.25-6 IN	0.25-1 IN
Density, Unit:	- -	0-5 FT2	0-3 FT2	0-2 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-3 L	ABUTH COTYL-6 L	ABUTH COTYL-7 L	ABUTH COTYL-4 L
Stage Scale:	-	0.25-1.5	0.25-5 IN	0.25-9 IN	0.25-2.5
Density, Unit:	- -	0-3 FT2	0-3 FT2	0-2 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-6 L	AMATA NUMEROUS	AMATA NUMEROUS	AMATA COTYL-2 L
Stage Scale:	-	0.25-1 IN	0.25-4 IN	0.5-9 IN	0.25-0.5
Density, Unit:	- -	0-1 FT2	0-2 FT2	0-1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL 2-NUM	CHEAL NUMEROUS	CHEAL NUMEROUS	CHEAL 2-NUM
Stage Scale:	-	0.25-1.5	0.25-5 IN	0.5-9 IN	0.25-2 IN
Density, Unit:	- -	0-3 FT2	0-3 FT2	0-2 FT2	< 1 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-4 L	IPOHE COTYL-NUM	IPOHE NUMEROUS	IPOHE NUMEROUS
Stage Scale:	-	0.5-1.5	1-5 IN	1-5 IN	1-2 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	30	30	35	35
Nozzle Size:	11002	11002	11002	11003	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence Lumax, Lexar, Camix, Dual II Magnum and others and postemergence  
Touchdown Total, Callisto, and Roundup WeatherMAX in corn, Ames, IA, 2005.**

Trial ID: ACC 10

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	
Rating Data Type									STAND	PHYTO	PHYTO	PHYTO	PHYTO	CONTROL	CONTROL	
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									08-09-05	06-02-05	06-09-05	06-15-05	06-29-05	06-29-05	06-29-05	
Trt-Eval Interval									95 DA-A	27 DA-A	7 DA-B	6 DA-C	8 DA-E	14 DA-D	14 DA-D	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									30	0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	30	0	0	0	0	95	80
3	Lumax Aatrex	3.95 4	SE SL	2.96 1.0	LB A/A LB A/A	3.0	QT/A	PRE	A	30	0	0	0	0	95	88
4	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	30	2	0	0	0	96	78
5	Lexar Princep	3.7 4	SE L	3.24 1.0	LB A/A LB A/A	3.5	QT/A	PRE	A	30	2	0	0	0	95	92
6	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB AE/A LB/A	1.6	QT/A FL OZ/A LB/A	EPOST	B	29	0	3	0	0	99	99
7	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A FL OZ/A LB/A	EPOST	B	31	0	2	0	0	99	99
8	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A FL OZ/A LB/A	EPOST	B	31	0	3	0	0	98	99
9	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB A/A LB/A	1.6	QT/A FL OZ/A LB/A	PRE POST POST	A C C	29	0	0	0	0	99	86
10	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A FL OZ/A LB/A	PRE POST POST	A C C	29	0	0	0	0	99	98
11	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A FL OZ/A LB/A	PRE POST POST	A C C	30	0	0	0	0	99	98
12	Dual II Magnum Callisto Atrazine COC 28% UAN	7.64 4 4 L L	EC SC SL L L	1.59 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	1.66	PT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A C C C C	30	0	0	0	0	96	99
13	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	SC SC SL L L	3.57 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6	QT/A FL OZ/A QT/A % V/V % V/V	PRE POST POST POST POST	A C C C C	31	2	0	0	0	98	99
14	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A LB/A	EPOST EPOST	B B	29	0	2	0	0	73	68
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A LB/A	POST POST	C C	29	0	0	0	0	88	85
16	Roundup WeatherMAX AMS	4.5	SL DF	1.13 2.5	LB AE/A LB/A	32.0	FL OZ/A LB/A	LPOST LPOST	D D	30	0	0	0	0	99	93
17	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5	SC SL DF	2.1 0.77 2.5	LB A/A LB AE/A LB/A	1.5	QT/A FL OZ/A LB/A	PRE POST POST	A C C	30	2	0	0	0	98	85
18	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 2.5 0.77 2.5	LB AE/A LB/A LB AE/A LB/A	22.0	FL OZ/A LB/A FL OZ/A LB/A	POST POST DPOST DPOST	C C E E	30	0	0	0	0	99	99
LSD (P=.05)										1.7	2.1	2.3	0.0	0.0	4.8	14.2
Standard Deviation										1.0	1.2	1.4	0.0	0.0	2.9	8.5
CV										3.39	333.43	252.05	0.0	0.0	3.16	9.95

# Iowa State University

Weed Code									AMATH	CHEAL	IPOHE	ZEAMD	SETFA	ABUTH	AMATH
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									06-29-05	06-29-05	06-29-05	07-14-05	07-14-05	07-14-05	07-14-05
Trt-Eval Interval									14 DA-D	14 DA-D	14 DA-D	23 DA-E	23 DA-E	23 DA-E	23 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								0	0	0	0	0	0	0
2	Lumax	3.95	SE	2.96 LB A/A	3.0	QT/A	PRE	A	99	99	73	0	95	77	99
3	Lumax Aatrex	3.95 4	SE SL	2.96 LB A/A 1.0 LB A/A	3.0	QT/A	PRE	A	98	99	88	0	95	87	99
4	Lexar	3.7	SE	3.24 LB A/A	3.5	QT/A	PRE	A	98	96	82	0	93	78	96
5	Lexar Princep	3.7 4	SE L	3.24 LB A/A 1.0 LB A/A	3.5	QT/A	PRE	A	99	99	72	0	93	88	99
6	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 LB A/A 0.78 LB AE/A 2.5 LB/A	1.6	QT/A	EPOST	B	99	99	87	0	99	98	99
7	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 LB A/A 0.78 LB A/A 2.5 LB/A	2.0	QT/A	EPOST	B	99	99	82	0	99	99	99
8	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 LB A/A 0.78 LB A/A 2.5 LB/A	2.26	QT/A	EPOST	B	99	99	87	0	98	99	99
9	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 LB A/A 0.78 LB A/A 2.5 LB/A	1.6	QT/A	PRE	A	99	96	78	0	99	83	99
10	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 LB A/A 0.78 LB A/A 2.5 LB/A	2.0	QT/A	PRE	A	99	99	82	0	99	96	99
11	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 LB A/A 0.78 LB A/A 2.5 LB/A	2.26	QT/A	PRE	A	99	99	89	0	99	93	99
12	Dual II Magnum Callisto Atrazine COC 28% UAN	7.64 4 4 L L	EC SC SL L L	1.59 LB A/A 0.094 LB A/A 0.5 LB A/A 1.0 % V/V 2.5 % V/V	1.66	PT/A	PRE	A	99	99	96	0	96	99	99
13	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	SC SC SL L L	3.57 LB A/A 0.094 LB A/A 0.5 LB A/A 1.0 % V/V 2.5 % V/V	2.6	QT/A	PRE	A	99	99	93	0	98	99	99
14	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 2.5 LB/A	22.0	FL OZ/A	EPOST	B	77	73	58	0	72	67	75
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A 2.5 LB/A	22.0	FL OZ/A	POST	C	85	85	77	0	88	82	85
16	Roundup WeatherMAX AMS	4.5	SL DF	1.13 LB AE/A 2.5 LB/A	32.0	FL OZ/A	LPOST	D	99	98	95	0	99	93	99
17	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5	SC SL DF	2.1 LB A/A 0.77 LB AE/A 2.5 LB/A	1.5	QT/A	PRE	A	99	99	85	0	96	85	99
18	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 LB AE/A 2.5 LB/A 0.77 LB AE/A 2.5 LB/A	22.0	FL OZ/A	POST	C	99	99	96	0	99	98	99
LSD (P=.05)									6.0	6.9	18.8	0.0	5.6	14.8	6.3
Standard Deviation									3.6	4.2	11.3	0.0	3.4	8.9	3.8
CV									3.91	4.58	14.28	0.0	3.76	10.52	4.15

# Iowa State University

Weed Code									CHEAL	IPOHE	SETFA	ABUTH	AMATH	CHEAL	IPOHE	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-14-05	07-14-05	10-03-05	10-03-05	10-03-05	10-03-05	10-03-05	
Trt-Eval Interval									23 DA-E	23 DA-E	104 DA-E	104 DA-E	104 DA-E	104 DA-E	104 DA-E	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	98	72	92	77	99	98	73
3	Lumax Aatrex	3.95 4	SE SL	2.96 1.0	LB A/A LB A/A	3.0	QT/A	PRE	A	99	87	95	87	99	99	83
4	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	93	78	92	78	96	93	77
5	Lexar Princep	3.7 4	SE L	3.24 1.0	LB A/A LB A/A	3.5	QT/A	PRE	A	99	72	93	88	99	99	70
6	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB AE/A LB/A	1.6	QT/A	EPOST	B	99	85	98	98	99	99	83
7	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A	EPOST	B	99	80	96	99	99	99	77
8	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A	EPOST	B	99	87	99	99	99	99	85
9	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB A/A LB/A	1.6	QT/A	PRE	A	96	77	99	85	99	95	77
10	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A	PRE	A	99	82	98	98	99	99	82
11	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A	PRE	A	99	88	98	93	99	99	88
12	Dual II Magnum Callisto Atrazine COC 28% UAN	7.64 4 4 L L	EC SC SL L L	1.59 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	1.66	PT/A	PRE	A	99	93	96	99	99	99	92
13	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	SC SC SL L L	3.57 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6	QT/A	PRE	A	99	93	98	99	99	99	92
14	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A	EPOST	B	73	58	70	67	75	68	55
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A	POST	C	85	77	90	82	86	88	77
16	Roundup WeatherMAX AMS	4.5	SL DF	1.13 2.5	LB AE/A LB/A	32.0	FL OZ/A	LPOST	D	98	93	96	93	99	96	90
17	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5	SC SL DF	2.1 0.77 2.5	LB A/A LB AE/A LB/A	1.5	QT/A	PRE	A	99	85	95	85	99	99	83
18	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 2.5 0.77 2.5	LB AE/A LB/A LB AE/A LB/A	22.0	FL OZ/A	POST	C	99	96	98	98	99	99	92
LSD (P=.05)									7.8	18.0	6.9	15.4	6.8	8.3	17.8	
Standard Deviation									4.7	10.8	4.2	9.2	4.1	5.0	10.7	
CV									5.19	13.83	4.68	10.92	4.47	5.53	13.99	

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD YIELD BU/A 10-04-05 151 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code	
1	Untreated									127
2	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	213
3	Lumax Aatrex	3.95 4	SE SL	2.96 1.0	LB A/A LB A/A	3.0	QT/A	PRE	A	225
4	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	229
5	Lexar Princep	3.7 4	SE L	3.24 1.0	LB A/A LB A/A	3.5	QT/A	PRE	A	225
6	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB AE/A LB/A	1.6	QT/A	EPOST	B	229
7	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A	EPOST	B	226
8	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A	EPOST	B	215
9	Camix Touchdown Total AMS	3.67 4.17	SE SL DF	1.47 0.78 2.5	LB A/A LB A/A LB/A	1.6	QT/A	PRE	A	222
10	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.98 0.78 2.5	LB A/A LB A/A LB/A	2.0	QT/A	PRE	A	217
11	Lexar Touchdown Total AMS	3.7 4.17	SE SL DF	2.1 0.78 2.5	LB A/A LB A/A LB/A	2.26	QT/A	PRE	A	214
12	Dual II Magnum Callisto Atrazine COC 28% UAN	7.64 4 4 L L	EC SC SL L L	1.59 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	1.66	PT/A	PRE	A	219
13	Bicep II Magnum Callisto Atrazine COC 28% UAN	5.5 4 4 L L	SC SC SL L L	3.57 0.094 0.5 1.0 2.5	LB A/A LB A/A LB A/A % V/V % V/V	2.6	QT/A	PRE	A	216
14	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A	EPOST	B	221
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 2.5	LB AE/A LB/A	22.0	FL OZ/A	POST	C	230
16	Roundup WeatherMAX AMS	4.5	SL DF	1.13 2.5	LB AE/A LB/A	32.0	FL OZ/A	LPOST	D	215
17	Harness Xtra Roundup WeatherMAX AMS	5.6 4.5	SC SL DF	2.1 0.77 2.5	LB A/A LB AE/A LB/A	1.5	QT/A	PRE	A	229
18	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 2.5 0.77 2.5	LB AE/A LB/A LB AE/A LB/A	22.0	FL OZ/A	POST	C	209
LSD (P=.05)									18.2	
Standard Deviation									10.9	
CV									5.06	

# Iowa State University

**Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Ames, IA, 2005.**  
 Trial ID: ACC 11 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ames **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50010 **Initiation Date:** 05-09-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate preemergence applied Stalwart, Balance Pro, Bicep II Magnum, and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity for corn phytotoxicity and weed control.

**Conclusions:** Differences in corn stand between treatments were not significant. PRE applied treatments did not result in corn injury when observed on June 10, thirty-one days after application. PRE treatments provided good to excellent giant foxtail, common waterhemp, and common lambsquarters control on June 10. Velvetleaf control was 95% with Stalwart Xtra plus Balance Pro; other PRE treatments failed to adequately control velvetleaf. Stalwart Xtra plus Balance Pro provided 90 and 88% control of ivyleaf morningglory and common cocklebur, respectively. Other PRE treatments failed to adequately control ivyleaf morningglory and common cocklebur.

POST applications resulted in 8 to 10% corn injury when observed on June 22, twelve days after application. POST or LPOST treatments preceded by PRE applications provided good to excellent giant foxtail, velvetleaf, common waterhemp, common lambsquarters, ivyleaf morningglory and common cocklebur control when observed on July 11, August 4, and September 1. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	IPOHE	MORNINGGLORY, IVYLEAF	IPOMOEA HEDERACEA (L.) JACQ.
6.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 53-34  
**Planting Date:** 05-09-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 30200 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

**% OM:** 6.6 **Texture:** CANISTEO CLAY LOAM  
**pH:** 7.3 **Soil Name:** CLARION, WEBSTER, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-10-05	06-10-05	06-15-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	74 F	80 F	69 F
% Relative Humidity:	48	61	66
Wind Velocity, Unit:	3 MPH	3 MPH	2 MPH
Soil Temp., Unit:	68 F	72 F	65 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	20	90	0

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4	ZEAMD V 6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	8 IN	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 1T	SETFA 1-4 L, 1T
Stage Scale:	-	0.25-4 IN	0.25-4 IN
Density, Unit:	- -	0-3 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5L	ABUTH COTYL-8L
Stage Scale:	-	0.25-5 IN	0.25-9 IN
Density, Unit:	- -	0-3 FT2	0-2 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.5-5 IN	0.5-4 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-6 IN	0.5-4 IN
Density, Unit:	- -	3-10 FT2	< 1 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-NUM	IPOHE COTYL-NUM
Stage Scale:	-	1-5 IN	1-5 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 6 Code, Stage:	XANST -	XANST 2-8 LEAF	XANST 2-NUM
Stage Scale:	-	1-6 IN	1-12 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	30	30	35
Nozzle Size:	11002	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemer-  
gence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Ames, IA, 2005.**

Trial ID: ACC 11 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-27-05	06-10-05	06-10-05	06-10-05	06-10-05	06-10-05	
Trt-Eval Interval								78 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								31	0	0	0	0	
2	Stalwart Xtra	5.5 L		3.57 LB A/A	2.6 QT/A		PRE	A	32	0	96	63	98	
3	Stalwart Xtra Balance Pro	5.5 L 4 SC		3.57 LB A/A 0.047 LB A/A	2.6 QT/A 1.5 FL OZ/A		PRE PRE	A A	33	0	95	95	99	
4	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		1.79 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	1.3 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		PRE LPOST C	A C C	32	0	85	30	93	
5	Bicep II Magnum	5.5 L		3.57 LB A/A	2.6 QT/A		PRE	A	32	0	95	57	98	
6	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		2.0 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	1.45 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST	B B B	32	0	0	0	0	
7	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		3.57 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	2.6 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST	B B B	31	0	0	0	0	
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 L 4 SL 4.5 SL DF		3.57 LB A/A 0.125 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	2.6 QT/A 4.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST POST	B B B B	30	0	0	0	0	
LSD (P=.05)									2.3	0.0	4.5	13.5	2.7	1.9
Standard Deviation									1.3	0.0	2.6	7.7	1.6	1.1
CV									4.16	0.0	5.6	25.1	3.21	2.27

# Iowa State University

Weed Code									IPOHE	XANST	ZEAMD	ZEAMD	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	PHYTO	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-10-05	06-10-05	06-22-05	07-11-05	07-11-05	07-11-05	
Trt-Eval Interval									31 DA-A	31 DA-A	12 DA-B	31 DA-B	31 DA-B	31 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart Xtra	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	48	58	0	0	93	55
3	Stalwart Xtra Balance Pro	5.5 4	L SC	3.57 0.047	LB A/A LB A/A	2.6	QT/A 1.5 FL OZ/A	PRE PRE	A A	90	88	0	0	93	95
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.79 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.3	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	PRE LPOST LPOST	A C C	30	38	0	0	99	95
5	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	55	62	0	0	95	50
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	0	0	8	5	99	99
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	3.57 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.6	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	0	0	10	5	99	99
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4	L SL SL DF	3.57 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.6	QT/A 4.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST POST	B B B B	0	0	10	5	99	99
LSD (P=.05)										8.0	12.0	1.8	0.0	3.6	8.7
Standard Deviation										4.5	6.9	1.0	0.0	2.0	5.0
CV										16.29	22.36	28.82	0.0	2.41	6.7

# Iowa State University

Weed Code									AMATA	CHEAL	IPOHE	XANST	ZEAMD	SETFA	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-11-05	07-11-05	07-11-05	07-11-05	08-04-05	08-04-05	
Trt-Eval Interval									31 DA-B	31 DA-B	31 DA-B	31 DA-B	55 DA-B	55 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart Xtra	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	98	98	47	53	0	93
3	Stalwart Xtra Balance Pro	5.5 4	L SC	3.57 0.047	LB A/A LB A/A	2.6	QT/A 1.5 FL OZ/A	PRE PRE	A A	99	99	82	82	0	93
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.79 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.3	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	PRE LPOST LPOST	A C C	98	99	88	99	0	99
5	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	98	99	50	58	0	95
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	99	99	96	99	0	99
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	3.57 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.6	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	99	99	98	99	0	99
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4 4.5	L SL SL DF	3.57 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.6	QT/A 4.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST POST	B B B B	99	99	99	99	0	99
LSD (P=.05)										2.5	1.4	8.0	8.0	0.0	3.6
Standard Deviation										1.4	0.8	4.6	4.6	0.0	2.0
CV										1.64	0.94	6.54	6.2	0.0	2.41

# Iowa State University

Weed Code									ABUTH	AMATA	CHEAL	IPOHE	XANST	SETFA	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									08-04-05	08-04-05	08-04-05	08-04-05	08-04-05	09-01-05	
Trt-Eval Interval									55 DA-B	55 DA-B	55 DA-B	55 DA-B	55 DA-B	83 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart Xtra	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	52	98	98	47	53	93
3	Stalwart Xtra Balance Pro	5.5 4	L SC	3.57 0.047	LB A/A LB A/A	2.6 1.5	QT/A FL OZ/A	PRE PRE	A A	95	99	99	78	82	93
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.79 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.3 22.0 17.0	QT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	95	99	99	85	99	99
5	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	45	98	99	50	58	95
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	98	99	99	93	98	99
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	3.57 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.6 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	99	99	95	99	99
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4 4.5	L SL SL DF	3.57 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.6 4.0 22.0 17.0	QT/A FL OZ/A FL OZ/A LB/100 GAL	POST POST POST POST	B B B B	99	99	99	95	99	99
LSD (P=.05)										7.9	1.9	1.4	8.0	7.9	3.6
Standard Deviation										4.5	1.1	0.8	4.6	4.5	2.0
CV										6.2	1.24	0.94	6.75	6.17	2.41

# Iowa State University

Weed Code									ABUTH	AMATA	CHEAL	IPOHE	XANST	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									09-01-05	09-01-05	09-01-05	09-01-05	09-01-05	
Trt-Eval Interval									83 DA-B	83 DA-B	83 DA-B	83 DA-B	83 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Stalwart Xtra	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	45	98	98	47	52
3	Stalwart Xtra Balance Pro	5.5 4	L SC	3.57 0.047	LB A/A LB A/A	2.6 1.5	QT/A FL OZ/A	PRE PRE	A A	95	99	99	78	82
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.79 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.3 22.0 17.0	QT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	95	99	96	85	99
5	Bicep II Magnum	5.5	L	3.57	LB A/A	2.6	QT/A	PRE	A	43	98	99	50	57
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	98	99	99	90	98
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	3.57 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.6 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	99	99	90	99
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4 4.5	L SL SL DF	3.57 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.6 4.0 22.0 17.0	QT/A FL OZ/A FL OZ/A LB/100 GAL	POST POST POST POST	B B B B	99	99	99	95	99
LSD (P=.05)										3.7	1.9	1.9	9.1	8.4
Standard Deviation										2.1	1.1	1.1	5.2	4.8
CV										2.96	1.24	1.29	7.76	6.59

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Ames, IA, 2005.

Trial ID: ACC 12

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-09-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied KIH-485, Dual II Magnum and Harness for crop phytotoxicity and weed efficacy in corn.

**Conclusions:** There were no significant corn stand differences between treatments. Corn injury did not exceed 3% and only occurred with the Harness treatments. All treatments provided excellent giant foxtail control when observed on May 31, June 15 and July 15. The 4.96 oz wt/A rate of KIH-485 demonstrated slightly less control than other treatments on June 15 and July 15; however, control never went below 90%.

KIH-485 rates of 7.15 and 11.9 oz wt/A are the only two treatments that provided greater than 90% velvetleaf control on May 31; however, no treatments provided that level of control on subsequent observation dates. All treatments provided nearly perfect common waterhemp control on all evaluation dates. All treatments demonstrated at least 90% common lambsquarters control on May 31. However, only the 7.15 and 11.9 oz wt/A rates of KIH-485 provided more than 90% control of common lambsquarters on June 15 and July 15. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-09-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

### SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	05-10-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOL
Air Temp., Unit:	74 F
% Relative Humidity:	48
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	68 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	20

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Ames, IA, 2005.

Trial ID: ACC 12

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code	ZEAMD STAND	ZEAMD PHYTO	SETFA CONTROL	ABUTH CONTROL	AMATA CONTROL	CHEAL CONTROL	ZEAMD PHYTO	SETFA CONTROL									
Rating Data Type	17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT									
Rating Unit	78 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	36 DA-A	36 DA-A									
Rating Date	07-27-05	05-31-05	05-31-05	05-31-05	05-31-05	05-31-05	06-15-05	06-15-05									
Trt-Eval Interval																	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code	ZEAMD STAND	ZEAMD PHYTO	SETFA CONTROL	ABUTH CONTROL	AMATA CONTROL	CHEAL CONTROL	ZEAMD PHYTO	SETFA CONTROL
1	Untreated									30	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.186	LB A/A	4.96	OZ WT/A	PRE	A	31	0	96	80	99	95	0	90
3	KIH-485	60	WG	0.223	LB A/A	5.95	OZ WT/A	PRE	A	31	0	96	87	99	95	0	93
4	KIH-485	60	WG	0.267	LB A/A	7.15	OZ WT/A	PRE	A	31	0	98	93	99	98	0	95
5	KIH-485	60	WG	0.446	LB A/A	11.9	OZ WT/A	PRE	A	31	0	99	95	99	99	0	95
6	Dual II Magnum	7.64	EC	1.9	LB A/A	2.0	PT/A	PRE	A	31	0	99	25	99	90	0	95
7	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	32	2	99	50	99	93	0	96
8	Harness	7	EC	2.43	LB A/A	2.78	PT/A	PRE	A	31	3	99	62	99	95	2	95
LSD (P=.05)										3.6	2.4	2.4	7.6	0.0	2.4	1.8	3.4
Standard Deviation										2.1	1.4	1.4	4.3	0.0	1.4	1.0	1.9
CV										6.7	222.54	1.61	7.07	0.0	1.63	489.9	2.33

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-15-05	06-15-05	06-15-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05
Trt-Eval Interval										36 DA-A	36 DA-A	36 DA-A	66 DA-A	66 DA-A	66 DA-A	66 DA-A	66 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.186	LB A/A	4.96	OZ WT/A	PRE	A	45	99	70	0	90	43	99	67
3	KIH-485	60	WG	0.223	LB A/A	5.95	OZ WT/A	PRE	A	63	99	85	0	93	58	99	83
4	KIH-485	60	WG	0.267	LB A/A	7.15	OZ WT/A	PRE	A	77	99	93	0	93	75	99	93
5	KIH-485	60	WG	0.446	LB A/A	11.9	OZ WT/A	PRE	A	88	99	93	0	95	85	99	93
6	Dual II Magnum	7.64	EC	1.9	LB A/A	2.0	PT/A	PRE	A	5	96	45	0	95	3	96	42
7	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	27	99	75	0	95	27	99	72
8	Harness	7	EC	2.43	LB A/A	2.78	PT/A	PRE	A	33	99	78	0	95	33	98	77
LSD (P=.05)										19.6	1.4	10.0	0.0	3.7	20.1	1.9	10.8
Standard Deviation										11.2	0.8	5.7	0.0	2.1	11.5	1.1	6.2
CV										26.45	0.95	8.48	0.0	2.55	28.31	1.29	9.38

# Iowa State University

**Postemergence applied Option, Distinct, Equip, Steadfast, Callisto, and Clarity in corn, Ames, IA, 2005.**

Trial ID: ACC 13

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-05-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate postemergence applied Option, Distinct, Equip, Steadfast, Callisto, and Clarity in combinations with various adjuvants for crop phytotoxicity and weed control in corn.

**Conclusions:** Corn stand differences were not significant between treatments. Significant corn injury was observed on June 16, seven days after MPOST applications. Injury ranged from 10 to 29%. Injury continued to be observed on June 24 and July 1, and ranged from 0 to 5%.

Giant foxtail, velvetleaf, common waterhemp and common lambsquarters control was good to excellent when observed on June 24, July 1, and July 22. Giant foxtail control was consistently higher when MSO was used in the Option and Equip treatments versus COC. Steadfast plus Callisto provided slightly better giant foxtail control compared to Option and Equip treatments with MSO. Steadfast plus Callisto provided 83% common waterhemp control on July 22, while remaining treatments gave 85 to 95%. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-05-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

## SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	06-09-05
Application Method:	SPRAY
Application Timing:	MPOST
Applic. Placement:	BROFOL
Air Temp., Unit:	80 F
% Relative Humidity:	58
Wind Velocity, Unit:	8 MPH
Soil Temp., Unit:	71 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	100

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V 5 - V 6
Stage Scale:	DESC
Height, Unit:	12 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 L, 3T
Stage Scale:	0.25-6 IN
Density, Unit:	5-25 FT2
Weed 2 Code, Stage:	ABUTH COTYL-6 L
Stage Scale:	0.25-5 IN
Density, Unit:	0-2 FT2
Weed 3 Code, Stage:	AMATA NUMEROUS
Stage Scale:	0.5-8 IN
Density, Unit:	0-2 FT2
Weed 4 Code, Stage:	CHEAL NUMEROUS
Stage Scale:	0.5-8 IN
Density, Unit:	0-5 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	35
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

**Postemergence applied Option, Distinct, Equip, Steadfast, Callisto, and Clarity  
in corn, Ames, IA, 2005.**

Trial ID: ACC 13

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code		ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type		STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit		17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date		07-27-05	06-16-05	06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	07-01-05
Trt-Eval Interval		48 DA-A	7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	22 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Stg	Appl Code	
1	Untreated								
2	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	0.75 PT/A	0.75 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
3	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	1.0 PT/A	1.0 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
4	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	1.5 PT/A	1.5 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
5	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	COC	L	1.0 % V/V	1.0 % V/V	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
6	Equip	32 WG	0.03 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	0.75 PT/A	0.75 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
7	Equip	32 WG	0.03 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	1.0 PT/A	1.0 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
8	Equip	32 WG	0.03 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	MSO	L	1.5 PT/A	1.5 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
9	Equip	32 WG	0.03 LB A/A	1.5 OZ WT/A	MPOST A				
	Distinct	70 WG	0.175 LB A/A	4.0 OZ WT/A	MPOST A				
	COC	L	1.0 % V/V	1.0 % V/V	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
10	Steadfast	75 WG	0.035 LB A/A	0.75 OZ WT/A	MPOST A				
	Callisto	4 SC	0.0625 LB A/A	2.0 FL OZ/A	MPOST A				
	COC	L	1.0 % V/V	1.0 % V/V	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
11	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Clarity	4 SL	0.312 LB A/A	10.0 FL OZ/A	MPOST A				
	MSO	L	1.5 PT/A	1.5 PT/A	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
12	Option	35 WG	0.0328 LB A/A	1.5 OZ WT/A	MPOST A				
	Clarity	4 SL	0.312 LB A/A	10.0 FL OZ/A	MPOST A				
	COC	L	1.0 % V/V	1.0 % V/V	MPOST A				
	AMS	DF	1.5 LB/A	1.5 LB/A	MPOST A				
LSD (P=.05)			1.8	2.5	0.0	4.3	2.7	3.7	2.8
Standard Deviation			1.1	1.5	0.0	2.5	1.6	2.2	1.7
CV			3.47	9.56	0.0	3.23	1.81	2.57	1.93

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH	AMATA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-01-05	07-01-05	07-01-05	07-01-05	07-22-05	07-22-05	07-22-05	07-22-05
Trt-Eval Interval										22 DA-A	22 DA-A	22 DA-A	22 DA-A	43 DA-A	43 DA-A	43 DA-A	43 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Option Distinct	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		83	99	90	99	0	85	99	88
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	0.75	PT/A	0.75	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
3	Option Distinct	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		87	99	93	99	0	88	99	92
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.0	PT/A	1.0	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
4	Option Distinct	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		87	99	92	99	0	88	99	88
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.5	PT/A	1.5	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
5	Option Distinct	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		77	99	90	99	0	78	99	90
	COC	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.0	% V/V	1.0	% V/V	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
6	Equip Distinct	32 WG	0.03	LB A/A	1.5 OZ	WT/A	MPOST	A		83	99	90	98	0	83	99	90
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	0.75	PT/A	0.75	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
7	Equip Distinct	32 WG	0.03	LB A/A	1.5 OZ	WT/A	MPOST	A		85	99	90	98	0	83	99	90
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.0	PT/A	1.0	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
8	Equip Distinct	32 WG	0.03	LB A/A	1.5 OZ	WT/A	MPOST	A		87	99	93	99	0	85	99	92
	MSO	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.5	PT/A	1.5	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
9	Equip Distinct	32 WG	0.03	LB A/A	1.5 OZ	WT/A	MPOST	A		78	99	92	99	0	73	99	92
	COC	70 WG	0.175	LB A/A	4.0 OZ	WT/A	MPOST	A									
	AMS	L	1.0	% V/V	1.0	% V/V	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
10	Steadfast Callisto	75 WG	0.035	LB A/A	0.75 OZ	WT/A	MPOST	A		88	99	88	98	0	90	99	83
	COC	4 SC	0.0625	LB A/A	2.0 FL	OZ/A	MPOST	A									
	AMS	L	1.0	% V/V	1.0	% V/V	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
11	Option Clarity	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		87	99	87	98	0	88	99	85
	MSO	4 SL	0.312	LB A/A	10.0 FL	OZ/A	MPOST	A									
	AMS	L	1.5	PT/A	1.5	PT/A	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
12	Option Clarity	35 WG	0.0328	LB A/A	1.5 OZ	WT/A	MPOST	A		78	98	95	99	0	78	98	95
	COC	4 SL	0.312	LB A/A	10.0 FL	OZ/A	MPOST	A									
	AMS	L	1.0	% V/V	1.0	% V/V	MPOST	A									
	AMS	DF	1.5	LB/A	1.5	LB/A	MPOST	A									
LSD (P=.05)										6.3	1.1	5.5	2.2	0.0	8.8	1.1	4.9
Standard Deviation										3.7	0.7	3.2	1.3	0.0	5.2	0.7	2.9
CV										4.82	0.74	3.89	1.43	0.0	6.77	0.74	3.56

# Iowa State University

Weed Code										CHEAL
Rating Data Type										CONTROL
Rating Unit										PERCENT
Rating Date										07-22-05
Trt-Eval Interval										43 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	0.75	PT/A	0.75	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
3	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	1.0	PT/A	1.0	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
4	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
5	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	COC		L	1.0	% V/V	1.0	% V/V	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
6	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	0.75	PT/A	0.75	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
7	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	1.0	PT/A	1.0	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
8	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	A	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
9	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	MPOST	A	99
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	MPOST	A	
	COC		L	1.0	% V/V	1.0	% V/V	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
10	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	MPOST	A	98
	Callisto	4	SC	0.0625	LB A/A	2.0	FL OZ/A	MPOST	A	
	COC		L	1.0	% V/V	1.0	% V/V	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
11	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	98
	Clarity	4	SL	0.312	LB A/A	10.0	FL OZ/A	MPOST	A	
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
12	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST	A	99
	Clarity	4	SL	0.312	LB A/A	10.0	FL OZ/A	MPOST	A	
	COC		L	1.0	% V/V	1.0	% V/V	MPOST	A	
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST	A	
LSD (P=.05)										3.0
Standard Deviation										1.8
CV										1.96



# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-31-05	06-07-05
Application Method:	SPRAY	SPRAY
Application Timing:	VEPOST	POST
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	67 F	86 F
% Relative Humidity:	51	47
Wind Velocity, Unit:	2 MPH	10 MPH
Soil Temp., Unit:	64 F	72 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	30

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD V 3	ZEAMD V 4 - V 5
Stage Scale:	DESC	DESC
Height, Unit:	3.5 IN	8.5 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA 1-4 LEAF	SETFA 1-4 L, 1T
Stage Scale:	0.25-2 IN	0.25-5 IN
Density, Unit:	0-3 FT2	0-2 FT2
Weed 2 Code, Stage:	ABUTH COTYL-2 L	ABUTH COTYL-5 L
Stage Scale:	0.25-1.5	0.25-5 IN
Density, Unit:	< 1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA COTYL-NUM	AMATA NUMEROUS
Stage Scale:	0.25-1 IN	0.25-3.5
Density, Unit:	0-2 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL COTYL-NUM	CHEAL NUMEROUS
Stage Scale:	0.25-1 IN	0.25-5 IN
Density, Unit:	0-10 FT2	0-10 FT2
Weed 5 Code, Stage:	IPOHE -	IPOHE COTYL-NUM
Stage Scale:	-	0.5-2 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

## Postemergence applications of Steadfast, Impact, Atrazine, Callisto, Accent, Option, Distinct and others for weed control in corn, Ames, IA, 2005.

Trial ID: ACC 14

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPOHE	
Rating Data Type									STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-27-05	06-07-05	06-16-05	06-16-05	06-16-05	06-16-05	06-16-05	06-16-05	
Trt-Eval Interval									57 DA-A	7 DA-A	9 DA-B	16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									31	0	0	0	0	0	0	0
2	Steadfast MSO	75 L	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	31	0	12	87	93	72	68	85
	28% UAN	L		1.0	% V/V	1.0	% V/V	POST	B								
		L		2.5	% V/V	2.5	% V/V	POST	B								
3	Impact Steadfast	2.8 75	SC WG	0.016	LB A/A	0.73	FL OZ/A	POST	B	34	0	15	95	98	99	99	98
	Atrazine MSO	4 L	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	28% UAN	L		1.0	% V/V	1.0	% V/V	POST	B								
		L		2.5	% V/V	2.5	% V/V	POST	B								
4	Callisto Steadfast	4 75	SC WG	0.094	LB A/A	3.0	FL OZ/A	POST	B	30	0	10	87	99	99	98	96
	Atrazine COC	4 L	SL	0.25	LB A/A	0.5	PT/A	POST	B								
	28% UAN	L		1.0	% V/V	1.0	% V/V	POST	B								
		L		2.5	% V/V	2.5	% V/V	POST	B								
5	Impact Accent	2.8 75	SC WG	0.016	LB A/A	0.73	FL OZ/A	POST	B	31	0	7	95	99	99	99	98
	Atrazine MSO	4 L	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	28% UAN	L		1.0	% V/V	1.0	% V/V	POST	B								
		L		2.5	% V/V	2.5	% V/V	POST	B								
6	Impact Option	2.8 35	SC WG	0.016	LB A/A	0.73	FL OZ/A	POST	B	31	0	7	96	99	99	99	96
	Atrazine MSO	4 L	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	28% UAN	L		1.0	% V/V	1.0	% V/V	POST	B								
		L		2.5	% V/V	2.5	% V/V	POST	B								
7	Option Distinct	35 70	WG WG	0.033	LB A/A	1.5	OZ WT/A	POST	B	30	0	15	83	80	82	77	85
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
8	Outlook Impact	6 2.8	EC SC	0.75	LB A/A	16.0	FL OZ/A	VEPOST	A	31	5	0	99	99	99	99	99
	Atrazine COC	4 L	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	28% UAN	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
		L		2.5	% V/V	2.5	% V/V	VEPOST	A								
9	Prowl H2O Impact	3.8 2.8	EC SC	0.75	LB A/A	1.58	PT/A	VEPOST	A	32	5	0	99	99	99	99	99
	Atrazine COC	4 L	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	28% UAN	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
		L		2.5	% V/V	2.5	% V/V	VEPOST	A								
10	Lumax COC	3.95 L	SE	2.470	LB A/A	2.5	QT/A	VEPOST	A	31	5	0	85	99	99	99	98
		L		1.0	% V/V	1.0	% V/V	VEPOST	A								
LSD (P=.05)										2.4	0.0	2.9	6.9	2.1	4.3	2.4	10.2
Standard Deviation										1.4	0.0	1.7	4.0	1.2	2.5	1.4	5.9
CV										4.59	0.0	25.64	4.85	1.39	2.94	1.64	6.98

# Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	IPOHE	ZEAMD	SETFA	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	07-07-05	07-07-05	
Trt-Eval Interval									17 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	30 DA-B	30 DA-B	
Trt No.	Treatment	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	
2	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	2	96	98	63	85	83	0	96
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
3	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	10	99	99	99	99	98	10	96
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
4	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	3	92	99	99	99	96	3	92
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST	B								
	COC	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
5	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	3	98	99	99	99	98	3	95
	Accent	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
6	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	2	98	99	99	99	95	2	93
	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
7	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B	3	92	95	92	96	90	3	92
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
8	Outlook	6	EC	0.75	LB A/A	16.0	FL OZ/A	VEPOST	A	0	99	99	99	99	96	0	99
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A								
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
	28% UAN	L		2.5	% V/V	2.5	% V/V	VEPOST	A								
9	Prowl H2O	3.8	EC	0.75	LB A/A	1.58	PT/A	VEPOST	A	0	96	99	98	99	85	0	96
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A								
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
	28% UAN	L		2.5	% V/V	2.5	% V/V	VEPOST	A								
10	Lumax	3.95	SE	2.470	LB A/A	2.5	QT/A	VEPOST	A	0	80	99	99	99	98	0	80
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
LSD (P=.05)										3.2	5.8	1.3	9.0	1.3	10.8	3.0	5.6
Standard Deviation										1.9	3.4	0.7	5.2	0.7	6.3	1.7	3.3
CV										79.33	3.99	0.82	6.2	0.84	7.51	80.68	3.91

# Iowa State University

Weed Code									ABUTH	AMATA	CHEAL	IPOHE	ZEAMD	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-07-05	07-07-05	07-07-05	07-07-05	08-04-05	08-04-05	08-04-05	08-04-05	
Trt-Eval Interval									30 DA-B	30 DA-B	30 DA-B	30 DA-B	58 DA-B	58 DA-B	58 DA-B	58 DA-B	
Trt No.	Treatment	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	90	58	82	82	0	96	90	58
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
3	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	96	99	99	96	0	96	96	99
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
4	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	99	99	99	93	0	92	99	99
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B								
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST	B								
	COC	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
5	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	98	98	99	96	0	95	96	99
	Accent	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
6	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	98	98	99	88	0	93	98	98
	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
7	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B	93	92	96	90	0	90	95	98
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B								
	MSO	L		1.0	% V/V	1.0	% V/V	POST	B								
	28% UAN	L		2.5	% V/V	2.5	% V/V	POST	B								
8	Outlook	6	EC	0.75	LB A/A	16.0	FL OZ/A	VEPOST	A	99	99	99	95	0	99	99	99
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A								
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
	28% UAN	L		2.5	% V/V	2.5	% V/V	VEPOST	A								
9	Prowl H2O	3.8	EC	0.75	LB A/A	1.58	PT/A	VEPOST	A	96	98	99	83	0	96	98	98
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A								
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A								
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
	28% UAN	L		2.5	% V/V	2.5	% V/V	VEPOST	A								
10	Lumax	3.95	SE	2.470	LB A/A	2.5	QT/A	VEPOST	A	99	98	99	93	0	80	99	98
	COC	L		1.0	% V/V	1.0	% V/V	VEPOST	A								
LSD (P=.05)										4.2	7.2	1.9	10.0	0.0	5.7	3.8	6.7
Standard Deviation										2.5	4.2	1.1	5.8	0.0	3.3	2.2	3.9
CV										2.83	4.99	1.27	7.12	0.0	3.95	2.54	4.59

# Iowa State University

Weed Code									CHEAL	IPOHE	ZEAMD	
Rating Data Type									CONTROL	CONTROL	YIELD	
Rating Unit									PERCENT	PERCENT	BU/A	
Rating Date									08-04-05	08-04-05	10-04-05	
Trt-Eval Interval									58 DA-B	58 DA-B	126 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	150
2	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B	73	87	219
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
3	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	99	93	218
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B			
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B			
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
4	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B	99	92	207
	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	POST	B			
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST	B			
	COC		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
5	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	99	96	208
	Accent	75	WG	0.031	LB A/A	0.66	OZ WT/A	POST	B			
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B			
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
6	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B	99	88	220
	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B			
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B			
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
7	Option	35	WG	0.033	LB A/A	1.5	OZ WT/A	POST	B	96	91	215
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B			
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B			
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B			
8	Outlook	6	EC	0.75	LB A/A	16.0	FL OZ/A	VEPOST	A	99	95	228
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A			
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A			
	COC		L	1.0	% V/V	1.0	% V/V	VEPOST	A			
	28% UAN		L	2.5	% V/V	2.5	% V/V	VEPOST	A			
9	Prowl H2O	3.8	EC	0.75	LB A/A	1.58	PT/A	VEPOST	A	99	87	218
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	VEPOST	A			
	Atrazine	4	SL	1.0	LB A/A	2.0	PT/A	VEPOST	A			
	COC		L	1.0	% V/V	1.0	% V/V	VEPOST	A			
	28% UAN		L	2.5	% V/V	2.5	% V/V	VEPOST	A			
10	Lumax	3.95	SE	2.470	LB A/A	2.5	QT/A	VEPOST	A	99	93	226
	COC		L	1.0	% V/V	1.0	% V/V	VEPOST	A			
LSD (P=.05)									4.3	7.7	37.0	
Standard Deviation									2.5	4.5	21.6	
CV									2.91	5.44	10.22	

# Iowa State University

**Preemergence followed by postemergence applications of Impact, Atrazine, Callisto and Distinct for weed control in corn, Ames, IA, 2005.**

Trial ID: ACC 15

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-05-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied Bicep Lite II Magnum and Dual II Magnum followed by postemergence applications of Impact, Atrazine, Callisto and Distinct for crop injury, weed efficacy and corn yield.

