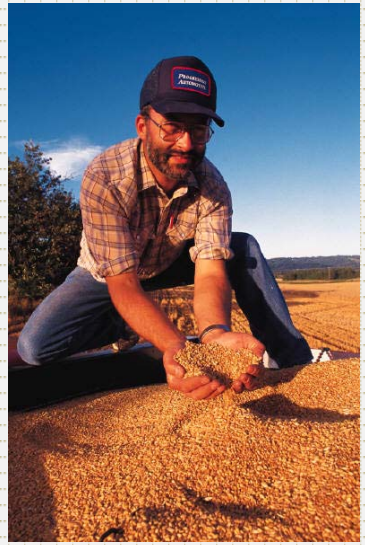
Safety and Quality Go Together



Iowa Grain Quality Initiative

Gretchen A. Mosher, PhD

AAI Showcase,

Grain and Feed Forum

When does quality matter?

Source: Grain Journal Nov 4 2010

Managing more than quality

Quality is one of many concerns

- Customer service
- Speed/ Productivity
- Personnel safety
- Food safety
- Profits
- Biosecurity
- Site security
- Environmental

Quality directly impacts storage, marketability, and end use!

Quality Management Systems

QMS are

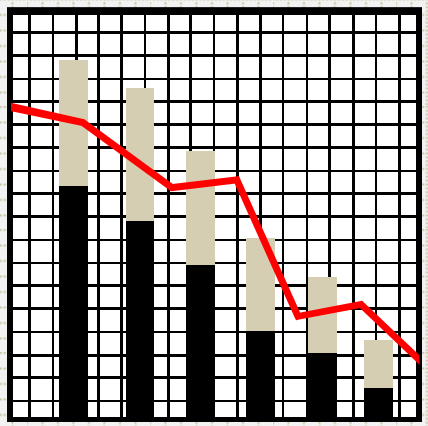
- Disciplined structures for organization of production
- Require structured format for documenting
- Focus on consistency and repeatability

QMS are not

- Strict standards on what to do and not to do
- Inflexible
- Generic checklists / audits

Quality management in agriculture

- Respond to security regulations (food safety, environmental, bioterror)
- Increased operating efficiency
- Better ability to meet customer demands
- Tighter control and management of inventory
- Better definition of processes
- Poor decisions mean lost profit!

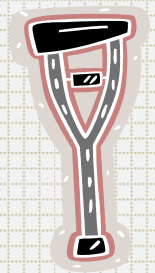


Safety in the Workplace

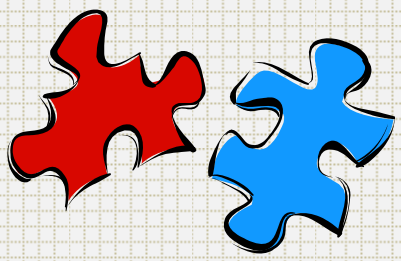
- Preventing injury and fatalities is a continuing challenge
  - 4,547 recorded occupational fatalities in 2010 (BLS, 2011)
  - 3 million cases of non-fatal occupational injuries reported in 2010, with nearly 2 million requiring day off work , job restriction or job transfer
  - Fatality and injury rates in agriculture higher than other industries – 37 per 100,000 vs. 3 per 100,000
- Majority of fatalities and injuries occur as a result of:
  - Employees actions
  - Taking shortcuts & not following procedures

How important is safety?

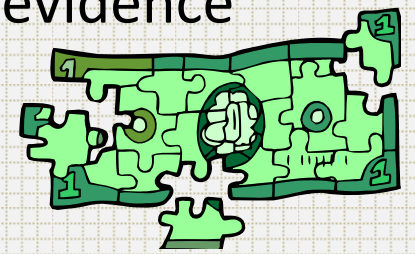
- Reduces absences and days lost to injury
- Decreases insurance premium costs
- Enables enterprises to meet and exceed customer expectations
- Increases motivation and the commitment of employees to the business
- Mistakes are expensive!



Safety and quality are a lot alike



- Common characteristics:
  - Driven by management, often top-down
  - Focus on continuous improvement
  - Training procedures and standardized operating procedures play important role
  - Emphasis is on prevention rather than reaction
- Several processes can be used in both applications
  - Process documentation
  - Improvement and standardization of processes
  - Statistical process control
  - Decision-making based on data, trends, and evidence



Addressing Safety and Quality with QMS

- Recall QMS does not tell you what to do
- Use to increase consistency and repeatability in processes – safety and quality
- Knowledge about your organization and its processes helps in decision-making:
  - Receipt, storage, shipping options to preserve quality
  - Safety procedures
  - Compliance documentation

Constraints??

