

Sugarcane Ripener Research

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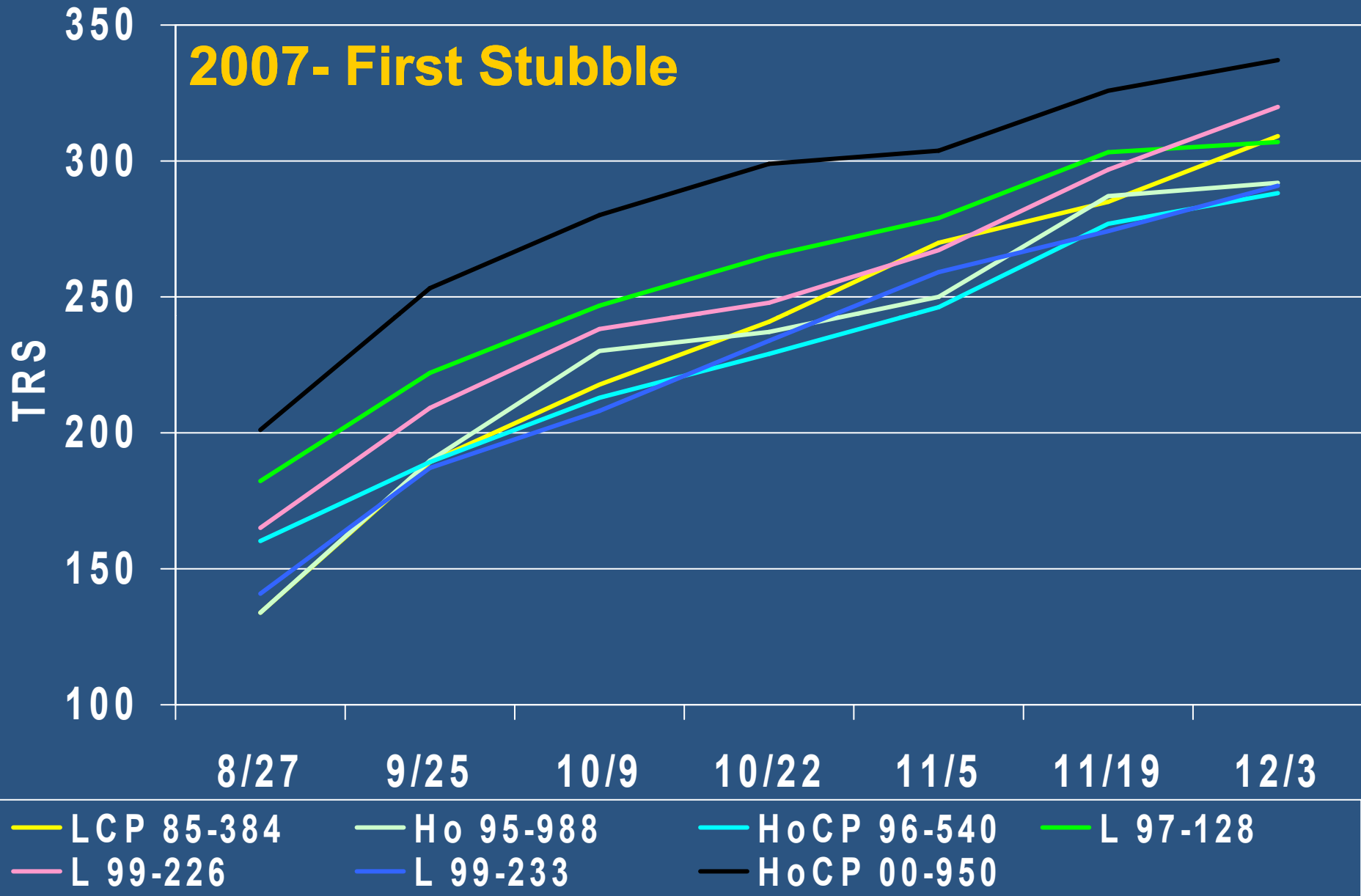
USDA-ARS