**Conclusions:** Differences in corn stand between treatments were not significant. PRE applied treatments demonstrated excellent crop safety when observed on June 9. PRE treatments provided good to excellent giant foxtail, common waterhemp and common lambsquarters control, but poor to fair velvetleaf control on June 9. PRE Dual II Magnum provided fair common lambsquarters control.

POST applied treatments resulted in 0 to 7% corn injury when observed on June 16, seven days after application. Several treatments continued to exhibit corn injury on June 24 and July 8. Following the POST applications, giant foxtail, velvetleaf, common waterhemp and common lambsquarters control generally improved to excellent when observed on June 24, July 8 and August 4. Corn yields between treatments were not significant; however, all yielded significantly more than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-05-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	OUTLOOK, GLYSTAR PLUS, RESOURCE	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20% at planting.

## SOIL DESCRIPTION

% OM: 6.6 Texture: CANISTEO CLAY LOAM

pH: 7.3 Soil Name: CLARION, WEBSTER, NICOLLET

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-06-05	06-09-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	76 F	80 F
% Relative Humidity:	51	58
Wind Velocity, Unit:	8 MPH	8 MPH
Soil Temp., Unit:	63 F	71 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	100	100

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 5 - V 6
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	0.25-2.5
Density, Unit:	- -	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-6 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-4 L
Stage Scale:	-	0.25-0.75
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL 4-NUM
Stage Scale:	-	0.5-5 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence followed by postemergence applications of Impact, Atrazine, Callisto and Distinct for weed control in corn, Ames, IA, 2005.**

Trial ID: ACC 15

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								07-27-05	06-09-05	06-09-05	06-09-05	06-09-05	06-09-05	06-16-05	
Trt-Eval Interval								82 DA-A	34 DA-A	34 DA-A	34 DA-A	34 DA-A	34 DA-A	7 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Unit Stg	Appl Code							
1	Untreated								32	0	0	0	0	0	0
2	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	31	0	95	53	99	99	0
3	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	32	0	95	13	98	50	0
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MISO		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
4	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	29	0	93	10	98	48	3
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B							
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST B							
	MISO		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
5	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	31	0	93	60	98	99	2
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MISO		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
6	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	31	0	95	53	99	96	2
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MISO		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
7	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	31	0	93	57	98	98	5
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B							
8	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	31	0	93	55	98	99	7
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST B							
	28% UAN		L	1.250	% V/V	1.25	% V/V	POST B							
LSD (P=.05)								2.2	0.0	3.8	10.6	3.4	8.5	3.6	
Standard Deviation								1.3	0.0	2.1	6.0	1.9	4.9	2.0	
CV								4.06	0.0	2.61	15.98	2.25	6.61	89.07	

# Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date									06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	07-08-05	07-08-05
Trt-Eval Interval									15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	29 DA-B	29 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Stg	Appl Code							
1	Untreated								0	0	0	0	0	0	0
2	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	0	95	50	99	99	0	95
3	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	0	99	99	99	99	0	99
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MSO		L	1.0	% V/V	1.0	% V/V	POST B							
28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
4	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	0	99	99	99	99	0	99
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B							
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST B							
	MSO		L	1.0	% V/V	1.0	% V/V	POST B							
28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
5	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	0	99	99	99	99	0	99
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MSO		L	1.0	% V/V	1.0	% V/V	POST B							
28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
6	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	0	99	99	99	99	0	99
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B							
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B							
	MSO		L	1.0	% V/V	1.0	% V/V	POST B							
28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
7	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	5	96	99	99	99	3	96
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B							
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST B							
	COC		L	1.0	% V/V	1.0	% V/V	POST B							
28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
8	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	10	98	92	99	99	5	96
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST B							
	NIS		L	0.25	% V/V	0.25	% V/V	POST B							
	28% UAN		L	1.250	% V/V	1.25	% V/V	POST B							
LSD (P=.05)									0.0	1.9	8.3	0.0	0.0	1.8	2.1
Standard Deviation									0.0	1.1	4.7	0.0	0.0	1.0	1.2
CV									0.0	1.3	5.96	0.0	0.0	97.98	1.4

# Iowa State University

Weed Code									ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-08-05	07-08-05	07-08-05	08-04-05	08-04-05	08-04-05	08-04-05	
Trt-Eval Interval									29 DA-B	29 DA-B	29 DA-B	56 DA-B	56 DA-B	56 DA-B	56 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Stg	Appl Code								
1	Untreated								0	0	0	0	0	0	0	0
2	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	47	99	99	0	95	45	99	
3	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	99	99	99	0	98	98	99	
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B								
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B								
	MSO		L	1.0	% V/V	1.0	% V/V	POST B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
4	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE A	99	99	99	0	98	98	99	
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B								
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST B								
	MSO		L	1.0	% V/V	1.0	% V/V	POST B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
5	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	99	99	99	0	99	98	99	
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST B								
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B								
	MSO		L	1.0	% V/V	1.0	% V/V	POST B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
6	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	99	99	99	0	99	99	99	
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST B								
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST B								
	MSO		L	1.0	% V/V	1.0	% V/V	POST B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
7	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE A	99	99	99	0	96	99	99	
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST B								
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST B								
	COC		L	1.0	% V/V	1.0	% V/V	POST B								
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST B								
8	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE A	93	99	99	0	96	93	99	
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST B								
	NIS		L	0.25	% V/V	0.25	% V/V	POST B								
	28% UAN		L	1.250	% V/V	1.25	% V/V	POST B								
LSD (P=.05)									6.4	0.0	0.0	0.0	2.6	6.5	0.0	
Standard Deviation									3.7	0.0	0.0	0.0	1.5	3.7	0.0	
CV									4.64	0.0	0.0	0.0	1.74	4.75	0.0	

# Iowa State University

Weed Code									CHEAL	ZEAMD	
Rating Data Type									CONTROL	YIELD	
Rating Unit									PERCENT	BU/A	
Rating Date									08-04-05	10-04-05	
Trt-Eval Interval									56 DA-B	151 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	142
2	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE	A	99	213
3	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE	A	99	220
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST	B		
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST	B		
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
4	Dual II Magnum	7.64	EC	1.430	LB A/A	1.5	PT/A	PRE	A	99	218
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B		
	Atrazine	4	SL	0.50	LB A/A	1.0	PT/A	POST	B		
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
5	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE	A	99	226
	Impact	2.8	SC	0.011	LB A/A	0.503	FL OZ/A	POST	B		
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST	B		
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
6	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE	A	99	231
	Impact	2.8	SC	0.016	LB A/A	0.73	FL OZ/A	POST	B		
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	POST	B		
	MSO		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
7	Bicep Lite II Magnum	6	SC	2.250	LB A/A	1.5	QT/A	PRE	A	99	218
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	POST	B		
	Atrazine	4	SL	0.25	LB A/A	0.5	PT/A	POST	B		
	COC		L	1.0	% V/V	1.0	% V/V	POST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	POST	B		
8	Bicep Lite II Magnum	6	SC	2.25	LB A/A	1.5	QT/A	PRE	A	99	214
	Distinct	70	WG	0.175	LB A/A	4.0	OZ WT/A	POST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	B		
	28% UAN		L	1.250	% V/V	1.25	% V/V	POST	B		
LSD (P=.05)									0.0	26.2	
Standard Deviation									0.0	15.0	
CV									0.0	7.12	

# Iowa State University

**Preemergence applied Balance Pro, Atrazine, Radius, Degree Xtra and postemergence Liberty, Option, Equip, Define and others in corn, Ames, IA, 2005.**

Trial ID: ACC 16

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-23-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate various one pass and two pass herbicide systems for crop phytotoxicity and weed control in corn.

**Conclusions:** Corn stand differences were not significant between treatments. No corn injury was observed on June 15 from PRE applied treatments. Giant foxtail control was 95% and higher with the PRE treatments on June 15, except for the reduced rate of Balance Pro, which provided 75 to 80% control. Velvetleaf control on June 15 ranged from 48 to 88%. Tank-mixtures of Balance Pro plus Define plus Atrazine or Degree Xtra and Radius plus Atrazine provided the best control. Common waterhemp and common lambsquarters control was generally good to excellent with the PRE treatments on June 15, except for the reduced rate of Balance Pro which gave fair common lambsquarters control.

No corn injury from EPOST and POST applied treatments was observed on June 30, fifteen and twelve days after application, respectively. Following EPOST and POST applications, giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control was excellent when observed on June 30 and July 22. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: PIONEER 31G96

Planting Date: 05-23-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-24-05	06-15-05	06-18-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	77 F	69 F	74 F
% Relative Humidity:	38	66	52
Wind Velocity, Unit:	3 MPH	2 MPH	0 MPH
Soil Temp., Unit:	71 F	65 F	74 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0	10

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5	ZEAMD V 5
Stage Scale:	-	DESC	DESC
Height, Unit:	-	8 IN	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-3 IN	0.25-4 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-6 L	ABUTH COTYL-6 L
Stage Scale:	-	0.25-3 IN	0.25-4 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-NUM	AMATA COTYL-NUM
Stage Scale:	-	0.25-3 IN	0.5-3 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-NUM	CHEAL COTYL-NUM
Stage Scale:	-	0.25-3 IN	0.5-3 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	30	30
Nozzle Size:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA



# Iowa State University

Weed Code											ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA
Rating Data Type											STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit											17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date											06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-30-05	06-30-05
Trt-Eval Interval											22 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	12 DA-C	12 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code									
16	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B	31	0	0	0	0	0	0	98	
	Define SC	4	SC	0.312	LB A/A	10.0	FL OZ/A	EPOST	B									
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST	B									
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	EPOST	B									
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B									
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B									
LSD (P=.05)											3.2	0.0	5.2	19.6	4.9	8.2	0.0	4.4
Standard Deviation											1.9	0.0	3.1	11.8	2.9	4.9	0.0	2.7
CV											6.03	0.0	5.02	22.55	4.44	7.79	0.0	2.96



# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-30-05	06-30-05	06-30-05	07-22-05	07-22-05	07-22-05	07-22-05	07-22-05
Trt-Eval Interval										12 DA-C	12 DA-C	12 DA-C	34 DA-C	34 DA-C	34 DA-C	34 DA-C	34 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
16	Equip	32	WG	0.03	LB A/A	1.5	OZ WT/A	EPOST	B	99	99	99	0	96	99	99	99
	Define SC	4	SC	0.312	LB A/A	10.0	FL OZ/A	EPOST	B								
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST	B								
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	EPOST	B								
	MSO		L	1.5	PT/A	1.5	PT/A	EPOST	B								
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B								
LSD (P=.05)										20.0	1.3	7.0	0.0	4.2	21.2	1.3	7.2
Standard Deviation										12.0	0.8	4.2	0.0	2.5	12.7	0.8	4.3
CV										14.67	0.87	4.64	0.0	2.83	15.75	0.87	4.74

# Iowa State University

**Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Ames, IA, 2005.**  
 Trial ID: ACC 17 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ames **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50010 **Initiation Date:** 05-24-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate various preemergence applied herbicides for crop phytotoxicity, weed control and corn yield.  
**Conclusions:** Significant differences in corn stand were determined between several treatments. Differences were attributable to planting rate variability and not herbicide treatment. PRE applied treatments demonstrated excellent crop safety when observed on June 10 and June 15, seventeen and twenty-two days after application. PRE treatments achieved good to excellent giant foxtail, common waterhemp, and common lambsquarters control when observed on June 15. Lexar, Lumax, Lexar plus Princep, and Radius achieved 92% and higher velvetleaf control on June 15, while remaining treatments gave 55 to 83% velvetleaf control.  
 POST applied Lexar and Bicep II Magnum resulted in 10 and 5% corn injury, respectively, when observed on June 22, seven days after application. POST treatments provided excellent giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control on June 29. Overall weed control on July 15 and August 15 with the PRE and POST treatments reflected the trends established on earlier observation dates. Corn yields ranged from 204 to 229 and significant differences between treatments were determined. All treatments yielded significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 53-34  
**Planting Date:** 05-24-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 30200 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

### SOIL DESCRIPTION

**% OM:** 4.4 **Texture:** WEBSTER CLAY LOAM  
**pH:** 6.2 **Soil Name:** CLARION, NICOLLET, WEBSTER  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-24-05	06-15-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	77 F	69 F
% Relative Humidity:	38	66
Wind Velocity, Unit:	3 MPH	2 MPH
Soil Temp., Unit:	71 F	65 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5
Stage Scale:	-	DESC
Height, Unit:	-	8 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-3.5
Density, Unit:	- -	< 1 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-NUM
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	0-5 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-NUM
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Ames, IA, 2005.**

Trial ID: ACC 17 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-25-05	06-10-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-22-05	
Trt-Eval Interval								32 DA-A	17 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	7 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									30	0	0	0	0	0	0
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	32	0	0	92	98	99	99
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	30	0	0	96	99	99	99
4	Bicep II Magnum	5.5	SC	3.58	LB A/A	2.6	QT/A	PRE	A	31	0	0	95	70	99	99
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	31	0	0	95	99	99	98
6	Lexar Princep	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	31	0	0	99	99	99	99
		4	L	1.0	LB A/A	1.0	QT/A	PRE	A							
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	31	0	0	98	72	98	99
8	Harness Xtra	5.6	SC	3.7	LB A/A	2.65	QT/A	PRE	A	30	0	0	98	55	99	99
9	Radius	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	30	0	0	95	92	99	96
10	Keystone	5.25	SE	3.94	LB A/A	3.0	QT/A	PRE	A	31	0	0	99	78	99	99
11	Lexar NIS	3.7	SE	2.78	LB A/A	3.0	QT/A	POST	B	31	0	0	0	0	0	0
			L	0.25	% V/V	0.25	% V/V	POST	B							10
12	Bicep II Magnum NIS	5.5	SC	3.58	LB A/A	2.6	QT/A	POST	B	31	0	0	0	0	0	0
			L	0.25	% V/V	0.25	% V/V	POST	B							5
13	Keystone Hornet WDG	5.25	SE	3.94	LB A/A	3.0	QT/A	PRE	A	29	0	0	98	72	99	99
		68.5	WG	0.128	LB AE/A	3.0	OZ WT/A	PRE	A							
14	Guardsman Max Balance Pro	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	31	0	0	96	81	99	98
		4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A							
15	Radius Atrazine	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	30	0	0	93	83	99	98
		4	SL	0.75	LB A/A	0.75	QT/A	PRE	A							
LSD (P=.05)								2.1	0.0	0.0	5.2	21.0	1.0	2.0	0.0	
Standard Deviation								1.3	0.0	0.0	3.1	12.5	0.6	1.2	0.0	
CV								4.11	0.0	0.0	4.05	18.87	0.75	1.55	0.0	

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYTO PERCENT 06-29-05 14 DA-B	SETFA CONTROL PERCENT 06-29-05 14 DA-B	ABUTH CONTROL PERCENT 06-29-05 14 DA-B	AMATA CONTROL PERCENT 06-29-05 14 DA-B	CHEAL CONTROL PERCENT 06-29-05 14 DA-B	SETFA CONTROL PERCENT 07-15-05 30 DA-B	ABUTH CONTROL PERCENT 07-15-05 30 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	0	90	95	99	98	87	95
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	0	95	98	99	99	92	98
4	Bicep II Magnum	5.5	SC	3.58	LB A/A	2.6	QT/A	PRE	A	0	95	67	98	99	95	65
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	92	98	99	98	92	98
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	0	95	99	99	99	95	99
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	0	93	72	96	99	93	68
8	Harness Xtra	5.6	SC	3.7	LB A/A	2.65	QT/A	PRE	A	0	93	53	96	99	92	50
9	Radius	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	0	95	92	96	92	95	92
10	Keystone	5.25	SE	3.94	LB A/A	3.0	QT/A	PRE	A	0	98	77	99	99	96	72
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	7	88	99	99	99	85	99
12	Bicep II Magnum NIS	5.5	SC L	3.58 0.25	LB A/A % V/V	2.6 0.25	QT/A % V/V	POST POST	B B	3	88	99	99	99	85	99
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.94 0.128	LB A/A LB AE/A	3.0 3.0	QT/A OZ WT/A	PRE PRE	A A	0	95	72	99	99	93	70
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	0	92	80	99	98	92	80
15	Radius Atrazine	4 4	SC SL	0.78 0.75	LB A/A LB A/A	25.0 0.75	FL OZ/A QT/A	PRE PRE	A A	0	93	83	98	96	93	81
LSD (P=.05)										1.7	7.1	21.6	2.0	3.1	6.7	22.8
Standard Deviation										1.0	4.2	12.9	1.2	1.9	4.0	13.6
CV										155.26	4.88	16.39	1.34	2.04	4.69	17.55

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									AMATA CONTROL PERCENT 07-15-05 30 DA-B	CHEAL CONTROL PERCENT 07-15-05 30 DA-B	SETFA CONTROL PERCENT 08-15-05 61 DA-B	ABUTH CONTROL PERCENT 08-15-05 61 DA-B	AMATA CONTROL PERCENT 08-15-05 61 DA-B	CHEAL CONTROL PERCENT 08-15-05 61 DA-B	ZEAMD YIELD BU/A 10-10-05 139 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	173
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	99	98	85	95	99	98	226
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	98	92	98	99	98	219
4	Bicep II Magnum	5.5	SC	3.58	LB A/A	2.6	QT/A	PRE	A	99	99	93	65	99	99	228
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	98	90	98	99	98	223
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	99	99	95	99	99	99	220
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	96	99	93	65	95	99	229
8	Harness Xtra	5.6	SC	3.7	LB A/A	2.65	QT/A	PRE	A	96	99	92	50	96	99	227
9	Radius	4	SC	0.78	LB A/A	25.0	FL OZ/A	PRE	A	96	92	95	92	98	90	222
10	Keystone	5.25	SE	3.94	LB A/A	3.0	QT/A	PRE	A	99	99	96	65	99	99	220
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	99	99	85	99	99	99	204
12	Bicep II Magnum NIS	5.5	SC L	3.58 0.25	LB A/A % V/V	2.6 0.25	QT/A % V/V	POST POST	B B	98	99	85	99	98	99	215
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.94 0.128	LB A/A LB AE/A	3.0 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	83	70	99	99	222
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	99	98	92	78	99	98	223
15	Radius Atrazine	4 4	SC SL	0.78 0.75	LB A/A LB A/A	25.0 0.75	FL OZ/A QT/A	PRE PRE	A A	96	96	91	80	96	96	219
LSD (P=.05)										2.0	3.2	10.6	24.3	1.9	3.7	17.5
Standard Deviation										1.2	1.9	6.4	14.6	1.1	2.2	10.5
CV										1.28	2.11	7.52	18.95	1.24	2.43	4.81

# Iowa State University

## Postemergence control of volunteer corn in continuous corn, Ames, IA, 2005.

Trial ID: ACC 18

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-23-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate control of volunteer glyphosate-resistant corn growing in glufosinate and glyphosate-resistant hybrid corn. Dekalb DKC 53-34 and Pioneer 34N42 corn hybrids were planted in the study along with two rates of second generation glyphosate-resistant corn.

**Conclusions:** Corn stand differences were not significant between treatments. Negligible corn injury from PRE applied treatments was observed on June 28, thirty-five days after application. POST applied Liberty, regardless of rate, provided 98 to 99% volunteer glyphosate-resistant corn (ZEAMX) control when observed on July 12, twenty-five days after application. No difference in control between low and high ZEAMX populations was observed. LPOST applied Roundup WeatherMAX provided 13 to 17% ZEAMX control on July 12.

POST applied Liberty and LPOST Roundup WeatherMAX achieved good to excellent giant foxtail, velvetleaf, common waterhemp and common lambsquarters control when observed on July 12 and September 22. Corn yields ranged from 222 to 244 bu/A and no significant differences were determined between treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ZEAMX	CORN, VOLUNTEER	ZEA MAYS L.
2.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD

Variety: 2 VARIETIES

Planting Date: 05-23-05

Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

### SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-24-05	06-17-05	06-21-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	77 F	81 F	81 F
% Relative Humidity:	38	31	67
Wind Velocity, Unit:	3 MPH	0 MPH	0 MPH
Soil Temp., Unit:	71 F	73 F	76 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0	60

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 5	ZEAMD V 6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	12 IN	16 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ZEAMX -	ZEAMX V2 -V 5	ZEAMX V4 - V 6
Stage Scale:	-	3-12 IN	6-16 IN
Density, Unit:	- -	- -	- -
Weed 2 Code, Stage:	SETFA -	SETFA 1-4 L, 3T	SETFA 1-4 L, 5T
Stage Scale:	-	0.25-2 IN	0.25-5 IN
Density, Unit:	- -	< 1 FT2	0-1 FT2
Weed 3 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-9 L
Stage Scale:	-	0.25-3 IN	0.25-6 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 4 Code, Stage:	AMATA -	AMATA -	AMATA -
Stage Scale:	-	-	-
Density, Unit:	- -	- -	- -
Weed 5 Code, Stage:	CHEAL -	CHEAL -	CHEAL -
Stage Scale:	-	-	-
Density, Unit:	- -	- -	- -

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35
Nozzle Size:	11002	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

## Postemergence control of volunteer corn in continuous corn, Ames, IA, 2005.

Trial ID: ACC 18

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code		ZEAMD		ZEAMD		ZEAMX		SETFA		ABUTH		AMATA		CHEAL	
Rating Data Type		STAND		PHYTO		CONTROL		CONTROL		CONTROL		CONTROL		CONTROL	
Rating Unit		17.5 FT		PERCENT		PERCENT		PERCENT		PERCENT		PERCENT		PERCENT	
Rating Date		06-15-05		06-28-05		06-28-05		06-28-05		06-28-05		06-28-05		06-28-05	
Trt-Eval Interval		22 DA-A		35 DA-A		11 DA-B		11 DA-B		11 DA-B		11 DA-B		11 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	LL hybrid corn Low pop. vol. RR corn								31	0	96	99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.36 LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
2	LL hybrid corn Low pop. vol. RR corn								31	3	99	99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
3	LL hybrid corn No vol. corn								31	0		99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.365 LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
4	LL hybrid corn High pop. vol. RR corn								32	2	96	99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.36 LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
5	LL hybrid corn High pop. vol. RR corn								31	3	92	99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
6	LL hybrid corn No vol. corn								30	2		99	99	99	99
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B							
7	RR hybrid corn Low pop. vol. RR corn								31	0	12	99	87	99	99
	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C							
	AMS		DF	1.0 % W/W	1.0	% W/W	LPOST	C							
8	RR corn High pop. vol. RR corn								32	0	15	94	94	96	99
	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C							
	AMS		DF	1.0 % W/W	1.0	% W/W	LPOST	C							
LSD (P=.05)									1.9	3.8	5.3	5.0	5.2	3.2	0.0
Standard Deviation									1.1	2.2	2.9	2.9	3.0	1.8	0.0
CV									3.51	174.57	4.28	2.9	3.06	1.86	0.0

# Iowa State University

Weed Code									ZEAMD	ZEAMX	SETFA	ABUTH	AMATA	CHEAL	ZEAMX	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-12-05	07-12-05	07-12-05	07-12-05	07-12-05	07-12-05	09-22-05	
Trt-Eval Interval									25 DA-B	25 DA-B	25 DA-B	25 DA-B	25 DA-B	25 DA-B	97 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	LL hybrid corn Low pop. vol. RR corn									0	99	99	96	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.36	LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
2	LL hybrid corn Low pop. vol. RR corn									0	99	99	98	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45	LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
3	LL hybrid corn No vol. corn									0		99	99	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.365	LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
4	LL hybrid corn High pop. vol. RR corn									0	98	99	96	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.36	LB A/A	28.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
5	LL hybrid corn High pop. vol. RR corn									0	99	99	96	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45	LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
6	LL hybrid corn No vol. corn									0		99	99	99	99	99
	Degree Xtra	4.04	CS	3.74	LB A/A	3.7	QT/A	PRE	A							
	Liberty	1.67	SL	0.45	LB A/A	34.0	FL OZ/A	POST	B							
	AMS		DF	3.0	LB/A	3.0	LB/A	POST	B							
7	RR hybrid corn Low pop. vol. RR corn									0	13	99	92	99	99	13
	Degree Xtra	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C							
	AMS		DF	1.0	% W/W	1.0	% W/W	LPOST	C							
8	RR corn High pop. vol. RR corn									0	17	99	93	99	99	17
	Degree Xtra	4.04	CS	2.02	LB A/A	2.0	QT/A	PRE	A							
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST	C							
	AMS		DF	1.0	% W/W	1.0	% W/W	LPOST	C							
LSD (P=.05)										0.0	5.6	0.0	3.9	0.0	0.0	4.9
Standard Deviation										0.0	3.1	0.0	2.2	0.0	0.0	2.8
CV										0.0	4.37	0.0	2.3	0.0	0.0	3.57

# Iowa State University

Weed Code									SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	YIELD
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	BU/A
Rating Date									09-22-05	09-22-05	09-22-05	09-22-05	10-17-05
Trt-Eval Interval									97 DA-B	97 DA-B	97 DA-B	97 DA-B	146 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	LL hybrid corn Low pop. vol. RR corn								99	98	99	99	223
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.36 LB A/A	28.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
2	LL hybrid corn Low pop. vol. RR corn								99	98	99	99	222
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
3	LL hybrid corn No vol. corn								99	99	99	99	229
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.365 LB A/A	28.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
4	LL hybrid corn High pop. vol. RR corn								99	99	99	99	233
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.36 LB A/A	28.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
5	LL hybrid corn High pop. vol. RR corn								99	98	99	99	229
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
6	LL hybrid corn No vol. corn								99	99	99	99	224
	Degree Xtra	4.04	CS	3.74 LB A/A	3.7	QT/A	PRE	A					
	Liberty	1.67	SL	0.45 LB A/A	34.0	FL OZ/A	POST	B					
	AMS		DF	3.0 LB/A	3.0	LB/A	POST	B					
7	RR hybrid corn Low pop. vol. RR corn								99	95	99	99	231
	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	PRE	A					
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C					
	AMS		DF	1.0 % W/W	1.0	% W/W	LPOST	C					
8	RR corn High pop. vol. RR corn								99	96	99	99	244
	Degree Xtra	4.04	CS	2.02 LB A/A	2.0	QT/A	PRE	A					
	Roundup WeatherMAX	4.5	SL	0.77 LB AE/A	22.0	FL OZ/A	LPOST	C					
	AMS		DF	1.0 % W/W	1.0	% W/W	LPOST	C					
LSD (P=.05)									0.0	3.7	0.0	0.0	27.6
Standard Deviation									0.0	2.1	0.0	0.0	15.8
CV									0.0	2.18	0.0	0.0	6.88

# Iowa State University

**Preemergence Balance Pro, Atrazine, Harness Xtra and postemergence applied Liberty, Roundup WeatherMAX, Degree Xtra and others in corn, Ames, IA, 2005.**

Trial ID: ACC 19

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-23-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence followed by postemergence and postemergence herbicide applications for crop phytotoxicity and weed control in corn.

**Conclusions:** No significant differences were determined between treatments in corn stand. Reduced PRE applied Balance Pro provided good giant foxtail, and good to excellent velvetleaf, common waterhemp and common lambsquarters control when observed on June 16, twenty-three days after application. Reduced PRE Harness Xtra gave good giant foxtail, poor velvetleaf, excellent common waterhemp, and fair common lambsquarters control.

EPOST treatments caused 0 to 7% and 0 to 5% corn injury when observed on June 24 and July 1, respectively. MPOST treatments did not result in corn injury. In general, excellent giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control was provided with the PRE plus MPOST and EPOST treatments when observed on July 1 and 21. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: PIONEER 31G96

Planting Date: 05-23-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-24-05	06-16-05	06-18-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	77 F	79 F	74 F
% Relative Humidity:	38	35	52
Wind Velocity, Unit:	3 MPH	3 MPH	0 MPH
Soil Temp., Unit:	71 F	68 F	74 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0	10

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5	ZEAMD V 5
Stage Scale:	-	DESC	DESC
Height, Unit:	-	9 IN	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 4T	SETFA 1-4 L, 4T
Stage Scale:	-	0.25-5 IN	0.25-5 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-7 L	ABUTH COTYL-7 L
Stage Scale:	-	0.25-5 IN	0.25-5 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-NUM	AMATA 2-NUM
Stage Scale:	-	0.25-6 IN	0.25-6 IN
Density, Unit:	- -	0-3 FT2	0-3 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-NUM	CHEAL COTYL-NUM
Stage Scale:	-	0.25-3.5	0.25-3.5
Density, Unit:	- -	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	30	30
Nozzle Size:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence Balance Pro, Atrazine, Harness Xtra and postemergence applied  
Liberty, Roundup WeatherMAX, Degree Xtra and others in corn, Ames, IA, 2005.**

Trial ID: ACC 19

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-25-05	06-16-05	06-16-05	06-16-05	06-16-05	06-16-05
Trt-Eval Interval										32 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									32	0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	31	0	83	91	93	92
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	PRE	A						
	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST	C						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C						
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST	C						
3	Harness Xtra	5.6	SC	1.4	LB A/A	1.0	QT/A	PRE	A	31	0	85	40	99	78
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	C						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	C						
4	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	32	0	0	0	0	0
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
5	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	31	0	0	0	0	0
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
6	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	31	0	0	0	0	0
	Define SC	4	SC	0.312	LB A/A	10.0	FL OZ/A	EPOST	B						
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
7	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	31	0	0	0	0	0
	Harness	7	EC	1.09	LB A/A	1.25	PT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
8	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	31	0	0	0	0	0
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
9	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	31	0	0	0	0	0
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
10	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	EPOST	B	32	0	0	0	0	0
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST	B						
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	EPOST	B						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	B						
	AMS		DF	1.5	LB/A	1.5	LB/A	EPOST	B						
LSD (P=.05)										3.1	0.0	3.0	4.6	1.6	13.4
Standard Deviation										1.8	0.0	1.7	2.7	0.9	7.8
CV										5.78	0.0	10.38	20.51	4.75	45.95

# Iowa State University

Weed Code										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-24-05	07-01-05	07-01-05	07-01-05	07-01-05	07-01-05
Trt-Eval Interval										8 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	0	0	99	99	99	99
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	PRE	A						
	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST	C						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C						
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST	C						
3	Harness Xtra	5.6	SC	1.4	LB A/A	1.0	QT/A	PRE	A	0	0	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	C						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	C						
4	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	0	0	99	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
5	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	0	0	99	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
6	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	3	3	99	99	99	99
	Define SC	4	SC	0.312	LB A/A	10.0	FL OZ/A	EPOST	B						
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
7	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	3	5	99	99	99	99
	Harness	7	EC	1.09	LB A/A	1.25	PT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
8	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	0	0	99	99	99	99
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B						
9	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	0	0	99	99	99	99
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B						
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
10	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	EPOST	B	7	5	95	91	99	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST	B						
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	EPOST	B						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	B						
	AMS		DF	1.5	LB/A	1.5	LB/A	EPOST	B						
LSD (P=.05)										2.8	1.6	0.0	3.8	0.0	0.0
Standard Deviation										1.6	0.9	0.0	2.2	0.0	0.0
CV										122.9	68.47	0.0	2.54	0.0	0.0

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-21-05	07-21-05	07-21-05	07-21-05	07-21-05
Trt-Eval Interval										33 DA-C	33 DA-C	33 DA-C	33 DA-C	33 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Balance Pro	4	SC	0.047	LB A/A	1.5	FL OZ/A	PRE	A	0	99	99	99	99
	Atrazine	4	SL	0.5	LB A/A	1.0	PT/A	PRE	A					
	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST	C					
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C					
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST	C					
3	Harness Xtra	5.6	SC	1.4	LB A/A	1.0	QT/A	PRE	A	0	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	MPOST	C					
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST	C					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	MPOST	C					
4	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	0	96	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B					
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B					
5	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	0	99	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B					
6	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	0	99	99	99	99
	Define SC	4	SC	0.312	LB A/A	10.0	FL OZ/A	EPOST	B					
	Atrazine	4	SL	1.5	LB A/A	1.5	QT/A	EPOST	B					
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B					
7	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	0	99	99	99	99
	Harness	7	EC	1.09	LB A/A	1.25	PT/A	EPOST	B					
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B					
8	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	EPOST	B	0	99	99	99	99
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B					
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B					
	AMS		DF	3.0	LB/A	3.0	LB/A	EPOST	B					
9	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPOST	B	0	98	99	99	99
	Degree Xtra	4.04	CS	1.52	LB A/A	1.5	QT/A	EPOST	B					
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	EPOST	B					
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B					
10	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	EPOST	B	2	92	93	98	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	EPOST	B					
	Atrazine	4	SL	0.5	LB A/A	0.5	QT/A	EPOST	B					
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	B					
	AMS		DF	1.5	LB/A	1.5	LB/A	EPOST	B					
LSD (P=.05)										1.6	2.5	3.9	1.3	0.0
Standard Deviation										0.9	1.4	2.3	0.7	0.0
CV										547.72	1.63	2.58	0.82	0.0

# Iowa State University

## Two pass and one pass systems utilizing Outlook, Roundup, Liberty, and Distinct in corn, Ames, IA, 2005.

Trial ID: ACC 20

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-23-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied Outlook followed by postemergence Glyphomax, Distinct, and Liberty for crop phytotoxicity and weed control in corn. In addition, other treatments were evaluated as postemergence only applications including Roundup WeatherMAX, Glyphomax, Clarity, Distinct and Liberty, **Conclusions:** Differences in corn stand between treatments were not significant. No corn injury occurred from the reduced rate of PRE applied Outlook when observed on June 15, twenty-two days after application. Outlook provided 85 to 90% giant foxtail, poor velvetleaf, 95% common waterhemp and poor common lambsquarters control on June 22.

