Corn Production in Kura Clover Living Mulch

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Driftless Region
Glyphosate Resistant Corn
Whole Plant Yield

Expt 1 Expt 2 Expt 3

Whole Plant Yield (Mg/ha)

\[
P = 0.05
\]
Glyphosate Resistant Corn
Grain Yield

Expt 1 Expt 2 Expt 3
Killed Glyph+Dicam Glyph

Grain Yield (Mg/ha)

P = 0.05
Zone Tillage?
Mulch Effects on Soil Temperature

*Arlington - 2001*

Soil Temperature, °C

- Zone tilled
- Band killed
- Killed
- Suppressed

![Bar chart showing soil temperature effects.

Legend:
- Zone tilled
- Band killed
- Killed
- Suppressed

- a
- bc
- b
- c

Values:
- Zone tilled: 26
- Band killed: 22
- Killed: 22
- Suppressed: 22

Note: The chart shows the variation in soil temperature due to different mulch treatments.
Mulch Effects on Soil Temperature

Arlington, 2002

Zone tilled  Band killed  Killed  Suppressed

Soil Temperature, oC

April 30  May 15  May 21

Legend:
- a
- b
- c

Note: The data points are labeled with letters (a, b, c) to indicate statistical significance.
Corn Yields and Densities

*Arlington, 2001*

**Whole-Plant**
- Yield, Mg/ha
  - Zone-Tilled
  - Band-Killed
  - Killed
  - Suppressed

**Grain**
- Density, plants x 10,000/ha
  - Zone-Tilled
  - Band-Killed
  - Killed
  - Suppressed

**Density**
- Population Density, plants x 10,000/ha
  - Zone-Tilled
  - Band-Killed
  - Killed
  - Suppressed
No Chemicals?
Corn Yields and N Uptake

Arlington, 2003

Whole-Plant

Yield, Mg/ha

Grain

N Uptake, Kg/ha

N Uptake

0N 28N 56N 84N Killed-84N

NS

c abc bc bc a

NS

0 5 10 15 20 25

0 50 100 150 200 250

N Uptake, Kg/ha
Corn Yields and N Uptake

*Lancaster, 2003*

### Whole-Plant Grain N Uptake

#### Linear:

- **P<0.01**

### N Uptake

**Linear:**

- **P<0.01**

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**Legend:**

- **0N**
- **28N**
- **56N**
- **84N**
- **Killed-84N**

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**Note:**

- Different letters indicate significant differences at the 0.05 level.
Dry matter yield of winter wheat harvested at two maturity stages and kura clover in monoculture and binary mixture.
Conventionally tilled corn field compared to living mulch field in late April.