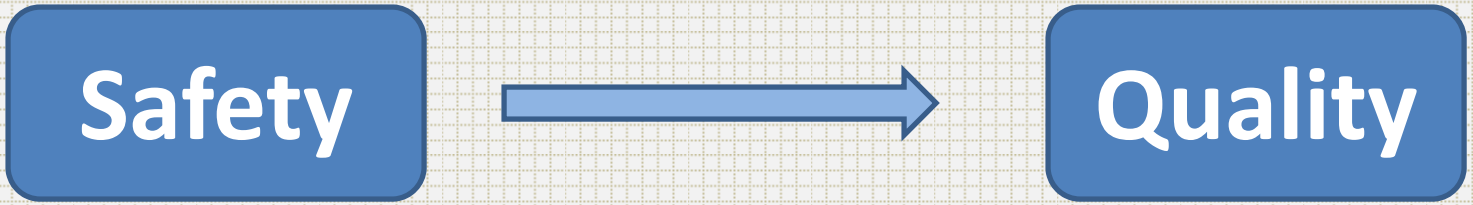
PEOPLE!
PEOPLE!
PEOPLE!

People Connections Between Safety and Quality

- Safety is a more fundamental need than quality
- Workers who feel unsafe will not make quality a priority
- Both are dependent on employee actions
- Employee actions may be controlled by limits of the system
- Perceptions are important to success of programs

More connections

- Quality guru Deming saw safety and quality as complimentary workplace goals
- Based on Maslow's Hierarchy of Needs



Safety & Quality in Agriculture

- Out-of-condition grain has been cited as a major factor in engulfments
- Poor quality grain:
  - Does not handle or convey well
  - Uses more power & capacity
  - Attributed to:
    - Shorter “shelf life”
    - Food safety issues (mold, damage)

Interactions Between Safety & Quality

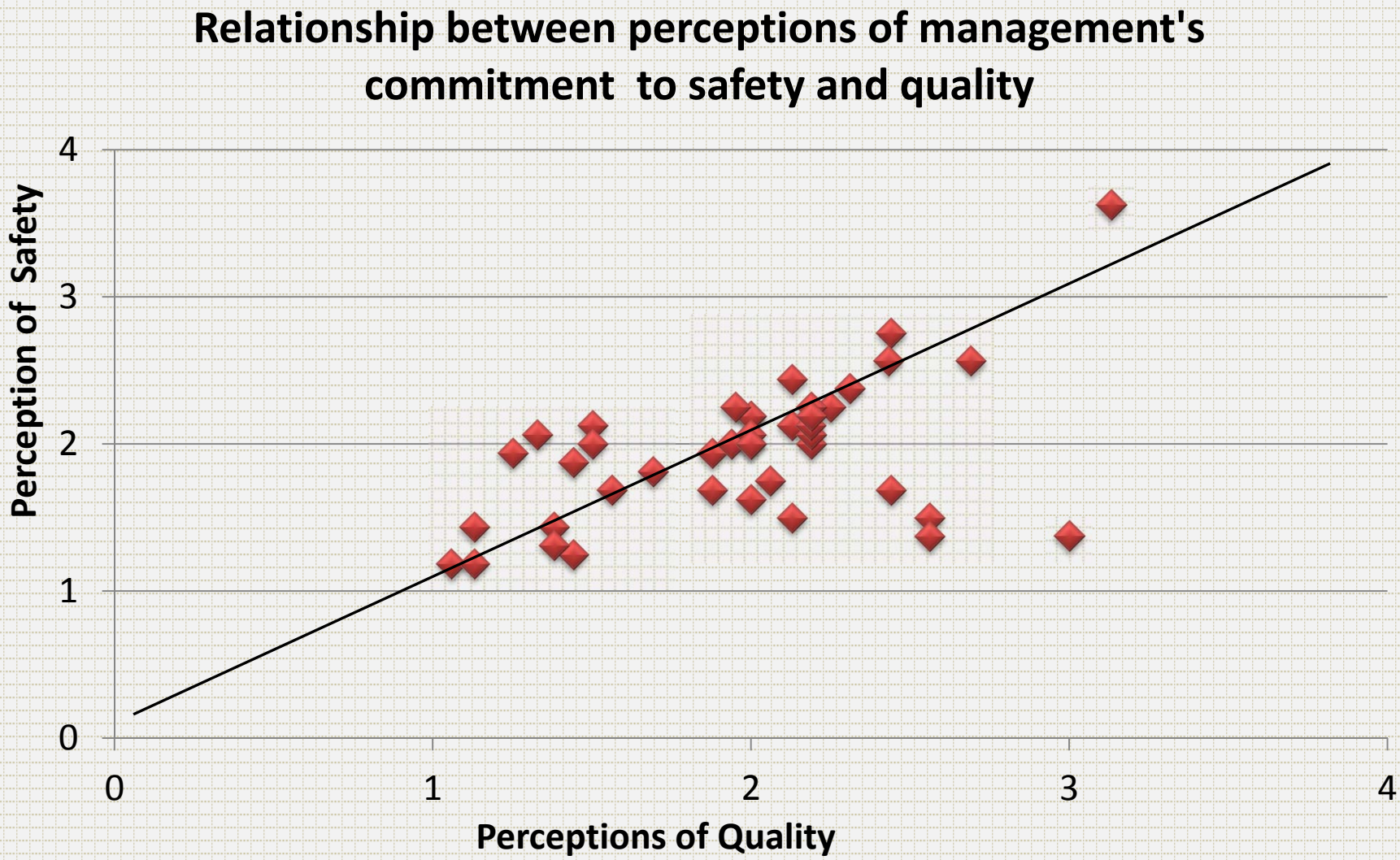
- Engulfments infrequent and low profile but entirely preventable
- 2010 - record number of engulfment incidents
- Higher number at commercial grain elevators than previously
- High fatality rates
  - 1969 – 1995, 80% (Freeman et al, 1998)
  - 1964-2005, 74% (Roberts & Field, 2010)
- Corn primary entrapment medium