POST and LPOST treatments demonstrated 0 to 10% corn injury when observed on June 22 and July 1. Following POST and LPOST applications, giant foxtail, velvetleaf, common waterhemp and common lambsquarters control was good to excellent when observed on July 1, 20, and September 22. Stalk lodging and dropped ears at harvest led to considerable variability in corn yields between treatments and resulted in a large LSD. Treatment yields ranged from 199 to 250 bu/A. In addition, overall weed pressure in the study was considered light and only about half of the treatments yielded significantly higher than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: PIONEER 31G96

Planting Date: 05-23-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

### SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-24-05	06-15-05	06-18-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	77 F	69 F	74 F
% Relative Humidity:	38	66	52
Wind Velocity, Unit:	3 MPH	2 MPH	0 MPH
Soil Temp., Unit:	71 F	65 F	74 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0	10

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5	ZEAMD V 5
Stage Scale:	-	DESC	DESC
Height, Unit:	-	8 IN	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 4T	SETFA 1-4 L, 4T
Stage Scale:	-	0.25-4 IN	0.25-3 IN
Density, Unit:	- -	0-3 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-6 L	ABUTH COTYL-6 L
Stage Scale:	-	0.25-5 IN	0.25-5 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYL-NUM	AMATA COTYL-NUM
Stage Scale:	-	0.25-6 IN	0.25-2 IN
Density, Unit:	- -	0-3 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYL-NUM	CHEAL COTYL-NUM
Stage Scale:	-	0.25-4 IN	0.25-5 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	30	30
Nozzle Size:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Two pass and one pass systems utilizing Outlook, Roundup, Liberty, and Distinct in corn, Ames, IA, 2005.**

Trial ID: ACC 20

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
										STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
										06-24-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-22-05
										31 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	7 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									31	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB/AE/A 3.0 LB/A	22.0 FL OZ/A 3.0 LB/A	22.0 FL OZ/A 3.0 LB/A	POST POST	B B		32	0	0	0	0	0	0
3	Glyphomax Clarity NIS AMS	3 4	SL SL L DF	0.56 LB AE/A 0.25 LB A/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 8.0 FL OZ/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 8.0 FL OZ/A 0.25 % V/V 3.0 LB/A	POST POST POST POST	B B B B		32	0	0	0	0	0	7
4	Glyphomax Distinct NIS AMS	3 70	SL WG L DF	0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	POST POST POST POST	B B B B		32	0	0	0	0	0	5
5	Liberty AMS	1.67	SL DF	0.417 LB A/A 3.0 LB/A	32.0 FL OZ/A 3.0 LB/A	32.0 FL OZ/A 3.0 LB/A	POST POST	B B		31	0	0	0	0	0	2
6	Liberty Distinct AMS	1.67 70	SL WG DF	0.417 LB A/A 0.131 LB A/A 3.0 LB/A	32.0 FL OZ/A 3.0 OZ WT/A 3.0 LB/A	32.0 FL OZ/A 3.0 OZ WT/A 3.0 LB/A	POST POST POST	B B B		33	0	0	0	0	0	5
7	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 LB A/A 0.56 LB AE/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A	PRE POST POST POST	A B B B		33	0	85	23	95	42	0
8	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 LB A/A 0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	PRE POST POST POST POST	A B B B B		31	0	90	18	95	38	3
9	Outlook Liberty AMS	6 1.67	EC SL DF	0.56 LB A/A 0.417 LB A/A 3.0 LB/A	12.0 FL OZ/A 32.0 FL OZ/A 3.0 LB/A	12.0 FL OZ/A 32.0 FL OZ/A 3.0 LB/A	PRE POST POST	A B B		32	0	87	18	95	37	3
10	Outlook Liberty Distinct AMS	6 1.67 70	EC SL WG DF	0.56 LB A/A 0.417 LB A/A 0.131 LB A/A 3.0 LB/A	12.0 FL OZ/A 32.0 FL OZ/A 3.0 OZ WT/A 3.0 LB/A	12.0 FL OZ/A 32.0 FL OZ/A 3.0 OZ WT/A 3.0 LB/A	PRE POST POST POST	A B B B		31	0	88	17	95	35	5
11	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 LB A/A 0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A	PRE LPOST LPOST LPOST LPOST	A C C C C		32	0	87	20	95	38	3
12	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 LB A/A 0.56 LB AE/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A	PRE LPOST LPOST LPOST	A C C C		31	0	85	20	95	35	0
LSD (P=.05)										1.7	0.0	2.3	10.6	0.0	5.6	2.9
Standard Deviation										1.0	0.0	1.4	6.3	0.0	3.3	1.7
CV										3.21	0.0	3.11	64.51	0.0	17.52	62.01

# Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-01-05	07-01-05	07-01-05	07-01-05	07-01-05	07-20-05	07-20-05	
Trt-Eval Interval									16 DA-B	16 DA-B	16 DA-B	16 DA-B	16 DA-B	32 DA-C	32 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 LB AE/A	22.0 FL OZ/A	3.0 LB/A	3.0 LB/A	POST POST	B B	0	99	98	93	99	0	95
3	Glyphomax Clarity NIS AMS	3 4	SL SL L DF	0.56 LB AE/A 0.25 LB A/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 8.0 FL OZ/A 0.25 % V/V 3.0 LB/A			POST POST POST POST	B B B B	10	98	98	93	99	0	92
4	Glyphomax Distinct NIS AMS	3 70	SL WG L DF	0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A			POST POST POST POST	B B B B	5	99	98	93	99	0	95
5	Liberty AMS	1.67	SL DF	0.417 LB A/A	32.0 FL OZ/A	3.0 LB/A	3.0 LB/A	POST POST	B B	0	99	96	92	96	0	93
6	Liberty Distinct AMS	1.67	SL WG DF	0.417 LB A/A	32.0 FL OZ/A	3.0 LB/A	3.0 LB/A	POST POST POST	B B B	5	99	98	92	98	0	93
7	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 LB A/A 0.56 LB AE/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A			PRE POST POST POST	A B B B	0	99	96	98	99	0	99
8	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 LB A/A 0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A			PRE POST POST POST POST POST	A B B B B B	3	99	99	99	99	0	99
9	Outlook Liberty AMS	6 1.67	EC SL DF	0.56 LB A/A	12.0 FL OZ/A	32.0 FL OZ/A	3.0 LB/A	PRE POST POST	A B B	0	99	95	98	98	0	99
10	Outlook Liberty Distinct AMS	6 1.67	EC SL WG DF	0.56 LB A/A	12.0 FL OZ/A	32.0 FL OZ/A	3.0 LB/A	PRE POST POST POST	A B B B	5	99	96	99	99	0	98
11	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 LB A/A 0.56 LB AE/A 0.131 LB A/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 3.0 OZ WT/A 0.25 % V/V 3.0 LB/A			PRE LPOST LPOST LPOST LPOST	A C C C C C	3	99	99	99	99	0	99
12	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 LB A/A 0.56 LB AE/A 0.25 % V/V 3.0 LB/A	12.0 FL OZ/A 24.0 FL OZ/A 0.25 % V/V 3.0 LB/A			PRE LPOST LPOST LPOST	A C C C	0	99	96	99	95	0	99
LSD (P=.05)										2.0	1.1	5.2	4.1	2.0	0.0	3.3
Standard Deviation										1.2	0.7	3.1	2.4	1.2	0.0	1.9
CV										45.66	0.74	3.43	2.78	1.32	0.0	2.2

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-20-05	07-20-05	07-20-05	09-22-05	09-22-05	09-22-05	09-22-05
Trt-Eval Interval										32 DA-C	32 DA-C	32 DA-C	96 DA-C	96 DA-C	96 DA-C	96 DA-C
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST	B	96	93	98	95	98	93	98
3	Glyphomax Clarity NIS AMS	3 4	SL SL L DF	0.56 0.25 0.25 3.0	LB AE/A A/A % V/V LB/A	24.0 8.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	POST POST POST POST	B B B B	98	92	99	90	98	92	99
4	Glyphomax Distinct NIS AMS	3 70	SL WG L DF	0.56 0.131 0.25 3.0	LB AE/A A/A % V/V LB/A	24.0 3.0 0.25 3.0	FL OZ/A OZ WT/A % V/V LB/A	POST POST POST POST	B B B B	98	93	99	95	98	95	99
5	Liberty AMS	1.67	SL DF	0.417	LB A/A	32.0	FL OZ/A	POST	B	96	90	95	93	95	88	92
6	Liberty Distinct AMS	1.67 70	SL WG DF	0.417 0.131 3.0	LB A/A A/A LB/A	32.0 3.0	FL OZ/A OZ WT/A LB/A	POST POST POST	B B B	98	92	98	93	98	92	96
7	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 0.56 0.25 3.0	LB A/A AE/A % V/V LB/A	12.0 24.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	PRE POST POST POST	A B B B	96	98	99	99	99	99	98
8	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 0.56 0.131 0.25 3.0	LB A/A AE/A A/A % V/V LB/A	12.0 24.0 3.0 0.25 3.0	FL OZ/A FL OZ/A OZ WT/A % V/V LB/A	PRE POST POST POST POST	A B B B B	99	99	99	99	99	99	99
9	Outlook Liberty AMS	6 1.67	EC SL DF	0.56 0.417 3.0	LB A/A A/A LB/A	12.0 32.0	FL OZ/A FL OZ/A LB/A	PRE POST POST	A B B	95	98	96	99	95	98	96
10	Outlook Liberty Distinct AMS	6 1.67 70	EC SL WG DF	0.56 0.417 0.131 3.0	LB A/A A/A A/A LB/A	12.0 32.0 3.0	FL OZ/A FL OZ/A OZ WT/A LB/A	PRE POST POST POST	A B B B	96	99	99	99	99	99	99
11	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 0.56 0.131 0.25 3.0	LB A/A AE/A A/A % V/V LB/A	12.0 24.0 3.0 0.25 3.0	FL OZ/A FL OZ/A OZ WT/A % V/V LB/A	PRE LPOST LPOST LPOST	A C C C	98	99	99	99	98	99	98
12	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 0.56 0.25 3.0	LB A/A AE/A % V/V LB/A	12.0 24.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	PRE LPOST LPOST LPOST	A C C C	98	99	95	99	98	99	95
LSD (P=.05)										4.8	3.3	3.9	2.8	3.6	3.8	5.2
Standard Deviation										2.8	1.9	2.3	1.7	2.2	2.3	3.0
CV										3.2	2.22	2.55	1.9	2.41	2.58	3.42

# Iowa State University

Weed Code										ZEAMD
Rating Data Type										YIELD
Rating Unit										BU/A
Rating Date										11-04-05
Trt-Eval Interval										164 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									192
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 3.0	LB AE/A LB/A	22.0 3.0	FL OZ/A LB/A	POST POST	B B	199
3	Glyphomax Clarity NIS AMS	3 4	SL SL L DF	0.56 0.25 0.25 3.0	LB AE/A LB A/A % V/V LB/A	24.0 8.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	POST POST POST POST	B B B B	218
4	Glyphomax Distinct NIS AMS	3 70	SL WG L DF	0.56 0.131 0.25 3.0	LB AE/A LB A/A % V/V LB/A	24.0 3.0 0.25 3.0	FL OZ/A OZ WT/A % V/V LB/A	POST POST POST POST	B B B B	226
5	Liberty AMS	1.67	SL DF	0.417 3.0	LB A/A LB/A	32.0 3.0	FL OZ/A LB/A	POST POST	B B	242
6	Liberty Distinct AMS	1.67 70	SL WG DF	0.417 0.131 3.0	LB A/A LB A/A LB/A	32.0 3.0 3.0	FL OZ/A OZ WT/A LB/A	POST POST POST	B B B	211
7	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 0.56 0.25 3.0	LB A/A LB AE/A % V/V LB/A	12.0 24.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	PRE POST POST POST	A B B B	250
8	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 0.56 0.131 0.25 3.0	LB A/A LB AE/A LB A/A % V/V LB/A	12.0 24.0 3.0 0.25 3.0	FL OZ/A FL OZ/A OZ WT/A % V/V LB/A	PRE POST POST POST POST	A B B B B	243
9	Outlook Liberty AMS	6 1.67	EC SL DF	0.56 0.417 3.0	LB A/A LB A/A LB/A	12.0 32.0 3.0	FL OZ/A FL OZ/A LB/A	PRE POST POST	A B B	246
10	Outlook Liberty Distinct AMS	6 1.67 70	EC SL WG DF	0.56 0.417 0.131 3.0	LB A/A LB A/A LB A/A LB/A	12.0 32.0 3.0 3.0	FL OZ/A FL OZ/A OZ WT/A LB/A	PRE POST POST POST	A B B B	239
11	Outlook Glyphomax Distinct NIS AMS	6 3 70	EC SL WG L DF	0.56 0.56 0.131 0.25 3.0	LB A/A LB AE/A LB A/A % V/V LB/A	12.0 24.0 3.0 0.25 3.0	FL OZ/A FL OZ/A OZ WT/A % V/V LB/A	PRE LPOST LPOST LPOST LPOST	A C C C C	217
12	Outlook Glyphomax NIS AMS	6 3	EC SL L DF	0.56 0.56 0.25 3.0	LB A/A LB AE/A % V/V LB/A	12.0 24.0 0.25 3.0	FL OZ/A FL OZ/A % V/V LB/A	PRE LPOST LPOST LPOST	A C C C	241
LSD (P=.05)										45.0
Standard Deviation										26.6
CV										11.71

# Iowa State University

**Preemergence applied Define and postemergence applied Liberty, Option, Callisto, Buctril plus Atrazine and others in corn, Ames, IA, 2005.**

Trial ID: ACC 21

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-23-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied Define followed by postemergence Buctril plus Atrazine plus Callisto and postemergence Liberty, Callisto, Option and Atrazine for crop phytotoxicity and weed control in corn.

**Conclusions:** Differences in corn stand between treatments were not significant. MPOST applied Option plus Callisto resulted in 20% corn injury when observed on June 24, seven days after application. Injury from remaining MPOST treatments ranged from 0 to 13%. On July 1 and July 22, corn injury persisted with many treatments, although, it was generally not considered serious.

Giant and yellow foxtail, velvetleaf, and common waterhemp control was good to excellent with the PRE plus MPOST and MPOST treatments when observed on July 1. Similar giant and green foxtail, velvetleaf, common waterhemp and common lambsquarters control was observed with the treatments on July 22. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	SETLU	FOXTAIL, YELLOW	SETARIA LUTESCENS (WEIG. EX STUNTZ) HUBB
3.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
4.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD

Variety: PIONEER 31G96

Planting Date: 05-23-05

Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-24-05	06-17-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	MPOST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	77 F	81 F
% Relative Humidity:	38	31
Wind Velocity, Unit:	3 MPH	0 MPH
Soil Temp., Unit:	71 F	73 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	0

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 5
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 4T
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-3 FT2
Weed 2 Code, Stage:	SETLU -	SETLU 1-4 L, 4T
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2
Weed 3 Code, Stage:	ABUTH -	ABUTH COTYL-6 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	AMATA -	AMATA COTYL-NUM
Stage Scale:	-	0.25-6 IN
Density, Unit:	- -	0-3 FT2
Weed 5 Code, Stage:	CHEAL -	CHEAL COTYL-NUM
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Define and postemergence applied Liberty, Option, Callisto, Buctril plus Atrazine and others in corn, Ames, IA, 2005.**

Trial ID: ACC 21

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	ZEAMD	SETFA	SETLU	ABUTH	AMATA
Rating Data Type										STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-24-05	06-24-05	07-01-05	07-01-05	07-01-05	07-01-05	07-01-05
Trt-Eval Interval										31 DA-A	7 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									31	0	0	0	0	0	0
2	AE F039866 00 SL18 L4	1.67	SL	0.26	LB A/A	20	FL OZ/A	MPOST B		31	5	5	99	95	99	98
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
3	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST B		32	20	8	93	88	98	90
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST B								
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST B								
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST B								
4	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		32	3	0	99	95	99	95
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
5	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		30	0	0	99	95	98	96
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
6	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		30	2	2	99	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
7	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		30	0	0	99	95	99	96
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
8	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		30	2	0	99	95	99	98
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
9	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		31	2	2	99	95	99	99
	Callisto	4	SC	0.0625	LB A/A	2.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
10	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		31	5	5	99	95	99	96
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
11	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		31	5	0	96	98	99	99
	Buctril + Atrazine	3	SC	0.56	LB A/A	1.5	PT/A	MPOST B								
12	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		31	7	2	95	96	99	99
	Buctril + Atrazine	3	SC	0.56	LB A/A	1.5	PT/A	MPOST B								
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
13	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		30	13	8	95	96	99	99
	Buctril	4	EC	0.5	LB A/A	1.0	PT/A	MPOST B								
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
LSD (P=.05)										2.2	3.1	2.8	1.8	3.6	1.5	3.2
Standard Deviation										1.3	1.9	1.7	1.1	2.2	0.9	1.9
CV										4.28	38.25	68.42	1.18	2.45	0.95	2.1

# Iowa State University

Weed Code										CHEAL	ZEAMD	SETFA	SETLU	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-01-05	07-22-05	07-22-05	07-22-05	07-22-05	07-22-05	07-22-05
Trt-Eval Interval										14 DA-B	35 DA-B	35 DA-B	35 DA-B	35 DA-B	35 DA-B	35 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	AE F039866 00 SL18 L4	1.67	SL	0.26	LB A/A	20	FL OZ/A	MPOST B		99	5	95	95	99	99	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
3	Option	35	WG	0.0328	LB A/A	1.5	OZ WT/A	MPOST B		99	0	95	92	99	93	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST B								
	MSO		L	1.5	PT/A	1.5	PT/A	MPOST B								
	AMS		DF	1.5	LB/A	1.5	LB/A	MPOST B								
4	Liberty	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		95	0	95	95	99	93	93
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
5	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		98	0	95	95	98	95	95
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
6	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		99	0	96	98	99	99	99
	Atrazine	4	SL	1.0	LB A/A	1.0	QT/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
7	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		99	0	95	95	99	96	99
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
8	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		99	0	95	95	99	96	99
	Callisto	4	SC	0.047	LB A/A	1.5	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
9	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		99	5	93	95	99	99	99
	Callisto	4	SC	0.0625	LB A/A	2.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
10	AE F039866 00 SL18 L4	1.67	SL	0.417	LB A/A	32.0	FL OZ/A	MPOST B		99	5	95	95	99	96	99
	Callisto	4	SC	0.094	LB A/A	3.0	FL OZ/A	MPOST B								
	AMS		DF	3.0	LB/A	3.0	LB/A	MPOST B								
11	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		99	0	96	96	98	99	99
	Buctril + Atrazine	3	SC	0.56	LB A/A	1.5	PT/A	MPOST B								
12	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		99	0	95	95	99	99	98
	Buctril + Atrazine	3	SC	0.56	LB A/A	1.5	PT/A	MPOST B								
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
13	Define SC	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE A		99	0	95	95	99	99	99
	Buctril	4	EC	0.5	LB A/A	1.0	PT/A	MPOST B								
	Callisto	4	SC	0.0312	LB A/A	1.0	FL OZ/A	MPOST B								
LSD (P=.05)										1.1	0.0	1.9	2.1	1.6	2.8	1.8
Standard Deviation										0.6	0.0	1.1	1.2	0.9	1.6	1.0
CV										0.7	0.0	1.3	1.42	1.01	1.82	1.16

# Iowa State University

## Preemergence applied MANA-Ace, Surpass, Harness, and Degree in corn, Ames, IA, 2005.

Trial ID: ACC 22

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-24-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this corn study was to determine the potential for crop phytotoxicity and weed efficacy of preemergence applied MANA-Ace, Surpass, Harness, and Degree.

**Conclusions:** Significant differences were determined in corn stand between several treatments. Differences were attributable to planting rate variability and not herbicide treatment. PRE and POST applied treatments demonstrated excellent crop safety. PRE treatments provided 82 to 95% giant foxtail control when observed on June 15. Control of giant foxtail was rate responsive with highest rates achieving the best control. No significant differences in control were observed when comparing herbicides and rates. PRE treatments provided 95 to 99% common waterhemp control on June 15. On July 25, giant foxtail and common waterhemp control from the treatments reflected the observations made on June 15. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-24-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

### SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-24-05	06-22-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	77 F	79 F
% Relative Humidity:	38	61
Wind Velocity, Unit:	3 MPH	3 MPH
Soil Temp., Unit:	71 F	68 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	20

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5
Stage Scale:	-	DESC
Height, Unit:	-	9 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 LEAF
Stage Scale:	-	0.25-2 IN
Density, Unit:	- -	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-6 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL 2-NUM
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

## Preemergence applied MANA-Ace, Surpass, Harness, and Degree in corn, Ames, IA, 2005.

Trial ID: ACC 22

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									ZEAMD	ZEAMD	SETFA	AMATA	ZEAMD	SETFA	AMATA	ZEAMD	
Rating Data Type									STAND	PHYTO	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	PHYTO	
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-27-05	06-15-05	06-15-05	06-15-05	07-01-05	07-01-05	07-01-05	07-25-05	
Trt-Eval Interval									34 DA-A	22 DA-A	22 DA-A	22 DA-A	38 DA-A	38 DA-A	38 DA-A	62 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									30	0	0	0	0	0	0	0
2	MANA-Ace Basagran 28% UAN	6.4 4 L	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	1.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	31	0	85	95	0	83	95	0
3	MANA-Ace Basagran 28% UAN	6.4 4 L	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	1.5 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	30	0	87	99	0	87	96	0
4	MANA-Ace Basagran 28% UAN	6.4 4 L	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	3.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	30	0	93	99	0	93	98	0
5	Surpass Basagran 28% UAN	6.4 4 L	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	1.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	32	0	85	95	0	83	95	0
6	Surpass Basagran 28% UAN	6.4 4 L	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	1.5 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	31	0	87	95	0	87	95	0
7	Surpass Basagran 28% UAN	6.4 4 L	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	3.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	31	0	95	99	0	93	98	0
8	Harness Basagran 28% UAN	7 4 L	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	14.6 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	30	0	85	96	0	83	93	0
9	Harness Basagran 28% UAN	7 4 L	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	22.0 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	29	0	87	98	0	87	95	0
10	Harness Basagran 28% UAN	7 4 L	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	2.75 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	31	0	92	99	0	92	96	0
11	Degree Basagran 28% UAN	3.8 4 L	CS SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	27.0 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	31	0	82	95	0	82	95	0
12	Degree Basagran 28% UAN	3.8 4 L	CS SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	40.5 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	32	0	87	96	0	85	95	0
13	Degree Basagran 28% UAN	3.8 4 L	CS SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	5.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	30	0	93	99	0	93	96	0
LSD (P=.05)									1.9	0.0	3.4	1.8	0.0	4.0	2.7	0.0	
Standard Deviation									1.1	0.0	2.0	1.1	0.0	2.3	1.6	0.0	
CV									3.7	0.0	2.48	1.22	0.0	2.91	1.81	0.0	

# Iowa State University

Weed Code									SETFA	AMATA	
Rating Data Type									CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	
Rating Date									07-25-05	07-25-05	
Trt-Eval Interval									62 DA-A	62 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code		
1	Untreated									0	0
2	MANA-Ace Basagran 28% UAN	6.4 4	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	1.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	82	95
3	MANA-Ace Basagran 28% UAN	6.4 4	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	1.5 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	83	96
4	MANA-Ace Basagran 28% UAN	6.4 4	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	3.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	90	98
5	Surpass Basagran 28% UAN	6.4 4	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	1.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	82	95
6	Surpass Basagran 28% UAN	6.4 4	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	1.5 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	85	95
7	Surpass Basagran 28% UAN	6.4 4	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	3.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	93	98
8	Harness Basagran 28% UAN	7 4	EC SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	14.6 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	80	93
9	Harness Basagran 28% UAN	7 4	EC SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	22.0 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	82	95
10	Harness Basagran 28% UAN	7 4	EC SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	2.75 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	90	96
11	Degree Basagran 28% UAN	3.8 4	CS SL L	0.8 1.0 2.0	LB A/A LB A/A QT/A	27.0 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	77	95
12	Degree Basagran 28% UAN	3.8 4	CS SL L	1.2 1.0 2.0	LB A/A LB A/A QT/A	40.5 1.0 2.0	FL OZ/A QT/A QT/A	PRE POST POST	A B B	83	95
13	Degree Basagran 28% UAN	3.8 4	CS SL L	2.4 1.0 2.0	LB A/A LB A/A QT/A	5.0 1.0 2.0	PT/A QT/A QT/A	PRE POST POST	A B B	88	96
LSD (P=.05)									5.3	2.7	
Standard Deviation									3.1	1.6	
CV									3.99	1.81	

# Iowa State University

**Preemergence applied prepackaged Ace plus Atrazine and Degree Xtra, and tank-mixtures of MANA-Ace and Degree with Atrazine in corn, Ames, IA, 2005.**

Trial ID: ACC 23

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-24-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this corn study was to determine the crop phytotoxicity potential and weed efficacy from preemergence applied prepackaged Ace plus Atrazine and Degree Xtra. Tank-mixture treatments of MANA-Ace plus Atrazine and Degree plus Atrazine were also evaluated.

**Conclusions:** Significant differences in corn stand were determined between several treatments. Differences were attributable to planting rate variability and not herbicide treatment. No corn injury was evident on any observation date from the PRE treatments. The lowest rate of each PRE applied herbicide treatment did not provide acceptable giant foxtail control when observed on June 18, twenty-five days after application. Remaining treatments provided good to excellent giant foxtail control on June 18. Common waterhemp and common lambsquarters control was good to excellent with the treatments on June 18. On July 5, 28, and August 22, the treatments showed similar trends in giant foxtail, common waterhemp, and common lambsquarters control. Generally, the control of these species by the treatments declined as the season progressed. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD

Variety: DEKALB DKC 53-34

Planting Date: 05-24-05

Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A

Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

## APPLICATION DESCRIPTION

	A
Application Date:	05-24-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	77 F
% Relative Humidity:	38
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	71 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	0

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

## Iowa State University

Preemergence applied prepackaged Ace plus Atrazine and Degree Xtra, and tank-mixtures of MANA-Ace and Degree with Atrazine in corn, Ames, IA, 2005.

Trial ID: ACC 23

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	AMATA	CHEAL	ZEAMD	SETFA	AMATA	
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-27-05	06-18-05	06-18-05	06-18-05	06-18-05	07-05-05	07-05-05	07-05-05	
Trt-Eval Interval								34 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	42 DA-A	42 DA-A	42 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Stg	Appl Code								
1	Untreated								31	0	0	0	0	0	0	0
2	Ace+Atraz	5.28 L		1.14 LB A/A	0.86 QT/A		PRE A		31	0	78	93	90	0	78	90
3	Ace+Atraz	5.28 L		2.26 LB A/A	1.71 QT/A		PRE A		30	0	92	98	99	0	90	96
4	Ace+Atraz	5.28 L		3.4 LB A/A	2.57 QT/A		PRE A		31	0	94	99	99	0	93	99
5	Ace+Atraz	5.28 L		4.53 LB A/A	3.43 QT/A		PRE A		32	0	98	99	99	0	96	98
6	Degree Xtra	4.04 CS		1.12 LB A/A	1.11 QT/A		PRE A		31	0	77	98	98	0	77	98
7	Degree Xtra	4.04 CS		2.24 LB A/A	2.22 QT/A		PRE A		33	0	90	99	99	0	90	98
8	Degree Xtra	4.04 CS		3.36 LB A/A	3.33 QT/A		PRE A		32	0	90	99	99	0	90	99
9	Degree Xtra	4.04 CS		4.5 LB A/A	4.44 QT/A		PRE A		31	0	95	99	99	0	95	99
10	MANA-Ace Atrazine	6.4 EC 4 SL		0.75 LB A/A 0.375 LB A/A	0.47 QT/A 0.375 QT/A		PRE A PRE A		31	0	78	93	87	0	78	92
11	MANA-Ace Atrazine	6.4 EC 4 SL		3.0 LB A/A 1.5 LB A/A	1.88 QT/A 1.5 QT/A		PRE A PRE A		32	0	95	99	99	0	95	99
12	Degree Atrazine	3.8 CS 4 SL		0.75 LB A/A 0.375 LB A/A	0.79 QT/A 0.375 QT/A		PRE A PRE A		31	0	68	98	96	0	68	93
13	Degree Atrazine	3.8 CS 4 SL		3.0 LB A/A 1.5 LB A/A	3.16 QT/A 1.5 QT/A		PRE A PRE A		32	0	95	99	99	0	95	99
LSD (P=.05)									1.7	0.0	6.8	2.6	5.6	0.0	6.9	3.0
Standard Deviation									1.0	0.0	4.1	1.6	3.3	0.0	4.1	1.8
CV									3.14	0.0	5.02	1.73	3.72	0.0	5.08	1.97

# Iowa State University

Weed Code										CHEAL	ZEAMD	SETFA	AMATA	CHEAL	SETFA	AMATA	CHEAL
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-05-05	07-28-05	07-28-05	07-28-05	07-28-05	08-22-05	08-22-05	08-22-05
Trt-Eval Interval										42 DA-A	65 DA-A	65 DA-A	65 DA-A	65 DA-A	90 DA-A	90 DA-A	90 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Ace+Atraz	5.28	L	1.14	LB A/A	0.86	QT/A	PRE	A	90	0	78	90	90	77	90	92
3	Ace+Atraz	5.28	L	2.26	LB A/A	1.71	QT/A	PRE	A	98	0	90	96	98	88	95	98
4	Ace+Atraz	5.28	L	3.4	LB A/A	2.57	QT/A	PRE	A	99	0	93	99	99	93	99	99
5	Ace+Atraz	5.28	L	4.53	LB A/A	3.43	QT/A	PRE	A	99	0	95	98	99	95	98	99
6	Degree Xtra	4.04	CS	1.12	LB A/A	1.11	QT/A	PRE	A	95	0	77	98	95	75	98	90
7	Degree Xtra	4.04	CS	2.24	LB A/A	2.22	QT/A	PRE	A	99	0	87	98	99	85	96	99
8	Degree Xtra	4.04	CS	3.36	LB A/A	3.33	QT/A	PRE	A	99	0	90	99	99	90	99	99
9	Degree Xtra	4.04	CS	4.5	LB A/A	4.44	QT/A	PRE	A	99	0	95	99	99	95	99	99
10	MANA-Ace Atrazine	6.4 4	EC SL	0.75 0.375	LB A/A LB A/A	0.47 0.375	QT/A QT/A	PRE PRE	A A	87	0	78	92	87	78	90	85
11	MANA-Ace Atrazine	6.4 4	EC SL	3.0 1.5	LB A/A LB A/A	1.88 1.5	QT/A QT/A	PRE PRE	A A	99	0	93	99	99	93	99	99
12	Degree Atrazine	3.8 4	CS SL	0.75 0.375	LB A/A LB A/A	0.79 0.375	QT/A QT/A	PRE PRE	A A	93	0	67	93	92	67	93	92
13	Degree Atrazine	3.8 4	CS SL	3.0 1.5	LB A/A LB A/A	3.16 1.5	QT/A QT/A	PRE PRE	A A	99	0	95	99	99	93	99	99
LSD (P=.05)										5.6	0.0	6.5	3.0	5.6	6.6	4.0	7.8
Standard Deviation										3.3	0.0	3.9	1.8	3.3	3.9	2.4	4.6
CV										3.73	0.0	4.86	1.97	3.74	4.93	2.66	5.26

# Iowa State University

**Preemergence applied Guardsman Max in various tank-mixtures and early postemergence Guardsman Max, Outlook, Marksman and others in corn, Ames, IA, 2005.**

Trial ID: ACC 24

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-24-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate various preemergence applied herbicides including Guardsman Max, Balance Pro, Hornet WDG, Lexar and Lumax for crop phytotoxicity, weed efficacy, and corn yield. Spike to early postemergence applications of Guardsman Max tank-mixed with Clarity or Hornet WDG, Outlook plus Marksman or Hornet WDG, Lexar and Lumax were also evaluated.

**Conclusions:** Corn stand differences were not significant between treatments. A few PRE and SPIKE applied treatments caused minimal corn injury when observed on June 17. PRE and SPIKE treatments provided good to excellent giant foxtail, velvetleaf, common waterhemp, and common lambsquarters control when observed on June 17, July 5, and July 29. A few significant differences were determined between treatments in giant foxtail and velvetleaf control. No significant differences were observed between treatments for common waterhemp and common lambsquarters control. Corn yields ranged from 201 to 232 bu/A with significant differences determined between some treatments. All treatments resulted in significantly higher corn yields than the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

## CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-24-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-24-05	05-31-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	SPIKE
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	77 F	69 F
% Relative Humidity:	38	61
Wind Velocity, Unit:	3 MPH	2 MPH
Soil Temp., Unit:	71 F	64 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	0	100

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD SPIKE
Stage Scale:	-	DESC
Height, Unit:	-	0.75 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1 LEAF
Stage Scale:	-	0.25 IN
Density, Unit:	- -	0-1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYLEDON
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA COTYLEDON
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL COTYLEDON
Stage Scale:	-	0.25 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Guardsman Max in various tank-mixtures and early postemergence Guardsman Max, Outlook, Marksman and others in corn, Ames, IA, 2005.**

Trial ID: ACC 24 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-24-05	06-10-05	06-17-05	06-17-05	06-17-05	06-17-05	06-17-05	07-05-05	
Trt-Eval Interval								31 DA-A	10 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	35 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated								30	0	0	0	0	0	0	0
2	Guardsman Max	5 SC		2.8 LB A/A	4.5 PT/A		PRE	A	31	0	0	95	90	99	99	0
3	Guardsman Max Balance Pro	5 SC 4 SC		2.8 LB A/A 0.047 LB A/A	4.5 PT/A 1.5 FL OZ/A		PRE PRE	A A	31	0	0	95	98	99	99	0
4	Guardsman Max Hornet WDG	5 SC 68.5 WG		2.8 LB A/A 0.171 LB AE/A	4.5 PT/A 4.0 OZ WT/A		PRE PRE	A A	31	0	0	95	99	99	99	0
5	Lexar	3.7 SE		3.24 LB A/A	3.5 QT/A		PRE	A	31	0	2	92	99	99	99	0
6	Lumax	3.95 SE		2.96 LB A/A	3.0 QT/A		PRE	A	32	0	0	92	99	99	99	0
7	Outlook Marksman	6 EC 3.2 FL		0.98 LB A/A 1.4 LB A/A	21.0 FL OZ/A 3.5 PT/A		SPIKE SPIKE	B B	31	0	0	98	96	99	99	0
8	Outlook Hornet WDG	6 EC 68.5 WG		0.98 LB A/A 0.171 LB AE/A	21.0 FL OZ/A 4.0 OZ WT/A		SPIKE SPIKE	B B	31	0	0	96	93	99	99	0
9	Guardsman Max Clarity	5 SC 4 SL		2.8 LB A/A 0.5 LB A/A	4.5 PT/A 1.0 PT/A		SPIKE SPIKE	B B	31	0	2	99	98	99	99	0
10	Guardsman Max Hornet WDG	5 SC 68.5 WG		2.8 LB A/A 0.171 LB AE/A	4.5 PT/A 4.0 OZ WT/A		SPIKE SPIKE	B B	32	0	0	99	99	99	99	0
11	Lexar	3.7 SE		3.24 LB A/A	3.5 QT/A		SPIKE	B	32	0	2	99	99	99	99	0
12	Lumax	3.95 SE		2.96 LB A/A	3.0 QT/A		SPIKE	B	31	0	2	99	99	99	99	0
LSD (P=.05)									1.9	0.0	2.9	2.5	6.1	0.0	0.0	0.0
Standard Deviation									1.2	0.0	1.7	1.5	3.6	0.0	0.0	0.0
CV									3.69	0.0	310.06	1.65	4.07	0.0	0.0	0.0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-05-05	07-05-05	07-05-05	07-05-05	07-29-05	07-29-05	07-29-05
Trt-Eval Interval										35 DA-B	35 DA-B	35 DA-B	35 DA-B	59 DA-B	59 DA-B	59 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Guardsman Max	5	SC	2.8	LB A/A	4.5	PT/A	PRE	A	95	90	98	99	0	92	87
3	Guardsman Max Balance Pro	5 4	SC	2.8 0.047	LB A/A	4.5 1.5	PT/A FL OZ/A	PRE PRE	A A	95	98	99	99	0	96	98
4	Guardsman Max Hornet WDG	5 68.5	SC WG	2.8 0.171	LB A/A LB AE/A	4.5 4.0	PT/A OZ WT/A	PRE PRE	A A	95	96	99	99	0	92	96
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	92	99	99	99	0	90	99
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	92	99	99	99	0	90	99
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A	21.0 3.5	FL OZ/A PT/A	SPIKE SPIKE	B B	98	96	99	99	0	96	96
8	Outlook Hornet WDG	6 68.5	EC WG	0.98 0.171	LB A/A LB AE/A	21.0 4.0	FL OZ/A OZ WT/A	SPIKE SPIKE	B B	92	90	99	99	0	90	88
9	Guardsman Max Clarity	5 4	SC SL	2.8 0.5	LB A/A	4.5 1.0	PT/A PT/A	SPIKE SPIKE	B B	99	98	99	99	0	99	98
10	Guardsman Max Hornet WDG	5 68.5	SC WG	2.8 0.171	LB A/A LB AE/A	4.5 4.0	PT/A OZ WT/A	SPIKE SPIKE	B B	99	99	99	99	0	99	99
11	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	SPIKE	B	98	99	99	99	0	98	99
12	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	SPIKE	B	99	99	99	99	0	98	99
LSD (P=.05)										2.9	5.9	1.1	0.0	0.0	3.0	6.1
Standard Deviation										1.7	3.5	0.7	0.0	0.0	1.8	3.6
CV										1.98	3.94	0.74	0.0	0.0	2.07	4.11

## Iowa State University

Weed Code										AMATA	CHEAL	ZEAMD
Rating Data Type										CONTROL	CONTROL	YIELD
Rating Unit										PERCENT	PERCENT	BU/A
Rating Date										07-29-05	07-29-05	10-14-05
Trt-Eval Interval										59 DA-B	59 DA-B	143 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	145
2	Guardsman Max	5	SC	2.8	LB A/A	4.5	PT/A	PRE	A	98	99	210
3	Guardsman Max Balance Pro	5 4	SC SC	2.8 0.047	LB A/A LB A/A	4.5 1.5	PT/A FL OZ/A	PRE PRE	A A	99	99	232
4	Guardsman Max Hornet WDG	5 68.5	SC WG	2.8 0.171	LB A/A LB AE/A	4.5 4.0	PT/A OZ WT/A	PRE PRE	A A	99	99	209
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	205
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	216
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	SPIKE SPIKE	B B	99	99	224
8	Outlook Hornet WDG	6 68.5	EC WG	0.98 0.171	LB A/A LB AE/A	21.0 4.0	FL OZ/A OZ WT/A	SPIKE SPIKE	B B	99	99	209
9	Guardsman Max Clarity	5 4	SC SL	2.8 0.5	LB A/A LB A/A	4.5 1.0	PT/A PT/A	SPIKE SPIKE	B B	99	99	228
10	Guardsman Max Hornet WDG	5 68.5	SC WG	2.8 0.171	LB A/A LB AE/A	4.5 4.0	PT/A OZ WT/A	SPIKE SPIKE	B B	99	99	221
11	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	SPIKE	B	99	99	231
12	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	SPIKE	B	99	99	201
LSD (P=.05)										1.1	0.0	22.6
Standard Deviation										0.7	0.0	13.3
CV										0.74	0.0	6.31

# Iowa State University

**Preemergence applied MANA-283, MANA-284, and Bicep II Magnum in corn, Ames, IA, 2005.**

Trial ID: ACC 25

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

## GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

## TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010

Initiation Date: 05-24-05

Country: USA

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

**Objective:** The purpose of this corn study was to determine the crop phytotoxicity potential and weed efficacy from preemergence applied prepackaged MANA-283, MAN-284, and Bicep II Magnum.

**Conclusions:** No significant differences between treatments in corn stand were determined. PRE treatments demonstrated excellent crop safety on all observation dates. The lowest two rates of each PRE applied herbicide treatment provided only fair giant foxtail control when observed on June 24, thirty-one days after application. In general, good to excellent giant foxtail control was provided by the remaining treatments. Velvetleaf control was generally poor to fair on June 18, while common waterhemp control was good to excellent. On July 1, 26, and August 15, similar trends in giant foxtail, velvetleaf, and common waterhemp control were observed. Generally, the control of these species declined as the season progressed. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 53-34

Planting Date: 05-24-05 Planting Method: DIRECT DRILLED

Rate: 30200 SEEDS/A Depth: 1.5 IN

Row Spacing: 30 IN

Seed Bed: FINE/TRASHY

## SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3

Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	GLYSTAR PLUS	2004

## MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 125 lb/A actual N applied as urea. Crop residue on the soil surface was 20 to 25% at planting.