Sugarcane Research Laboratory

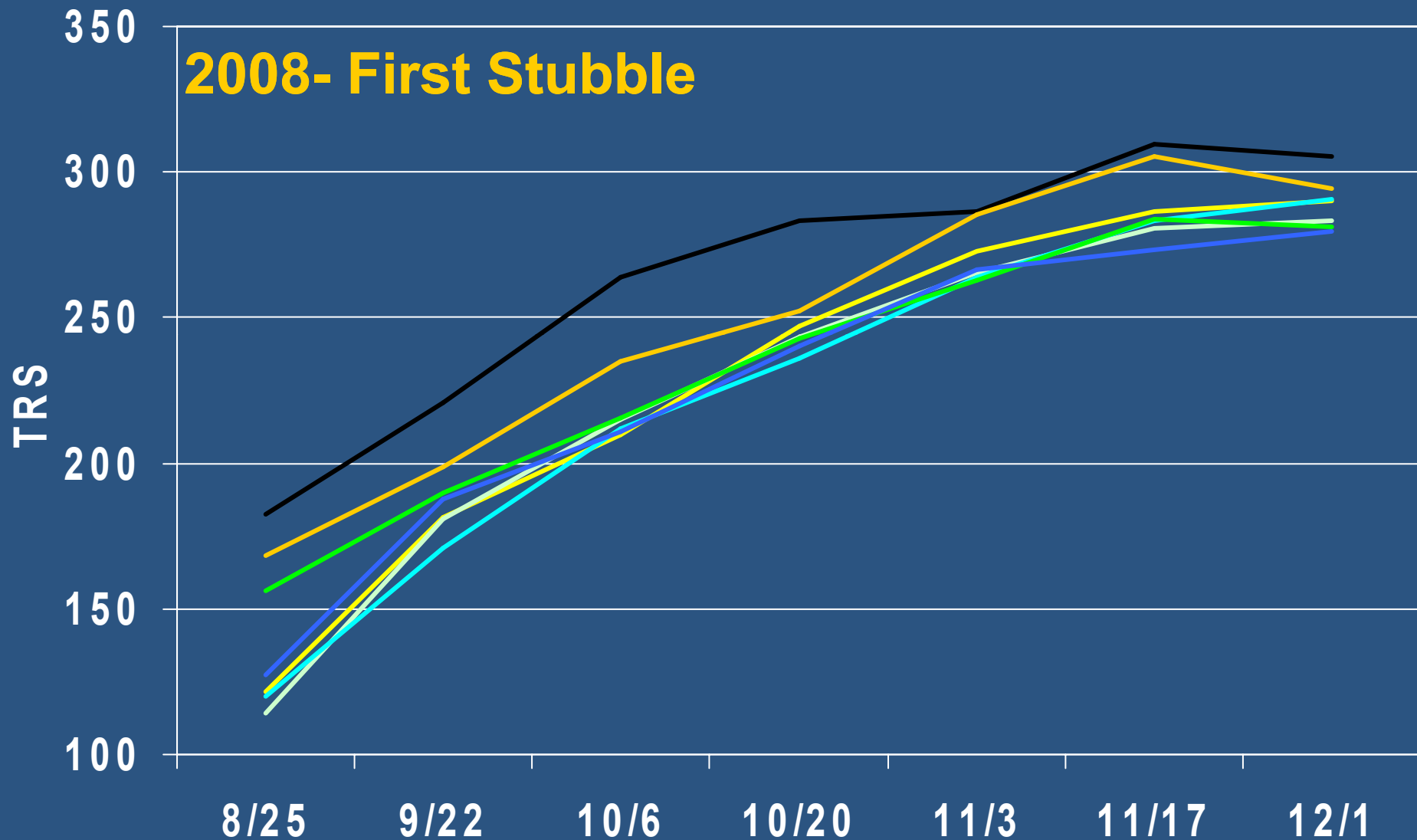
Houma, LA



MATURITY STUDIES



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LCP 85-384

Ho 95-988

HoCP 96-540

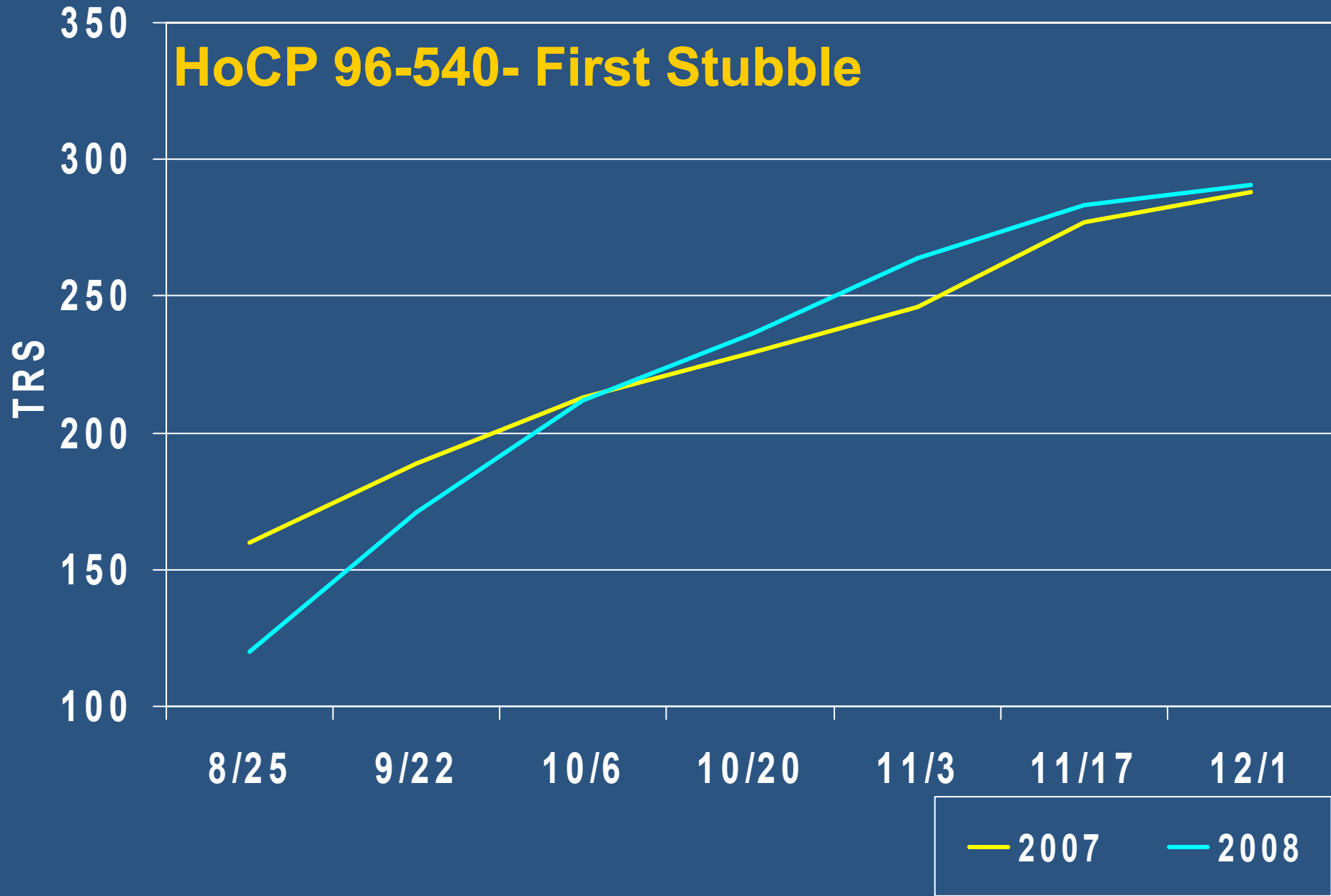
L 97-128

L 99-233

HoCP 00-950

L 01-283

MATURITY STUDIES



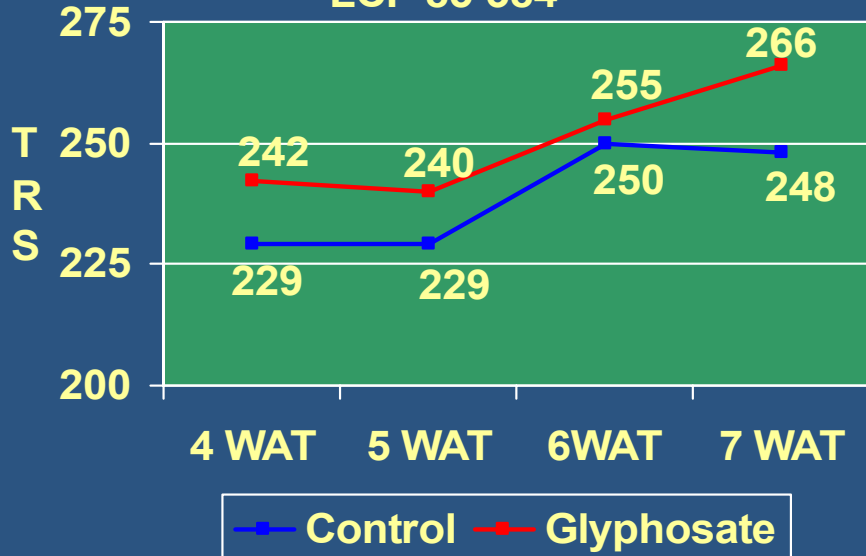


Varietal Responses to glyphosate:

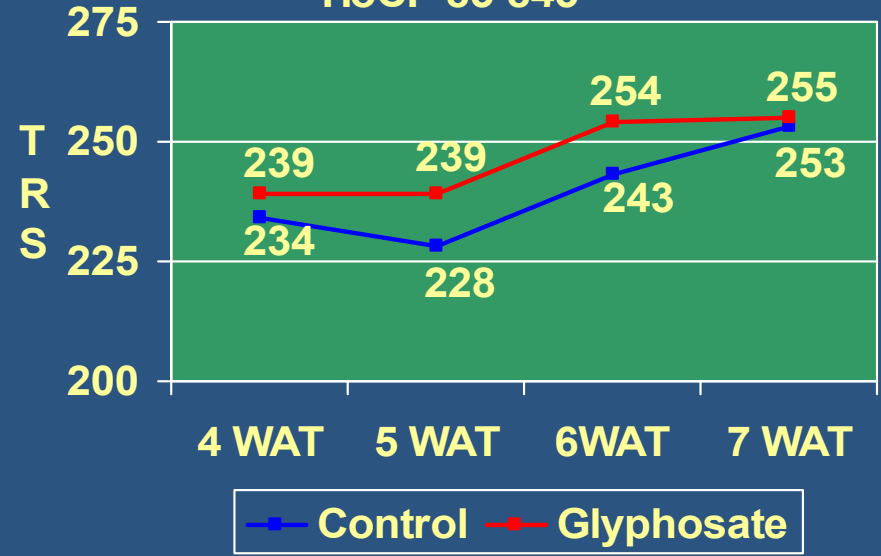
- Treatments were not made in 2008 due to impact of Hurricane Gustav.
- In 2007 WeatherMAX was applied at 5.3 oz/acre to recommended varieties on Sep 11th.
 - Rainfall (0.2 in) occurred 1 hour after treatment