Out-of-condition grain

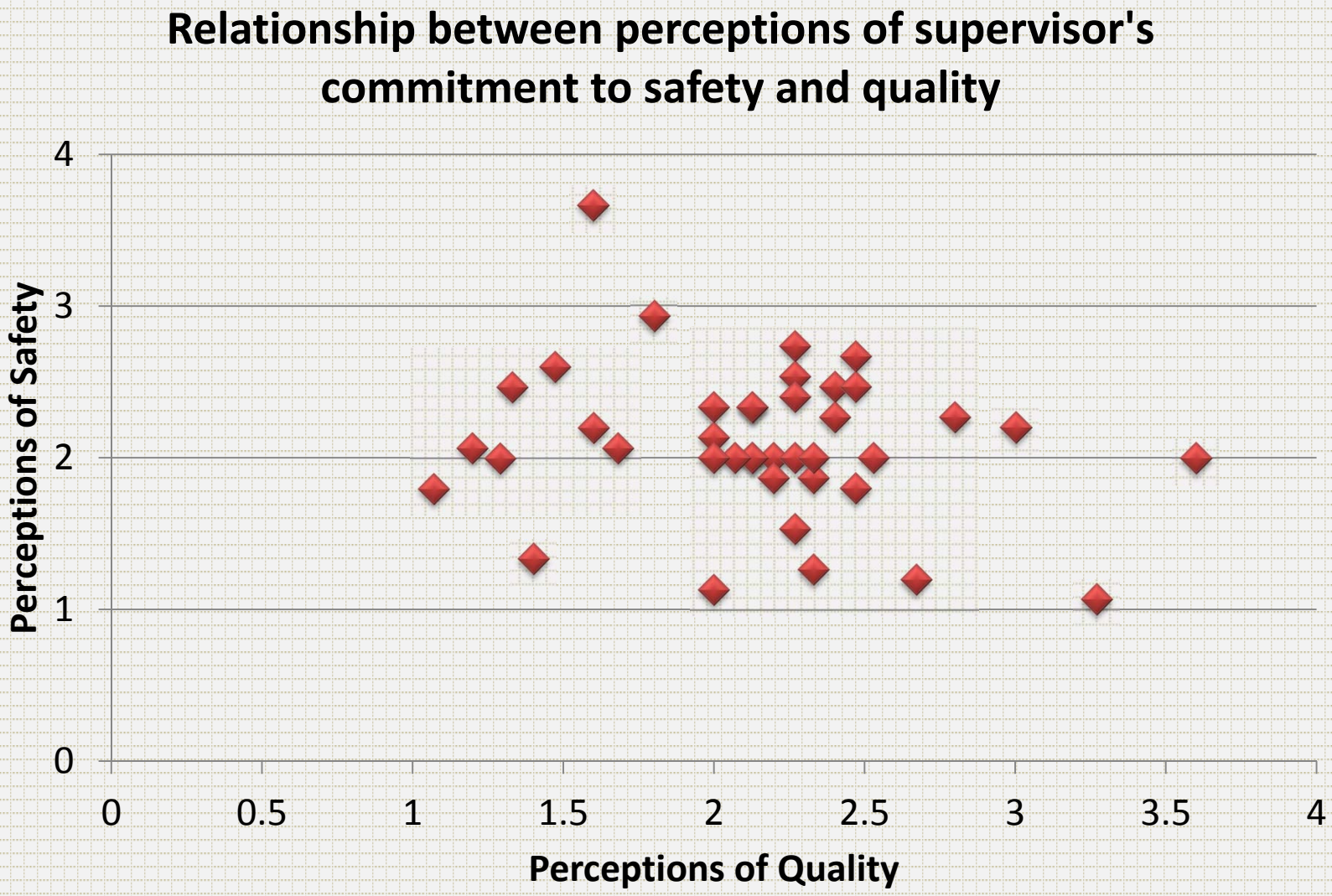
Connections in Employees' Minds

- Do employees see safety and quality as parallel or complimentary goals?
  - We asked about 180 employees from three elevator companies in Iowa
  - Do these feelings differ for different personnel?
    - Managers – set safety and quality policies
    - Supervisors – implement and enforce safety and quality policies

Safety & Quality - Management



Safety & Quality - Supervisors



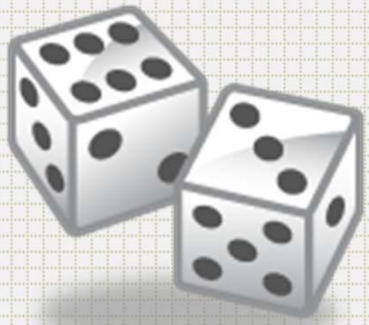
Data on Strength of Relationships

- Employees perceived a very strong relationship between safety and quality
- Stronger quality feelings about management than supervisors