## SOIL DESCRIPTION

% OM: 4.4 Texture: WEBSTER CLAY LOAM

pH: 6.2 Soil Name: CLARION, NICOLLET, WEBSTER

Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

## APPLICATION DESCRIPTION

	A
Application Date:	05-24-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOL
Air Temp., Unit:	77 F
% Relative Humidity:	38
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	71 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	0

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

**Preemergence applied MANA-283, MANA-284, and Bicep II Magnum in corn, Ames, IA, 2005.**

Trial ID: ACC 25

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	ZEAMD	SETFA	ABUTH		
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL		
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								06-24-05	06-24-05	06-24-05	06-24-05	06-24-05	07-01-05	07-01-05	07-01-05		
Trt-Eval Interval								31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	38 DA-A	38 DA-A	38 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Product Rate	Product Rate	Grow Stg	Appl Code									
1	Untreated								31	0	0	0	0	0	0	0	
2	MANA-283	5.97 L		1.84 LB A/A	1.23 QT/A		PRE A		32	0	62	37	92	0	60	35	
3	MANA-283	5.97 L		2.75 LB A/A	1.84 QT/A		PRE A		31	0	78	48	96	0	77	43	
4	MANA-283	5.97 L		3.67 LB A/A	2.46 QT/A		PRE A		30	0	83	57	96	0	83	52	
5	MANA-284	5.5 L		1.77 LB A/A	1.29 QT/A		PRE A		32	0	63	40	92	0	62	38	
6	MANA-284	5.5 L		2.67 LB A/A	1.94 QT/A		PRE A		31	0	73	45	95	0	73	40	
7	MANA-284	5.5 L		3.55 LB A/A	2.58 QT/A		PRE A		32	0	87	62	99	0	83	57	
8	Bicep II Magnum	5.5 L		1.53 LB A/A	1.11 QT/A		PRE A		31	0	62	38	95	0	58	37	
9	Bicep II Magnum	5.5 L		2.3 LB A/A	1.67 QT/A		PRE A		31	0	68	45	95	0	67	43	
10	Bicep II Magnum	5.5 L		3.44 LB A/A	2.5 QT/A		PRE A		32	0	87	65	99	0	87	62	
11	Bicep II Magnum	5.5 L		4.6 LB A/A	3.34 QT/A		PRE A		32	0	95	75	99	0	93	75	
LSD (P=.05)								1.6	0.0	9.3	10.7	3.9	0.0	8.5	11.7		
Standard Deviation								0.9	0.0	5.5	6.3	2.3	0.0	5.0	6.9		
CV								2.99	0.0	7.93	13.52	2.62	0.0	7.39	15.71		

# Iowa State University

Weed Code									AMATA	SETFA	ABUTH	AMATA	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-01-05	07-26-05	07-26-05	07-26-05	08-15-05	08-26-05	08-26-05	
Trt-Eval Interval									38 DA-A	63 DA-A	63 DA-A	63 DA-A	83 DA-A	94 DA-A	94 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	MANA-283	5.97	L	1.84	LB A/A	1.23	QT/A	PRE	A	92	60	33	92	55	33	92
3	MANA-283	5.97	L	2.75	LB A/A	1.84	QT/A	PRE	A	96	77	40	96	75	38	96
4	MANA-283	5.97	L	3.67	LB A/A	2.46	QT/A	PRE	A	95	82	43	95	78	43	95
5	MANA-284	5.5	L	1.77	LB A/A	1.29	QT/A	PRE	A	92	62	35	92	55	33	92
6	MANA-284	5.5	L	2.67	LB A/A	1.94	QT/A	PRE	A	93	72	40	93	68	40	93
7	MANA-284	5.5	L	3.55	LB A/A	2.58	QT/A	PRE	A	96	80	52	95	78	50	95
8	Bicep II Magnum	5.5	L	1.53	LB A/A	1.11	QT/A	PRE	A	92	57	33	92	52	30	92
9	Bicep II Magnum	5.5	L	2.3	LB A/A	1.67	QT/A	PRE	A	92	63	40	92	58	38	92
10	Bicep II Magnum	5.5	L	3.44	LB A/A	2.5	QT/A	PRE	A	99	85	55	99	83	48	99
11	Bicep II Magnum	5.5	L	4.6	LB A/A	3.34	QT/A	PRE	A	98	90	70	98	90	67	98
LSD (P=.05)									3.6	10.5	10.5	3.5	10.4	10.4	3.5	
Standard Deviation									2.1	6.2	6.2	2.1	6.1	6.1	2.1	
CV									2.46	9.34	15.36	2.43	9.71	15.89	2.43	

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum and Harness for shattercane control in corn, Ames, IA, 2005.

Trial ID: shc 1  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 04-21-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applications of KIH-485, Dual II Magnum and Harness for crop phytotoxicity and shattercane control in corn.  
**Conclusions:** Differences in corn stand between treatments were not significant. No corn injury was observed on any observation dates from the treatments. Shattercane control with KIH-485 was rate responsive. Although poor control was observed on May 16, twenty-five days after application, treatment differences were apparent. KIH-485 activity increased with time and when observed on May 30 and June 30, control was fair to good. The lowest rate of 5.87 oz wt/A provided 78% control on June 30, while the highest rate of 8.3 oz wt/A provided 88% control. Dual II Magnum and Harness failed to provide acceptable shattercane control on any observation date. Velvetleaf control with KIH-485 was also rate responsive. Control ranged from 77 to 93%; the middle and highest KIH-485 rates providing fair to good control on each observation date. Dual II Magnum and Harness demonstrated little activity on velvetleaf. Common lambsquarters control was good to excellent with all treatments, except Dual II Magnum, and did not respond to higher KIH-485 rates. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8575  
Planting Date: 04-18-05 Planting Method: DIRECT DRILLED  
Rate: 30500 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN	NONE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included spring disking. Fertilization included 125 lbs/A actual N applied as urea. Crop residue on the soil surface was 10% at planting.

### SOIL DESCRIPTION

% OM: 3.5 Texture: WEBSTER CLAY LOAM  
pH: 5.9 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	04-21-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROFOL
Air Temp., Unit:	58 F
% Relative Humidity:	57
Wind Velocity, Unit:	7 MPH
Soil Temp., Unit:	57 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	100

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	35
Nozzle Size:	11003
Spray Volume, Unit:	20 GPA

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum and Harness for shattercane control in corn, Ames, IA, 2005.

Trial ID: shc 1  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	SORVU	ABUTH	CHEAL	ZEAMD	SORVU	ABUTH
Rating Data Type										STAND	PHYTO	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-08-05	05-16-05	05-16-05	05-16-05	05-16-05	05-30-05	05-30-05	05-30-05
Trt-Eval Interval										109 DA-A	25 DA-A	25 DA-A	25 DA-A	25 DA-A	39 DA-A	39 DA-A	39 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									28	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.223	LB A/A	5.87	OZ WT/A	PRE	A	30	0	30	77	96	0	83	87
3	KIH-485	60	WG	0.267	LB A/A	7.2	OZ WT/A	PRE	A	29	0	45	85	96	0	87	88
4	KIH-485	60	WG	0.312	LB A/A	8.3	OZ WT/A	PRE	A	29	0	48	90	96	0	88	93
5	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	29	0	37	28	58	0	45	28
6	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	28	0	47	30	92	0	55	28
LSD (P=.05)										2.4	0.0	23.9	15.8	12.8	0.0	12.7	6.2
Standard Deviation										1.3	0.0	13.2	8.7	7.0	0.0	7.0	3.4
CV										4.63	0.0	38.19	16.8	9.62	0.0	11.71	6.28

# Iowa State University

Weed Code										CHEAL	ZEAMD	SORVU	ABUTH	CHEAL
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										05-30-05	06-30-05	06-30-05	06-30-05	06-30-05
Trt-Eval Interval										39 DA-A	70 DA-A	70 DA-A	70 DA-A	70 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	KIH-485	60	WG	0.223	LB A/A	5.87	OZ WT/A	PRE	A	93	0	78	82	83
3	KIH-485	60	WG	0.267	LB A/A	7.2	OZ WT/A	PRE	A	93	0	83	85	87
4	KIH-485	60	WG	0.312	LB A/A	8.3	OZ WT/A	PRE	A	93	0	88	90	87
5	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	65	0	35	5	65
6	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	92	0	38	8	80
LSD (P=.05)										9.9	0.0	10.1	8.3	10.7
Standard Deviation										5.5	0.0	5.5	4.6	5.9
CV										7.49	0.0	10.26	10.14	8.8

# Iowa State University

## Postemergence applications of Roundup WeatherMAX, Harmony GT, Classic, and Select in stacked trait soybean, Ames, IA, 2005.

Trial ID: ASC 1  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-25-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this trial was to determine the benefits of adding Harmony GT and or Classic to Roundup WeatherMAX for postemergence control large common lambsquarters and other weeds in soybean.

**Conclusions:** Raptor caused 15 and 10% soybean injury when observed on July 8 and 15, respectively. The remaining treatments did not exceed 7% injury on those dates. No treatments exceeded 5% injury by July 28. All treatments with Roundup WeatherMAX provided at least 90% control of all weeds. Harmony GT plus Classic plus select and Raptor alone, provided 82 to 88% giant foxtail control across all observations. Harmony GT plus Classic plus Select provided more control than Raptor for common cocklebur and common waterhemp. Both treatments provided less than 80% control of velvetleaf, common waterhemp and common lambsquarters. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN Variety: DAIRYLAND 3000 RR/STS  
Planting Date: 05-25-05 Planting Method: DIRECT DRILLED  
Rate: 151000 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	07-02-05
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	65 F
% Relative Humidity:	86
Wind Velocity, Unit:	0 MPH
Soil Temp., Unit:	78 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	80

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V 5
Stage Scale:	DESC
Height, Unit:	9 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 L, 4T
Stage Scale:	0.5-10 IN
Density, Unit:	0-10 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH COTYL-10
Stage Scale:	0.25-11
Density, Unit:	< 1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.25-16
Density, Unit:	0-3 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-13
Density, Unit:	0-1 FT <sup>2</sup>
Weed 5 Code, Stage:	XANST 2-NUM
Stage Scale:	1-16
Density, Unit:	< 1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Postemergence applications of Roundup WeatherMAX, Harmony GT, Classic, and Select in stacked trait soybean, Ames, IA, 2005.

Trial ID: ASC 1  
 Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	SETFA	ABUTH	AMATA	CHEAL		
Rating Data Type								PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-08-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05		
Trt-Eval Interval								6 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0		
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A	POST A	2	0	99	96		
3	Harmony GT Roundup WeatherMAX AMS	75	WG SL DF	0.00391	LB A/A LB AE/A LB/100 GAL	0.083	OZ WT/A LB/100 GAL	POST A	POST A	3	3	99	96		
4	Harmony GT Roundup WeatherMAX AMS	75	WG SL DF	0.00781	LB A/A LB AE/A LB/100 GAL	0.167	OZ WT/A LB/100 GAL	POST A	POST A	3	5	99	96		
5	Harmony GT Roundup WeatherMAX AMS	75	WG SL DF	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A LB/100 GAL	POST A	POST A	3	2	99	98		
6	Classic Roundup WeatherMAX AMS	25	WG SL DF	0.0117	LB A/A LB AE/A LB/100 GAL	0.75	OZ WT/A LB/100 GAL	POST A	POST A	5	3	99	96		
7	Harmony GT Classic Roundup WeatherMAX AMS	75	WG SL DF	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A LB/100 GAL	POST A	POST A	5	0	99	96		
8	Harmony GT Classic Roundup WeatherMAX AMS	75	WG SL DF	0.00325	LB A/A LB AE/A LB/100 GAL	0.069	OZ WT/A LB/100 GAL	POST A	POST A	5	0	99	98		
9	Harmony GT Classic Select AMS Agridex	75	WG SL DF L	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A LB/100 GAL	POST A	POST A	7	3	82	73		
10	Raptor MSO AMS	1	SL L DF	0.039	LB A/A % V/V LB/100 GAL	5.0	FL OZ/A % V/V LB/100 GAL	POST A	POST A	15	10	85	75		
LSD (P=.05)										4.3	3.3	1.6	9.9	9.9	3.3
Standard Deviation										2.5	1.9	0.9	5.8	5.8	1.9
CV										51.53	71.26	1.06	6.98	7.69	2.33

# Iowa State University

Weed Code									XANST	GLXMA	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-15-05	07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	
Trt-Eval Interval									13 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A POST A		99	0	99	96	92	98
3	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00391	LB A/A LB AE/A LB/100 GAL	0.083	OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A		98	2	99	95	92	96
4	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00781	LB A/A LB AE/A LB/100 GAL	0.167	OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A		98	2	99	96	90	96
5	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A		99	0	99	96	95	95
6	Classic Roundup WeatherMAX AMS	25 4.5	WG SL DF	0.0117	LB A/A LB AE/A LB/100 GAL	0.75	OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A		99	2	99	95	92	98
7	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.0156	LB A/A LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A POST A		99	0	99	96	92	96
8	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.00325	LB A/A LB A/A LB AE/A LB/100 GAL	0.069	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST A POST A POST A POST A		99	0	99	98	95	98
9	Harmony GT Classic Select AMS Agridex	75 25 2	WG WG EC DF L	0.0156	LB A/A LB A/A LB A/A LB/100 GAL % V/V	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL % V/V	POST A POST A POST A POST A POST A		83	3	85	78	47	73
10	Raptor MSO AMS	1	SL L DF	0.039	LB A/A % V/V LB/100 GAL	5.0	FL OZ/A % V/V LB/100 GAL	POST A POST A POST A		70	5	85	78	38	75
LSD (P=.05)										6.4	3.0	0.0	8.2	7.8	3.3
Standard Deviation										3.8	1.7	0.0	4.8	4.5	1.9
CV										4.45	131.1	0.0	5.75	6.2	2.32

# Iowa State University

Weed Code									XANST	GLXMA	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-28-05	08-15-05	08-15-05	08-15-05	08-15-05	08-15-05	
Trt-Eval Interval									26 DA-A	44 DA-A	44 DA-A	44 DA-A	44 DA-A	44 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST A	POST A	98	0	99	96	93	98
3	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00391	LB A/A LB AE/A LB/100 GAL	0.083	OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	96	0	98	95	93	96
4	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00781	LB A/A LB AE/A LB/100 GAL	0.167	OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	98	0	98	96	90	96
5	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	98	0	99	96	95	95
6	Classic Roundup WeatherMAX AMS	25 4.5	WG SL DF	0.0117	LB A/A LB AE/A LB/100 GAL	0.75	OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	98	0	98	96	90	96
7	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.0156	LB A/A LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	98	0	99	96	93	96
8	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.00325	LB A/A LB A/A LB AE/A LB/100 GAL	0.069	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST A	POST A	98	0	99	96	93	96
9	Harmony GT Classic Select AMS Agridex	75 25 2	WG WG EC DF L	0.0156	LB A/A LB A/A LB A/A LB/100 GAL % V/V	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL % V/V	POST A	POST A	88	0	88	77	45	75
10	Raptor MSO AMS	1	SL L DF	0.039	LB A/A % V/V LB/100 GAL	5.0	FL OZ/A % V/V LB/100 GAL	POST A	POST A	77	0	88	75	37	77
LSD (P=.05)										6.7	0.0	3.2	6.5	9.5	3.5
Standard Deviation										3.9	0.0	1.9	3.8	5.5	2.0
CV										4.6	0.0	2.17	4.57	7.6	2.44

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									XANST CONTROL PERCENT 08-15-05 44 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST POST	A A	98
3	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00391	LB A/A LB AE/A LB/100 GAL	0.083	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	A A A	99
4	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.00781	LB A/A LB AE/A LB/100 GAL	0.167	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	A A A	98
5	Harmony GT Roundup WeatherMAX AMS	75 4.5	WG SL DF	0.0156	LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	A A A	99
6	Classic Roundup WeatherMAX AMS	25 4.5	WG SL DF	0.0117	LB A/A LB AE/A LB/100 GAL	0.75	OZ WT/A FL OZ/A LB/100 GAL	POST POST POST	A A A	99
7	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.0156	LB A/A LB A/A LB AE/A LB/100 GAL	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST POST POST POST	A A A A	98
8	Harmony GT Classic Roundup WeatherMAX AMS	75 25 4.5	WG WG SL DF	0.00325	LB A/A LB A/A LB AE/A LB/100 GAL	0.069	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	POST POST POST POST	A A A A	99
9	Harmony GT Classic Select AMS Agridex	75 25 2	WG WG EC DF L	0.0156	LB A/A LB A/A LB A/A LB/100 GAL % V/V	0.333	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL % V/V	POST POST POST POST POST	A A A A A	88
10	Raptor MSO AMS	1	SL L DF	0.039	LB A/A % V/V LB/100 GAL	5.0	FL OZ/A % V/V LB/100 GAL	POST POST POST	A A A	75
LSD (P=.05)									6.4	
Standard Deviation									3.7	
CV									4.4	

# Iowa State University

## Postemergence applications of Select Max, V-10139 and Assure II with glyphosate for glyphosate-resistant volunteer corn control in soybean, Ames, IA, 2005.

Trial ID: ASC 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg

Affiliation: Iowa State University

Postal Code: 50011

Investigator: Owen/Hartzler/Pringnitz

Affiliation: Iowa State University

Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL

State/Prov.: IA

Postal Code: 50010 Initiation Date: 05-26-05

Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this soybean study was to evaluate postemergence applications of Select Max, V-10139, and Assure II in tank-mixtures with glyphosate for control of glyphosate-resistant hybrid and glyphosate-resistant volunteer corn. Dekalb DKC 53-34 hybrid corn and second generation (F2) glyphosate-resistant corn were planted in the study. **Conclusions:** Assure II plus Roundup Original MAX caused 10 and 5% soybean injury on July 13 and 28, respectively. No other treatments exceeded 5% injury at either evaluation date. Roundup Original MAX, without a tank mix, did not provide control or knock down of glyphosate-resistant hybrid corn (ZEAMDHY) or glyphosate-resistant volunteer corn (ZEAMDF2). Assure II provided the greatest control and knock down of glyphosate-resistant hybrid corn for both evaluation dates. Select MAX or V10139, used with NIS, and Assure II provided excellent control and knock down of glyphosate-resistant volunteer corn. All treatments more easily controlled glyphosate-resistant volunteer corn than glyphosate-resistant hybrid corn. All treatments provided excellent control of giant foxtail, velvetleaf, common waterhemp and common ragweed. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ZEAMD	CORN	ZEAMAYS
2.	ZEAMX	CORN, VOLUNTEER	ZEAMAYS L.
3.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
4.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
5.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
6.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
7.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

**Crop 1:** GLXMA SOYBEAN Variety: ASGROW AG2403  
**Planting Date:** 05-26-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 151000 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** CLODDY/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting.

### SOIL DESCRIPTION

**% OM:** 4.8 **Texture:** WEBSTER CLAY LOAM  
**pH:** 6.5 **Soil Name:** CLARION, WEBSTER, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	07-01-05
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	73 F
% Relative Humidity:	54
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	77 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	10

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V 4
Stage Scale:	DESC
Height, Unit:	8 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ZEAMD V 5 - V 6
Stage Scale:	12-18 IN
Density, Unit:	2 ROWFT
Weed 2 Code, Stage:	ZEAMX V 5 -V 6
Stage Scale:	12-18 IN
Density, Unit:	2 ROWFT
Weed 3 Code, Stage:	SETFA 1-4 L, 4T
Stage Scale:	0.25-8 IN
Density, Unit:	0-10 FT2
Weed 4 Code, Stage:	ABUTH COTYL-9 L
Stage Scale:	0.25-12
Density, Unit:	< 1 FT2
Weed 5 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.25-14
Density, Unit:	0-2 FT2
Weed 6 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	0.5-8 IN
Density, Unit:	< 1 FT2
Weed 7 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-9 IN
Density, Unit:	0-1 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	35
Nozzle Size:	11003
Spray Volume, Unit:	20 GPA

# Iowa State University

**Postemergence applications of Select Max, V-10139 and Assure II with glyphosate for glyphosate-resistant volunteer corn control in soybean, Ames, IA, 2005.**

Trial ID: ASC 3

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	ZEAMDHY	ZEAMDHY	ZEAMDF2	ZEAMDF2	SETFA		
Rating Data Type								PHYTO	CONTROL	ON GRD	CONTROL	ON GRD	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-13-05	07-13-05	07-13-05	07-13-05	07-13-05	07-13-05		
Trt-Eval Interval								12 DA-A	12 DA-A	12 DA-A	12 DA-A	12 DA-A	12 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code						
1	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	2	80	2	83	35	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
2	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	0	0	0	27	3	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
3	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	2	83	10	92	88	99
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST	A						
	NIS	L		0.25	% V/V	0.25	% V/V	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
4	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	3	82	2	88	68	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
5	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	5	87	10	93	88	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	NIS	L		0.25	% V/V	0.25	% V/V	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
6	Assure II	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	10	93	90	95	95	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
LSD (P=.05)								3.2	4.4	11.7	3.2	22.5	0.0		
Standard Deviation								1.7	2.4	6.4	1.7	12.4	0.0		
CV								48.41	3.41	34.06	2.19	19.62	0.0		

# Iowa State University

Weed Code									ABUTH	AMATA	AMBEL	CHEAL	GLXMA	ZEAMDHY	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-13-05	07-13-05	07-13-05	07-13-05	07-28-05	07-28-05	
Trt-Eval Interval									12 DA-A	12 DA-A	12 DA-A	12 DA-A	27 DA-A	27 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST A	A	99	99	98	99	2	85
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
2	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	98	98	96	99	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
3	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST A	A	99	98	98	99	2	92
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST A	A						
	NIS		L	0.25	% V/V	0.25	% V/V	POST A	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
4	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST A	A	99	99	98	98	2	88
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
5	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST A	A	98	96	98	99	2	93
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A						
	NIS		L	0.25	% V/V	0.25	% V/V	POST A	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
6	Assure II	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST A	A	98	98	96	99	5	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
LSD (P=.05)									2.3	3.2	4.5	1.7	2.7	3.2	
Standard Deviation									1.3	1.7	2.5	0.9	1.5	1.7	
CV									1.29	1.78	2.57	0.95	76.67	2.29	

# Iowa State University

Weed Code									ZEAMDHY	ZEAMDF2	ZEAMDF2	SETFA	ABUTH	AMATA	
Rating Data Type									ON GRD	CONTROL	ON GRD	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	
Trt-Eval Interval									27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	27 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	30	90	77	99	99	98
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
2	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	0	27	3	99	98	98
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
3	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	62	95	93	99	99	96
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST	A						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
4	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	40	93	85	99	99	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
5	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	68	95	95	99	98	96
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
6	Assure II	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	99	99	99	99	98	98
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
LSD (P=.05)									37.8	4.4	14.9	0.0	2.3	3.7	
Standard Deviation									20.8	2.4	8.2	0.0	1.3	2.0	
CV									41.73	2.9	10.91	0.0	1.29	2.08	

# Iowa State University

Weed Code										AMBEL	CHEAL
Rating Data Type										CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT
Rating Date										07-28-05	07-28-05
Trt-Eval Interval										27 DA-A	27 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	98	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
2	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	96	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
3	Select Max	1	EC	0.047	LB A/A	6.0	FL OZ/A	POST	A	98	99
	Roundup Original	3	SL	0.75	LB AE/A	32.0	FL OZ/A	POST	A		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
4	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	96	98
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
5	V10139	1.6	EC	0.05	LB A/A	4.0	OZ/A	POST	A	98	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A		
	NIS		L	0.25	% V/V	0.25	% V/V	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
6	Assure II	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	96	99
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A		
LSD (P=.05)										4.6	1.7
Standard Deviation										2.5	0.9
CV										2.61	0.95



# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	07-01-05
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	73 F
% Relative Humidity:	54
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	77 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	10

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V 4
Stage Scale:	DESC
Height, Unit:	8 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ZEAMD V 5 - V 6
Stage Scale:	12-18 IN
Density, Unit:	2 ROWFT
Weed 2 Code, Stage:	ZEAMX V 5 -V 6
Stage Scale:	12-18 IN
Density, Unit:	2 ROWFT
Weed 3 Code, Stage:	SETFA 1-4 L, 4T
Stage Scale:	0.25-8 IN
Density, Unit:	0-10 FT2
Weed 4 Code, Stage:	ABUTH COTYL-9 L
Stage Scale:	0.25-12
Density, Unit:	< 1 FT2
Weed 5 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.25-14
Density, Unit:	0-2 FT2
Weed 6 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	0.5-8 IN
Density, Unit:	< 1 FT2
Weed 7 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-9 IN
Density, Unit:	0-1 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	35
Nozzle Size:	11003
Spray Volume, Unit:	20 GPA

# Iowa State University

**Postemergence applications of TARGA and Select with and without Roundup Weather-MAX for glyphosate-resistant corn and weed control in soybean, Ames, IA, 2005.**

Trial ID: ASC 4 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ames Investigator: Owen/Hartzler/Pringnitz

Weed Code	GLXMA PHYTO PERCENT	GLXMA PHYTO PERCENT	ZEAMDHY CONTROL PERCENT	ZEAMDHY ON GRD PERCENT	ZEAMDF2 CONTROL PERCENT	ZEAMDF2 ON GRD PERCENT	SETFA CONTROL PERCENT										
Rating Data Type	07-08-05	07-12-05	07-12-05	07-12-05	07-12-05	07-12-05	07-12-05										
Rating Unit	7 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A	11 DA-A										
Rating Date																	
Trt-Eval Interval																	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Unit	Appl Stg	Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	5	5	90	72	95	92	99	
	Roundup WeatherMAX NIS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A								
3	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	3	3	85	2	92	62	99	
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A								
4	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	5	5	92	82	95	93	83	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A								
5	Targa	0.88	EC	0.069	LB A/A	10.0	FL OZ/A	POST	A	10	10	96	96	96	98	90	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A								
6	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	0	2	87	23	90	62	85	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A								
LSD (P=.05)										2.1	2.9	3.5	8.7	4.8	40.6	2.1	
Standard Deviation										1.2	1.6	1.9	4.8	2.6	22.3	1.2	
CV										30.3	37.95	2.57	10.41	3.35	33.0	1.55	

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-12-05 11 DA-A	AMATA CONTROL PERCENT 07-12-05 11 DA-A	AMBEL CONTROL PERCENT 07-12-05 11 DA-A	CHEAL CONTROL PERCENT 07-12-05 11 DA-A	GLXMA PHYTO PERCENT 07-22-05 21 DA-A	ZEAMDHY CONTROL PERCENT 07-22-05 21 DA-A	ZEAMDHY ON GRD PERCENT 07-22-05 21 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	
2	Targa Roundup WeatherMAX NIS	0.88 4.5	EC SL L	0.0344 0.77 0.125	LB A/A LB AE/A % V/V	5.0 22.0 0.125	FL OZ/A FL OZ/A % V/V	POST A POST A POST A		96	96	98	99	3	98	98
3	Select Roundup WeatherMAX AMS	2 4.5	EC SL DF	0.094 0.77 2.5	LB A/A LB AE/A LB/A	6.0 22.0 2.5	FL OZ/A FL OZ/A LB/A	POST A POST A POST A		98	99	98	99	3	93	73
4	Targa COC	0.88	EC L	0.0344 1.0	LB A/A % V/V	5.0 1.0	FL OZ/A % V/V	POST A POST A		0	0	0	0	2	99	98
5	Targa COC	0.88	EC L	0.069 1.0	LB A/A % V/V	10.0 1.0	FL OZ/A % V/V	POST A POST A		0	0	0	0	5	99	99
6	Select COC	2	EC L	0.094 1.0	LB A/A % V/V	6.0 1.0	FL OZ/A % V/V	POST A POST A		0	0	0	0	2	98	93
LSD (P=.05)										2.7	1.7	2.5	0.0	4.4	3.2	12.9
Standard Deviation										1.5	0.9	1.4	0.0	2.4	1.8	7.1
CV										4.52	2.9	4.3	0.0	96.61	2.18	9.21

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMDF2 CONTROL PERCENT 07-22-05 21 DA-A	ZEAMDF2 ON GRD PERCENT 07-22-05 21 DA-A	SETFA CONTROL PERCENT 07-22-05 21 DA-A	ABUTH CONTROL PERCENT 07-22-05 21 DA-A	AMATA CONTROL PERCENT 07-22-05 21 DA-A	AMBEL CONTROL PERCENT 07-22-05 21 DA-A	CHEAL CONTROL PERCENT 07-22-05 21 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	
2	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	99	99	99	96	95	99	99
	Roundup WeatherMAX NIS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A							
			L	0.125	% V/V	0.125	% V/V	POST	A							
3	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	95	95	99	98	99	99	99
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A							
			DF	2.5	LB/A	2.5	LB/A	POST	A							
4	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	99	99	88	0	0	0	0
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
5	Targa	0.88	EC	0.069	LB A/A	10.0	FL OZ/A	POST	A	99	99	95	0	0	0	0
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
6	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	99	96	88	0	0	0	0
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
LSD (P=.05)										0.0	3.9	3.2	2.7	0.0	0.0	0.0
Standard Deviation										0.0	2.1	1.7	1.5	0.0	0.0	0.0
CV										0.0	2.61	2.23	4.52	0.0	0.0	0.0

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									GLXMA PHYTO PERCENT 08-01-05 31 DA-A	ZEAMDHY CONTROL PERCENT 08-01-05 31 DA-A	ZEAMDHY ON GRD PERCENT 08-01-05 31 DA-A	ZEAMDF2 CONTROL PERCENT 08-01-05 31 DA-A	ZEAMDF2 ON GRD PERCENT 08-01-05 31 DA-A	SETFA CONTROL PERCENT 08-01-05 31 DA-A	ABUTH CONTROL PERCENT 08-01-05 31 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	
2	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	0	99	98	99	99	99	
	Roundup WeatherMAX NIS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A							
			L	0.125	% V/V	0.125	% V/V	POST	A							
3	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	0	95	87	95	95	99	
	Roundup WeatherMAX AMS	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A							
			DF	2.5	LB/A	2.5	LB/A	POST	A							
4	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	0	99	99	99	99	93	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
5	Targa	0.88	EC	0.069	LB A/A	10.0	FL OZ/A	POST	A	0	99	99	99	99	95	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
6	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	0	99	96	99	99	90	
	COC		L	1.0	% V/V	1.0	% V/V	POST	A							
LSD (P=.05)										0.0	0.0	4.4	0.0	0.0	4.6	3.5
Standard Deviation										0.0	0.0	2.4	0.0	0.0	2.5	1.9
CV										0.0	0.0	3.02	0.0	0.0	3.18	6.04

# Iowa State University

Weed Code										AMATA	AMBEL	CHEAL	GLXMA
Rating Data Type										CONTROL	CONTROL	CONTROL	YIELD
Rating Unit										PERCENT	PERCENT	PERCENT	BU/A
Rating Date										08-01-05	08-01-05	08-01-05	10-10-05
Trt-Eval Interval										31 DA-A	31 DA-A	31 DA-A	101 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	25
2	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	95	99	99	60
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A				
	NIS		L	0.125	% V/V	0.125	% V/V	POST	A				
3	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	99	99	99	62
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A				
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	A				
4	Targa	0.88	EC	0.0344	LB A/A	5.0	FL OZ/A	POST	A	0	0	0	40
	COC		L	1.0	% V/V	1.0	% V/V	POST	A				
5	Targa	0.88	EC	0.069	LB A/A	10.0	FL OZ/A	POST	A	0	0	0	43
	COC		L	1.0	% V/V	1.0	% V/V	POST	A				
6	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	A	0	0	0	43
	COC		L	1.0	% V/V	1.0	% V/V	POST	A				
LSD (P=.05)										0.0	0.0	0.0	11.7
Standard Deviation										0.0	0.0	0.0	6.5
CV										0.0	0.0	0.0	14.21

# Iowa State University

## Preemergence applied Gangster, Pendimax, Python, Pursuit Plus, Prowl H20 and postemergence FirstRate, Glyphomax and others in soybean, Ames, IA, 2005.

Trial ID: ASC 5  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-26-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied Gangster, Pendimax, Python, Pursuit Plus, Prowl H20, Domain, Authority, Define, Boundary, and postemergence FirstRate, Select, Phoenix, Flexstar, Fusion, Glyphomax XRT, Extreme, Touchdown Total, and Roundup WeatherMAX for crop phytotoxicity and weed control in soybean.

**Conclusions:** No PRE treatments exceeded 5% injury to soybeans on June 21. Gangster plus Pendimax, Pendimax plus Python, Prowl H20, Domain and Boundary provided greater giant foxtail control than Gangster or Define. Prowl H20, Define and Boundary did not provide adequate velvetleaf control, while there were no significant differences between other treatments, which gave at least 85% control. Define demonstrated 82 and 73% common waterhemp and common lambsquarters control, respectively, while all other treatments gave at least 93% control of the same weeds. No PRE treatments provided adequate common cocklebur control.

EPOST applied Select plus FirstRate plus Phoenix and FirstRate plus Flexstar plus Fusion caused 27 and 22% soybean injury, respectively, on June 29. EPOST Extreme caused 7% on this date. On July 8 the above treatments caused 17, 10 and 3% injury, respectively. Injury did not exceed 10% for any treatments on July 13. PRE Gangster plus Pendimax and EPOST FirstRate plus Flexstar plus Fusion demonstrated 93% giant foxtail control, and remaining treatments provided at least 95% control on July 13. PRE Domain plus Prowl H20 plus Authority and PRE Gangster plus Pendimax gave significantly less velvetleaf control than other treatments with 90 and 93%, respectively, while all remaining treatments gave at least 96% control. All treatments provided at least 95% common waterhemp control. EPOST Select plus FirstRate plus Phoenix and FirstRate plus Flexstar plus Fusion provided 83 and 90% common lambsquarters control, respectively, while all other treatments provided 99% control. PRE only treatments did not provide adequate common cocklebur control. However, control was otherwise excellent.

By August 1, giant foxtail control began to break slightly for PRE Pendimax plus Python plus FirstRate and Domain plus Prowl H20 plus Authority. EPOST Extreme and postemergence treatments that did not include Glyphomax XRT, Roundup WeatherMAX or Touchdown Total, provided fading common cocklebur control. Control of velvetleaf, common waterhemp and common lambsquarters followed similar trends to those noted on July 13. September 1 observations were very close to those noted on August 1.