Glyphosate Ripener Test 2007

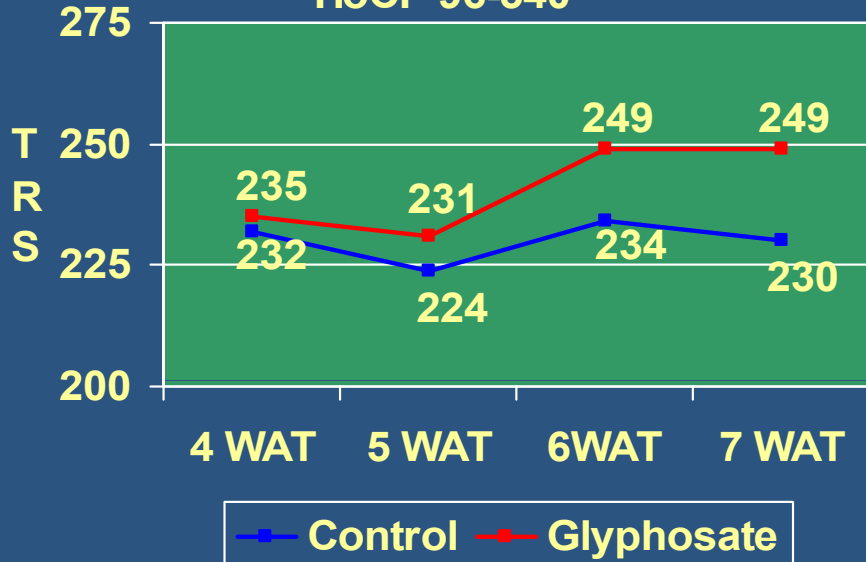
LCP 85-384



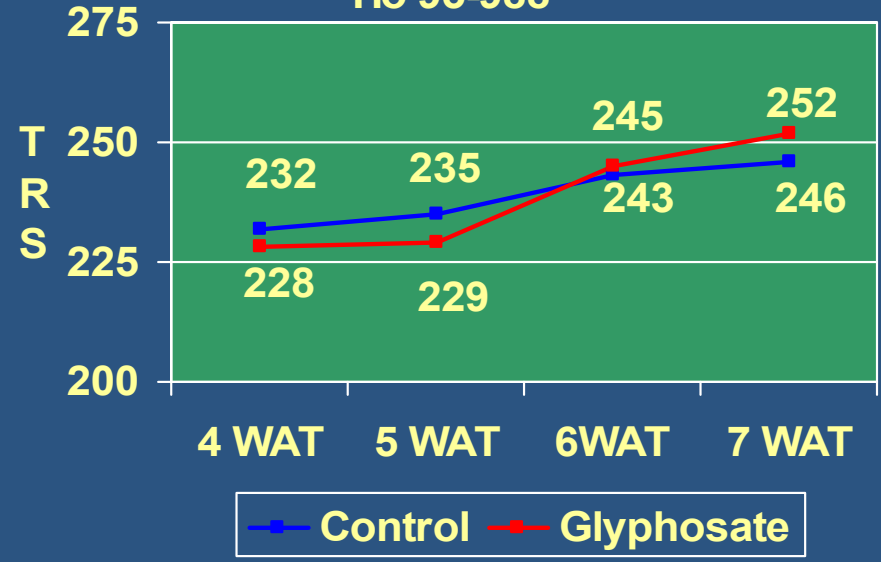
HoCP 85-845



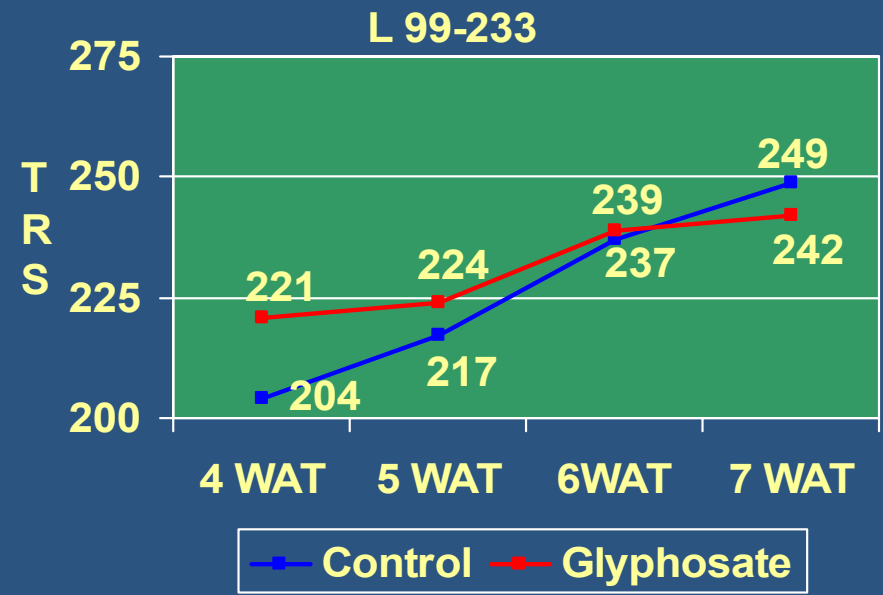
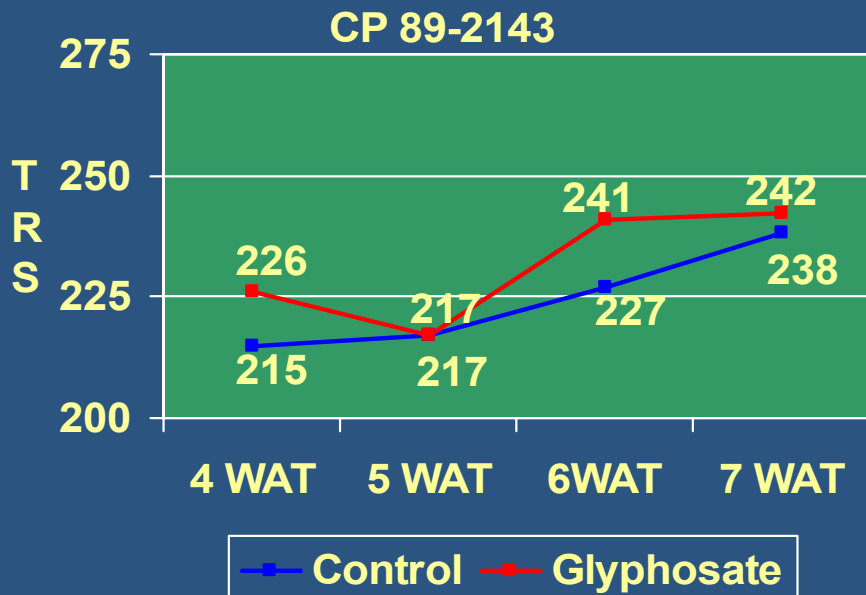
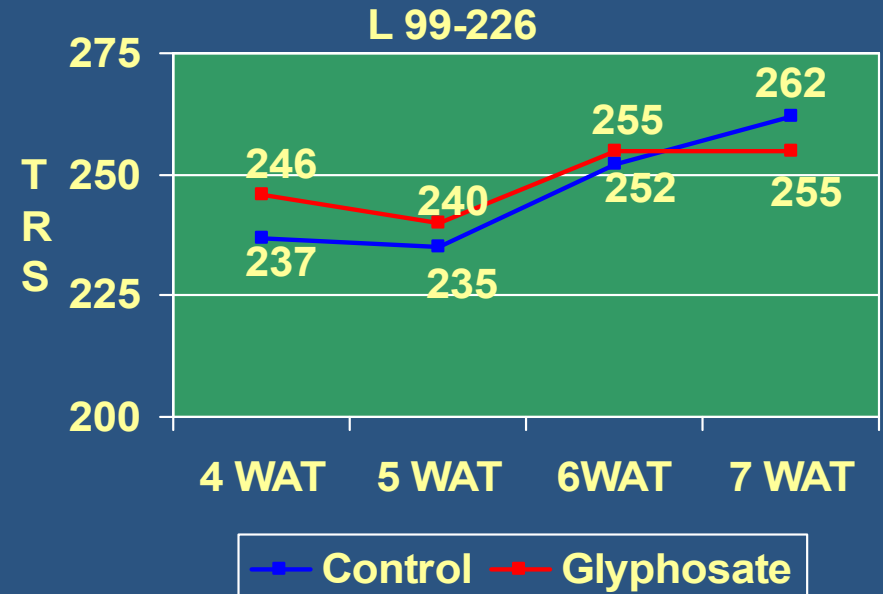
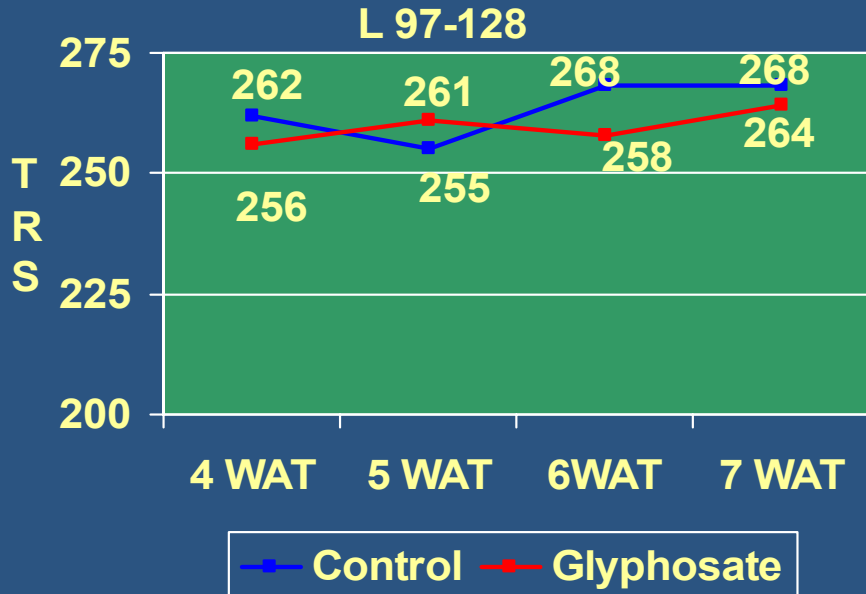
HoCP 96-540