- Follows theory from safety and quality experts
- To increase likelihood of success of quality programs, engage your supervisors in quality management!

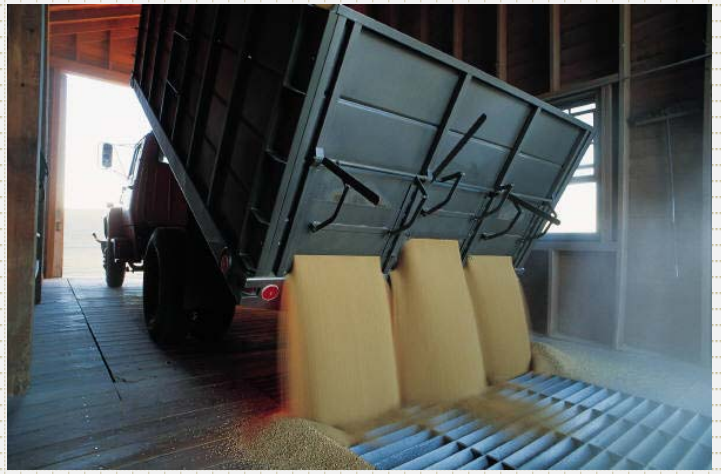
Wrapping up …

- Quality can and should be integrated with other workplace goals
- Workers will not focus on quality outcomes unless their safety needs are met
- In grain handling, high quality grain prevents safety incidents
- Safety and quality are strongly linked in employees' minds

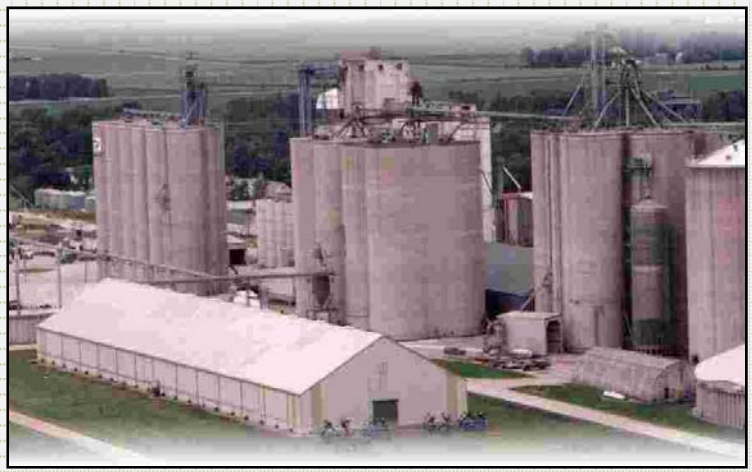
Safety



Quality



Thank you for your attention. Questions?



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