

Frost Protection and Disease Control with Strobilurins on Sugar Beets



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Impact of Headline on Frost Tolerance Minidoka, ID; 2006



Rationale

- Benefits of strobilurin use:
 - Increases nitrogen utilization efficiency
 - Decreases respiration rate
 - Confers some frost protection
 - Controls powdery mildew
 - Increases yield
 - Decreases ethylene production?



2006 Treatments

1. Untreated check
2. Headline (9 oz/a) – 60 PHI
3. Headline (9 oz/a) – 45 PHI
4. Headline (9 oz/a) – 30 PHI
5. Headline (9 oz/a) – 60 and 45 PHI
6. Headline (9 oz/a) – 45 and 30 PHI

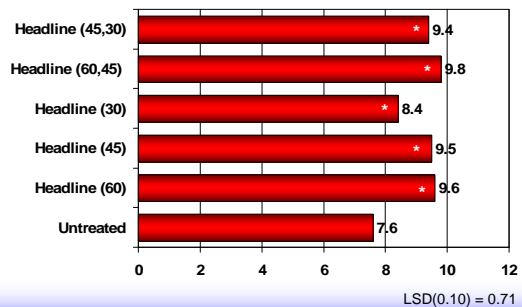
Harvest date: October 12

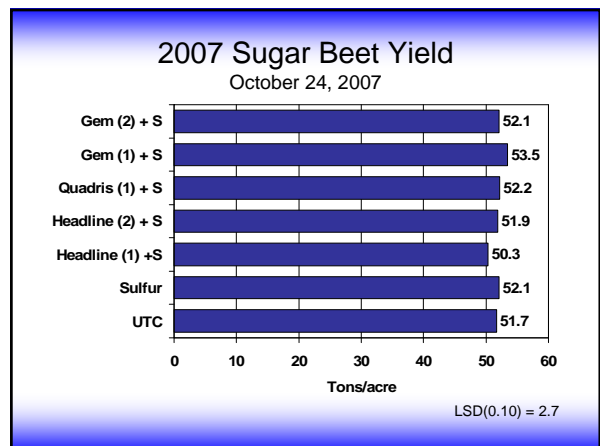
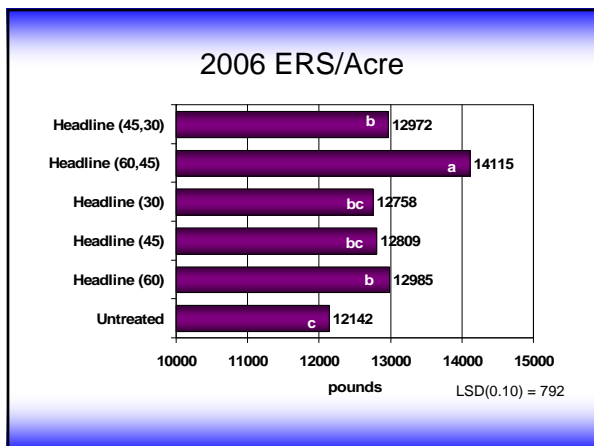
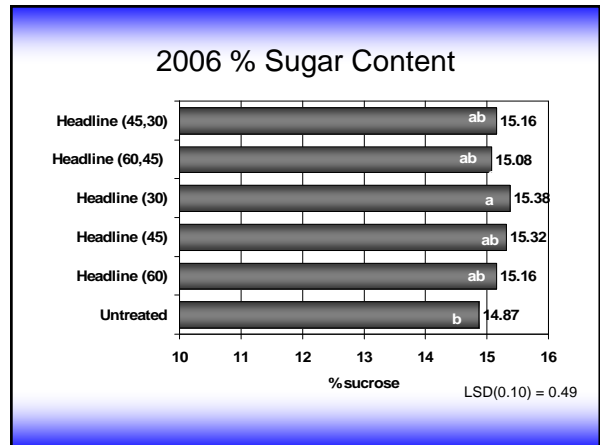
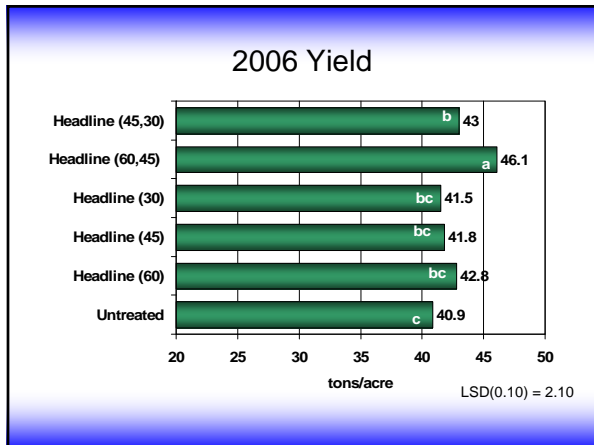
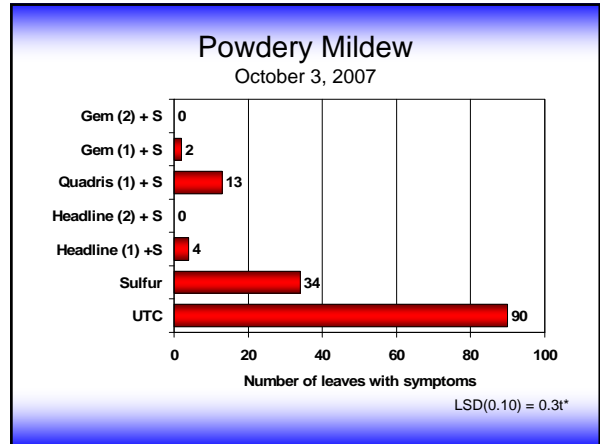
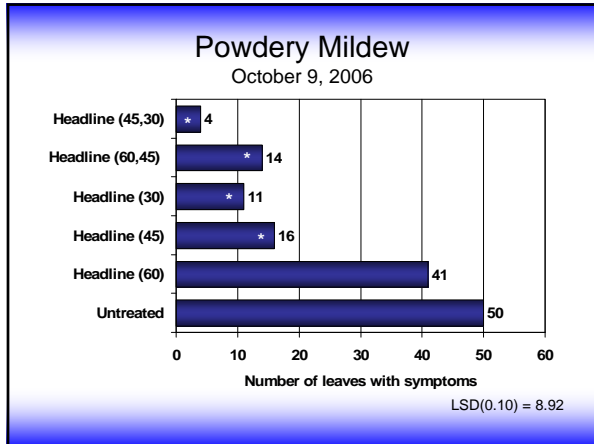
2007 Treatments