Ho 95-988



Glyphosate Ripener Test 2007



Sugarcane Response to Glyphosate Ripener- 2006, 2007

■ Roundup WeatherMAX (5.3 oz/acre) application dates:

- | | |
|---------------------|---------------------|
| ■ August 9, 2006* | August 10, 2007 |
| ■ September 5, 2006 | September 7, 2007** |
| ■ October 2, 2006 | October 3, 2007 |
| ■ October 30, 2006 | November 1, 2007 |

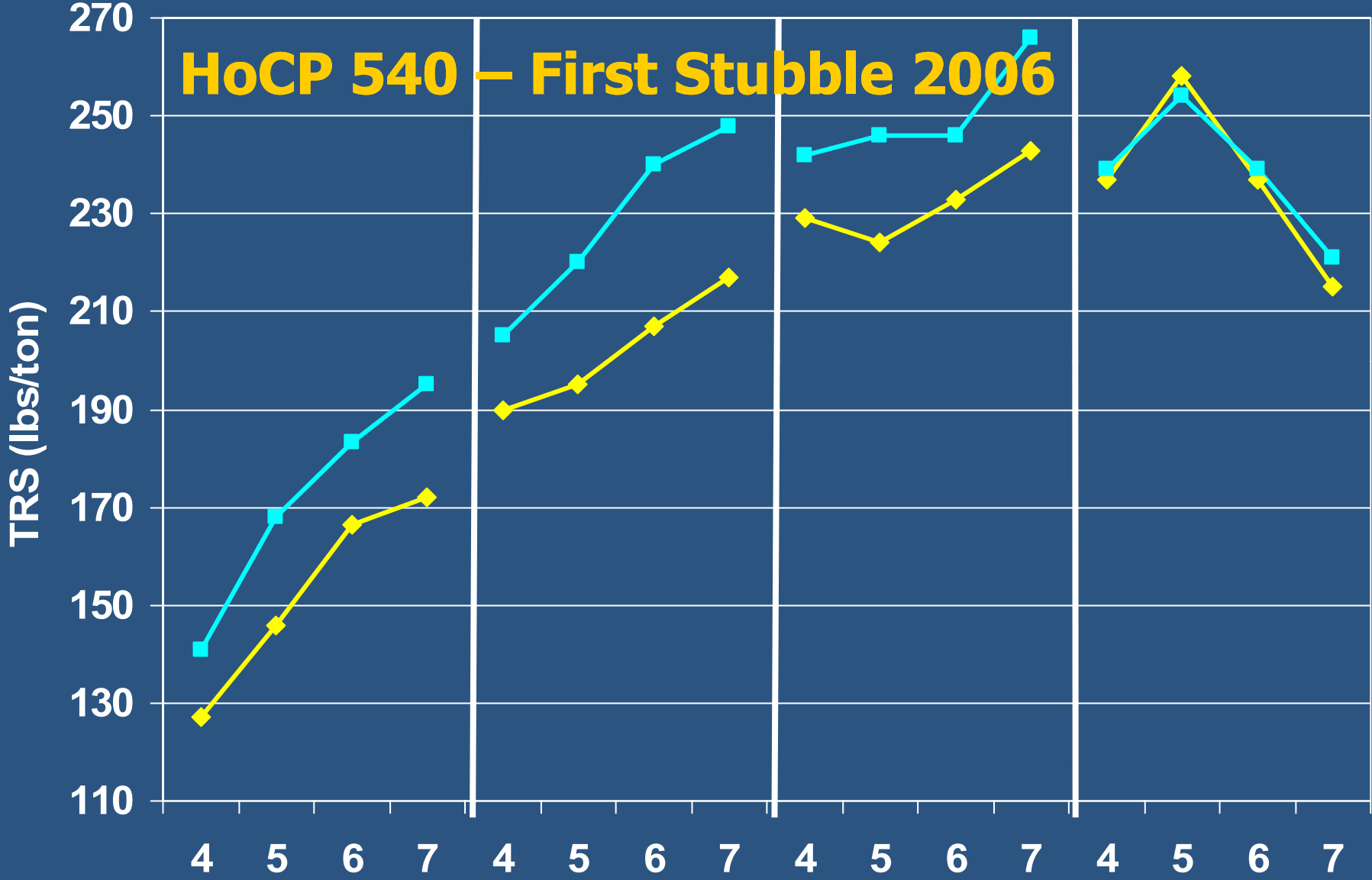
■ First-stubble HoCP 96-540 for both tests

* Rainfall occurred 7 hours after application (1.8" in 35 min.)

** Rainfall occurred 7 hours after application (0.31" in 24 min.)

HoCP 540 – First Stubble 2006

Control Roundup WeatherMax (5.3 oz/A)