All treatments with Glyphomax XRT, Extreme, Roundup WeatherMAX and Touchdown Total yielded at least 60 bu/A soybeans. The remaining treatments ranged from 28 to 57 bu/A. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG2403  
Planting Date: 05-26-05 Planting Method: DIRECT DRILLED  
Rate: 151000 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

# Iowa State University

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	05-28-05	06-21-05	07-01-05	07-22-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST	SPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	65 F	81 F	65 F	84 F
% Relative Humidity:	52	67	71	75
Wind Velocity, Unit:	5 MPH	0 MPH	5 MPH	1 MPH
Soil Temp., Unit:	65 F	76 F	77 F	81 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	40	60	0	0

### CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	GLXMA -	GLXMA V 2 - V 3	GLXMA V 4	GLXMA R 3
Stage Scale:	-	DESC	DESC	DESC
Height, Unit:	-	4 IN	8 IN	22 IN

### WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 2T	SETFA 1-4 L, 3T	SETFA 1-3 LEAF
Stage Scale:	-	0.25-5 IN	0.25-7 IN	0.25-3 IN
Density, Unit:	- -	0-2 FT2	0-3 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-9 L	ABUTH COTYL-3 L
Stage Scale:	-	0.25-4 IN	0.25-11	0.25-2 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM	AMATA NUMEROUS	AMATA -
Stage Scale:	-	0.25-5 IN	0.5-18 IN	-
Density, Unit:	- -	0-3 FT2	0-1 FT2	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL 2-NUM	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.25-3 IN	1-9 IN	1-3 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2	< 1 FT2
Weed 5 Code, Stage:	XANST -	XANST 2-NUM	XANST NUMEROUS	XANST 2-4 LEAF
Stage Scale:	-	1.0-5 IN	2-9 IN	1-3 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2

### APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO	HAND BOOM
Operating Pressure:	30	30	30	35
Nozzle Size:	11002	11002	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Gangster, Pendimax, Python, Pursuit Plus, Prowl H20 and postemergence FirstRate, Glyphomax and others in soybean, Ames, IA, 2005.**

Trial ID: ASC 5

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	SETFA	ABUTH	AMATA	CHEAL	XANST		
Rating Data Type								PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								06-21-05	06-21-05	06-21-05	06-21-05	06-21-05	06-21-05		
Trt-Eval Interval								24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6 OZ WT/A 3.0 PT/A		PRE PRE	A A	3	95	93	99	99	60
3	Pendimax Python FirstRate NIS 28% UAN	3.3 80 84	EC WG WG	1.24 0.05 0.0157	LB A/A LB A/A LB A/A	3.0 PT/A 1.0 OZ WT/A 0.30 OZ WT/A		PRE PRE EPOST	A A B	5	95	91	99	99	40
		L		0.25	% V/V	0.25 % V/V		EPOST	B						
		L		2.5	% V/V	2.5 % V/V		EPOST	B						
4	Select FirstRate Phoenix COC	2 84	EC WG	0.156 0.0157	LB A/A LB A/A	10.0 FL OZ/A 0.30 OZ WT/A		EPOST EPOST	B B	0	0	0	0	0	0
		2	EC	0.125	LB A/A	8.0 FL OZ/A		EPOST	B						
		L		1.0	% V/V	1.0 % V/V		EPOST	B						
5	FirstRate Flexstar Fusion COC	84 1.88 2.56	WG SL EC	0.0157 0.147 0.16	LB A/A LB A/A LB A/A	0.30 OZ WT/A 10.0 FL OZ/A 8.0 FL OZ/A		EPOST EPOST EPOST	B B B	0	0	0	0	0	0
		L		1.0	% V/V	1.0 % V/V		EPOST	B						
6	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.8 OZ WT/A 1.5 PT/A 2.50 LB/A		PRE POST POST	A C C	0	88	85	98	93	45
7	FirstRate Glyphomax XRT AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB AE/A LB/A	0.30 OZ WT/A 1.5 PT/A 2.50 LB/A		POST POST POST	C C C	0	0	0	0	0	0
8	Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 PT/A 2.5 LB/A		POST POST	C C	0	0	0	0	0	0
9	Glyphomax XRT AMS Glyphomax XRT AMS	4 4 4	SL DF SL DF	0.75 2.5 0.75 2.5	LB AE/A LB/A LB AE/A LB/A	1.5 PT/A 2.5 LB/A 1.5 PT/A 2.5 LB/A		POST POST SPOST SPOST	C C D D	0	0	0	0	0	0
10	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	2.4 OZ WT/A 1.5 PT/A 2.50 LB/A		PRE POST POST	A C C	2	88	87	96	96	47
11	Prowl H2O Extreme NIS AMS	3.8 2.17	EC SL L DF	1.23 0.81 0.125 17.0	LB A/A LB A/A % V/V LB/100 GAL	2.6 PT/A 3.0 PT/A 0.125 % V/V 17.0 LB/100 GAL		PRE EPOST EPOST EPOST	A B B B	0	93	63	98	96	28
12	Domain Prowl H2O Authority	60 3.8 75	DF EC DF	0.6 1.23 0.234	LB A/A LB A/A LB A/A	16.0 OZ WT/A 2.6 PT/A 5.0 OZ WT/A		PRE PRE PRE	A A A	5	95	91	99	99	40
13	Define SC Roundup WeatherMAX AMS	4 4.5	SC SL DF	0.437 0.77 17.0	LB A/A LB AE/A LB/100 GAL	14.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL		PRE POST POST	A C C	0	90	40	82	73	27
14	Boundary Touchdown Total AMS	6.5 4.17	EC SL DF	1.46 0.78 17.0	LB A/A LB AE/A LB/100 GAL	1.8 PT/A 24.0 FL OZ/A 17.0 LB/100 GAL		PRE POST POST	A C C	3	95	63	99	93	37
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 FL OZ/A 17.0 LB/100 GAL		POST POST	C C	0	0	0	0	0	0
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5 4.5	SL DF SL DF	0.77 17.0 0.77 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0 FL OZ/A 17.0 LB/100 GAL 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST SPOST SPOST	C C D D	0	0	0	0	0	0
LSD (P=.05)								2.1	4.1	10.3	2.9	7.4	12.9		
Standard Deviation								1.3	2.5	6.2	1.7	4.4	7.7		
CV								111.49	5.32	16.12	3.6	9.49	38.16		

# Iowa State University

Weed Code									GLXMA	GLXMA	GLXMA	SETFA	ABUTH	AMATA	
Rating Data Type									PHYTO	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-29-05	07-08-05	07-13-05	07-13-05	07-13-05	07-13-05	
Trt-Eval Interval									8 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	17 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6 3.0	OZ WT/A PT/A	PRE PRE	A A	0	0	0	93	93	99
3	Pendimax Python FirstRate NIS 28% UAN	3.3 80 84	EC WG WG	1.24 0.05 0.0157	LB A/A LB A/A LB A/A	3.0 1.0 0.30	PT/A OZ WT/A OZ WT/A	PRE PRE EPOST	A A B	5	0	0	95	98	96
4	Select FirstRate Phoenix COC	2 84	EC WG	0.156 0.0157	LB A/A LB A/A	10.0 0.30	FL OZ/A OZ WT/A	EPOST EPOST	B B	27	17	10	99	96	99
5	FirstRate Flexstar Fusion COC	84 1.88 2.56	WG SL EC	0.0157 0.147 0.16	LB A/A LB A/A LB A/A	0.30 10.0 8.0	OZ WT/A FL OZ/A FL OZ/A	EPOST EPOST EPOST	B B B	22	10	5	93	99	95
6	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.8 1.5 2.50	OZ WT/A PT/A LB/A	PRE POST POST	A C C	0	0	2	99	99	99
7	FirstRate Glyphomax XRT AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB AE/A LB/A	0.30 1.5 2.50	OZ WT/A PT/A LB/A	POST POST POST	C C C	0	0	3	99	98	98
8	Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	0	0	2	99	99	98
9	Glyphomax XRT AMS Glyphomax XRT AMS	4 4 4	SL DF SL DF	0.75 2.5 0.75 2.5	LB AE/A LB/A LB AE/A LB/A	1.5 2.5 1.5 2.5	PT/A LB/A PT/A LB/A	POST POST SPOST SPOST	C C D D	0	0	3	99	99	98
10	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	2.4 1.5 2.50	OZ WT/A PT/A LB/A	PRE POST POST	A C C	0	0	0	99	99	99
11	Prowl H2O Extreme NIS AMS	3.8 2.17	EC SL	1.23 0.81	LB A/A LB A/A	2.6 3.0	PT/A PT/A	PRE EPOST	A B	7	3	2	99	99	99
12	Domain Prowl H2O Authority	60 3.8 75	DF EC DF	0.6 1.23 0.234	LB A/A LB A/A LB A/A	16.0 2.6 5.0	OZ WT/A PT/A OZ WT/A	PRE PRE PRE	A A A	0	0	0	95	90	99
13	Define SC Roundup WeatherMAX AMS	4 4.5	SC SL DF	0.437 0.77 17.0	LB A/A LB AE/A LB/100 GAL	14.0 22.0 17.0	FL OZ/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	0	0	3	99	96	99
14	Boundary Touchdown Total AMS	6.5 4.17	EC SL DF	1.46 0.78 17.0	LB A/A LB AE/A LB/100 GAL	1.8 24.0 17.0	PT/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	0	0	2	99	99	99
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	POST POST	C C	0	0	0	99	99	98
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5 4.5	SL DF SL DF	0.77 17.0 0.77 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0 17.0 22.0 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST POST SPOST SPOST	C C D D	0	0	3	99	99	98
LSD (P=.05)										2.2	1.7	3.9	1.6	4.6	2.0
Standard Deviation										1.3	1.0	2.3	1.0	2.8	1.2
CV										34.43	53.52	106.05	1.08	3.05	1.31

# Iowa State University

Weed Code									CHEAL	XANST	GLXMA	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-13-05	07-13-05	08-01-05	08-01-05	08-01-05	08-01-05	
Trt-Eval Interval									17 DA-B	17 DA-B	31 DA-C	31 DA-C	31 DA-C	31 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6 3.0	OZ WT/A PT/A	PRE PRE	A A	99	43	0	90	93	99
3	Pendimax Python FirstRate NIS 28% UAN	3.3 80 84	EC WG WG	1.24 0.05 0.0157	LB A/A LB A/A LB A/A	3.0 1.0 0.30	PT/A OZ WT/A OZ WT/A	PRE PRE EPOST	A A B	99	99	0	88	98	92
			L	0.25	% V/V	0.25	% V/V	EPOST	B						
			L	2.5	% V/V	2.5	% V/V	EPOST	B						
4	Select FirstRate Phoenix COC	2 84	EC WG	0.156 0.0157	LB A/A LB A/A	10.0 0.30	FL OZ/A OZ WT/A	EPOST EPOST	B B	83	99	5	95	96	98
		2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	B						
			L	1.0	% V/V	1.0	% V/V	EPOST	B						
5	FirstRate Flexstar Fusion COC	84 1.88 2.56	WG SL EC	0.0157 0.147 0.16	LB A/A LB A/A LB A/A	0.30 10.0 8.0	OZ WT/A FL OZ/A FL OZ/A	EPOST EPOST EPOST	B B B	90	99	0	90	99	92
			L	1.0	% V/V	1.0	% V/V	EPOST	B						
6	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.8 1.5 2.50	OZ WT/A PT/A LB/A	PRE POST POST	A C C	99	99	2	99	99	99
7	FirstRate Glyphomax XRT AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB AE/A LB/A	0.30 1.5 2.50	OZ WT/A PT/A LB/A	POST POST POST	C C C	99	99	3	99	98	95
8	Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	99	99	2	99	99	96
9	Glyphomax XRT AMS Glyphomax XRT AMS	4 4	SL DF SL DF	0.75 2.5 0.75 2.5	LB AE/A LB/A LB AE/A LB/A	1.5 2.5 1.5 2.5	PT/A LB/A PT/A LB/A	POST POST SPOST SPOST	C C D D	99	99	3	99	99	99
10	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	2.4 1.5 2.50	OZ WT/A PT/A LB/A	PRE POST POST	A C C	99	99	0	99	99	99
11	Prowl H2O Extreme NIS AMS	3.8 2.17	EC SL	1.23 0.81	LB A/A LB A/A	2.6 3.0	PT/A PT/A	PRE EPOST	A B	99	98	2	98	99	98
			L	0.125	% V/V	0.125	% V/V	EPOST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B						
12	Domain Prowl H2O Authority	60 3.8 75	DF EC DF	0.6 1.23 0.234	LB A/A LB A/A LB A/A	16.0 2.6 5.0	OZ WT/A PT/A OZ WT/A	PRE PRE PRE	A A A	99	38	0	92	90	99
13	Define SC Roundup WeatherMAX AMS	4 4.5	SC SL DF	0.437 0.77 17.0	LB A/A LB AE/A LB/100 GAL	14.0 22.0 17.0	FL OZ/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	99	99	2	99	98	98
14	Boundary Touchdown Total AMS	6.5 4.17	EC SL DF	1.46 0.78 17.0	LB A/A LB AE/A LB/100 GAL	1.8 24.0 17.0	PT/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	99	99	2	99	99	99
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	POST POST	C C	99	99	0	99	99	95
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 17.0 0.77 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0 17.0 22.0 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST POST SPOST SPOST	C C D D	99	99	3	99	99	99
LSD (P=.05)										3.1	7.5	3.3	3.5	4.8	4.3
Standard Deviation										1.9	4.5	2.0	2.1	2.9	2.6
CV										2.03	5.28	137.02	2.36	3.13	2.84

# Iowa State University

Weed Code									CHEAL	XANST	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									08-01-05	08-01-05	09-01-05	09-01-05	09-01-05	09-01-05	
Trt-Eval Interval									31 DA-C	31 DA-C	62 DA-C	62 DA-C	62 DA-C	62 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Gangster Pendimax	3.3	EC	1.24	LB A/A	3.6 3.0	OZ PT/A	WT/A PRE	A A	99	42	90	93	98	98
3	Pendimax Python FirstRate NIS 28% UAN	3.3 80 84	EC WG WG	1.24 0.05 0.0157	LB A/A LB A/A LB A/A	3.0 1.0 0.30	PT/A OZ OZ	WT/A WT/A WT/A	PRE PRE EPOST	99	90	87	98	92	96
				0.25	% V/V	0.25	% V/V		EPOST						
				2.5	% V/V	2.5	% V/V		EPOST						
4	Select FirstRate Phoenix COC	2 84	EC WG	0.156 0.0157	LB A/A LB A/A	10.0 0.30	FL OZ/A OZ	WT/A WT/A	EPOST EPOST	72	87	95	96	96	53
		2	EC	0.125	LB A/A	8.0	FL OZ/A		EPOST						
			L	1.0	% V/V	1.0	% V/V		EPOST						
5	FirstRate Flexstar Fusion COC	84 1.88 2.56	WG SL EC	0.0157 0.147 0.16	LB A/A LB A/A LB A/A	0.30 10.0 8.0	OZ FL OZ/A FL OZ/A	WT/A WT/A WT/A	EPOST EPOST EPOST	87	91	88	99	92	85
			L	1.0	% V/V	1.0	% V/V		EPOST						
6	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.8 1.5 2.50	OZ PT/A LB/A	WT/A POST POST	A C C	99	98	99	99	99	99
7	FirstRate Glyphomax XRT AMS	84 4	WG SL DF	0.0157 0.75 2.5	LB A/A LB AE/A LB/A	0.30 1.5 2.50	OZ PT/A LB/A	WT/A POST POST	C C C	99	96	99	96	95	99
8	Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST POST	C C	99	95	99	98	95	99
9	Glyphomax XRT AMS Glyphomax XRT AMS	4 4	SL DF SL DF	0.75 2.5 0.75 2.5	LB AE/A LB/A LB AE/A LB/A	1.5 2.5 1.5 2.5	PT/A LB/A PT/A LB/A	POST POST SPOST SPOST	C C D D	99	99	99	99	99	99
10	Gangster Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	2.4 1.5 2.50	OZ PT/A LB/A	WT/A POST POST	A C C	99	96	99	99	99	99
11	Prowl H2O Extreme NIS AMS	3.8 2.17	EC SL	1.23 0.81	LB A/A LB A/A	2.6 3.0	PT/A PT/A	PRE EPOST	A B	99	88	98	99	99	99
			L	0.125	% V/V	0.125	% V/V		EPOST						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL		EPOST						
12	Domain Prowl H2O Authority	60 3.8 75	DF EC DF	0.6 1.23 0.234	LB A/A LB A/A LB A/A	16.0 2.6 5.0	OZ PT/A OZ	WT/A PRE WT/A	A A A	99	35	92	90	99	99
13	Define SC Roundup WeatherMAX AMS	4 4.5	SC SL DF	0.437 0.77 17.0	LB A/A LB AE/A LB/100 GAL	14.0 22.0 17.0	FL OZ/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	99	96	99	98	98	98
14	Boundary Touchdown Total AMS	6.5 4.17	EC SL DF	1.46 0.78 17.0	LB A/A LB AE/A LB/100 GAL	1.8 24.0 17.0	PT/A FL OZ/A LB/100 GAL	PRE POST POST	A C C	99	96	99	99	99	99
15	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	POST POST	C C	99	96	99	96	93	98
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.77 17.0 0.77 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0 17.0 22.0 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST POST SPOST SPOST	C C D D	99	99	99	96	99	99
LSD (P=.05)										4.4	10.9	4.8	6.2	3.8	6.9
Standard Deviation										2.7	6.5	2.9	3.7	2.3	4.2
CV										2.95	8.0	3.19	4.08	2.5	4.68

# Iowa State University

Weed Code									XANST	GLYMA	
Rating Data Type									CONTROL	YIELD	
Rating Unit									PERCENT	BU/A	
Rating Date									09-01-05	10-12-05	
Trt-Eval Interval									62 DA-C	137 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	26
2	Gangster					3.6	OZ WT/A	PRE	A	30	38
	Pendimax	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A		
3	Pendimax	3.3	EC	1.24	LB A/A	3.0	PT/A	PRE	A	92	57
	Python	80	WG	0.05	LB A/A	1.0	OZ WT/A	PRE	A		
	FirstRate	84	WG	0.0157	LB A/A	0.30	OZ WT/A	EPOST	B		
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	B		
	28% UAN		L	2.5	% V/V	2.5	% V/V	EPOST	B		
4	Select	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	B	83	53
	FirstRate	84	WG	0.0157	LB A/A	0.30	OZ WT/A	EPOST	B		
	Phoenix	2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	B		
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	B		
5	FirstRate	84	WG	0.0157	LB A/A	0.30	OZ WT/A	EPOST	B	91	57
	Flexstar	1.88	SL	0.147	LB A/A	10.0	FL OZ/A	EPOST	B		
	Fusion	2.56	EC	0.16	LB A/A	8.0	FL OZ/A	EPOST	B		
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	B		
6	Gangster					1.8	OZ WT/A	PRE	A	99	65
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	C		
	AMS		DF	2.5	LB/A	2.50	LB/A	POST	C		
7	FirstRate	84	WG	0.0157	LB A/A	0.30	OZ WT/A	POST	C	95	61
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	C		
	AMS		DF	2.5	LB/A	2.50	LB/A	POST	C		
8	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	C	95	68
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C		
9	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	C	99	64
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	C		
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	SPOST	D		
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	D		
10	Gangster					2.4	OZ WT/A	PRE	A	96	70
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	C		
	AMS		DF	2.5	LB/A	2.50	LB/A	POST	C		
11	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PRE	A	87	60
	Extreme	2.17	SL	0.81	LB A/A	3.0	PT/A	EPOST	B		
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	B		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	B		
12	Domain	60	DF	0.6	LB A/A	16.0	OZ WT/A	PRE	A	30	28
	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PRE	A		
	Authority	75	DF	0.234	LB A/A	5.0	OZ WT/A	PRE	A		
13	Define SC	4	SC	0.437	LB A/A	14.0	FL OZ/A	PRE	A	95	64
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	C		
14	Boundary	6.5	EC	1.46	LB A/A	1.8	PT/A	PRE	A	94	63
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	C		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	C		
15	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C	95	66
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	C		
16	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	C	99	61
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	C		
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	SPOST	D		
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	D		
LSD (P=.05)									12.8	10.1	
Standard Deviation									7.7	6.1	
CV									9.59	10.81	

# Iowa State University

**Preemergence applied Valor SX and postemergence Roundup Original MAX, alone, and with Domark in soybean, Ames, IA, 2005.**

Trial ID: ASC 6  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-26-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this soybean study was to evaluate preemergence applied Valor SX, FirstRate, and V-10149 and postemergence Roundup Original MAX with and without Domark fungicide for crop phytotoxicity, weed control and soybean yield.

**Conclusions:** No PRE treatment caused soybean injury. All treatments demonstrated injury after LPOST applications; however, none exhibited more than 5% injury. No PRE treatments provided adequate giant foxtail or common cocklebur control when observed on June 17. PRE Valor tank-mixed with either V-10149 or FirstRate provided greater common lambsquarters control than the same rate of Valor, alone. Broadleaf weed control among PRE treatments was otherwise very similar. On July 27, LPOST Roundup Original MAX and LPOST Roundup Original MAX plus Domark demonstrated 93 and 91% common waterhemp control, respectively. All other treatments provided at least 98% control. Weed control by all treatments was otherwise at least 97%. LPOST Roundup Original MAX and Roundup Original MAX plus Domark yielded 61 and 60 bu/A soybean, respectively. The remaining treatments ranged from 63 to 66 bu/A. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG2403  
Planting Date: 05-26-05 Planting Method: DIRECT DRILLED  
Rate: 151000 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: CLODDY/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 6  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-31-05	06-21-05	07-06-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	67 F	81 F	79 F
% Relative Humidity:	60	67	58
Wind Velocity, Unit:	2 MPH	0 MPH	0 MPH
Soil Temp., Unit:	64 F	76 F	81 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	100	60	60

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA -	GLXMA V 2 - V 3	GLXMA R 1
Stage Scale:	-	DESC	DESC
Height, Unit:	-	4 IN	10 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 2T	SETFA 1-5 L, 5T
Stage Scale:	-	0.25-5 IN	0.5-20 IN
Density, Unit:	- -	0-2 FT2	0-3 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-9 L
Stage Scale:	-	0.25-4 IN	0.25-16
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM	AMATA 4-NUM
Stage Scale:	-	0.25-5 IN	0.5-24 IN
Density, Unit:	- -	0-3 FT2	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL 2-NUM	CHEAL 4-NUM
Stage Scale:	-	0.25-3 IN	0.5-14 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2
Weed 5 Code, Stage:	XANST -	XANST 2-NUM	XANST NUMEROUS
Stage Scale:	-	1-5 IN	1-14 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	TERRA PRO	TERRA PRO
Operating Pressure:	30	30	30
Nozzle Size:	11002	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Valor SX and postemergence Roundup Original MAX, alone, and with Domark in soybean, Ames, IA, 2005.**

Trial ID: ASC 6  
 Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	SETFA	ABUTH	AMATA	CHEAL	XANST	
Rating Data Type								PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								06-17-05	06-17-05	06-17-05	06-17-05	06-17-05	06-17-05	
Trt-Eval Interval								17 DA-A	17 DA-A	17 DA-A	17 DA-A	17 DA-A	17 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated								0	0	0	0	0	0
2	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C	0	0	0	0	0	0
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
3	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	EPOST B	0	0	0	0	0	0
				17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST B						
	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
4	Valor SX	51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE A	0	54	82	91	94	46
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	PRE A						
	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
5	Valor SX	51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE A	0	58	85	95	89	33
	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
6	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	PRE A	0	65	85	96	92	40
	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
7	Valor SX V-10149	51	WG	0.048	LB A/A	1.5	OZ WT/A	PRE A	0	56	82	96	95	58
						1.0	OZ WT/A	PRE A						
	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
				17.0	LB/100 GAL	17.0	LB/100 GAL	LPOST C						
8	Valor SX	51	WG	0.064	LB A/A	2.0	OZ WT/A	PRE A	0	61	83	96	90	38
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST C						
	Domark	1.90	ME	0.074	LB A/A	5.0	FL OZ/A	LPOST C						
	AMS		DF			17.0	LB/100 GAL	LPOST C						
9	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	LPOST C	0	0	0	0	0	0
	Domark	1.90	ME	0.074	LB A/A	5.0	FL OZ/A	LPOST C						
	AMS		DF			17.0	LB/100 GAL	LPOST C						
LSD (P=.05)								0.0	10.8	9.6	3.0	3.6	9.6	
Standard Deviation								0.0	9.3	8.2	2.6	3.1	8.2	
CV								0.0	28.46	17.78	4.96	6.04	34.48	

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									GLXMA PHYTO PERCENT 07-13-05 7 DA-C	GLXMA PHYTO PERCENT 07-27-05 21 DA-C	SETFA CONTROL PERCENT 07-27-05 21 DA-C	ABUTH CONTROL PERCENT 07-27-05 21 DA-C	AMATA CONTROL PERCENT 07-27-05 21 DA-C	CHEAL CONTROL PERCENT 07-27-05 21 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup Original MAX AMS	4.5	SL DF	0.77 17.0	LB AE/A LB/100 GAL	22.0 17.0	FL OZ/A LB/100 GAL	LPOST LPOST	C C	4	4	99	96	93	99
3	Roundup Original MAX AMS Roundup Original MAX AMS	4.5 4.5	SL DF SL DF	0.77 17.0 0.77 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0 17.0 22.0 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	EPOST EPOST LPOST LPOST	B B C C	3	0	99	99	99	99
4	Valor SX FirstRate Roundup Original MAX AMS	51 84 4.5	WG WG SL DF	0.048 0.0157 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	1.5 0.3 22.0 17.0	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	PRE PRE LPOST LPOST	A A C C	3	2	99	99	99	99
5	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.048 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.5 22.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	3	1	99	98	99	99
6	Valor SX Roundup Original MAX AMS	51 4.5	WG SL DF	0.064 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.0 22.0 17.0	OZ WT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	2	2	99	98	99	99
7	Valor SX V-10149 Roundup Original MAX AMS	51 4.5	WG SL DF	0.048 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.5 1.0 22.0 17.0	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	PRE PRE LPOST LPOST	A A C C	3	3	99	98	98	99
8	Valor SX Roundup Original MAX Domark AMS	51 4.5 1.90	WG SL ME DF	0.064 0.77 0.074 17.0	LB A/A LB AE/A LB A/A LB/100 GAL	2.0 22.0 5.0 17.0	OZ WT/A FL OZ/A FL OZ/A LB/100 GAL	PRE LPOST LPOST LPOST	A C C C	3	3	99	98	98	99
9	Roundup Original MAX Domark AMS	4.5 1.90	SL ME DF	0.77 0.074 17.0	LB AE/A LB A/A LB/100 GAL	22.0 5.0 17.0	FL OZ/A FL OZ/A LB/100 GAL	LPOST LPOST LPOST	C C C	4	5	99	97	91	99
LSD (P=.05)										2.9	2.4	0.0	2.2	1.6	0.0
Standard Deviation										2.5	2.1	0.0	1.9	1.4	0.0
CV										96.25	100.76	0.0	2.14	1.6	0.0

# Iowa State University

Weed Code										XANST	GLXMA
Rating Data Type										CONTROL	YIELD
Rating Unit										PERCENT	BU/A
Rating Date										07-27-05	10-04-05
Trt-Eval Interval										21 DA-C	126 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	21
2	Roundup Original MAX AMS	4.5	SL DF	0.77	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	LPOST	C	99	61
3	Roundup Original MAX AMS Roundup Original MAX AMS	4.5	SL DF SL DF	0.77	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	EPOST EPOST LPOST LPOST	B B C C	99	66
4	Valor SX FirstRate Roundup Original MAX AMS	51	WG WG SL DF	0.048	LB A/A LB A/A LB AE/A LB/100 GAL	1.5	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	PRE	A A C C	99	65
5	Valor SX Roundup Original MAX AMS	51	WG SL DF	0.048	LB A/A LB AE/A LB/100 GAL	1.5	OZ WT/A FL OZ/A LB/100 GAL	PRE	A C C	99	65
6	Valor SX Roundup Original MAX AMS	51	WG SL DF	0.064	LB A/A LB AE/A LB/100 GAL	2.0	OZ WT/A FL OZ/A LB/100 GAL	PRE	A C C	99	65
7	Valor SX V-10149 Roundup Original MAX AMS	51	WG SL DF	0.048	LB A/A LB AE/A LB/100 GAL	1.5	OZ WT/A OZ WT/A FL OZ/A LB/100 GAL	PRE	A A C C	99	63
8	Valor SX Roundup Original MAX Domark AMS	51	WG SL ME DF	0.064	LB A/A LB AE/A LB A/A LB/100 GAL	2.0	OZ WT/A FL OZ/A FL OZ/A LB/100 GAL	PRE	A C C C	99	65
9	Roundup Original MAX Domark AMS	4.5	SL ME DF	0.77	LB AE/A LB A/A LB/100 GAL	22.0	FL OZ/A FL OZ/A LB/100 GAL	LPOST	C C C	99	60
LSD (P=.05)										0.0	4.2
Standard Deviation										0.0	3.6
CV										0.0	6.13



# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-28-05	07-01-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	65 F	65 F
% Relative Humidity:	52	71
Wind Velocity, Unit:	5 MPH	5 MPH
Soil Temp., Unit:	65 F	77 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	40	0

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA -	GLXMA V 4
Stage Scale:	-	DESC
Height, Unit:	-	8 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 4T
Stage Scale:	-	0.25-8 IN
Density, Unit:	- -	0-15 IN
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-7 L
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT2
Weed 4 Code, Stage:	AMBEL -	AMBEL NUMEROUS
Stage Scale:	-	0.25-6 IN
Density, Unit:	- -	< 1 FT2
Weed 5 Code, Stage:	CHEAL -	CHEAL 2-NUM
Stage Scale:	-	0.25-3 IN
Density, Unit:	- -	< 1 FT2
Weed 6 Code, Stage:	XANST -	XANST 2-NUM
Stage Scale:	-	0.25-9 IN
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	TERRA PRO
Operating Pressure:	30	30
Nozzle Size:	11002	11002
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Gangster preemergence followed by postemergence FirstRate, Cobra, Select Max, V-10139, or Select for weed control in soybean, Ames, IA, 2005.**

Trial ID: asc 7

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code										GLXMA	GLXMA	SETFA	ABUTH	AMATA	AMBEL	CHEAL	XANST
Rating Data Type										PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-21-05	06-29-05	06-29-05	06-29-05	06-29-05	06-29-05	06-29-05	06-29-05
Trt-Eval Interval										24 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	5	5	73	95	96	90	98	52
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B								
	COC		L	1.0	PT/A	1.0	PT/A	POST	B								
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B								
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	5	5	60	88	95	85	98	53
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B								
	COC		L	1.0	PT/A	1.0	PT/A	POST	B								
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B								
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	5	5	67	92	96	90	98	55
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B								
	COC		L	1.0	PT/A	1.0	PT/A	POST	B								
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	B								
LSD (P=.05)										0.0	0.0	17.9	6.9	5.1	5.0	4.0	11.0
Standard Deviation										0.0	0.0	9.0	3.4	2.6	2.5	2.0	5.5
CV										0.0	0.0	17.95	5.0	3.59	3.77	2.73	13.82

# Iowa State University

Weed Code										GLXMA	SETFA	ABUTH	AMATA	AMBEL	CHEAL	XANST	GLXMA
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-15-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05	07-28-05
Trt-Eval Interval										14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B	14 DA-B	27 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	20	85	98	99	99	96	98	13
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	25	83	98	99	99	99	83	18
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	22	87	98	99	99	99	96	13
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
LSD (P=.05)										2.9	3.7	4.0	0.0	0.0	2.3	20.5	5.0
Standard Deviation										1.4	1.9	2.0	0.0	0.0	1.2	10.3	2.5
CV										8.66	2.92	2.73	0.0	0.0	1.57	14.82	22.22

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	AMBEL	CHEAL	XANST	GLXMA	SETFA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	08-24-05	08-24-05
Trt-Eval Interval										27 DA-B	27 DA-B	27 DA-B	27 DA-B	27 DA-B	27 DA-B	54 DA-B	54 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	88	98	99	99	96	98	2	88
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	85	98	99	99	99	93	5	83
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	87	98	99	99	98	92	5	87
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
LSD (P=.05)										5.5	4.0	0.0	0.0	3.0	5.2	2.9	5.5
Standard Deviation										2.8	2.0	0.0	0.0	1.5	2.6	1.4	2.8
CV										4.25	2.73	0.0	0.0	2.04	3.71	49.49	4.28

# Iowa State University

Weed Code										ABUTH	AMATA	AMBEL	CHEAL	XANST
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-24-05	08-24-05	08-24-05	08-24-05	08-24-05
Trt-Eval Interval										54 DA-B	54 DA-B	54 DA-B	54 DA-B	54 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	98	99	99	96	98
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A					
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B					
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B					
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B					
	COC	L		1.0	PT/A	1.0	PT/A	POST	B					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B					
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	96	99	98	98	93
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A					
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B					
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B					
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B					
	COC	L		1.0	PT/A	1.0	PT/A	POST	B					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B					
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	98	99	99	98	92
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A					
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B					
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B					
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B					
	COC	L		1.0	PT/A	1.0	PT/A	POST	B					
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B					
LSD (P=.05)										5.9	0.0	2.3	4.4	5.2
Standard Deviation										3.0	0.0	1.2	2.2	2.6
CV										4.09	0.0	1.56	3.03	3.71

# Iowa State University

## Postemergence applications of Baythroid 2, Folicur, and Stratego in soybean, Ames, IA, 2005.

Trial ID: ASC 8  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-26-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this soybean study was to evaluate postemergence application timings of Baythroid 2, Folicur, Stratego, and Absolute for crop phytotoxicity and yield.  
**Conclusions:** There were no significant stunting (STUNT) differences between treatments observed on July 13. However, Stratego at 10 fl oz/A plus Baythroid 2 plus Induce caused 6% chlorosis/speckling (CHLOSPEC) on that date. On July 20 the two treatments of Stratego plus Baythroid 2 plus Induce caused 4% stunting while no other treatments resulted in more than 3% stunting. There was virtually no stunting observed on July 20, 25 or August 2. Chlorosis and speckling did not exceed 5% on observations occurring after the late application to R3 soybean, and no stunting occurred. Soybean yield ranged from 65 to 70 bu/A, and no significant differences in yield were determined between treatments. The untreated control yielded 64 bu/A, and was significantly out yielded by one treatment. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG2403  
Planting Date: 05-26-05 Planting Method: DIRECT DRILLED  
Rate: 151000 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: CLODDY/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

Previous Crops	Previous Pesticides	Year
1. CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting. Roundup WeatherMAX plus AMSol was applied postemergence at 22 fl oz/A plus 5 gal/100 gal to the entire study area on June 24 and August 3 to maintain weed free conditions.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A	B
Application Date:	07-06-05	07-25-05
Application Method:	SPRAY	SPRAY
Application Timing:	R 1	R 3
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	79 F	81 F
% Relative Humidity:	58	80
Wind Velocity, Unit:	0 MPH	1 MPH
Soil Temp., Unit:	79 F	83 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	90	70

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A	B
<b>Crop 1 Code, Stage:</b>	GLXMA V 7 - R 1	GLXMA R 3 - R 4
<b>Stage Scale:</b>	DESC	DESC
<b>Height, Unit:</b>	11 IN	28 IN

## APPLICATION EQUIPMENT

	A	B
<b>Appl. Equipment:</b>	TERRA PRO	HAND BOOM
<b>Operating Pressure:</b>	30	35
<b>Nozzle Size:</b>	11002	11003
<b>Spray Volume, Unit:</b>	20 GPA	20 GPA

# Iowa State University

## Postemergence applications of Baythroid 2, Folicur, and Stratego in soybean, Ames, IA, 2005.

Trial ID: ASC 8

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	
Rating Data Type								STUNT	CHLOSPEC	STUNT	CHLOSPEC	STUNT	CHLOSPEC	STUNT	CHLOSPEC	
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								07-13-05	07-13-05	07-20-05	07-20-05	07-25-05	07-25-05	08-02-05	08-02-05	
Trt-Eval Interval								7 DA-A	7 DA-A	14 DA-A	14 DA-A	19 DA-A	19 DA-A	8 DA-B	8 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									0	0	0	0	0	0	0
2	Baythroid 2	2 EC	0.0437 LB/A/A	2.8 FL OZ/A	R1 A					1	0	0	0	0	0	1
3	Folicur	3.6 SC	0.112 LB/A/A	4.0 FL OZ/A	R1 A					1	0	0	0	0	0	3
4	Folicur	3.6 SC	0.112 LB/A/A	4.0 FL OZ/A	R1 A					3	0	0	0	0	0	4
5	Stratego	2.08 EC	0.114 LB/A/A	7.0 FL OZ/A	R1 A					3	0	1	0	0	0	3
6	Stratego	2.08 EC	0.114 LB/A/A	7.0 FL OZ/A	R1 A					4	0	4	0	0	0	3
7	Stratego	2.08 EC	0.162 LB/A/A	10.0 FL OZ/A	R1 A					4	0	3	0	0	0	5
8	Stratego	2.08 EC	0.162 LB/A/A	10.0 FL OZ/A	R1 A					4	6	4	1	0	0	5
9	Absolute	4.17 SC	0.163 LB/A/A	5.0 FL OZ/A	R1 A					3	0	3	0	0	0	3
10	Absolute	4.17 SC	0.163 LB/A/A	5.0 FL OZ/A	R1 A					3	0	3	0	0	0	5
LSD (P=.05)										3.4	1.1	3.1	1.1	0.0	0.0	3.1
Standard Deviation										2.4	0.8	2.1	0.8	0.0	0.0	2.1
CV										99.86	126.49	129.4	632.46	0.0	0.0	71.0

# Iowa State University

Weed Code										GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
Rating Data Type										STUNT	CHLOSPEC	STUNT	CHLOSPEC	YIELD
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	BU/A
Rating Date										08-12-05	08-12-05	08-24-05	08-24-05	10-03-05
Trt-Eval Interval										18 DA-B	18 DA-B	30 DA-B	30 DA-B	89 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code					
1	Untreated									0	0	0	0	64
2	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A	0	1	0	1	67
3	Folicur	3.6	SC	0.112	LB A/A	4.0	FL OZ/A	R1	A	0	3	0	3	67
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Folicur	3.6	SC	0.112	LB A/A	4.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
4	Folicur	3.6	SC	0.112	LB A/A	4.0	FL OZ/A	R1	A	0	4	0	4	69
	Induce	L		0.125	% V/V	0.125	% V/V	R1	A					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Folicur	3.6	SC	0.112	LB A/A	4.0	FL OZ/A	R3	B					
	Induce	L		0.125	% V/V	0.125	% V/V	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
5	Stratego	2.08	EC	0.114	LB A/A	7.0	FL OZ/A	R1	A	0	3	0	3	67
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Stratego	2.08	EC	0.114	LB A/A	7.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
6	Stratego	2.08	EC	0.114	LB A/A	7.0	FL OZ/A	R1	A	0	3	0	3	65
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Induce	L		0.125	% V/V	0.125	% V/V	R1	A					
	Stratego	2.08	EC	0.114	LB A/A	7.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
	Induce	L		0.125	% V/V	0.125	% V/V	R3	B					
7	Stratego	2.08	EC	0.162	LB A/A	10.0	FL OZ/A	R1	A	0	4	0	3	67
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Stratego	2.08	EC	0.162	LB A/A	10.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
8	Stratego	2.08	EC	0.162	LB A/A	10.0	FL OZ/A	R1	A	0	4	0	4	70
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Induce	L		0.125	% V/V	0.125	% V/V	R1	A					
	Stratego	2.08	EC	0.162	LB A/A	10.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
	Induce	L		0.125	% V/V	0.125	% V/V	R3	B					
9	Absolute	4.17	SC	0.163	LB A/A	5.0	FL OZ/A	R1	A	0	3	0	3	66
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Absolute	4.17	SC	0.163	LB A/A	5.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
10	Absolute	4.17	SC	0.163	LB A/A	5.0	FL OZ/A	R1	A	0	4	0	4	68
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R1	A					
	Induce	L		0.125	% V/V	0.125	% V/V	R1	A					
	Absolute	4.17	SC	0.163	LB A/A	5.0	FL OZ/A	R3	B					
	Baythroid 2	2	EC	0.0437	LB A/A	2.8	FL OZ/A	R3	B					
	Induce	L		0.125	% V/V	0.125	% V/V	R3	B					
LSD (P=.05)										0.0	3.9	0.0	3.9	4.9
Standard Deviation										0.0	2.7	0.0	2.7	3.4
CV										0.0	101.55	0.0	107.5	5.01

# Iowa State University

## Postemergence applications of Roundup WeatherMAX in soybean with various adjuvant replacements for AMS, Ames, IA, 2005.

Trial ID: ASC 9  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-26-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate postemergence applications of Roundup WeatherMAX in soybean with various adjuvants for crop phytotoxicity and weed control.  
**Conclusions:** Soybean injury did not exceed 5% at any of the evaluation dates. Common waterhemp control on July 15 ranged from 92 to 93% for treatments with 11 fl oz/A rate of Roundup WeatherMAX, and 96 to 99% control with the 22 fl oz/A rate. There were no significant differences between treatments for other weeds. On July 22, there were again no significant differences between treatments for velvetleaf control, within the same rate of Roundup WeatherMAX. Roundup WeatherMAX at 22 fl oz/A with LI-169 provided significantly less Venice mallow control compared to LI-170 (96 and 99%, respectively). There were no other significant treatment differences within like herbicide rates. On August 2, there were no significant treatment differences within similar herbicide rate, for any weeds. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
5.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
6.	HIBTR	MALLOW, VENICE	HIBISCUS TRIONUM L.
7.	XANST	COCKLEBUR, COMMON	XANTHIUM STRUMARIUM L. SSP. STRUMARIUM

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG2403  
Planting Date: 05-26-05 Planting Method: DIRECT DRILLED  
Rate: 151000 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	SURPASS, ATRAZINE, BALANCE PRO, CALLISTO	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a fall chisel plowing and a spring field cultivation. Crop residue on the soil surface was 25 to 30% at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	07-01-05
Application Method:	SPRAY
Application Timing:	POST
Applic. Placement:	BROFOL
Air Temp., Unit:	65 F
% Relative Humidity:	71
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	77 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	0

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLXMA V 4
Stage Scale:	DESC
Height, Unit:	8 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-4 L, 4T
Stage Scale:	0.25-8 IN
Density, Unit:	0-5 FT2
Weed 2 Code, Stage:	ABUTH COTYL-10
Stage Scale:	0.25-15
Density, Unit:	0-1 FT2
Weed 3 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.25-14
Density, Unit:	0-3 FT2
Weed 4 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	0.5-5 IN
Density, Unit:	< 1 FT2
Weed 5 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-11
Density, Unit:	0-1 FT2
Weed 6 Code, Stage:	HIBTR COTYL-NUM
Stage Scale:	0.25-2 IN
Density, Unit:	< 1 FT2
Weed 7 Code, Stage:	XANST 2-NUM
Stage Scale:	1-14 IN
Density, Unit:	< 1 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Postemergence applications of Roundup WeatherMAX in soybean with various adjuvant replacements for AMS, Ames, IA, 2005.