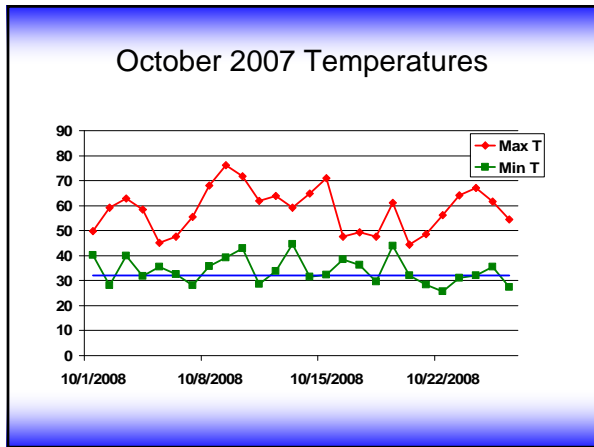
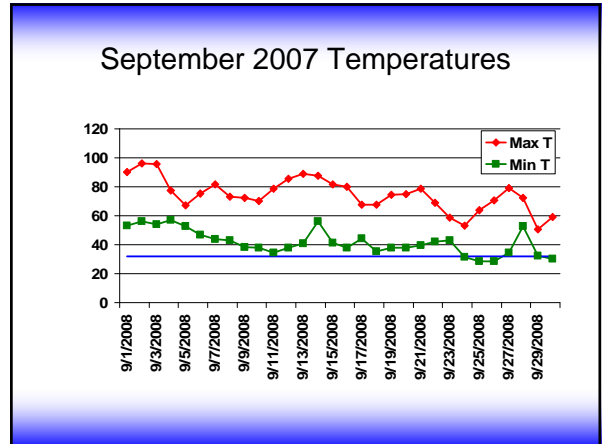
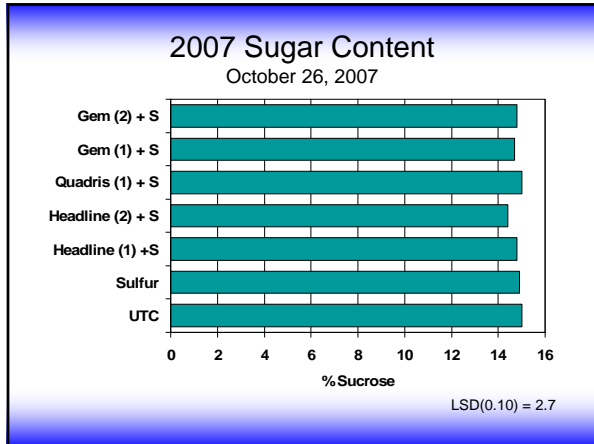
1. Untreated check
2. Sulfur (Yellow Jacket at 3, 6 pt)
3. Headline on August 11 (12 fl oz)
4. Headline on August 11, 25 (12 fl oz)
5. Quadris on August 11 (12 fl oz)
6. Gem on August 11 (3.6 fl oz)
7. Gem on August 11, 25 (3.6 fl oz)