Treatment date: Aug 9

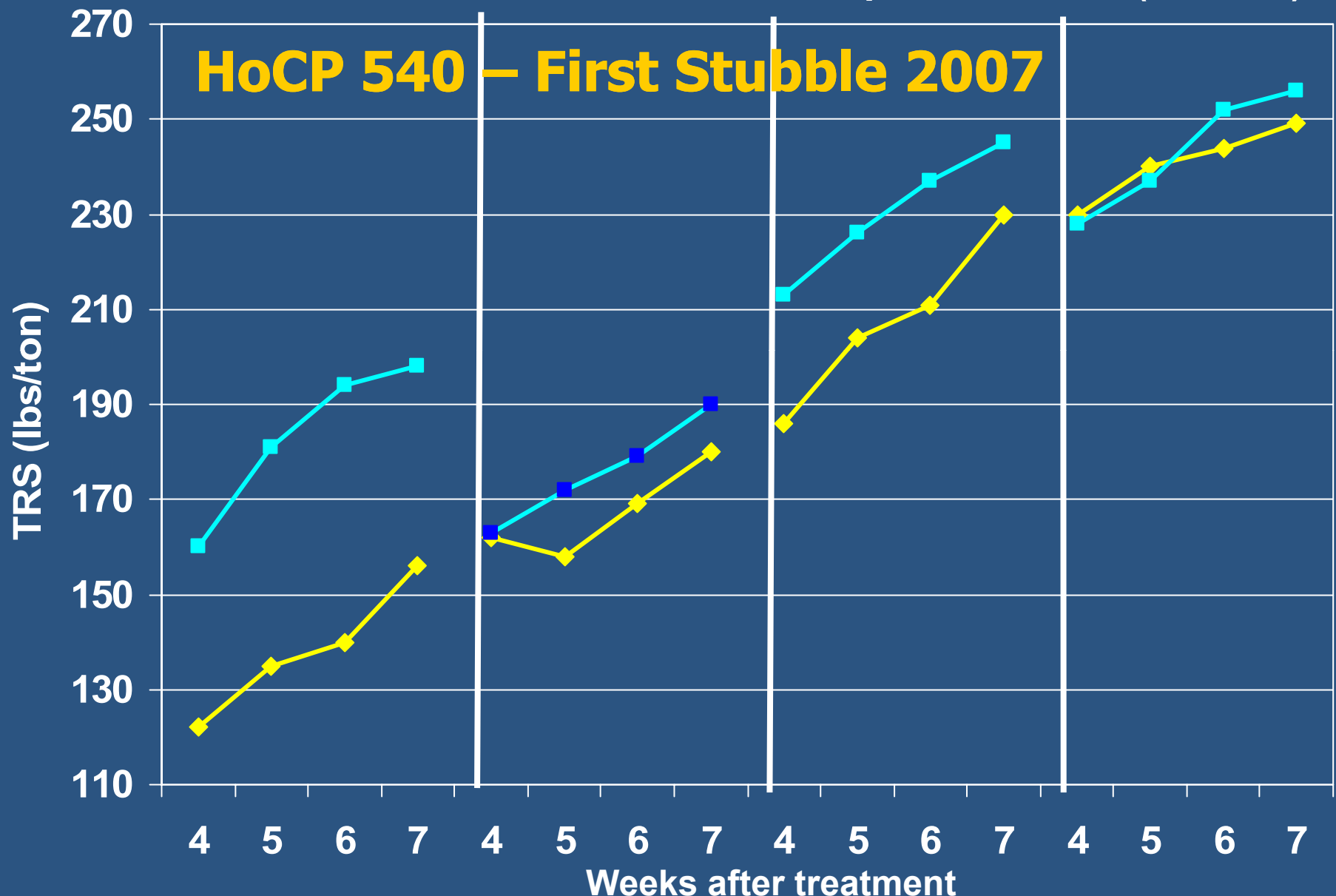
Sep 5

Oct 2

Oct 30

HoCP 540 – First Stubble 2007

◆ Control ■ Roundup WeatherMax (5.3 oz/A)