Trial ID: ASC 9

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code									GLXMA	GLXMA	SETFA	ABUTH	AMATA	AMBEL	
Rating Data Type									PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-08-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05	
Trt-Eval Interval									7 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST	A	3	0	99	95	99	99
				17	LB/100 GAL	17.0	LB/100 GAL	POST	A						
3	Roundup WeatherMAX LI - 166	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	3	0	99	95	98	99
				0.5	% V/V	0.5	% V/V	POST	A						
4	Roundup WeatherMAX LI - 169	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	0	0	98	93	99	99
				0.5	% V/V	0.5	% V/V	POST	A						
5	Roundup WeatherMAX LI - 170	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	A	5	2	98	95	96	99
				0.75	% V/V	0.75	% V/V	POST	A						
6	Roundup WeatherMAX AMS	4.5	SL DF	0.387	LB AE/A	11.0	FL OZ/A	POST	A	0	0	99	93	92	99
				17.0	LB/100 GAL	17.0	LB/100 GAL	POST	A						
7	Roundup WeatherMAX LI - 169	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST	A	2	0	99	93	93	99
				0.5	% V/V	0.5	% V/V	POST	A						
8	Roundup WeatherMAX LI - 170	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST	A	2	0	99	95	92	99
				0.75	% V/V	0.75	% V/V	POST	A						
LSD (P=.05)									3.8	1.8	1.9	5.7	5.7	0.0	
Standard Deviation									2.2	1.0	1.1	3.2	3.3	0.0	
CV									116.38	489.9	1.24	3.93	3.91	0.0	

# Iowa State University

Weed Code									CHEAL	HIBTR	XANST	GLXMA	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-15-05	07-15-05	07-15-05	07-22-05	07-22-05	07-22-05	
Trt-Eval Interval									14 DA-A	14 DA-A	14 DA-A	21 DA-A	21 DA-A	21 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	99	99	0	99	95
3	Roundup WeatherMAX LI - 166	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	98	99	99	0	99	93
				0.5	% V/V	0.5	% V/V	POST A	A						
4	Roundup WeatherMAX LI - 169	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	98	99	0	98	92
				0.5	% V/V	0.5	% V/V	POST A	A						
5	Roundup WeatherMAX LI - 170	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	99	99	0	99	92
				0.75	% V/V	0.75	% V/V	POST A	A						
6	Roundup WeatherMAX AMS	4.5	SL DF	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	99	99	0	99	92
				17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
7	Roundup WeatherMAX LI - 169	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	98	99	0	99	90
				0.5	% V/V	0.5	% V/V	POST A	A						
8	Roundup WeatherMAX LI - 170	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	99	99	0	99	95
				0.75	% V/V	0.75	% V/V	POST A	A						
LSD (P=.05)										1.4	2.1	0.0	0.0	1.4	5.9
Standard Deviation										0.8	1.2	0.0	0.0	0.8	3.4
CV										0.94	1.39	0.0	0.0	0.94	4.18

# Iowa State University

Weed Code										AMATA	AMBEL	CHEAL	HIBTR	XANST	GLXMA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-22-05	07-22-05	07-22-05	07-22-05	07-22-05	08-02-05
Trt-Eval Interval										21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	32 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	96	99	99	98	99	0
3	Roundup WeatherMAX LI - 166	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	93	99	98	98	99	0
				0.5	% V/V	0.5	% V/V	POST A	A						
4	Roundup WeatherMAX LI - 169	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	95	99	99	96	99	0
				0.5	% V/V	0.5	% V/V	POST A	A						
5	Roundup WeatherMAX LI - 170	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	93	99	99	99	99	0
				0.75	% V/V	0.75	% V/V	POST A	A						
6	Roundup WeatherMAX AMS	4.5	SL DF	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	90	99	98	99	99	0
				17.0	LB/100 GAL	17.0	LB/100 GAL	POST A	A						
7	Roundup WeatherMAX LI - 169	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	90	99	99	98	99	0
				0.5	% V/V	0.5	% V/V	POST A	A						
8	Roundup WeatherMAX LI - 170	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	88	99	98	99	99	0
				0.75	% V/V	0.75	% V/V	POST A	A						
LSD (P=.05)										5.8	0.0	2.5	2.4	0.0	0.0
Standard Deviation										3.3	0.0	1.4	1.3	0.0	0.0
CV										4.09	0.0	1.64	1.57	0.0	0.0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	AMBEL	CHEAL	HIBTR
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-02-05	08-02-05	08-02-05	08-02-05	08-02-05	08-02-05
Trt-Eval Interval										32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A	32 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	95	96	99	96	98
3	Roundup WeatherMAX LI - 166	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	90	90	99	96	98
				0.5	% V/V		0.5	% V/V							
4	Roundup WeatherMAX LI - 169	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	90	95	99	98	96
				0.5	% V/V		0.5	% V/V							
5	Roundup WeatherMAX LI - 170	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST A	A	99	90	93	99	99	99
				0.75	% V/V		0.75	% V/V							
6	Roundup WeatherMAX AMS	4.5	SL DF	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	90	90	99	93	99
				17.0	LB/100 GAL		17.0	LB/100 GAL							
7	Roundup WeatherMAX LI - 169	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	90	88	99	98	98
				0.5	% V/V		0.5	% V/V							
8	Roundup WeatherMAX LI - 170	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	POST A	A	99	93	87	99	96	98
				0.75	% V/V		0.75	% V/V							
LSD (P=.05)										0.0	9.0	6.9	0.0	3.6	2.4
Standard Deviation										0.0	5.1	3.9	0.0	2.1	1.3
CV										0.0	6.45	4.94	0.0	2.45	1.57

# Iowa State University

Weed Code										XANST
Rating Data Type										CONTROL
Rating Unit										PERCENT
Rating Date										08-02-05
Trt-Eval Interval										32 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	Roundup WeatherMAX AMS	4.5	SL DF	0.77 17	LB AE/A LB/100 GAL	22.0	FL OZ/A LB/100 GAL	POST	A A	99
3	Roundup WeatherMAX LI - 166	4.5	SL	0.77 0.5	LB AE/A % V/V	22.0	FL OZ/A % V/V	POST POST	A A	99
4	Roundup WeatherMAX LI - 169	4.5	SL	0.77 0.5	LB AE/A % V/V	22.0	FL OZ/A % V/V	POST POST	A A	99
5	Roundup WeatherMAX LI - 170	4.5	SL	0.77 0.75	LB AE/A % V/V	22.0	FL OZ/A % V/V	POST POST	A A	99
6	Roundup WeatherMAX AMS	4.5	SL DF	0.387 17.0	LB AE/A LB/100 GAL	11.0	FL OZ/A LB/100 GAL	POST POST	A A	99
7	Roundup WeatherMAX LI - 169	4.5	SL	0.387 0.5	LB AE/A % V/V	11.0	FL OZ/A % V/V	POST POST	A A	99
8	Roundup WeatherMAX LI - 170	4.5	SL	0.387 0.75	LB AE/A % V/V	11.0	FL OZ/A % V/V	POST POST	A A	99
LSD (P=.05)										0.0
Standard Deviation										0.0
CV										0.0

# Iowa State University

## Aim, Barrage, and Roundup Original MAX applied in no-tillage cropping conditions for burndown weed control, Ames, IA, 2005.

Trial ID: ANF 1  
Location: Ames

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ames Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50010 Initiation Date: 05-17-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate burndown weed control with Aim, Roundup Original MAX, and Barrage HF when applied in no-tillage cropping conditions.

**Conclusions:** Burndown of all weeds observed on May 23 for EPP applied Roundup Original MAX, alone, was significantly less than tank-mixed treatments. Few significant differences were noted between tank-mixed treatments for all weeds.

No significant weed control differences were observed on June 1. On June 10, no treatments provided adequate control of newly emerged giant foxtail. The 0.5 oz/A rate of Aim plus 22 fl oz/A of Roundup Original MAX and 22 fl oz/A of Roundup Original MAX, alone, did not provide as much common ragweed control as the other treatments. Roundup Original MAX, alone, did not provide as much common dandelion control as the tank mixed treatments when observed June 10. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	AMBEL	RAGWEED, COMMON	AMBROSIA ELATIOR L.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	TAROF	DANDELION, COMMON	TARAXACUM OFFICINALE WEBER IN WIGGERS

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	NONE	NONE	2004

### MAINTENANCE

**Field Prep./Maintenance:** The experiment area was left un-tilled from the 2004 season. Crop residue on the soil surface was 95% at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: WEBSTER CLAY LOAM  
pH: 6.5 Soil Name: CLARION, WEBSTER, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	05-17-05
Application Method:	SPRAY
Application Timing:	EPP
Applic. Placement:	BROFOL
Air Temp., Unit:	74 F
% Relative Humidity:	50
Wind Velocity, Unit:	7 MPH
Soil Temp., Unit:	58 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	30

# Iowa State University

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	SETFA 1-3 LEAF
Stage Scale:	0.25-2 IN
Density, Unit:	0-50 FT2
Weed 2 Code, Stage:	AMBEL NUMEROUS
Stage Scale:	0.5-3 IN
Density, Unit:	0-3 FT2
Weed 3 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-3 IN
Density, Unit:	< 1 FT2
Weed 4 Code, Stage:	TAROF NUMEROUS
Stage Scale:	1-4 IN
Density, Unit:	0-2 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Aim, Barrage, and Roundup Original MAX applied in no-tillage cropping conditions for burndown weed control, Ames, IA, 2005.

Trial ID: ANF 1

Study Dir.: Owen/Lux/Franzenburg

Location: Ames

Investigator: Owen/Hartzler/Pringnitz

Weed Code								SETFA	AMBEL	CHEAL	TAROF	SETFA	AMBEL		
Rating Data Type								CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								05-23-05	05-23-05	05-23-05	05-23-05	06-01-05	06-01-05		
Trt-Eval Interval								6 DA-A	6 DA-A	6 DA-A	6 DA-A	15 DA-A	15 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	95	75	96	85	99	95
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
3	Aim	2	EW	0.0078	LB A/A	0.5	FL OZ/A	EPP	A	95	90	96	83	99	98
	Roundup Original MAX	4.5	SL	0.387	LB AE/A	11.0	FL OZ/A	EPP	A						
	Barrage HF	4.7	SL	0.367	LB A/A	10.0	FL OZ/A	EPP	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
4	Aim	2	EW	0.0117	LB A/A	0.75	FL OZ/A	EPP	A	96	83	99	92	99	95
	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
5	Aim	2	EW	0.0117	LB A/A	0.75	FL OZ/A	EPP	A	96	92	98	87	99	99
	Roundup Original MAX	4.5	SL	0.56	LB AE/A	16.0	FL OZ/A	EPP	A						
	Barrage HF	4.7	SL	0.22	LB A/A	6.0	FL OZ/A	EPP	A						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
6	Roundup Original MAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	EPP	A	90	48	80	28	99	93
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPP	A						
LSD (P=.05)								2.5	15.1	6.2	5.3	0.0	5.6		
Standard Deviation								1.4	8.3	3.4	2.9	0.0	3.1		
CV								1.78	12.82	4.39	4.62	0.0	3.82		

# Iowa State University

Weed Code										CHEAL	TAROF	SETFA	AMBEL	CHEAL	TAROF
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-01-05	06-01-05	06-10-05	06-10-05	06-10-05	06-10-05
Trt-Eval Interval										15 DA-A	15 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Aim Roundup Original MAX AMS	2 EW 4.5 SL DF		0.0078 0.77 17.0	LB A/A LB AE/A LB/100 GAL	0.5 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL		EPP A EPP A EPP A		99	82	48	87	99	83
3	Aim Roundup Original MAX Barrage HF AMS	2 EW 4.5 SL 4.7 SL DF		0.0078 0.387 0.367 17.0	LB A/A LB AE/A LB A/A LB/100 GAL	0.5 FL OZ/A 11.0 FL OZ/A 10.0 FL OZ/A 17.0 LB/100 GAL		EPP A EPP A EPP A EPP A		99	82	52	95	99	80
4	Aim Roundup Original MAX AMS	2 EW 4.5 SL DF		0.0117 0.77 17.0	LB A/A LB AE/A LB/100 GAL	0.75 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL		EPP A EPP A EPP A		99	92	48	91	99	87
5	Aim Roundup Original MAX Barrage HF AMS	2 EW 4.5 SL 4.7 SL DF		0.0117 0.56 0.22 17.0	LB A/A LB AE/A LB A/A LB/100 GAL	0.75 FL OZ/A 16.0 FL OZ/A 6.0 FL OZ/A 17.0 LB/100 GAL		EPP A EPP A EPP A EPP A		99	90	55	96	99	85
6	Roundup Original MAX AMS	4.5 SL DF		0.77 17.0	LB AE/A LB/100 GAL	22.0 FL OZ/A 17.0 LB/100 GAL		EPP A EPP A		99	52	45	85	99	77
LSD (P=.05)										0.0	11.8	5.7	7.0	0.0	12.3
Standard Deviation										0.0	6.5	3.1	3.8	0.0	6.7
CV										0.0	9.83	7.53	5.08	0.0	9.84

# Iowa State University

## Preemergence and postemergence applied herbicides in corn, Nashua, IA, 2005.

Trial ID: NCC 1  
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Nashua Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50658-9270 Initiation Date: 05-17-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for crop phytotoxicity and weed control in corn.  
**Conclusions:** There were no significant corn stand differences due to herbicide treatment. None of the PRE applications caused corn injury. POST applied Marksman, Hornet plus Callisto plus Atrazine, and Steadfast plus Callisto plus Atrazine caused 12 to 17% corn injury. However, injury did not exceed 10% at later dates. PRE applied Balance Pro at a reduced rate of 1.5 fl oz/A, provided 90% giant foxtail control, and remaining PRE treatments provided at least 96% when observed on June 15. PRE G-Max Lite plus Balance Pro, G-Max Lite plus Hornet, Lexar, Lumax and Balance Pro, alone, provided at least 98% velvetleaf control. No other PRE treatments provided more than 78% control. All PRE treatments provided excellent common waterhemp and common lambsquarters control. Pennsylvania smartweed control was 80% with PRE Outlook, but 99% for all other treatments. G-Max Lite, without a tank-mix, did not provide adequate velvetleaf control. POST2 applications of Glyphomax XRT or Roundup WeatherMAX, which were not preceded by a PRE or tank-mixed with another herbicide, provided significantly less broadleaf weed control on later observation dates, than other postemergence treatments. There were no significant corn yield differences between herbicide treatments, with the exception of the untreated control. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 50-20  
Planting Date: 05-17-05 Planting Method: DIRECT DRILLED  
Rate: 35077 SEEDS/A Depth: 1.75 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY  
Soil Moisture: NORMAL

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN		2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 140 lb/A actual N applied as anhydrous ammonia. Crop residue on the soil surface was 15 to 20% at planting.

### SOIL DESCRIPTION

% OM: 5.5 Texture: LOAM  
pH: 6.75 Soil Name: FLOYD, KENYON, CLYDE  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	05-20-05	06-15-05	06-20-05	07-12-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST1	POST2	DPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL	BRODIR
Air Temp., Unit:	60 F	68 F	86 F	86 F
% Relative Humidity:	80	85	70	71
Wind Velocity, Unit:	3 MPH	10 MPH	3 MPH	0 MPH
Soil Temp., Unit:	59 F	67 F	75 F	82 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	95	80	30	0

## CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5	ZEAMD V 6	ZEAMD V 10
Stage Scale:	-	DESC	DESC	DESC
Height, Unit:	-	9 IN	13 IN	60 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T	SETFA 1-4 L, 3T	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-4 IN	0.25-6 IN	0.25-2 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-8 L	ABUTH COTYL-5 L
Stage Scale:	-	0.25-4 IN	0.25-5 IN	0.25-4 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA NUMEROUS	AMATA NUMEROUS
Stage Scale:	-	0.5-3 IN	0.5-4 IN	0.25-4 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL NUMEROUS	CHEAL NUMEROUS
Stage Scale:	-	0.5-3.5	0.5-5 IN	0.25-5 IN
Density, Unit:	- -	0-1 FT2	0-1 FT2	< 1 FT2
Weed 5 Code, Stage:	POLPY -	POLPY 4-NUM	POLPY 4-NUM	POLPY NUMEROUS
Stage Scale:	-	1-4 IN	1-5 IN	2-8 IN
Density, Unit:	- -	< 1 FT2	< 1 FT2	< 1 FT2

## APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35	40
Nozzle Size:	11002	11003	11003	15003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Preemergence and postemergence applied herbicides in corn, Nashua, IA, 2005.

Trial ID: NCC 1  
 Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL		
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL		
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05		
Trt-Eval Interval								73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									34	0	0	0	0	0
2	G-Max Lite	5	SC	2.19	LB A/A	3.5	PT/A	PRE	A	32	0	99	72	99	99
3	G-Max Lite Balance Pro	5 4	SC SC	2.19 0.047	LB A/A LB A/A	3.5 1.5	PT/A FL OZ/A	PRE PRE	A A	33	0	99	99	99	99
4	G-Max Lite Hornet WDG	5 68.5	SC WG	2.19 0.171	LB A/A LB A/A	3.5 4.0	PT/A OZ WT/A	PRE PRE	A A	33	0	99	98	99	99
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	32	0	99	99	99	99
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	33	0	99	99	99	99
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	PRE POST1	A B	33	0	99	35	99	96
8	G-Max Lite Distinct NIS AMS	5 70 L DF	SC WG L DF	2.19 0.175 0.25 5.0	LB A/A LB A/A % V/V LB/100 GAL	3.5 4.0 0.25 5.0	PT/A OZ WT/A % V/V LB/100 GAL	PRE POST2 POST2 POST2	A C C C	33	0	99	68	99	99
9	Balance Pro Option Callisto Atrazine MSO AMS	4 35 4 4 L DF	SC WG SC SL L DF	0.047 0.0328 0.047 0.5 1.5 1.5	LB A/A LB A/A LB A/A LB A/A PT/A LB/A	1.5 1.5 1.5 1.0 1.5 1.5	FL OZ/A OZ WT/A FL OZ/A PT/A PT/A LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	33	0	90	99	99	99
10	Keystone Hornet WDG Callisto Atrazine COC 28% UAN	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 1.0 2.5	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 1.0 2.5	QT/A OZ WT/A FL OZ/A LB/A %V/V %V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	33	0	99	78	99	99
11	Keystone Glyphomax XRT AMS	5.25 4 DF	SE SL DF	1.97 0.75 2.5	LB A/A LB AE/A LB/A	1.5 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	34	0	99	72	99	99
12	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST2 POST2	C C	33	0	0	0	0	0
13	Cinch ATZ Steadfast Callisto Atrazine Agridex AMS	5.5 75 4 90 L DF	SL WG SC DF L DF	1.72 0.035 0.0625 0.25 1.0 2.0	LB A/A LB A/A LB A/A LB A/A % V/V LB/A	2.5 0.75 2.0 4.44 1.0 2.0	PT/A OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	34	0	96	55	99	99
14	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.035 0.0625 1.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 26.7 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	POST1 POST1 POST1 POST1 POST1	B B B B B	32	0	0	0	0	0
15	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SE SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	34	0	98	48	99	99
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	33	0	0	0	0	0
17	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	32	0	0	0	0	0

# Iowa State University

Weed Code									ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	
Rating Data Type									STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	
Trt-Eval Interval									73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
18	Lumax	3.95	SE	1.97	LB A/A	2.0	QT/A	PRE	A	33	0	99	99	99	99
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST2	C						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST2	C						
LSD (P=.05)									1.9	0.0	1.3	8.7	0.0	0.9	
Standard Deviation									1.1	0.0	0.8	5.2	0.0	0.5	
CV									3.4	0.0	1.07	9.24	0.0	0.76	

# Iowa State University

Weed Code									POLPY	ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-15-05	06-20-05	06-28-05	06-28-05	06-28-05	06-28-05	
Trt-Eval Interval									26 DA-A	5 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	G-Max Lite	5	SC	2.19	LB A/A	3.5	PT/A	PRE	A	99	0	0	98	57	99
3	G-Max Lite Balance Pro	5 4	SC SC	2.19 0.047	LB A/A LB A/A	3.5 1.5	PT/A FL OZ/A	PRE PRE	A A	99	0	0	99	99	99
4	G-Max Lite Hornet WDG	5 68.5	SC WG	2.19 0.171	LB A/A LB A/A	3.5 4.0	PT/A OZ WT/A	PRE PRE	A A	99	0	0	99	96	99
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	0	0	96	99	99
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	0	0	96	99	99
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	PRE POST1	A B	80	12	10	98	96	99
8	G-Max Lite Distinct NIS AMS	5 70 L DF	SC WG L DF	2.19 0.175 0.25 5.0	LB A/A LB A/A % V/V LB/100 GAL	3.5 4.0 0.25 5.0	PT/A OZ WT/A % V/V LB/100 GAL	PRE POST2 POST2 POST2	A C C C	99	0	5	99	95	99
9	Balance Pro Option Callisto Atrazine MSO AMS	4 35 4 4 L DF	SC WG SC SL L DF	0.047 0.0328 0.047 0.5 1.5 1.5	LB A/A LB A/A LB A/A LB A/A PT/A LB/A	1.5 1.5 1.5 1.0 1.5 1.5	FL OZ/A OZ WT/A FL OZ/A PT/A PT/A LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	0	10	95	99	99
10	Keystone Hornet WDG Callisto Atrazine COC 28% UAN	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 1.0 2.5	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 1.0 2.5	QT/A OZ WT/A FL OZ/A LB/A %V/V %V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	15	3	99	99	99
11	Keystone Glyphomax XRT AMS	5.25 4 DF	SE SL DF	1.97 0.75 2.5	LB A/A LB AE/A LB/A	1.5 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	0	0	99	95	99
12	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST2 POST2	C C	0	0	0	95	93	98
13	Cinch ATZ Steadfast Callisto Atrazine Agridex AMS	5.5 75 4 90 L DF	SL WG SC DF L DF	1.72 0.035 0.0625 0.25 1.0 2.0	LB A/A LB A/A LB A/A LB A/A % V/V LB/A	2.5 0.75 2.0 4.44 1.0 2.0	PT/A OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	0	10	98	99	99
14	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.035 0.0625 1.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 26.7 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	POST1 POST1 POST1 POST1 POST1	B B B B B	0	17	10	95	99	99
15	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SE SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	0	0	99	95	99
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	0	0	0	95	95	98
17	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	0	0	0	95	95	96
18	Lumax Touchdown Total AMS	3.95 4.17 DF	SE SL DF	1.97 0.78 2.5	LB A/A LB AE/A LB/A	2.0 24.0 2.5	QT/A FL OZ/A LB/A	PRE POST2 POST2	A C C	99	0	0	99	99	99
LSD (P=.05)										0.0	1.6	1.1	2.0	4.3	1.5
Standard Deviation										0.0	1.0	0.7	1.2	2.6	0.9
CV										0.0	40.55	25.34	1.33	2.9	0.97

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 06-28-05 13 DA-B	POLPY CONTROL PERCENT 06-28-05 13 DA-B	ZEAMD PHYTO PERCENT 07-12-05 22 DA-C	SETFA CONTROL PERCENT 07-12-05 22 DA-C	ABUTH CONTROL PERCENT 07-12-05 22 DA-C	AMATA CONTROL PERCENT 07-12-05 22 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	G-Max Lite	5	SC	2.19	LB A/A	3.5	PT/A	PRE	A	99	99	0	96	50	99
3	G-Max Lite Balance Pro	5 4	SC SC	2.19 0.047	LB A/A LB A/A	3.5 1.5	PT/A FL OZ/A	PRE PRE	A A	99	99	0	98	99	99
4	G-Max Lite Hornet WDG	5 68.5	SC WG	2.19 0.171	LB A/A LB A/A	3.5 4.0	PT/A OZ WT/A	PRE PRE	A A	99	99	0	98	95	99
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	0	95	99	99
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	0	95	99	99
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	PRE POST1	A B	99	99	7	98	96	99
8	G-Max Lite Distinct NIS AMS	5 70 L DF	SC WG L DF	2.19 0.175 0.25 5.0	LB A/A LB A/A % V/V LB/100 GAL	3.5 4.0 0.25 5.0	PT/A OZ WT/A % V/V LB/100 GAL	PRE POST2 POST2 POST2	A C C C	99	99	0	99	96	99
9	Balance Pro Option Callisto Atrazine MSO AMS	4 35 4 4 L DF	SC WG SC SL L DF	0.047 0.0328 0.047 0.5 1.5 1.5	LB A/A LB A/A LB A/A LB A/A PT/A LB/A	1.5 1.5 1.5 1.0 1.5 1.5	FL OZ/A OZ WT/A FL OZ/A PT/A PT/A LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	99	2	95	99	99
10	Keystone Hornet WDG Callisto Atrazine COC 28% UAN	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 1.0 2.5	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 1.0 2.5	QT/A OZ WT/A FL OZ/A LB/A %V/V %V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	0	99	99	99
11	Keystone Glyphomax XRT AMS	5.25 4 DF	SE SL DF	1.97 0.75 2.5	LB A/A LB AE/A LB/A	1.5 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	0	99	98	99
12	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST2 POST2	C C	93	90	0	99	95	96
13	Cinch ATZ Steadfast Callisto Atrazine Agridex AMS	5.5 75 4 90 L DF	SL WG SC DF L DF	1.72 0.035 0.0625 0.25 1.0 2.0	LB A/A LB A/A LB A/A LB A/A % V/V LB/A	2.5 0.75 2.0 4.44 1.0 2.0	PT/A OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	99	0	99	99	99
14	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.035 0.0625 1.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 26.7 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	POST1 POST1 POST1 POST1 POST1	B B B B B	99	99	2	95	99	99
15	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SE SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	0	99	96	99
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	95	90	0	99	95	98
17	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	95	90	0	99	95	96
18	Lumax Touchdown Total AMS	3.95 4.17 DF	SE SL DF	1.97 0.78 2.5	LB A/A LB AE/A LB/A	2.0 24.0 2.5	QT/A FL OZ/A LB/A	PRE POST2 POST2	A C C	99	99	0	99	99	99
LSD (P=.05)										1.1	0.0	2.0	2.4	4.7	1.5
Standard Deviation										0.7	0.0	1.2	1.4	2.8	0.9
CV										0.73	0.0	212.13	1.57	3.14	0.97

# Iowa State University

Weed Code									CHEAL	POLPY	ZEAMD	SETFA	ABUTH	AMATA	
Rating Data Type									CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-12-05	07-12-05	08-24-05	08-24-05	08-24-05	08-24-05	
Trt-Eval Interval									22 DA-C	22 DA-C	65 DA-C	65 DA-C	65 DA-C	65 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	G-Max Lite	5	SC	2.19	LB A/A	3.5	PT/A	PRE	A	99	99	0	95	47	99
3	G-Max Lite Balance Pro	5 4	SC SC	2.19 0.047	LB A/A LB A/A	3.5 1.5	PT/A FL OZ/A	PRE PRE	A A	99	99	0	99	99	99
4	G-Max Lite Hornet WDG	5 68.5	SC WG	2.19 0.171	LB A/A LB A/A	3.5 4.0	PT/A OZ WT/A	PRE PRE	A A	99	99	0	96	93	99
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	0	92	99	99
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	0	95	99	99
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	PRE POST1	A B	99	99	0	98	96	99
8	G-Max Lite Distinct NIS AMS	5 70 L DF	SC WG L DF	2.19 0.175 0.25 5.0	LB A/A LB A/A % V/V LB/100 GAL	3.5 4.0 0.25 5.0	PT/A OZ WT/A % V/V LB/100 GAL	PRE POST2 POST2 POST2	A C C C	99	99	0	99	98	99
9	Balance Pro Option Callisto Atrazine MSO AMS	4 35 4 4 L DF	SC WG SC SL L DF	0.047 0.0328 0.047 0.5 1.5 1.5	LB A/A LB A/A LB A/A LB A/A PT/A LB/A	1.5 1.5 1.5 1.0 1.5 1.5	FL OZ/A OZ WT/A FL OZ/A PT/A PT/A LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	99	0	90	99	99
10	Keystone Hornet WDG Callisto Atrazine COC 28% UAN	5.25 68.5 4 90 L L	SE WG SC DF L L	3.48 0.128 0.0234 0.25 1.0 2.5	LB A/A LB AE/A LB A/A LB A/A % V/V % V/V	2.65 3.0 0.75 0.28 1.0 2.5	QT/A OZ WT/A FL OZ/A LB/A %V/V %V/V	PRE POST1 POST1 POST1 POST1 POST1	A B B B B B	99	99	0	99	99	99
11	Keystone Glyphomax XRT AMS	5.25 4 DF	SE SL DF	1.97 0.75 2.5	LB A/A LB AE/A LB/A	1.5 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	99	99	0	98	98	99
12	Glyphomax XRT AMS	4 DF	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST2 POST2	C C	96	93	0	95	92	93
13	Cinch ATZ Steadfast Callisto Atrazine Agridex AMS	5.5 75 4 90 L DF	SL WG SC DF L DF	1.72 0.035 0.0625 0.25 1.0 2.0	LB A/A LB A/A LB A/A LB A/A % V/V LB/A	2.5 0.75 2.0 4.44 1.0 2.0	PT/A OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	PRE POST2 POST2 POST2 POST2 POST2	A C C C C C	99	99	0	99	99	99
14	Steadfast Callisto Atrazine Agridex AMS	75 4 90 L DF	WG SC DF L DF	0.035 0.0625 1.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 26.7 1.0 2.0	OZ WT/A FL OZ/A OZ WT/A %V/V LB/A	POST1 POST1 POST1 POST1 POST1	B B B B B	99	99	0	88	99	99
15	Harness Xtra Roundup WeatherMAX AMS	6 4.5 DF	SE SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	99	99	0	98	95	99
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 DF 4.5 DF	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	96	93	0	99	99	99
17	Roundup WeatherMAX AMS	4.5 DF	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	96	93	0	92	88	90
18	Lumax Touchdown Total AMS	3.95 4.17 DF	SE SL DF	1.97 0.78 2.5	LB A/A LB AE/A LB/A	2.0 24.0 2.5	QT/A FL OZ/A LB/A	PRE POST2 POST2	A C C	99	99	0	98	99	99
LSD (P=.05)										1.5	2.0	0.0	3.4	4.8	2.3
Standard Deviation										0.9	1.2	0.0	2.0	2.9	1.4
CV										0.95	1.27	0.0	2.26	3.25	1.47

# Iowa State University

Weed Code									CHEAL	POLPY	ZEAMD	
Rating Data Type									CONTROL	CONTROL	YIELD	
Rating Unit									PERCENT	PERCENT	BU/A	
Rating Date									08-24-05	08-24-05	10-20-05	
Trt-Eval Interval									65 DA-C	65 DA-C	153 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	145
2	G-Max Lite	5	SC	2.19	LB A/A	3.5	PT/A	PRE	A	96	99	199
3	G-Max Lite Balance Pro	5 4	SC SC	2.19 0.047	LB A/A LB A/A	3.5 1.5	PT/A FL OZ/A	PRE PRE	A A	98	99	211
4	G-Max Lite Hornet WDG	5 68.5	SC WG	2.19 0.171	LB A/A LB A/A	3.5 4.0	PT/A OZ WT/A	PRE PRE	A A	99	99	207
5	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	191
6	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	204
7	Outlook Marksman	6 3.2	EC FL	0.98 1.4	LB A/A LB A/A	21.0 3.5	FL OZ/A PT/A	PRE POST1	A B	99	99	195
8	G-Max Lite Distinct NIS AMS	5 70	SC WG L	2.19 0.175 0.25	LB A/A LB A/A % V/V	3.5 4.0 0.25	PT/A OZ WT/A % V/V	PRE POST2 POST2	A C C	98	99	191
9	Balance Pro Option Callisto Atrazine MSO AMS	4 35 4 4	SC WG SC SL	0.047 0.0328 0.047 0.5	LB A/A LB A/A LB A/A	1.5 1.5 1.5 1.0	FL OZ/A OZ WT/A FL OZ/A PT/A	PRE POST2 POST2 POST2	A C C C	99	99	196
10	Keystone Hornet WDG Callisto Atrazine COC 28% UAN	5.25 68.5 4 90	SE WG SC DF L	3.48 0.128 0.0234 0.25 1.0	LB A/A LB AE/A LB A/A LB A/A % V/V	2.65 3.0 0.75 0.28 1.0	QT/A OZ WT/A FL OZ/A LB/A %V/V	PRE POST1 POST1 POST1 POST1	A B B B B	99	99	204
11	Keystone Glyphomax XRT AMS	5.25 4	SE SL DF	1.97 0.75 2.5	LB A/A LB AE/A LB/A	1.5 1.5 2.5	QT/A PT/A LB/A	PRE POST2 POST2	A C C	98	98	203
12	Glyphomax XRT AMS	4	SL DF	0.75 2.5	LB AE/A LB/A	1.5 2.5	PT/A LB/A	POST2 POST2	C C	90	92	210
13	Cinch ATZ Steadfast Callisto Atrazine Agridex AMS	5.5 75 4 90	SL WG SC DF L	1.72 0.035 0.0625 0.25 1.0	LB A/A LB A/A LB A/A LB A/A % V/V	2.5 0.75 2.0 4.44 1.0	PT/A OZ WT/A FL OZ/A OZ WT/A %V/V	PRE POST2 POST2 POST2 POST2	A C C C C	99	99	203
14	Steadfast Callisto Atrazine Agridex AMS	75 4 90	WG SC DF L	0.035 0.0625 1.5 1.0	LB A/A LB A/A LB A/A % V/V	0.75 2.0 26.7 1.0	OZ WT/A FL OZ/A OZ WT/A %V/V	POST1 POST1 POST1 POST1	B B B B	99	99	202
15	Harness Xtra Roundup WeatherMAX AMS	6 4.5	SE SL DF	1.8 0.75 17.0	LB A/A LB AE/A LB/100 GAL	1.2 21.3 17.0	QT/A FL OZ/A LB/100 GAL	PRE POST2 POST2	A C C	96	98	209
16	Roundup WeatherMAX AMS Roundup WeatherMAX AMS	4.5 4.5	SL DF SL DF	0.75 17.0 0.75 17.0	LB AE/A LB/100 GAL LB AE/A LB/100 GAL	21.3 17.0 21.3 17.0	FL OZ/A LB/100 GAL FL OZ/A LB/100 GAL	POST2 POST2 DPOST DPOST	C C D D	99	99	205
17	Roundup WeatherMAX AMS	4.5	SL DF	0.75 17.0	LB AE/A LB/100 GAL	21.3 17.0	FL OZ/A LB/100 GAL	POST2 POST2	C C	88	92	196
18	Lumax Touchdown Total AMS	3.95 4.17	SE SL DF	1.97 0.78 2.5	LB A/A LB AE/A LB/A	2.0 24.0 2.5	QT/A FL OZ/A LB/A	PRE POST2 POST2	A C C	99	99	208
LSD (P=.05)									2.3	2.1	26.7	
Standard Deviation									1.4	1.3	16.0	
CV									1.51	1.37	8.06	

# Iowa State University

**Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Nashua, IA, 2005.**  
 Trial ID: NCC 2 Study Dir.: Owen/Lux/Franzenburg  
 Location: Nashua Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Nashua **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50658-9270 **Initiation Date:** 05-17-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate various preemergence applied herbicides for crop phytotoxicity, weed control and corn yield.  
**Conclusions:** Herbicide treatment did not affect corn stand. No PRE treatments caused corn injury when observed June 20. POST applied Lexar and Bicep II Magnum caused 10 and 2% corn injury, respectively. However, neither exceeded 5% injury at later dates. Giant foxtail control did not exceed 83 and 65% for POST Lexar and Bicep II Magnum, respectively. Velvetleaf control did not exceed 82% for PRE Bicep II Magnum, Guardsman Max, Harness Xtra or Keystone. PRE Guardsman Max plus Balance Pro and Lexar yielded higher than POST Bicep II Magnum. There were no other significant yield differences between herbicide treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
5.	POLPY	SMARTWEED, PENNSYLVANIA	POLYGONUM PENNSYLVANICUM L.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 50-20  
**Planting Date:** 05-17-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 35077 SEEDS/A **Depth:** 1.75 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY  
**Soil Moisture:** NORMAL

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN		2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 140 lb/A actual N applied as anhydrous ammonia. Crop residue on the soil surface was 15 to 20% at planting.