Harvest date: October 24

Plant Vigor September 26, 2006

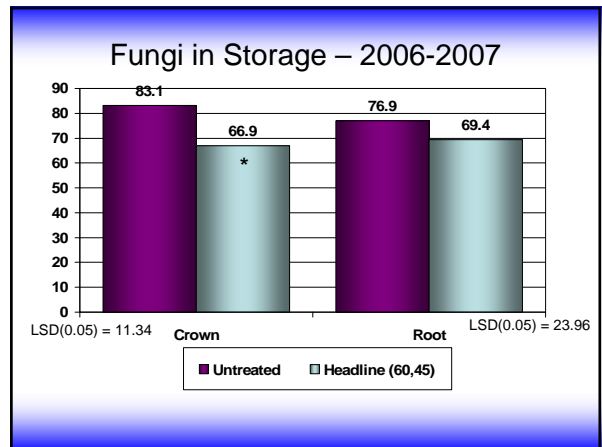


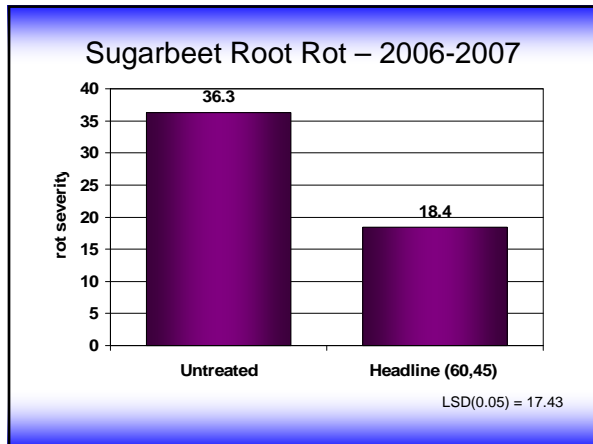




Frost Protection?

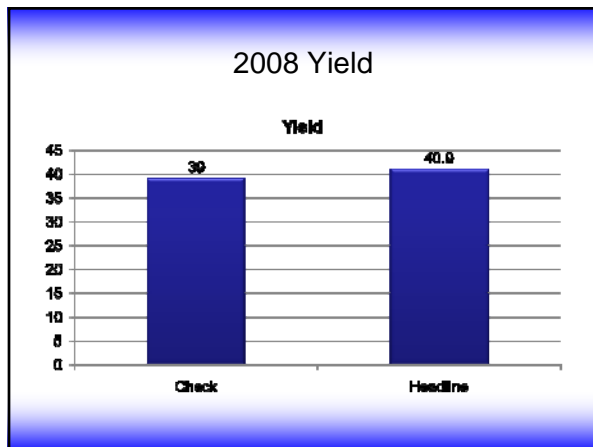
Light frost on September 24-25
30-31 F





2008 Field Demonstration

- Headline, 9 oz/a
- 45 days before harvest



2008 Results cont.

- % sugar similar
- ERS statistically similar

- ### Conclusions
1. Headline can increase plant vigor.
 2. Reduced susceptibility to frost.
 3. Powdery mildew was controlled when applications were made 30-45 days prior to harvest.
 4. Two applications increased tons/acre
 - 60 + 45 PHI best in 2006
 - 45 PHI effective in 2008
 5. No treatments decreased % sucrose.

- ### Cooperators
- Stacy Camp
 - Carl Strausbaugh
 - BASF
 - Bayer
 - Syngenta