### SOIL DESCRIPTION

**% OM:** 5.5 **Texture:** LOAM  
**pH:** 6.75 **Soil Name:** FLOYD, KENYON, CLYDE  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-20-05	06-15-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	60 F	68 F
% Relative Humidity:	80	85
Wind Velocity, Unit:	3 MPH	10 MPH
Soil Temp., Unit:	59 F	67 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	95	80

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5
Stage Scale:	-	DESC
Height, Unit:	-	9 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	0-1 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.5-3.5
Density, Unit:	- -	< 1 FT <sup>2</sup>
Weed 5 Code, Stage:	POLPY -	POLPY 4-8 LEAF
Stage Scale:	-	1-3.5 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	HAND BOOM
Operating Pressure:	30	35
Nozzle Size:	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Lexar, Bicep II Magnum, Lumax, Guardsman Max, Harness Xtra, Radius, Keystone, Hornet WDG, Balance Pro and Atrazine in corn, Nashua, IA, 2005.**

Trial ID: NCC 2 Study Dir.: Owen/Lux/Franzenburg  
 Location: Nashua Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	POLPY	ZEAMD		
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO		
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-20-05		
Trt-Eval Interval								73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	5 DA-B		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									33	0	0	0	0	0	0	
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	33	0	99	99	99	99	99	
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	34	0	99	99	99	99	99	
4	Bicep II Magnum	5.5	SC	2.9	LB A/A	2.1	QT/A	PRE	A	33	0	98	82	99	99	99	
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	33	0	98	99	99	99	99	
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	32	0	98	99	99	99	99	
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	33	0	99	82	99	99	99	
8	Harness Xtra	5.6	SC	3.43	LB A/A	2.45	QT/A	PRE	A	32	0	99	82	99	99	99	
9	Radius	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE	A	31	0	98	99	99	99	99	
10	Keystone	5.25	SE	3.4	LB A/A	2.6	QT/A	PRE	A	32	0	99	80	99	99	99	
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	33	0	0	0	0	0	0	
12	Bicep II Magnum NIS	5.5	SC L	2.9 0.25	LB A/A % V/V	2.1 0.25	QT/A % V/V	POST POST	B B	33	0	0	0	0	0	0	
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.4 0.128	LB A/A LB AE/A	2.6 3.0	QT/A OZ WT/A	PRE PRE	A A	33	0	99	95	99	99	99	
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	33	0	99	99	99	99	99	
15	Radius Atrazine	4 4	SC SL	0.72 0.75	LB A/A LB A/A	23.0 0.75	FL OZ/A QT/A	PRE PRE	A A	33	0	99	99	99	99	99	
LSD (P=.05)										2.2	0.0	1.8	3.7	0.0	0.0	0.0	1.2
Standard Deviation										1.3	0.0	1.1	2.2	0.0	0.0	0.0	0.7
CV										3.95	0.0	1.34	3.02	0.0	0.0	0.0	95.83

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ZEAMD PHYTO PERCENT 06-28-05 13 DA-B	SETFA CONTROL PERCENT 06-28-05 13 DA-B	ABUTH CONTROL PERCENT 06-28-05 13 DA-B	AMATA CONTROL PERCENT 06-28-05 13 DA-B	CHEAL CONTROL PERCENT 06-28-05 13 DA-B	POLPY CONTROL PERCENT 06-28-05 13 DA-B	SETFA CONTROL PERCENT 07-12-05 27 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	0	95	99	99	99	95
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	0	96	99	99	99	96
4	Bicep II Magnum	5.5	SC	2.9	LB A/A	2.1	QT/A	PRE	A	0	95	75	99	99	95
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	0	96	99	99	99	95
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	0	95	99	99	99	93
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	0	96	72	99	99	96
8	Harness Xtra	5.6	SC	3.43	LB A/A	2.45	QT/A	PRE	A	0	96	68	99	99	96
9	Radius	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE	A	0	96	99	99	99	96
10	Keystone	5.25	SE	3.4	LB A/A	2.6	QT/A	PRE	A	0	96	77	99	99	96
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	5	83	99	99	99	82
12	Bicep II Magnum NIS	5.5	SC L	2.9 0.25	LB A/A % V/V	2.1 0.25	QT/A % V/V	POST POST	B B	0	65	99	99	99	63
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.4 0.128	LB A/A LB AE/A	2.6 3.0	QT/A OZ WT/A	PRE PRE	A A	0	98	95	99	99	96
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	0	99	99	99	99	99
15	Radius Atrazine	4 4	SC SL	0.72 0.75	LB A/A LB A/A	23.0 0.75	FL OZ/A QT/A	PRE PRE	A A	0	98	99	99	99	98
LSD (P=.05)										0.0	4.2	3.5	0.0	0.0	0.0
Standard Deviation										0.0	2.5	2.1	0.0	0.0	0.0
CV										0.0	2.92	2.44	0.0	0.0	0.0

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									ABUTH CONTROL PERCENT 07-12-05 27 DA-B	AMATA CONTROL PERCENT 07-12-05 27 DA-B	CHEAL CONTROL PERCENT 07-12-05 27 DA-B	POLPY CONTROL PERCENT 07-12-05 27 DA-B	SETFA CONTROL PERCENT 08-24-05 70 DA-B	ABUTH CONTROL PERCENT 08-24-05 70 DA-B	AMATA CONTROL PERCENT 08-24-05 70 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	99	99	99	99	92	99
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	99	99	93	99
4	Bicep II Magnum	5.5	SC	2.9	LB A/A	2.1	QT/A	PRE	A	73	99	99	99	92	63
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	99	99	93	99
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	99	99	99	99	90	99
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	70	99	99	99	96	60
8	Harness Xtra	5.6	SC	3.43	LB A/A	2.45	QT/A	PRE	A	65	99	99	99	95	55
9	Radius	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE	A	99	99	99	99	95	99
10	Keystone	5.25	SE	3.4	LB A/A	2.6	QT/A	PRE	A	73	99	99	99	95	65
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	99	99	99	99	72	99
12	Bicep II Magnum NIS	5.5	SC L	2.9 0.25	LB A/A % V/V	2.1 0.25	QT/A % V/V	POST POST	B B	99	99	99	99	52	99
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.4 0.128	LB A/A LB AE/A	2.6 3.0	QT/A OZ WT/A	PRE PRE	A A	95	99	99	99	96	93
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	98	99	99	99	99	98
15	Radius Atrazine	4 4	SC SL	0.72 0.75	LB A/A LB A/A	23.0 0.75	FL OZ/A QT/A	PRE PRE	A A	98	99	99	99	98	98
LSD (P=.05)										4.7	0.0	0.0	0.0	4.4	6.2
Standard Deviation										2.8	0.0	0.0	0.0	2.6	3.7
CV										3.34	0.0	0.0	0.0	3.13	4.56

# Iowa State University

Weed Code Rating Data Type Rating Unit Rating Date Trt-Eval Interval									CHEAL CONTROL PERCENT 08-24-05 70 DA-B	POLPY CONTROL PERCENT 08-24-05 70 DA-B	ZEAMD YIELD BU/A 10-20-05 153 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	144
2	Lexar	3.7	SE	2.78	LB A/A	3.0	QT/A	PRE	A	99	99	225
3	Lexar	3.7	SE	3.24	LB A/A	3.5	QT/A	PRE	A	99	99	202
4	Bicep II Magnum	5.5	SC	2.9	LB A/A	2.1	QT/A	PRE	A	98	99	195
5	Lumax	3.95	SE	2.96	LB A/A	3.0	QT/A	PRE	A	99	99	213
6	Lexar Princep	3.7 4	SE L	2.78 1.0	LB A/A LB A/A	3.0 1.0	QT/A QT/A	PRE PRE	A A	99	99	206
7	Guardsman Max	5	SC	2.7	LB A/A	4.3	PT/A	PRE	A	98	99	212
8	Harness Xtra	5.6	SC	3.43	LB A/A	2.45	QT/A	PRE	A	98	99	205
9	Radius	4	SC	0.72	LB A/A	23.0	FL OZ/A	PRE	A	99	99	198
10	Keystone	5.25	SE	3.4	LB A/A	2.6	QT/A	PRE	A	99	99	204
11	Lexar NIS	3.7	SE L	2.78 0.25	LB A/A % V/V	3.0 0.25	QT/A % V/V	POST POST	B B	99	99	191
12	Bicep II Magnum NIS	5.5	SC L	2.9 0.25	LB A/A % V/V	2.1 0.25	QT/A % V/V	POST POST	B B	99	99	186
13	Keystone Hornet WDG	5.25 68.5	SE WG	3.4 0.128	LB A/A LB AE/A	2.6 3.0	QT/A OZ WT/A	PRE PRE	A A	99	99	210
14	Guardsman Max Balance Pro	5 4	SC SC	2.7 0.047	LB A/A LB A/A	4.3 1.5	PT/A FL OZ/A	PRE PRE	A A	99	99	222
15	Radius Atrazine	4 4	SC SL	0.72 0.75	LB A/A LB A/A	23.0 0.75	FL OZ/A QT/A	PRE PRE	A A	99	99	203
LSD (P=.05)									1.7	0.0	35.4	
Standard Deviation									1.0	0.0	21.2	
CV									1.12	0.0	10.54	



# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	05-20-05	06-15-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	60 F	68 F
% Relative Humidity:	80	85
Wind Velocity, Unit:	3 MPH	10 MPH
Soil Temp., Unit:	59 F	67 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	95	80

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5
Stage Scale:	-	DESC
Height, Unit:	-	9 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	0.25-4 IN
Density, Unit:	- -	0-1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	0-1 FT2
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.5-3.5
Density, Unit:	- -	< 1 FT2

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	TERRA PRO	HAND BOOM
Operating Pressure:	30	35
Nozzle Size:	11002	11003
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Preemergence applied KIH-485 plus postemergence Roundup WeatherMAX and postemergence tank-mixtures with Roundup WeatherMAX in corn, Nashua, IA, 2005.**

Trial ID: NCC 3 Study Dir.: Owen/Lux/Franzenburg  
 Location: Nashua Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-20-05
Trt-Eval Interval										73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	5 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated									33	0	0	0	0	0	0
2	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.089 LB 0.63 LB 17.0 LB/100	A/A AE/A GAL	2.38 OZ 18.0 FL 17.0 LB/100	WT/A OZ/A GAL	PRE POST POST	A B B	34	0	85	40	92	95	0
3	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.186 LB 0.63 LB 17.0 LB/100	A/A AE/A GAL	4.97 OZ 18.0 FL 17.0 LB/100	WT/A OZ/A GAL	PRE POST POST	A B B	34	0	95	82	99	99	0
4	KIH-485 Roundup WeatherMAX AMS	60 WG 4.5 SL DF		0.186 LB 0.63 LB 17.0 LB/100	A/A AE/A GAL	4.97 OZ 18.0 FL 17.0 LB/100	WT/A OZ/A GAL	POST POST POST	B B B	34	0	0	0	0	0	0
5	Roundup WeatherMAX AMS	4.5 SL DF		0.63 LB 17.0 LB/100	AE/A GAL	18.0 FL 17.0 LB/100	OZ/A GAL	POST POST	B B	33	0	0	0	0	0	0
6	Harness Roundup WeatherMAX AMS	7 EC 4.5 SL DF		0.99 LB 0.63 LB 17.0 LB/100	A/A AE/A GAL	1.14 PT 18.0 FL 17.0 LB/100	A OZ/A GAL	POST POST POST	B B B	33	0	0	0	0	0	0
LSD (P=.05)										1.7	0.0	3.7	6.6	2.1	3.3	0.0
Standard Deviation										0.9	0.0	2.0	3.6	1.2	1.8	0.0
CV										2.77	0.0	6.8	17.82	3.71	5.7	0.0

# Iowa State University

Weed Code										ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-28-05	06-28-05	06-28-05	06-28-05	06-28-05	07-12-05
Trt-Eval Interval										13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B	27 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485	60	WG	0.089	LB A/A	2.38	OZ WT/A	PRE	A	0	99	99	99	99	0
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
3	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	PRE	A	0	99	99	99	99	0
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
4	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	POST	B	0	99	99	99	99	0
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
5	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B	0	99	99	99	99	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
6	Harness	7	EC	0.99	LB A/A	1.14	PT/A	POST	B	0	99	96	99	99	0
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
LSD (P=.05)										0.0	0.0	1.7	0.0	0.0	0.0
Standard Deviation										0.0	0.0	0.9	0.0	0.0	0.0
CV										0.0	0.0	1.15	0.0	0.0	0.0

# Iowa State University

Weed Code										SETFA	ABUTH	AMATA	CHEAL	ZEAMD	SETFA
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-12-05	07-12-05	07-12-05	07-12-05	08-24-05	08-24-05
Trt-Eval Interval										27 DA-B	27 DA-B	27 DA-B	27 DA-B	70 DA-B	70 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	KIH-485	60	WG	0.089	LB A/A	2.38	OZ WT/A	PRE	A	98	98	99	99	0	98
	Roundup WeatherMAX AMS	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
3	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	PRE	A	99	99	99	99	0	99
	Roundup WeatherMAX AMS	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
4	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	POST	B	99	99	99	99	0	99
	Roundup WeatherMAX AMS	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
5	Roundup WeatherMAX AMS	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B	99	99	99	99	0	95
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
6	Harness	7	EC	0.99	LB A/A	1.14	PT/A	POST	B	99	96	99	99	0	98
	Roundup WeatherMAX AMS	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B						
			DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B						
LSD (P=.05)										1.7	2.3	0.0	0.0	0.0	2.5
Standard Deviation										0.9	1.3	0.0	0.0	0.0	1.4
CV										1.15	1.55	0.0	0.0	0.0	1.72

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT
Rating Date										08-24-05	08-24-05	08-24-05
Trt-Eval Interval										70 DA-B	70 DA-B	70 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	KIH-485	60	WG	0.089	LB A/A	2.38	OZ WT/A	PRE	A	98	99	99
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B			
3	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	PRE	A	99	99	99
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B			
4	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	POST	B	99	99	99
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B			
5	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B	98	99	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B			
6	Harness	7	EC	0.99	LB A/A	1.14	PT/A	POST	B	96	98	99
	Roundup WeatherMAX	4.5	SL	0.63	LB AE/A	18.0	FL OZ/A	POST	B			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B			
LSD (P=.05)										2.5	1.7	0.0
Standard Deviation										1.4	0.9	0.0
CV										1.71	1.15	0.0

# Iowa State University

**Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Nashua, IA, 2005.**  
 Trial ID: NCC 4 Study Dir.: Owen/Lux/Franzenburg  
 Location: Nashua Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Nashua **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50658-9270 **Initiation Date:** 05-17-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate preemergence applied Stalwart, Balance Pro, Bicep II Magnum, and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity for corn phytotoxicity and weed control.  
**Conclusions:** Corn stands were consistent on August 1 and no significant differences were determined between treatments. PRE treatments demonstrated excellent crop safety. Five percent corn injury was observed from several POST applied treatments on June 20 and June 28, five and thirteen days following application, respectively.  
 Giant foxtail, common waterhemp and common lambsquarters control was good to excellent with the PRE treatments on all observation dates. PRE applied Stalwart Xtra and Bicep II Magnum achieved only poor to fair velvetleaf control. Excellent velvetleaf control was observed, however, with PRE applied Stalwart Xtra plus Balance Pro. Excellent overall and season-long weed control was achieved by the POST treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

**Crop 1:** ZEAMD CORN, FIELD **Variety:** DEKALB DKC 50-20  
**Planting Date:** 05-17-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 35077 SEEDS/A **Depth:** 1.75 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN		2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring field cultivation. Fertilization included 140 lb/A actual N applied as anhydrous ammonia. Crop residue on the soil surface was 15 to 20% at planting.

### SOIL DESCRIPTION

**% OM:** 5.5 **Texture:** LOAM  
**pH:** 6.75 **Soil Name:** FLOYD, KENYON, CLYDE  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	05-20-05	06-15-05	06-20-05
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	LPOST
Applic. Placement:	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	60 F	68 F	86 F
% Relative Humidity:	80	85	70
Wind Velocity, Unit:	3 MPH	10 MPH	3 MPH
Soil Temp., Unit:	59 F	67 F	75 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	95	80	30

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMD -	ZEAMD V 4 - V 5	ZEAMD V 6
Stage Scale:	-	DESC	DESC
Height, Unit:	-	9 IN	13 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	SETFA -	SETFA 1-4 L, 3T	SETFA 1-4 L, 3T
Stage Scale:	-	0.25-4 IN	0.25-6 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-8 L
Stage Scale:	-	0.25-4 IN	0.25-5 IN
Density, Unit:	- -	0-1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA NUMEROUS	AMATA -
Stage Scale:	-	0.5-4 IN	-
Density, Unit:	- -	0-1 FT2	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS	CHEAL -
Stage Scale:	-	0.5-3.5	-
Density, Unit:	- -	0-1 FT2	- -

## APPLICATION EQUIPMENT

	A	B	C
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35
Nozzle Size:	11002	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA

# Iowa State University

**Preemergence applied Stalwart Xtra, Balance Pro, Bicep II Magnum and postemergence Stalwart Xtra, Roundup Original MAX, and Clarity in corn, Nashua, IA, 2005.**

Trial ID: NCC 4 Study Dir.: Owen/Lux/Franzenburg  
 Location: Nashua Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type								STAND	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit								17.42 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date								08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-20-05	
Trt-Eval Interval								73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	5 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code							
1	Untreated								34	0	0	0	0	0	0
2	Stalwart Xtra	5.5 L		2.9 LB A/A	2.1 QT/A		PRE	A	33	0	99	70	99	99	0
3	Stalwart Xtra Balance Pro	5.5 L 4 SC		2.9 LB A/A 0.047 LB A/A	2.1 QT/A 1.5 FL OZ/A		PRE PRE	A A	33	0	99	99	99	99	0
4	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		1.51 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	1.1 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		PRE LPOST C	A C C	33	0	93	43	99	99	0
5	Bicep II Magnum	5.5 L		2.9 LB A/A	2.1 QT/A		PRE	A	33	0	99	72	99	99	0
6	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		2.0 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	1.45 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST	B B B	33	0	0	0	0	0	0
7	Stalwart Xtra Roundup Original MAX AMS	5.5 L 4.5 SL DF		2.9 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	2.1 QT/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST	B B B	33	0	0	0	0	0	5
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 L 4 SL 4.5 SL DF		2.9 LB A/A 0.125 LB A/A 0.77 LB AE/A 17.0 LB/100 GAL	2.1 QT/A 4.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL		POST POST POST POST	B B B B	33	0	0	0	0	0	5
LSD (P=.05)									1.2	0.0	1.8	12.7	0.0	0.0	0.0
Standard Deviation									0.7	0.0	1.0	7.3	0.0	0.0	0.0
CV									1.99	0.0	2.09	20.47	0.0	0.0	0.0

# Iowa State University

Weed Code									ZEAMD	SETFA	ABUTH	AMATA	CHEAL	ZEAMD	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-28-05	06-28-05	06-28-05	06-28-05	06-28-05	07-12-05	
Trt-Eval Interval									13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B	27 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart Xtra	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	0	95	65	99	99	0
3	Stalwart Xtra Balance Pro	5.5 4	L SC	2.9 0.047	LB A/A LB A/A	2.1	QT/A 1.5 FL OZ/A	PRE PRE	A A	0	99	98	99	99	0
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.51 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.1	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	PRE LPOST LPOST	A C C	0	98	92	99	99	0
5	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	0	96	63	99	99	0
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	0	99	99	99	99	0
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.9 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.1	QT/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST	B B B	5	99	99	99	99	0
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4	L SL SL DF	2.9 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.1	QT/A 4.0 FL OZ/A 22.0 FL OZ/A 17.0 LB/100 GAL	POST POST POST POST	B B B B	5	99	99	99	99	0
LSD (P=.05)										0.0	1.9	18.7	0.0	0.0	0.0
Standard Deviation										0.0	1.1	10.7	0.0	0.0	0.0
CV										0.0	1.3	13.87	0.0	0.0	0.0

# Iowa State University

Weed Code									SETFA	ABUTH	AMATA	CHEAL	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-12-05	07-12-05	07-12-05	07-12-05	08-24-05	08-24-05	
Trt-Eval Interval									27 DA-B	27 DA-B	27 DA-B	27 DA-B	70 DA-B	70 DA-B	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Stalwart Xtra	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	95	60	99	99	93	55
3	Stalwart Xtra Balance Pro	5.5 4	L SC	2.9 0.047	LB A/A LB A/A	2.1 1.5	QT/A FL OZ/A	PRE PRE	A A	98	98	99	99	98	98
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.51 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.1 22.0 17.0	QT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	99	93	99	99	99	91
5	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	95	58	99	99	95	52
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	98	99	99	99	98
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.9 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.1 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	98	99	99	99	98
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4 4.5	L SL SL DF	2.9 0.125 0.77 17.0	LB A/A LB A/A LB AE/A LB/100 GAL	2.1 4.0 22.0 17.0	QT/A FL OZ/A FL OZ/A LB/100 GAL	POST POST POST POST	B B B B	99	99	99	99	99	99
LSD (P=.05)										1.4	19.2	0.0	0.0	2.1	16.1
Standard Deviation										0.8	10.9	0.0	0.0	1.2	9.2
CV										0.96	14.51	0.0	0.0	1.42	12.48

# Iowa State University

Weed Code										AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT
Rating Date										08-24-05	08-24-05
Trt-Eval Interval										70 DA-B	70 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	0
2	Stalwart Xtra	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	98	99
3	Stalwart Xtra Balance Pro	5.5 4	L SC	2.9 0.047	LB A/A LB A/A	2.1 1.5	QT/A FL OZ/A	PRE PRE	A A	99	99
4	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	1.51 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.1 22.0 17.0	QT/A FL OZ/A LB/100 GAL	PRE LPOST LPOST	A C C	98	99
5	Bicep II Magnum	5.5	L	2.9	LB A/A	2.1	QT/A	PRE	A	99	99
6	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.0 0.77 17.0	LB A/A LB AE/A LB/100 GAL	1.45 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	99
7	Stalwart Xtra Roundup Original MAX AMS	5.5 4.5	L SL DF	2.9 0.77 17.0	LB A/A LB AE/A LB/100 GAL	2.1 22.0 17.0	QT/A FL OZ/A LB/100 GAL	POST POST POST	B B B	99	99
8	Stalwart Xtra Clarity Roundup Original MAX AMS	5.5 4	L SL	2.9 0.125	LB A/A LB A/A	2.1 4.0	QT/A FL OZ/A	POST POST	B B	99	99
		4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	B		
		DF		17.0	LB/100 GAL	17.0	LB/100 GAL	POST	B		
LSD (P=.05)										2.1	0.0
Standard Deviation										1.2	0.0
CV										1.39	0.0

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Nashua, IA, 2005.

Trial ID: NCC 5  
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Nashua Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50658-9270 Initiation Date: 05-17-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applied KIH-485, Dual II Magnum and Harness for crop phytotoxicity and weed efficacy in corn.  
**Conclusions:** There were no significant differences between treatments in corn stand. On June 15, all treatments provided at least 95% giant foxtail control. There were no significant differences between treatments for common waterhemp and common lambsquarters control. The 9.9 oz wt/A rate of KIH-485 provided 90% control of velvetleaf, while no other treatments exceeded 60%. On June 28 the 9.9 oz wt/A rate of KIH-485 and both Harness treatments demonstrated at least 96% control of giant foxtail. Other treatments on June 28 did not exceed 93% giant foxtail control. The lowest rate of KIH-485 and Dual II Magnum demonstrated falling common lambsquarters control on June 28 and July 12. Weed control by other treatments followed similar trends to June 15. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: DEKALB DKC 50-20  
Planting Date: 05-17-05 Planting Method: DIRECT DRILLED  
Rate: 35077 SEEDS/A Depth: 1.75 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	SOYBEAN		2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included a spring field cultivation. Fertilization included 140 lb/A actual N applied as anhydrous ammonia. Crop residue on the soil surface was 15 to 20% at planting.

### SOIL DESCRIPTION

% OM: 5.5 Texture: LOAM  
pH: 6.75 Soil Name: FLOYD, KENYON, CLYDE  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	05-20-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROSOI
Air Temp., Unit:	60 F
% Relative Humidity:	80
Wind Velocity, Unit:	3 MPH
Soil Temp., Unit:	59 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	95

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD --
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum, and Harness in corn, Nashua, IA, 2005.

Trial ID: NCC 5  
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

Weed Code	ZEAMD STAND	ZEAMD PHYTO	SETFA CONTROL	ABUTH CONTROL	AMATA CONTROL	CHEAL CONTROL	ZEAMD PHYTO	SETFA CONTROL									
Rating Data Type	17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT									
Rating Unit	73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	39 DA-A	39 DA-A									
Rating Date	08-01-05	06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-28-05	06-28-05									
Trt-Eval Interval	73 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	39 DA-A	39 DA-A									
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product	Product Rate	Product Unit	Grow Stg	Appl Code	ZEAMD STAND	ZEAMD PHYTO	SETFA CONTROL	ABUTH CONTROL	AMATA CONTROL	CHEAL CONTROL	ZEAMD PHYTO	SETFA CONTROL
1	Untreated									32	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.148	LB A/A	3.95	OZ WT/A	PRE	A	34	0	96	50	98	93	0	92
3	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	PRE	A	34	0	96	57	98	93	0	92
4	KIH-485	60	WG	0.223	LB A/A	5.95	OZ WT/A	PRE	A	33	0	96	60	98	98	0	93
5	KIH-485	60	WG	0.373	LB A/A	9.9	OZ WT/A	PRE	A	33	0	98	90	99	98	0	98
6	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	34	0	95	25	99	92	0	93
7	Harness	7	EC	1.55	LB A/A	1.77	PT/A	PRE	A	33	0	99	35	99	99	0	96
8	Harness	7	EC	2.0	LB A/A	2.27	PT/A	PRE	A	33	0	99	42	99	96	0	99
LSD (P=.05)										1.7	0.0	3.0	25.3	2.5	8.2	0.0	4.0
Standard Deviation										1.0	0.0	1.7	14.4	1.4	4.7	0.0	2.3
CV										2.91	0.0	2.02	32.22	1.64	5.63	0.0	2.75

# Iowa State University

Weed Code										ABUTH	AMATA	CHEAL	ZEAMD	SETFA	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-28-05	06-28-05	06-28-05	07-12-05	07-12-05	07-12-05	07-12-05	07-12-05
Trt-Eval Interval										39 DA-A	39 DA-A	39 DA-A	53 DA-A	53 DA-A	53 DA-A	53 DA-A	53 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Unit	Appl Stg Code								
1	Untreated									0	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.148	LB A/A	3.95	OZ WT/A	PRE	A	40	96	88	0	90	40	96	87
3	KIH-485	60	WG	0.186	LB A/A	4.97	OZ WT/A	PRE	A	53	96	90	0	92	53	96	90
4	KIH-485	60	WG	0.223	LB A/A	5.95	OZ WT/A	PRE	A	63	96	95	0	93	63	96	95
5	KIH-485	60	WG	0.373	LB A/A	9.9	OZ WT/A	PRE	A	87	99	98	0	96	87	99	98
6	Dual II Magnum	7.64	EC	1.6	LB A/A	1.67	PT/A	PRE	A	25	96	82	0	92	25	96	82
7	Harness	7	EC	1.55	LB A/A	1.77	PT/A	PRE	A	30	99	96	0	95	30	99	96
8	Harness	7	EC	2.0	LB A/A	2.27	PT/A	PRE	A	40	99	95	0	98	40	99	95
LSD (P=.05)										18.7	4.1	9.1	0.0	3.9	18.7	4.1	9.2
Standard Deviation										10.7	2.3	5.2	0.0	2.2	10.7	2.3	5.2
CV										25.21	2.72	6.47	0.0	2.73	25.21	2.72	6.52

# Iowa State University

## Preemergence and postemergence applied herbicides in soybean, Nashua, IA, 2005.

Trial ID: NSC 1  
Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Nashua Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50658-9270 Initiation Date: 05-20-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate various preemergence and postemergence applied herbicides for crop phytotoxicity and weed control in soybean.  
**Conclusions:** Soybean injury from soil applied treatments did not exist; except for 5% injury from PRE applied Gangster. EPOST applied Raptor plus Ultra Blazer, Phoenix plus Select, Phoenix, FirstRate plus Phoenix and Flexstar plus Fusion caused from 25 to 30% injury. Extreme demonstrated 15% injury. On June 15 PRE Define, Domain, Gangster and the 1.5 pt/A rate of Boundary provided less than 90% control of giant foxtail, compared to at least 90% by the remaining soil applied treatments. Only PPI treatments of Pursuit Plus provided 90% or more velvetleaf control. No other soil applied treatments exceeded 83%. Define and Domain did not provide more than 77% common waterhemp control, compared to at least 92% control by the other treatments. All soil applied treatments demonstrated excellent common lambsquarters control on June 15.

On July 12, PPI applied Domain, without a POST treatment, gave at least 93% giant foxtail, common waterhemp and common lambsquarters control. However, velvetleaf control was 90%. PRE Define, with EPOST Phoenix, provided 99 and 95% common waterhemp and common lambsquarters control, respectively. However, the same treatment demonstrated 70 and 87% giant foxtail and velvetleaf control, respectively. Both of the above treatments yielded significantly less than all other herbicide treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: GLXMA SOYBEAN Variety: CROWS 2130  
Planting Date: 05-25-05 Planting Method: DIRECT DRILLED  
Rate: 196433 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included a spring tandem disking and field cultivation. Preplant incorporated (PPI) treatments were incorporated one pass with a field cultivator operating 2 to 3 inches deep. Crop residue on the soil surface was 85% at planting.

### SOIL DESCRIPTION

% OM: 4.7 Texture: LOAM  
pH: 6.9 Soil Name: FLOYD, KENYON, CLYDE  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

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## APPLICATION DESCRIPTION

	A	B	C	D	E
Application Date:	05-20-05	05-26-05	06-20-05	07-05-05	07-26-05
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PPI	PRE	EPOST	POST	SPOST
Applic. Placement:	BROSOI	BROSOI	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	60 F	69 F	86 F	75 F	65 F
% Relative Humidity:	80	68	70	79	89
Wind Velocity, Unit:	3 MPH	5 MPH	3 MPH	4 MPH	2 MPH
Soil Temp., Unit:	59 F	60 F	75 F	73 F	72 F
Soil Moisture:	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE	ADEQUATE
% Cloud Cover:	95	20	30	40	30

## CROP STAGE AT EACH APPLICATION

	A	B	C	D	E
Crop 1 Code, Stage:	GLXMA -	GLXMA -	GLXMA V 2	GLXMA V 4	GLXMA R 3 - R 4
Stage Scale:	-	-	DESC	DESC	DESC
Height, Unit:	-	-	4 IN	8 IN	30 IN

## WEED STAGE AT EACH APPLICATION

	A	B	C	D	E
Weed 1 Code, Stage:	SETFA -	SETFA -	SETFA 1-4 L, 2T	SETFA 1-4 L, 4T	SETFA 1-2 LEAF
Stage Scale:	-	-	0.25-4 IN	0.25-8 IN	0.25 IN
Density, Unit:	- -	- -	0-1 FT2	0-5 FT2	< 1 FT2
Weed 2 Code, Stage:	ABUTH -	ABUTH -	ABUTH COTYL-5 L	ABUTH COTYL-8 L	ABUTH 1-2 LEAF
Stage Scale:	-	-	0.25-3 IN	0.25-6 IN	0.5 IN
Density, Unit:	- -	- -	< 1 FT2	< 1 FT2	< 1 FT2
Weed 3 Code, Stage:	AMATA -	AMATA -	AMATA COTYL-NUM	AMATA NUMEROUS	AMATA -
Stage Scale:	-	-	0.25-3 IN	0.25-12	-
Density, Unit:	- -	- -	< 1 FT2	< 1 FT2	- -
Weed 4 Code, Stage:	CHEAL -	CHEAL -	CHEAL COTYL-MUM	CHEAL NUMEROUS	CHEAL -
Stage Scale:	-	-	0.25-3 IN	0.25-5 IN	-
Density, Unit:	- -	- -	< 1 FT2	< 1 FT2	- -

## APPLICATION EQUIPMENT

	A	B	C	D	E
Appl. Equipment:	TERRA PRO	HAND BOOM	HAND BOOM	HAND BOOM	HAND BOOM
Operating Pressure:	30	35	35	35	35
Nozzle Size:	11002	11003	11003	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA	20 GPA

# Iowa State University

## Preemergence and postemergence applied herbicides in soybean, Nashua, IA, 2005.

Trial ID: NSC 1  
 Location: Nashua

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								GLYMA	SETFA	ABUTH	AMATA	CHEAL	GLYMA		
Rating Data Type								PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO		
Rating Unit								PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-28-05		
Trt-Eval Interval								26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	8 DA-C		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	0	90	48	93	96	27
	Raptor	1	SL	0.0312	LB A/A	4.0	FL OZ/A	EPOST	C						
	Ultra Blazer	2	SL	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	MSO		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
3	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	0	96	92	98	99	28
	Phoenix	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C						
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	C						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	C						
4	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	0	92	47	95	96	15
	Extreme	2.17	SL	0.81	LB A/A	3.0	PT/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
5	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	0	98	90	99	99	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
6	Domain	60	DF	0.525	LB A/A	14.0	OZ WT/A	PPI	A	0	95	83	98	99	0
	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A						
	Authority	75	DF	0.234	LB A/A	5.0	OZ WT/A	PPI	A						
7	Define SC	4	SC	0.437	LB A/A	14.0	FL OZ/A	PRE	B	0	70	47	68	96	30
	Phoenix	2	EC	0.195	LB A/A	12.5	FL OZ/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
8	Domain	60	DF	0.45	LB A/A	12.0	OZ WT/A	PRE	B	0	65	50	77	98	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
9	Gangster					1.8	OZ WT/A	PRE	B	5	80	83	92	99	0
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
10	Select	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C	0	0	0	0	0	27
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	C						
	Phoenix	2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
11	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	D	0	0	0	0	0	0
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
12	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D	0	0	0	0	0	0
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	SPOST	E						
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	E						
13	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	0	0	0	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
14	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	0	0	0	0	0	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	SPOST	E						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	E						
15	Boundary	6.5	EC	1.7	LB A/A	2.1	PT/A	PRE	B	0	90	72	94	98	25
	Flexstar	1.88	SL	0.294	LB A/A	1.25	PT/A	EPOST	C						
	Fusion	2.56	EC	0.208	LB A/A	10.4	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	28% UAN		L	2.0	QT/A	2.0	QT/A	EPOST	C						

# Iowa State University

Weed Code									GLYMA	SETFA	ABUTH	AMATA	CHEAL	GLYMA	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									06-15-05	06-15-05	06-15-05	06-15-05	06-15-05	06-28-05	
Trt-Eval Interval									26 DA-A	26 DA-A	26 DA-A	26 DA-A	26 DA-A	8 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
16	Boundary	6.5	EC	1.22	LB A/A	1.5	PT/A	PRE	B	0	88	72	96	96	0
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	D						
	AMS		DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST	D						
LSD (P=.05)									0.0	6.0	12.7	14.0	2.9	3.5	
Standard Deviation									0.0	3.6	7.6	8.4	1.8	2.1	
CV									0.0	6.7	17.9	14.75	2.89	21.98	

# Iowa State University

Weed Code									GLYMA	SETFA	ABUTH	AMATA	CHEAL	GLYMA	
Rating Data Type									PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-12-05	07-12-05	07-12-05	07-12-05	07-12-05	07-26-05	
Trt-Eval Interval									22 DA-C	22 DA-C	22 DA-C	22 DA-C	22 DA-C	36 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	13	99	99	99	99	3
	Raptor	1	SL	0.0312	LB A/A	4.0	FL OZ/A	EPOST	C						
	Ultra Blazer	2	SL	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	MSO		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
3	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	15	99	99	99	99	5
	Phoenix	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C						
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	C						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	C						
4	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	10	99	99	99	99	2
	Extreme	2.17	SL	0.81	LB A/A	3.0	PT/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
5	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	0	99	99	99	99	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
6	Domain	60	DF	0.525	LB A/A	14.0	OZ WT/A	PPI	A	0	93	80	96	99	0
	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A						
	Authority	75	DF	0.234	LB A/A	5.0	OZ WT/A	PPI	A						
7	Define SC	4	SC	0.437	LB A/A	14.0	FL OZ/A	PRE	B	12	70	87	99	95	2
	Phoenix	2	EC	0.195	LB A/A	12.5	FL OZ/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
8	Domain	60	DF	0.45	LB A/A	12.0	OZ WT/A	PRE	B	0	99	95	99	99	0
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
9	Gangster					1.8	OZ WT/A	PRE	B	0	99	98	99	99	0
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
10	Select	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C	12	99	96	99	96	2
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	C						
	Phoenix	2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
11	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	D	10	99	95	99	99	3
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
12	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D	0	99	95	99	99	0
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	SPOST	E						
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	E						
13	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	0	99	95	99	99	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
14	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	0	99	96	99	99	0
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	SPOST	E						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	E						
15	Boundary	6.5	EC	1.7	LB A/A	2.1	PT/A	PRE	B	12	99	99	99	99	3
	Flexstar	1.88	SL	0.294	LB A/A	1.25	PT/A	EPOST	C						
	Fusion	2.56	EC	0.208	LB A/A	10.4	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	28% UAN		L	2.0	QT/A	2.0	QT/A	EPOST	C						
16	Boundary	6.5	EC	1.22	LB A/A	1.5	PT/A	PRE	B	0	99	96	99	99	0
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	D						
	AMS		DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST	D						
LSD (P=.05)									3.2	4.3	3.1	1.0	2.1	3.0	
Standard Deviation									1.9	2.6	1.9	0.6	1.2	1.8	
CV									37.18	2.83	2.11	0.62	1.34	143.76	

# Iowa State University

Weed Code									SETFA	ABUTH	AMATA	CHEAL	SETFA	ABUTH	
Rating Data Type									CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	
Rating Unit									PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	
Rating Date									07-26-05	07-26-05	07-26-05	07-26-05	08-24-05	08-24-05	
Trt-Eval Interval									36 DA-C	36 DA-C	36 DA-C	36 DA-C	65 DA-C	65 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code						
1	Untreated									0	0	0	0	0	0
2	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	96	96	99	99	93	98
	Raptor	1	SL	0.0312	LB A/A	4.0	FL OZ/A	EPOST	C						
	Ultra Blazer	2	SL	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	MSO		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
3	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	99	98	98	99	98	98
	Phoenix	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C						
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	C						
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	C						
4	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	99	99	99	99	98	99
	Extreme	2.17	SL	0.81	LB A/A	3.0	PT/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C						
5	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	99	99	99	99	99	99
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
6	Domain	60	DF	0.525	LB A/A	14.0	OZ WT/A	PPI	A	90	72	95	99	88	70
	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A						
	Authority	75	DF	0.234	LB A/A	5.0	OZ WT/A	PPI	A						
7	Define SC	4	SC	0.437	LB A/A	14.0	FL OZ/A	PRE	B	63	85	99	95	57	83
	Phoenix	2	EC	0.195	LB A/A	12.5	FL OZ/A	EPOST	C						
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C						
8	Domain	60	DF	0.45	LB A/A	12.0	OZ WT/A	PRE	B	99	98	99	99	99	98
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
9	Gangster					1.8	OZ WT/A	PRE	B	99	98	99	99	99	99
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
10	Select	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C	96	95	99	96	93	93
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	C						
	Phoenix	2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
11	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	D	99	99	99	99	99	96
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D						
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
12	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D	99	96	99	99	99	99
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D						
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	SPOST	E						
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	E						
13	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	99	96	98	99	98	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
14	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	99	99	99	99	99	99
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D						
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	SPOST	E						
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	E						
15	Boundary	6.5	EC	1.7	LB A/A	2.1	PT/A	PRE	B	98	98	99	99	95	98
	Flexstar	1.88	SL	0.294	LB A/A	1.25	PT/A	EPOST	C						
	Fusion	2.56	EC	0.208	LB A/A	10.4	FL OZ/A	EPOST	C						
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C						
	28% UAN		L	2.0	QT/A	2.0	QT/A	EPOST	C						
16	Boundary	6.5	EC	1.22	LB A/A	1.5	PT/A	PRE	B	99	99	99	99	98	99
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	D						
	AMS		DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST	D						
LSD (P=.05)										3.6	6.6	2.2	2.1	6.0	7.3
Standard Deviation										2.2	3.9	1.3	1.2	3.6	4.4
CV										2.43	4.41	1.43	1.34	4.07	4.91

# Iowa State University

Weed Code									AMATA	CHEAL	GLYMA	
Rating Data Type									CONTROL	CONTROL	YIELD	
Rating Unit									PERCENT	PERCENT	BU/A	
Rating Date									08-24-05	08-24-05	10-04-05	
Trt-Eval Interval									65 DA-C	65 DA-C	137 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	37
2	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	98	99	66
	Raptor	1	SL	0.0312	LB A/A	4.0	FL OZ/A	EPOST	C			
	Ultra Blazer	2	SL	0.125	LB A/A	8.0	FL OZ/A	EPOST	C			
	MSO		L	1.0	% V/V	1.0	% V/V	EPOST	C			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C			
3	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	98	99	64
	Phoenix	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C			
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	EPOST	C			
	NIS		L	0.25	% V/V	0.25	% V/V	EPOST	C			
4	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A	98	99	64
	Extreme	2.17	SL	0.81	LB A/A	3.0	PT/A	EPOST	C			
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	EPOST	C			
5	Pursuit Plus	2.9	SL	0.91	LB A/A	2.5	PT/A	PPI	A	99	99	67
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D			
6	Domain	60	DF	0.525	LB A/A	14.0	OZ WT/A	PPI	A	91	99	54
	Prowl H2O	3.8	EC	1.23	LB A/A	2.6	PT/A	PPI	A			
	Authority	75	DF	0.234	LB A/A	5.0	OZ WT/A	PPI	A			
7	Define SC	4	SC	0.437	LB A/A	14.0	FL OZ/A	PRE	B	99	93	45
	Phoenix	2	EC	0.195	LB A/A	12.5	FL OZ/A	EPOST	C			
	NIS		L	0.125	% V/V	0.125	% V/V	EPOST	C			
8	Domain	60	DF	0.45	LB A/A	12.0	OZ WT/A	PRE	B	99	99	63
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D			
9	Gangster					1.8	OZ WT/A	PRE	B	99	99	66
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D			
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D			
10	Select	2	EC	0.156	LB A/A	10.0	FL OZ/A	EPOST	C	98	92	67
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	EPOST	C			
	Phoenix	2	EC	0.125	LB A/A	8.0	FL OZ/A	EPOST	C			
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C			
11	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	D	99	99	65
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D			
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D			
12	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	POST	D	99	99	67
	AMS		DF	2.5	LB/A	2.5	LB/A	POST	D			
	Glyphomax XRT	4	SL	0.75	LB AE/A	1.5	PT/A	SPOST	E			
	AMS		DF	2.5	LB/A	2.5	LB/A	SPOST	E			
13	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	98	99	62
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D			
14	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	POST	D	99	99	60
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	POST	D			
	Roundup WeatherMAX	4.5	SL	0.77	LB AE/A	22.0	FL OZ/A	SPOST	E			
	AMS		DF	17.0	LB/100 GAL	17.0	LB/100 GAL	SPOST	E			
15	Boundary	6.5	EC	1.7	LB A/A	2.1	PT/A	PRE	B	99	99	62
	Flexstar	1.88	SL	0.294	LB A/A	1.25	PT/A	EPOST	C			
	Fusion	2.56	EC	0.208	LB A/A	10.4	FL OZ/A	EPOST	C			
	COC		L	1.0	% V/V	1.0	% V/V	EPOST	C			
	28% UAN		L	2.0	QT/A	2.0	QT/A	EPOST	C			
16	Boundary	6.5	EC	1.22	LB A/A	1.5	PT/A	PRE	B	99	99	62
	Touchdown Total	4.17	SL	0.78	LB AE/A	24.0	FL OZ/A	POST	D			
	AMS		DF	8.5	LB/100 GAL	8.5	LB/100 GAL	POST	D			
LSD (P=.05)									3.4	3.2	6.0	
Standard Deviation									2.0	1.9	3.6	
CV									2.23	2.1	5.98	

# Iowa State University

## Postemergence applied Steadfast and Steadfast plus Callisto plus Atrazine with various adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.

Trial ID: OCW 1  
Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ogden Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50212  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this corn study was to determine the crop phytotoxicity and weed efficacy of postemergence applied Steadfast and Steadfast plus Callisto plus Atrazine with various adjuvants.

**Conclusions:** There were no significant corn stand differences between treatments. Corn injury from the POST treatments ranged from 0 to 5% when observed on June 13, seven days after application. No injury was observed on June 21, fifteen days after application. On June 21, Steadfast plus Effective and Steadfast plus Callisto plus Atrazine plus Effective provided 95% woolly cupgrass control, while Steadfast plus Herbimax plus AMS plus Citraplex ZN provided 80% control. Remaining treatments achieved between 83 to 92% woolly cupgrass control. Common waterhemp and common lambsquarters control was 99% when Callisto and Atrazine occurred with Steadfast in the treatment. Steadfast treatments without Callisto and Atrazine in the mixture provided 57 to 70% and 60 to 82% common waterhemp and common lambsquarters control, respectively.

POST treatments demonstrated similar trends in control of woolly cupgrass, common waterhemp, and common lambsquarters when observed on July 5. Generally, the control of these species declined as the season progressed. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8575  
Planting Date: 04-27-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included spring disking and field cultivation. Fertilization included 200 lbs/A actual N applied as urea. Crop residue on the soil surface was 75 to 85 % at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: CANISTEO SILTY CLAY LOAM  
pH: 5.9 Soil Name: CANISTEO, CLARION, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	06-06-05
Application Method:	SPRAY
Application Timing:	MPOST
Applic. Placement:	BROFOL
Air Temp., Unit:	89 F
% Relative Humidity:	34
Wind Velocity, Unit:	12 MPH
Soil Temp., Unit:	73 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	30

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V 4- V 5
Stage Scale:	DESC
Height, Unit:	9 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ERBVI 1-4 L, 4T
Stage Scale:	0.5-5 IN
Density, Unit:	5-35 FT2
Weed 2 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.5-1.5
Density, Unit:	0-10 FT2
Weed 3 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-8 IN
Density, Unit:	0-15 FT2

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

**Postemergence applied Steadfast and Steadfast plus Callisto plus Atrazine with various adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.**

Trial ID: OCW 1  
 Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
 Investigator: Owen/Hartzler/Pringnitz

Weed Code								ZEAMD	ZEAMD	ZEAMD	ERBVI	AMATH	CHEAL	ZEAMD		
Rating Data Type								STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	PHYTO		
Rating Unit								17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT		
Rating Date								08-02-05	06-13-05	06-21-05	06-21-05	06-21-05	06-21-05	07-05-05		
Trt-Eval Interval								57 DA-A	7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	29 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code							
1	Untreated									29	0	0	0	0	0	
2	Steadfast Herbimax	75 L	WG L	0.035 1.0	LB A/A % V/V	0.75 1.0	OZ WT/A % V/V	POST POST	A A	28	0	0	88	62	70	0
3	Steadfast Herbimax AMS	75 L DF	WG L DF	0.035 1.0 2.0	LB A/A % V/V LB/A	0.75 1.0 2.0	OZ WT/A % V/V LB/A	POST POST POST	A A A	29	5	0	90	70	80	0
4	Steadfast Herbimax Choice WeatherMaster	75 L L	WG L L	0.035 1.0 0.5	LB A/A % V/V % V/V	0.75 1.0 0.5	OZ WT/A % V/V % V/V	POST POST POST	A A A	29	5	0	92	65	75	0
5	Steadfast Herbimax LI 168	75 L L	WG L L	0.035 1.0 0.5	LB A/A % V/V % V/V	0.75 1.0 0.5	OZ WT/A % V/V % V/V	POST POST POST	A A A	30	0	0	92	62	75	0
6	Steadfast Effective	75 L	WG L	0.035 2.5	LB A/A PT/A	0.75 2.5	OZ WT/A PT/A	POST POST	A A	29	2	0	95	65	82	0
7	Steadfast Herbimax AMS Citraplex Zn	75 L DF DF	WG L DF DF	0.035 1.0 2.0 1.0	LB A/A % V/V LB/A LB/A	0.75 1.0 2.0 1.0	OZ WT/A % V/V LB/A LB/A	POST POST POST POST	A A A A	30	0	0	80	57	60	0
8	Steadfast Callisto Atrazine Herbimax	75 4 4 L	WG SC SL L	0.035 0.0625 0.5 1.0	LB A/A LB A/A LB A/A % V/V	0.75 2.0 16.0 1.0	OZ WT/A FL OZ/A FL OZ/A % V/V	POST POST POST POST	A A A A	28	2	0	83	99	99	0
9	Steadfast Callisto Atrazine Herbimax AMS	75 4 4 L DF	WG SC SL L DF	0.035 0.0625 0.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 16.0 1.0 2.0	OZ WT/A FL OZ/A FL OZ/A % V/V LB/A	POST POST POST POST POST	A A A A A	30	5	0	92	99	99	0
10	Steadfast Callisto Atrazine Herbimax Choice WeatherMaster	75 4 4 L L	WG SC SL L L	0.035 0.0625 0.5 1.0 0.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 2.0 16.0 1.0 0.5	OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	POST POST POST POST POST	A A A A A	29	2	0	92	99	99	0
11	Steadfast Callisto Atrazine Herbimax LI 168	75 4 4 L L	WG SC SL L L	0.035 0.0625 0.5 1.0 0.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 2.0 16.0 1.0 0.5	OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	POST POST POST POST POST	A A A A A	28	3	0	90	99	99	0
12	Steadfast Callisto Atrazine Effective	75 4 4 L	WG SC SL L	0.035 0.0625 0.5 2.5	LB A/A LB A/A LB A/A PT/A	0.75 2.0 16.0 2.5	OZ WT/A FL OZ/A FL OZ/A PT/A	POST POST POST POST	A A A A	28	2	0	95	99	99	0
LSD (P=.05)								2.5	3.2	0.0	5.0	6.6	5.5	0.0		
Standard Deviation								1.5	1.9	0.0	3.0	3.9	3.2	0.0		
CV								5.01	91.05	0.0	3.61	5.34	4.16	0.0		

# Iowa State University

Weed Code										ERBVI	AMATH	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT
Rating Date										07-05-05	07-05-05	07-05-05
Trt-Eval Interval										29 DA-A	29 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code			
1	Untreated									0	0	0
2	Steadfast Herbimax	75 L	WG L	0.035 1.0	LB A/A % V/V	0.75 1.0	OZ WT/A % V/V	POST POST	A A	88	48	78
3	Steadfast Herbimax AMS	75 L DF	WG L DF	0.035 1.0 2.0	LB A/A % V/V LB/A	0.75 1.0 2.0	OZ WT/A % V/V LB/A	POST POST POST	A A A	90	50	78
4	Steadfast Herbimax Choice WeatherMaster	75 L L	WG L L	0.035 1.0 0.5	LB A/A % V/V % V/V	0.75 1.0 0.5	OZ WT/A % V/V % V/V	POST POST POST	A A A	90	52	78
5	Steadfast Herbimax LI 168	75 L L	WG L L	0.035 1.0 0.5	LB A/A % V/V % V/V	0.75 1.0 0.5	OZ WT/A % V/V % V/V	POST POST POST	A A A	92	52	77
6	Steadfast Effective	75 L	WG L	0.035 2.5	LB A/A PT/A	0.75 2.5	OZ WT/A PT/A	POST POST	A A	92	52	85
7	Steadfast Herbimax AMS Citraplex Zn	75 L DF DF	WG L DF DF	0.035 1.0 2.0 1.0	LB A/A % V/V LB/A LB/A	0.75 1.0 2.0 1.0	OZ WT/A % V/V LB/A LB/A	POST POST POST POST	A A A A	72	48	60
8	Steadfast Callisto Atrazine Herbimax	75 4 4 L	WG SC SL L	0.035 0.0625 0.5 1.0	LB A/A LB A/A LB A/A % V/V	0.75 2.0 16.0 1.0	OZ WT/A FL OZ/A FL OZ/A % V/V	POST POST POST POST	A A A A	78	99	99
9	Steadfast Callisto Atrazine Herbimax AMS	75 4 4 L DF	WG SC SL L DF	0.035 0.0625 0.5 1.0 2.0	LB A/A LB A/A LB A/A % V/V LB/A	0.75 2.0 16.0 1.0 2.0	OZ WT/A FL OZ/A FL OZ/A % V/V LB/A	POST POST POST POST POST	A A A A A	87	99	99
10	Steadfast Callisto Atrazine Herbimax Choice WeatherMaster	75 4 4 L L	WG SC SL L L	0.035 0.0625 0.5 1.0 0.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 2.0 16.0 1.0 0.5	OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	POST POST POST POST POST	A A A A A	87	99	99
11	Steadfast Callisto Atrazine Herbimax LI 168	75 4 4 L L	WG SC SL L L	0.035 0.0625 0.5 1.0 0.5	LB A/A LB A/A LB A/A % V/V % V/V	0.75 2.0 16.0 1.0 0.5	OZ WT/A FL OZ/A FL OZ/A % V/V % V/V	POST POST POST POST POST	A A A A A	85	99	99
12	Steadfast Callisto Atrazine Effective	75 4 4 L	WG SC SL L	0.035 0.0625 0.5 2.5	LB A/A LB A/A LB A/A PT/A	0.75 2.0 16.0 2.5	OZ WT/A FL OZ/A FL OZ/A PT/A	POST POST POST POST	A A A A	90	99	99
LSD (P=.05)										8.8	4.9	11.6
Standard Deviation										5.2	2.9	6.9
CV										6.6	4.33	8.67

# Iowa State University

## Postemergence applications of Steadfast with various tank-mix partners and adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.

Trial ID: OCW 2  
Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ogden Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50212  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate postemergence applications of Steadfast, Callisto, Atrazine, Clarity, Lumax, and Lexar with various adjuvants for corn phytotoxicity and woolly cupgrass control in corn.

**Conclusions:** Significant corn stand differences were determined between several treatments. Differences were not attributable to herbicide treatment, but rather to planting rate variability and cloddy soil conditions which lead to poor germination. MPOST applications of Steadfast plus Lumax or Lexar resulted in 8 to 10% corn injury when observed on June 13, seven days after application. Corn injury from the remaining treatments ranged from 2 to 5%. Observations on July 5, demonstrated that corn injury from Steadfast plus Lumax or Lexar treatments persisted at the 5% level.

Woolly cupgrass control was 88 to 93% with all the treatments when observed on June 21. An exception was for Steadfast plus Callisto plus Clarity plus AMS and Agridex which provided 83% control. Velvetleaf, common waterhemp, and common lambsquarters control was generally good to excellent on June 21. Exceptions were for common waterhemp and common lambsquarters control with Steadfast plus AMS plus Destiny and Steadfast plus AMS plus NIS. These treatments generally provided poor to fair control.

MPOST treatments demonstrated similar trends in control of woolly cupgrass, velvetleaf, common waterhemp, and common lambsquarters when observed on July 5. Generally, control of these species declined as the season progressed. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8575  
Planting Date: 04-27-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included spring disking and field cultivation. Fertilization included 200 lbs/A actual N applied as urea. Crop residue on the soil surface was 75 to 85 % at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: CANISTEO SILTY CLAY LOAM  
pH: 5.9 Soil Name: CANISTEO, CLARION, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A
Application Date:	06-06-05
Application Method:	SPRAY
Application Timing:	MPOST
Applic. Placement:	BROFOL
Air Temp., Unit:	89 F
% Relative Humidity:	34
Wind Velocity, Unit:	12 MPH
Soil Temp., Unit:	73 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	30

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD V 4- V 5
Stage Scale:	DESC
Height, Unit:	9 IN

## WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	ERBVI 1-4 L, 4T
Stage Scale:	0.5-5 IN
Density, Unit:	5-35 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH 1-6 LEAF
Stage Scale:	0.5-5 IN
Density, Unit:	< 1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA 2-NUM
Stage Scale:	0.5-1.5
Density, Unit:	0-10 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL 2-NUM
Stage Scale:	0.25-8
Density, Unit:	0-15 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	TERRA PRO
Operating Pressure:	30
Nozzle Size:	11002
Spray Volume, Unit:	20 GPA

# Iowa State University

## Postemergence applications of Steadfast with various tank-mix partners and adjuvants for woolly cupgrass control in corn, Ogden, IA, 2005.

Trial ID: OCW 2  
Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

Weed Code										ZEAMD	ZEAMD	ZEAMD	ERBVI	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-02-05	06-13-05	06-21-05	06-21-05	06-21-05	06-21-05	06-21-05	07-05-05
Trt-Eval Interval										57 DA-A	7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									28	0	0	0	0	0	0	0
2	Steadfast AMS Agridex	75 L	WG DF	0.035 2.0	LB A/A	0.75 2.0	OZ LB/A	WT/A MPOST A		30	3	0	90	99	98	94	0
3	Steadfast Callisto AMS Agridex	75 4	WG SC	0.035 0.0469	LB A/A	0.75 1.5	OZ FL OZ/A	WT/A MPOST A		27	2	0	88	99	96	99	0
4	Steadfast Callisto Atrazine AMS Agridex	75 4 90	WG SC DF	0.035 0.0469 0.75	LB A/A	0.75 1.5 13.3	OZ FL OZ/A	WT/A MPOST A		28	5	0	93	99	99	99	0
5	Steadfast Callisto Clarity AMS Agridex	75 4 4	WG SC SL	0.035 0.0469 0.125	LB A/A	0.75 4.0	OZ FL OZ/A	WT/A MPOST A		28	3	0	83	99	99	99	0
6	Steadfast AMS Destiny	75 L	WG DF	0.035 2.0	LB A/A	0.75 2.0	OZ LB/A	WT/A MPOST A		30	5	0	93	99	85	83	0
7	Steadfast Callisto AMS Destiny	75 4	WG SC	0.035 0.0469	LB A/A	0.75 1.5	OZ FL OZ/A	WT/A MPOST A		27	5	0	90	99	99	99	0
8	Steadfast Callisto Atrazine AMS Destiny	75 4 90	WG SC DF	0.035 0.0469 0.75	LB A/A	0.75 1.5 13.3	OZ FL OZ/A	WT/A MPOST A		30	5	0	93	99	99	99	0
9	Steadfast Callisto Clarity AMS Destiny	75 4 4	WG SC SL	0.035 0.0469 0.125	LB A/A	0.75 4.0	OZ FL OZ/A	WT/A MPOST A		29	3	0	88	99	96	98	0
10	Steadfast AMS NIS	75 L	WG DF	0.035 2.0	LB A/A	0.75 2.0	OZ LB/A	WT/A MPOST A		28	2	0	93	99	63	75	0
11	Steadfast Lumax AMS NIS	75 3.95	WG SE	0.035 0.74	LB A/A	0.75 0.188	OZ GAL/A	WT/A MPOST A		27	8	5	91	99	99	99	5
12	Steadfast Lumax AMS NIS	75 3.95	WG SE	0.035 1.48	LB A/A	0.75 0.375	OZ GAL/A	WT/A MPOST A		30	10	5	93	99	99	99	5
13	Steadfast Lexar AMS NIS	75 3.7	WG SE	0.035 0.83	LB A/A	0.75 0.225	OZ GAL/A	WT/A MPOST A		25	10	2	92	99	99	99	5

# Iowa State University

Weed Code										ZEAMD	ZEAMD	ZEAMD	ERBVI	ABUTH	AMATA	CHEAL	ZEAMD
Rating Data Type										STAND	PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO
Rating Unit										17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										08-02-05	06-13-05	06-21-05	06-21-05	06-21-05	06-21-05	06-21-05	07-05-05
Trt-Eval Interval										57 DA-A	7 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	15 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Form Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
14	Steadfast	75	WG	0.035	LB A/A	0.75	OZ WT/A	MPOST	A	29	10	5	90	99	99	99	5
	Lexar	3.7	SE	1.66	LB A/A	0.45	GAL/A	MPOST	A								
	AMS		DF	2.0	LB/A	2.0	LB/A	MPOST	A								
	NIS		L	0.25	% V/V	0.25	% V/V	MPOST	A								
LSD (P=.05)										3.7	4.0	1.3	5.3	0.0	19.1	12.0	0.0
Standard Deviation										2.2	2.4	0.8	3.2	0.0	11.4	7.2	0.0
CV										7.84	46.73	64.81	3.75	0.0	12.96	8.06	0.0

# Iowa State University

Weed Code										ERBVI	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-05-05	07-05-05	07-05-05	07-05-05
Trt-Eval Interval										29 DA-A	29 DA-A	29 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code				
1	Untreated									0	0	0	0
2	Steadfast AMS Agrindex	75 4 L	WG DF L	0.035 2.0 1.0	LB/A LB/A % V/V	0.75 2.0 1.0	OZ WT/A LB/A % V/V	MPOST MPOST MPOST	A A A	87	95	83	83
3	Steadfast Callisto AMS Agrindex	75 4 L	WG SC DF L	0.035 0.0469 2.0 1.0	LB/A LB/A LB/A % V/V	0.75 1.5 2.0 1.0	OZ WT/A FL OZ/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	85	96	95	98
4	Steadfast Callisto Atrazine AMS Agrindex	75 4 90 L	WG SC DF DF L	0.035 0.0469 0.75 2.0 1.0	LB/A LB/A LB/A LB/A % V/V	0.75 1.5 13.3 2.0 1.0	OZ WT/A FL OZ/A OZ WT/A LB/A % V/V	MPOST MPOST MPOST MPOST MPOST	A A A A A	87	99	99	99
5	Steadfast Callisto Clarity AMS Agrindex	75 4 4 L	WG SC SL DF L	0.035 0.0469 0.125 2.0 1.0	LB/A LB/A LB/A LB/A % V/V	0.75 1.5 4.0 2.0 1.0	OZ WT/A FL OZ/A FL OZ/A LB/A % V/V	MPOST MPOST MPOST MPOST MPOST	A A A A A	83	98	98	99
6	Steadfast AMS Destiny	75 L	WG DF L	0.035 2.0 1.0	LB/A LB/A % V/V	0.75 2.0 1.0	OZ WT/A LB/A % V/V	MPOST MPOST MPOST	A A A	90	96	80	80
7	Steadfast Callisto AMS Destiny	75 4 L	WG SC DF L	0.035 0.0469 2.0 1.0	LB/A LB/A LB/A % V/V	0.75 1.5 2.0 1.0	OZ WT/A FL OZ/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	88	96	95	98
8	Steadfast Callisto Atrazine AMS Destiny	75 4 90 L	WG SC DF DF L	0.035 0.0469 0.75 2.0 1.0	LB/A LB/A LB/A LB/A % V/V	0.75 1.5 13.3 2.0 1.0	OZ WT/A FL OZ/A OZ WT/A LB/A % V/V	MPOST MPOST MPOST MPOST MPOST	A A A A A	88	98	99	99
9	Steadfast Callisto Clarity AMS Destiny	75 4 4 L	WG SC SL DF L	0.035 0.0469 0.125 2.0 1.0	LB/A LB/A LB/A LB/A % V/V	0.75 1.5 4.0 2.0 1.0	OZ WT/A FL OZ/A FL OZ/A LB/A % V/V	MPOST MPOST MPOST MPOST MPOST	A A A A A	85	96	93	98
10	Steadfast AMS NIS	75 L	WG DF L	0.035 2.0 0.25	LB/A LB/A % V/V	0.75 2.0 0.25	OZ WT/A LB/A % V/V	MPOST MPOST MPOST	A A A	90	95	57	68
11	Steadfast Lumax AMS NIS	75 3.95 L	WG SE DF L	0.035 0.74 2.0 0.25	LB/A LB/A LB/A % V/V	0.75 0.188 2.0 0.25	OZ WT/A GAL/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	90	99	99	99
12	Steadfast Lumax AMS NIS	75 3.95 L	WG SE DF L	0.035 1.48 2.0 0.25	LB/A LB/A LB/A % V/V	0.75 0.375 2.0 0.25	OZ WT/A GAL/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	90	99	99	99
13	Steadfast Lexar AMS NIS	75 3.7 L	WG SE DF L	0.035 0.83 2.0 0.25	LB/A LB/A LB/A % V/V	0.75 0.225 2.0 0.25	OZ WT/A GAL/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	88	98	99	99
14	Steadfast Lexar AMS NIS	75 3.7 L	WG SE DF L	0.035 1.66 2.0 0.25	LB/A LB/A LB/A % V/V	0.75 0.45 2.0 0.25	OZ WT/A GAL/A LB/A % V/V	MPOST MPOST MPOST MPOST	A A A A	90	99	99	99
LSD (P=.05)										3.0	3.5	15.2	9.9
Standard Deviation										1.8	2.1	9.0	5.9
CV										2.21	2.32	10.59	6.78

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum and Harness for woolly cupgrass control in corn, Ogden, IA, 2005.

Trial ID: OCW 3  
Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

Study Director: Owen/Lux/Franzenburg  
Affiliation: Iowa State University  
Postal Code: 50011  
Investigator: Owen/Hartzler/Pringnitz  
Affiliation: Iowa State University  
Postal Code: 50011

### TRIAL LOCATION

City: Ogden Trial Status: ONE-YEAR/FINAL  
State/Prov.: IA  
Postal Code: 50212 Initiation Date: 04-28-05  
Country: USA

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

**Objective:** The purpose of this study was to evaluate preemergence applications of KIH-485, Dual II Magnum and Harness for crop phytotoxicity and woolly cupgrass control in corn.  
**Conclusions:** Corn stand establishment was difficult due to poor seed bed conditions and resulted in considerable variability between treatments. Control of woolly cupgrass, velvetleaf and common lambsquarters with KIH-485 was rate responsive. When observed on May 20, twenty-two days after application, KIH-485 rates of 5.87, 7.2, and 8.3 oz wt/A, provided 62, 82, and 85% woolly cupgrass control, respectively. Velvetleaf control on May 20 ranged from 80 to 93% and common lambsquarters from 93 to 96% with KIH-485 treatments. Similar trends were observed on June 3, 21, and July 15. Overall, KIH-485 treatment rates of 7.2 and 8.3 oz wt/A provided fair to good woolly cupgrass, velvetleaf and common lambsquarters control.

Woolly cupgrass control with Dual II Magnum and Harness was 70 and 83%, respectively, on May 20. Observations on June 3, 21, and July 15 demonstrated a reduction in woolly cupgrass control with both treatments. By June 21 and July 15, woolly cupgrass control was poor with Dual II Magnum and Harness. Velvetleaf control with Dual II Magnum and Harness was not acceptable on any observation date. Common lambsquarters control was good with Dual II Magnum and Harness when observed on May 20 and June 3. However, by June 21 and July 15, poor to fair common lambsquarters control was observed. (Dept. of Agronomy, Iowa State University, Ames).

Crop 1: ZEAMD CORN, FIELD Variety: GARST 8575  
Planting Date: 04-27-05 Planting Method: DIRECT DRILLED  
Rate: 30200 SEEDS/A Depth: 1.5 IN  
Row Spacing: 30 IN Seed Bed: FINE/TRASHY

### SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3  
Tillage Type: MINIMUM-TILL Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2004

### MAINTENANCE

Field Prep./Maintenance: Tillage included spring disking. Fertilization included 200 lbs/A actual N applied as urea. Crop residue on the soil surface was 75 to 85 % at planting.

### SOIL DESCRIPTION

% OM: 4.8 Texture: CANISTEO SILTY CLAY LOAM  
pH: 5.9 Soil Name: CANISTEO, CLARION, NICOLLET  
Fert. Level: EXCELLENT

Overall Moisture Conditions: NORMAL

### APPLICATION DESCRIPTION

	A
Application Date:	04-28-05
Application Method:	SPRAY
Application Timing:	PRE
Applic. Placement:	BROFOL
Air Temp., Unit:	53 F
% Relative Humidity:	52
Wind Velocity, Unit:	5 MPH
Soil Temp., Unit:	52 F
Soil Moisture:	ADEQUATE
% Cloud Cover:	40

# Iowa State University

## CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMD -
Stage Scale:	-
	-

## APPLICATION EQUIPMENT

	A
Appl. Equipment:	HAND BOOM
Operating Pressure:	35
Nozzle Size:	11003
Spray Volume, Unit:	20 GPA

# Iowa State University

## Preemergence applications of KIH-485, Dual II Magnum and Harness for woolly cupgrass control in corn, Ogden, IA, 2005.

Trial ID: OCW 3  
Location: Ogden

Study Dir.: Owen/Lux/Franzenburg  
Investigator: Owen/Hartzler/Pringnitz

Weed Code	ZEAMD STAND	ZEAMD PHYTO	ERBVI CONTROL	ABUTH CONTROL	CHEAL CONTROL	ZEAMD PHYTO	ERBVI CONTROL	ABUTH CONTROL
Rating Data Type	17.5 FT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Unit	08-02-05	05-20-05	05-20-05	05-20-05	05-20-05	06-03-05	06-03-05	06-03-05
Rating Date	96 DA-A	22 DA-A	22 DA-A	22 DA-A	22 DA-A	36 DA-A	36 DA-A	36 DA-A
Trt-Eval Interval								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Product Rate	Product Rate	Grow Stg	Appl Code
1	Untreated							
2	KIH-485	60	WG	0.223	LB A/A	5.87	OZ WT/A	PRE A
3	KIH-485	60	WG	0.267	LB A/A	7.2	OZ WT/A	PRE A
4	KIH-485	60	WG	0.312	LB A/A	8.3	OZ WT/A	PRE A
5	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE A
6	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE A
LSD (P=.05)		4.3		5.0		12.2		14.0
Standard Deviation		2.3		2.7		6.7		7.7
CV		8.48		328.63		10.51		14.62

# Iowa State University

Weed Code										CHEAL	ZEAMD	ERBVI	ABUTH	CHEAL	ZEAMD	ERBVI	ABUTH
Rating Data Type										CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										06-03-05	06-21-05	06-21-05	06-21-05	06-21-05	07-15-05	07-15-05	07-15-05
Trt-Eval Interval										36 DA-A	54 DA-A	54 DA-A	54 DA-A	54 DA-A	78 DA-A	78 DA-A	78 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Product Rate	Product Rate	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	KIH-485	60	WG	0.223	LB A/A	5.87	OZ WT/A	PRE	A	93	0	67	78	75	0	62	78
3	KIH-485	60	WG	0.267	LB A/A	7.2	OZ WT/A	PRE	A	95	2	83	83	87	0	82	85
4	KIH-485	60	WG	0.312	LB A/A	8.3	OZ WT/A	PRE	A	96	3	87	83	88	2	78	82
5	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	80	0	57	22	58	0	47	18
6	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	90	0	63	30	65	0	52	27
LSD (P=.05)										11.2	5.0	13.0	11.9	18.2	2.1	13.8	12.8
Standard Deviation										6.1	2.7	7.2	6.6	10.0	1.2	7.6	7.0
CV										8.11	328.63	12.06	13.27	16.12	424.26	14.22	14.56

# Iowa State University

Weed Code										CHEAL
Rating Data Type										CONTROL
Rating Unit										PERCENT
Rating Date										07-15-05
Trt-Eval Interval										78 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
1	Untreated									0
2	KIH-485	60	WG	0.223	LB A/A	5.87	OZ WT/A	PRE	A	75
3	KIH-485	60	WG	0.267	LB A/A	7.2	OZ WT/A	PRE	A	83
4	KIH-485	60	WG	0.312	LB A/A	8.3	OZ WT/A	PRE	A	83
5	Dual II Magnum	7.64	EC	1.91	LB A/A	2.0	PT/A	PRE	A	55
6	Harness	7	EC	1.99	LB A/A	2.27	PT/A	PRE	A	63
LSD (P=.05)										17.4
Standard Deviation										9.6
CV										15.96

# Iowa State University

**Gangster preemergence followed by postemergence FirstRate, Cobra, Select Max, V-10139, or Select for woolly cupgrass control in soybean, Ogden, IA, 2005.**  
 Trial ID: OSW 1 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ogden Investigator: Owen/Hartzler/Pringnitz

### GENERAL TRIAL INFORMATION

**Study Director:** Owen/Lux/Franzenburg  
**Affiliation:** Iowa State University  
**Postal Code:** 50011  
**Investigator:** Owen/Hartzler/Pringnitz  
**Affiliation:** Iowa State University  
**Postal Code:** 50011

### TRIAL LOCATION

**City:** Ogden **Trial Status:** ONE-YEAR/FINAL  
**State/Prov.:** IA  
**Postal Code:** 50212 **Initiation Date:** 04-27-05  
**Country:** USA

**Conducted Under GLP (Y/N):** N **Conducted Under GEP (Y/N):** N

**Objective:** The purpose of this study was to evaluate preemergence applied Gangster V and Gangster FR (Gangster) followed by postemergence tank-mixtures of FirstRate and Cobra with Select Max, V-10139 or Select for soybean phytotoxicity and woolly cupgrass control.

**Conclusions:** Serious soybean injury was observed on June 21 and July 5 from PRE applied Gangster V and Gangster FR. Woolly cupgrass control with these treatments was initially good on June 21, but on July 5 only fair control was observed. Velvetleaf, common waterhemp, and common lambsquarters control was good to excellent with the PRE treatments on June 21 and July 5. Control of these species remained acceptable through the August 25 observation date.

Soybean injury on July 15 was 25% following POST applications and continued to be serious through the July 28 observation date. Following the POST application timing, woolly cupgrass control on July 15 improved from the July 5 observation date. Slightly better woolly cupgrass control was observed on July 15, 28 and August 28 with POST applied V-10139 compared to the remaining treatments. (Dept. of Agronomy, Iowa State University, Ames).

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ERBVI	CUPGRASS, WOOLLY	ERIOCHLOA VILLOSA (THUNB.) KUNTH
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMATA	WATERHEMP, COMMON	AMARANTHUS TAMARISCINUS NUTT.
4.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.

**Crop 1:** GLXMA SOYBEAN **Variety:** ASGROW AG2403  
**Planting Date:** 04-27-05 **Planting Method:** DIRECT DRILLED  
**Rate:** 151000 SEEDS/A **Depth:** 1.5 IN  
**Row Spacing:** 30 IN **Seed Bed:** FINE/TRASHY

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT **Plot Length, Unit:** 25 FT **Reps:** 3  
**Tillage Type:** MINIMUM-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	CORN	NONE	2004

### MAINTENANCE

**Field Prep./Maintenance:** Tillage included spring disking and field cultivation. Crop residue on the soil surface was 75 to 85 % at planting.

### SOIL DESCRIPTION

**% OM:** 4.8 **Texture:** CANISTEO SILTY CLAY LOAM  
**pH:** 5.9 **Soil Name:** CANISTEO, CLARION, NICOLLET  
**Fert. Level:** EXCELLENT

**Overall Moisture Conditions:** NORMAL

# Iowa State University

## APPLICATION DESCRIPTION

	A	B
Application Date:	04-28-05	07-05-05
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	53 F	78 F
Wind Velocity, Unit:	5 MPH	3 MPH
Soil Temp., Unit:	52 F	78 F
Soil Moisture:	ADEQUATE	ADEQUATE
% Cloud Cover:	40	10

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA -	GLXMA V 6 - R 1
Stage Scale:	-	DESC
Height, Unit:	-	12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	ERBVI -	ERBVI 1-4 L, 5T
Stage Scale:	-	1-8 IN
Density, Unit:	- -	5-15 FT <sup>2</sup>
Weed 2 Code, Stage:	ABUTH -	ABUTH COTYL-5 L
Stage Scale:	-	0.25-5 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>
Weed 3 Code, Stage:	AMATA -	AMATA 2-NUM
Stage Scale:	-	0.5-18 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>
Weed 4 Code, Stage:	CHEAL -	CHEAL NUMEROUS
Stage Scale:	-	0.5-4 IN
Density, Unit:	- -	< 1 FT <sup>2</sup>

## APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	HAND	HAND
Operating Pressure:	35	35
Nozzle Size:	11003	11003
Spray Volume, Unit:	20 GPA	20 GPA

# Iowa State University

**Gangster preemergence followed by postemergence FirstRate, Cobra, Select Max, V-10139, or Select for woolly cupgrass control in soybean, Ogden, IA, 2005.**

Trial ID: OSW 1 Study Dir.: Owen/Lux/Franzenburg  
 Location: Ogden Investigator: Owen/Hartzler/Pringnitz

Weed Code										GLXMA	GLXMA	ERBVI	ABUTH	AMATA	CHEAL	GLXMA	ERBVI
Rating Data Type										PHYTO	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										05-20-05	06-21-05	06-21-05	06-21-05	06-21-05	06-21-05	07-05-05	07-05-05
Trt-Eval Interval										22 DA-A	54 DA-A	54 DA-A	54 DA-A	54 DA-A	54 DA-A	0 DA-B	0 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51 WG		0.08 LB A/A		2.5 OZ WT/A		PRE A		5	27	83	98	96	99	12	62
	Gangster FR	84 WG		0.0262 LB A/A		0.5 OZ WT/A		PRE A									
	FirstRate	84 WG		0.0157 LB A/A		0.3 OZ WT/A		POST B									
	Cobra	2 EC		0.125 LB A/A		8.0 FL OZ/A		POST B									
	Select Max	1 EC		0.07 LB A/A		9.0 FL OZ/A		POST B									
	COC	L		1.0 PT/A		1.0 PT/A		POST B									
	AMS	DF		2.5 LB/A		2.5 LB/A		POST B									
3	Gangster V	51 WG		0.08 LB A/A		2.5 OZ WT/A		PRE A		5	28	88	99	92	99	13	72
	Gangster FR	84 WG		0.0262 LB A/A		0.5 OZ WT/A		PRE A									
	FirstRate	84 WG		0.0157 LB A/A		0.3 OZ WT/A		POST B									
	Cobra	2 EC		0.125 LB A/A		8.0 FL OZ/A		POST B									
	V-10139	1.6 EC		0.075 LB A/A		6.0 FL OZ/A		POST B									
	COC	L		1.0 PT/A		1.0 PT/A		POST B									
	AMS	DF		2.5 LB/A		2.5 LB/A		POST B									
4	Gangster V	51 WG		0.08 LB A/A		2.5 OZ WT/A		PRE A		5	27	88	99	94	98	12	70
	Gangster FR	84 WG		0.0262 LB A/A		0.5 OZ WT/A		PRE A									
	FirstRate	84 WG		0.0157 LB A/A		0.3 OZ WT/A		POST B									
	Cobra	2 EC		0.125 LB A/A		8.0 FL OZ/A		POST B									
	Select	2 EC		0.094 LB A/A		6.0 FL OZ/A		POST B									
	COC	L		1.0 PT/A		1.0 PT/A		POST B									
	AMS	DF		2.5 LB/A		2.5 LB/A		POST B									
LSD (P=.05)										0.0	5.5	7.6	2.3	12.8	2.3	8.0	16.5
Standard Deviation										0.0	2.8	3.8	1.2	6.4	1.2	4.0	8.2
CV										0.0	13.54	5.88	1.56	9.12	1.56	43.6	16.17

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Weed Code										ABUTH	AMATA	CHEAL	GLXMA	ERBVI	ABUTH	AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-05-05	07-05-05	07-05-05	07-15-05	07-15-05	07-15-05	07-15-05	07-15-05
Trt-Eval Interval										0 DA-B	0 DA-B	0 DA-B	10 DA-B	10 DA-B	10 DA-B	10 DA-B	10 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	93	90	99	25	85	98	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	93	88	99	25	88	98	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	95	87	98	25	83	99	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
LSD (P=.05)										3.3	6.9	2.3	0.0	3.3	2.7	0.0	0.0
Standard Deviation										1.7	3.4	1.2	0.0	1.7	1.3	0.0	0.0
CV										2.37	5.19	1.56	0.0	2.6	1.81	0.0	0.0

# Iowa State University

Weed Code										GLXMA	ERBVI	ABUTH	AMATA	CHEAL	GLXMA	ERBVI	ABUTH
Rating Data Type										PHYTO	CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Date										07-28-05	07-28-05	07-28-05	07-28-05	07-28-05	08-25-05	08-25-05	08-25-05
Trt-Eval Interval										23 DA-B	23 DA-B	23 DA-B	23 DA-B	23 DA-B	51 DA-B	51 DA-B	51 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code								
1	Untreated									0	0	0	0	0	0	0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	13	85	99	99	99	8	85	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	15	88	99	99	99	10	88	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	15	87	99	99	99	10	85	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A								
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B								
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B								
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B								
	COC	L		1.0	PT/A	1.0	PT/A	POST	B								
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B								
LSD (P=.05)										6.4	4.7	0.0	0.0	0.0	5.0	5.8	0.0
Standard Deviation										3.2	2.4	0.0	0.0	0.0	2.5	2.9	0.0
CV										29.79	3.63	0.0	0.0	0.0	35.29	4.47	0.0

## Iowa State University

Weed Code										AMATA	CHEAL
Rating Data Type										CONTROL	CONTROL
Rating Unit										PERCENT	PERCENT
Rating Date										08-25-05	08-25-05
Trt-Eval Interval										51 DA-B	51 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code		
1	Untreated									0	0
2	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A		
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B		
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B		
	Select Max	1	EC	0.07	LB A/A	9.0	FL OZ/A	POST	B		
	COC	L		1.0	PT/A	1.0	PT/A	POST	B		
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B		
3	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A		
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B		
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B		
	V-10139	1.6	EC	0.075	LB A/A	6.0	FL OZ/A	POST	B		
	COC	L		1.0	PT/A	1.0	PT/A	POST	B		
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B		
4	Gangster V	51	WG	0.08	LB A/A	2.5	OZ WT/A	PRE	A	99	99
	Gangster FR	84	WG	0.0262	LB A/A	0.5	OZ WT/A	PRE	A		
	FirstRate	84	WG	0.0157	LB A/A	0.3	OZ WT/A	POST	B		
	Cobra	2	EC	0.125	LB A/A	8.0	FL OZ/A	POST	B		
	Select	2	EC	0.094	LB A/A	6.0	FL OZ/A	POST	B		
	COC	L		1.0	PT/A	1.0	PT/A	POST	B		
	AMS	DF		2.5	LB/A	2.5	LB/A	POST	B		
LSD (P=.05)										0.0	0.0
Standard Deviation										0.0	0.0
CV										0.0	0.0