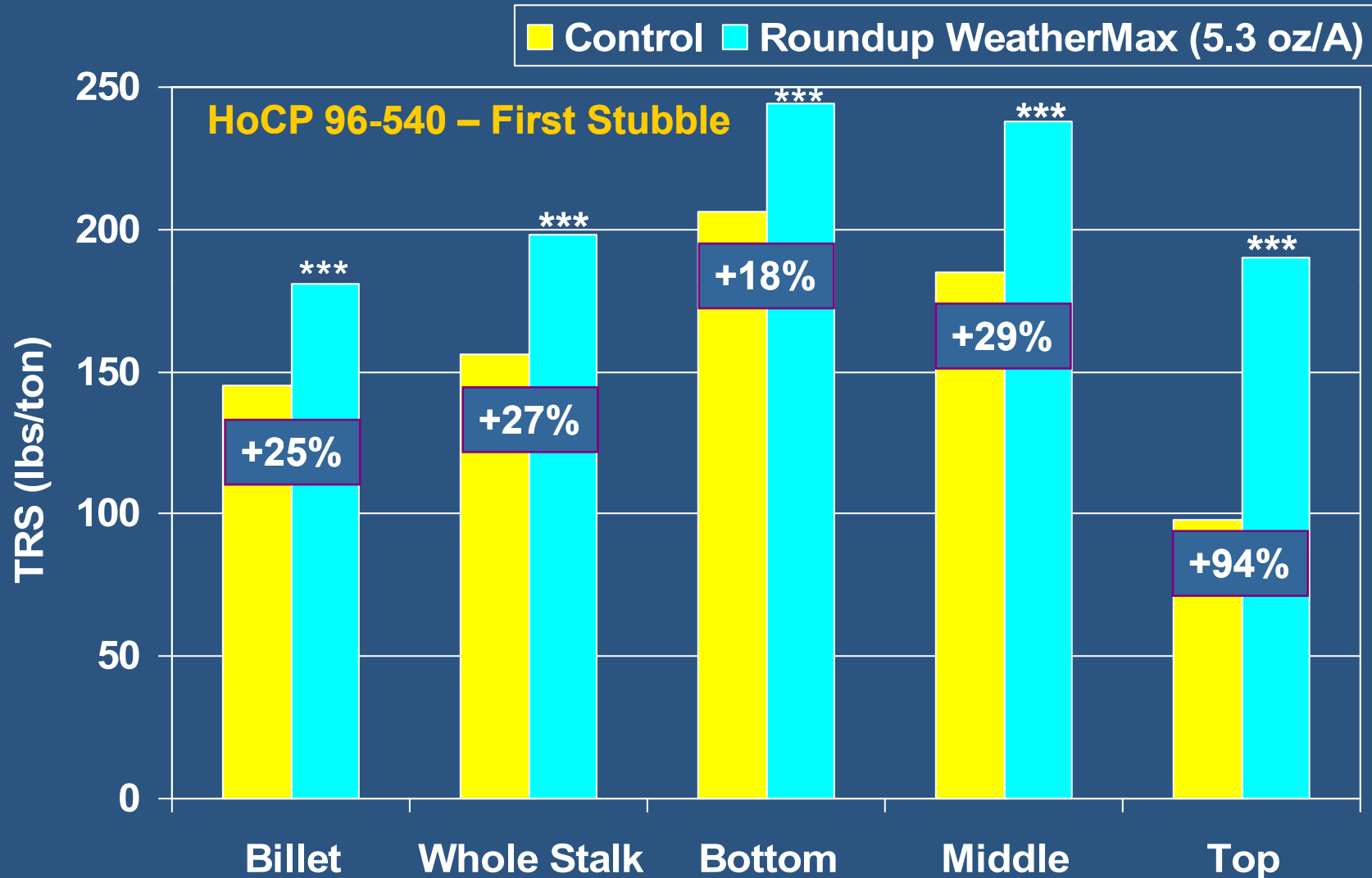
Treatment date: Aug 10

Sep 7

Oct 3

Nov 1

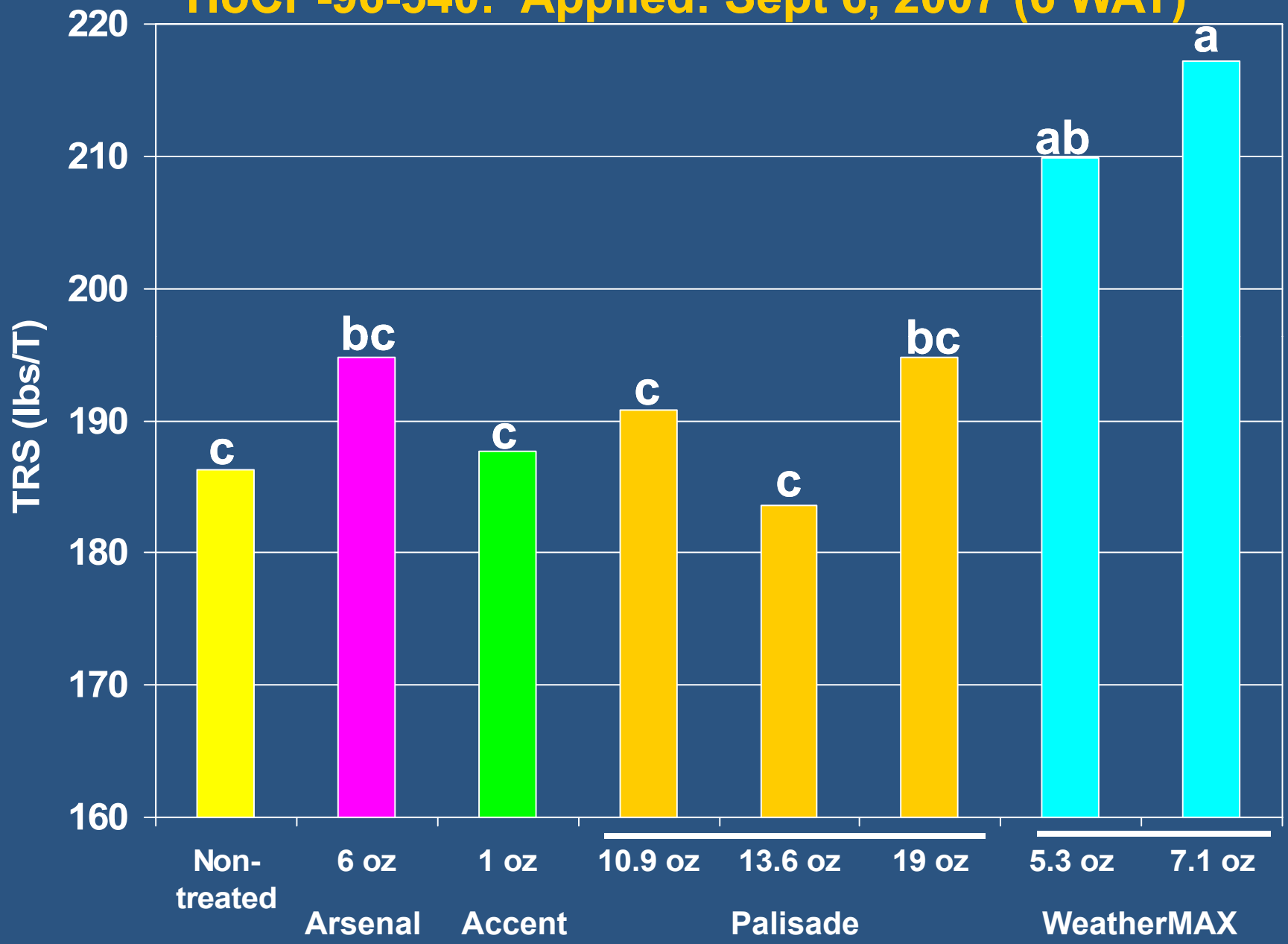
Sugarcane Response to Ripener August 9-10th Application (7 WAT)



* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$

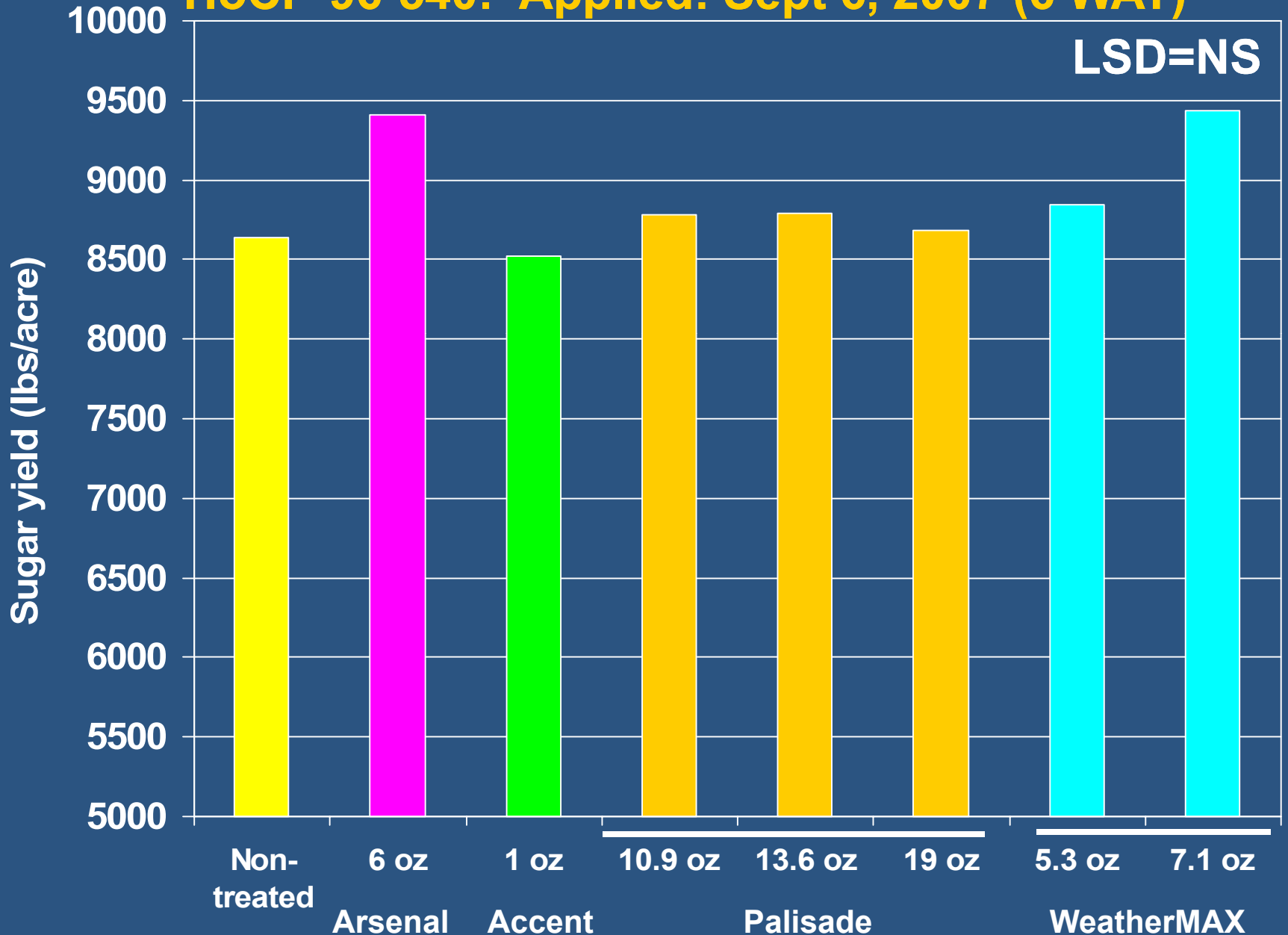
Glyphosate Alternatives – First Stubble

HoCP-96-540: Applied: Sept 6, 2007 (6 WAT)



Glyphosate Alternatives – First Stubble

HoCP-96-540: Applied: Sept 6, 2007 (6 WAT)



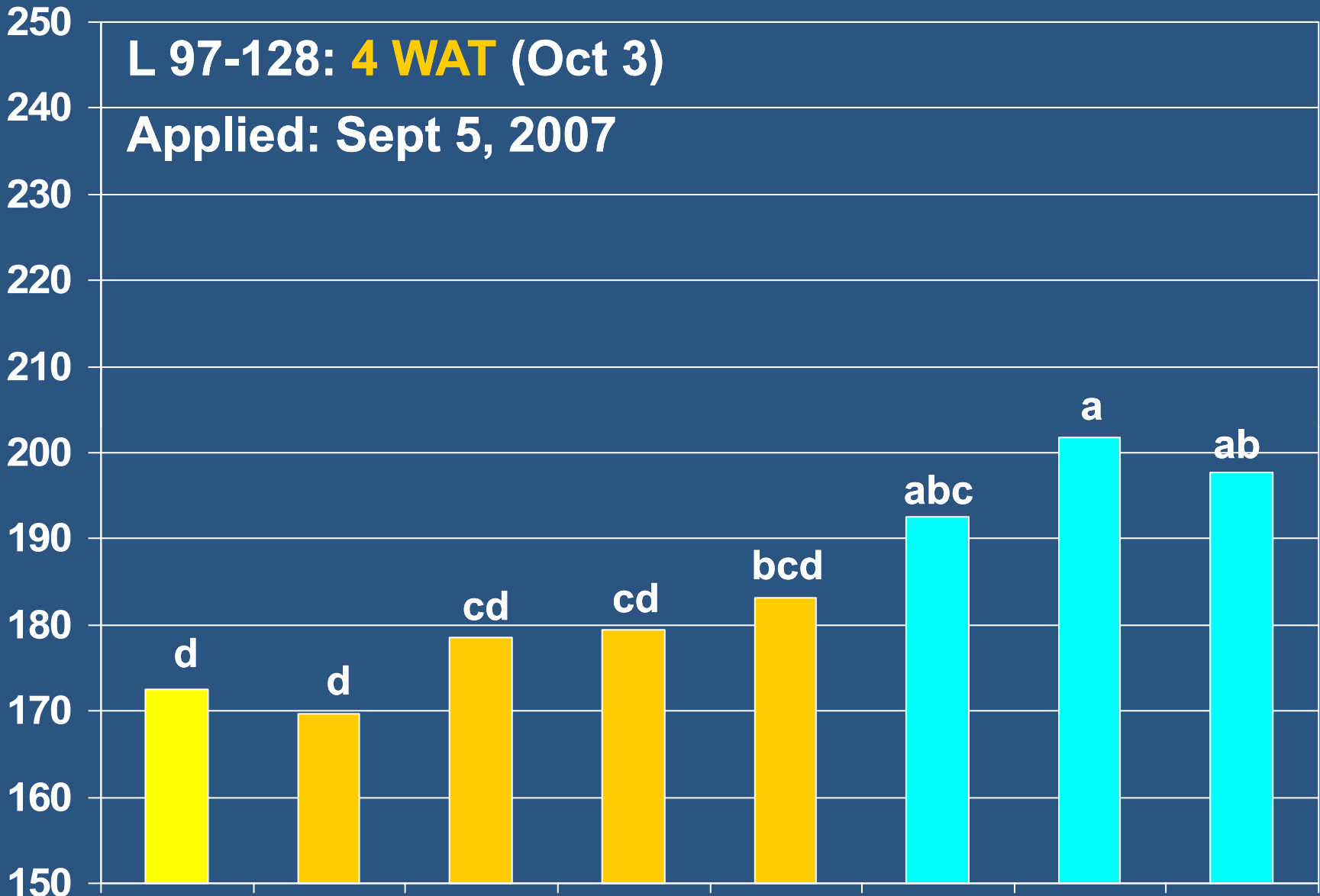
Effect of ripener rate on L 97-128

- **Glyphosate (Touchdown Total; 4.17 lbs ae/gal):**
 - Applied at 5.8, 7.7, and 9.6 oz/acre
 - Equivalent to 6, 8, and 10 oz/acre of Polado
- **Palisade (2 EC)**
 - Applied at 10.8, 13.6, 19, 27.2 oz/acre
- **Treatments Applied on September 5, 2007**
 - 2-row 25 ft long plots with 5 replications
 - Hand-cut samples taken at 4 and 6 WAT
 - Harvested at 8 WAT with chopper harvester
 - Visual evaluation of bleached shoots
 - March 13, 2008
 - Yield of following ratoon crop measured in 2008

L 97-128: 4 WAT (Oct 3)

Applied: Sept 5, 2007

TRS (lbs/T)



Non-treated

10.8 oz

13.6 oz

19 oz

27.2 oz

5.75 oz

7.7 oz

9.6 oz

Palisade

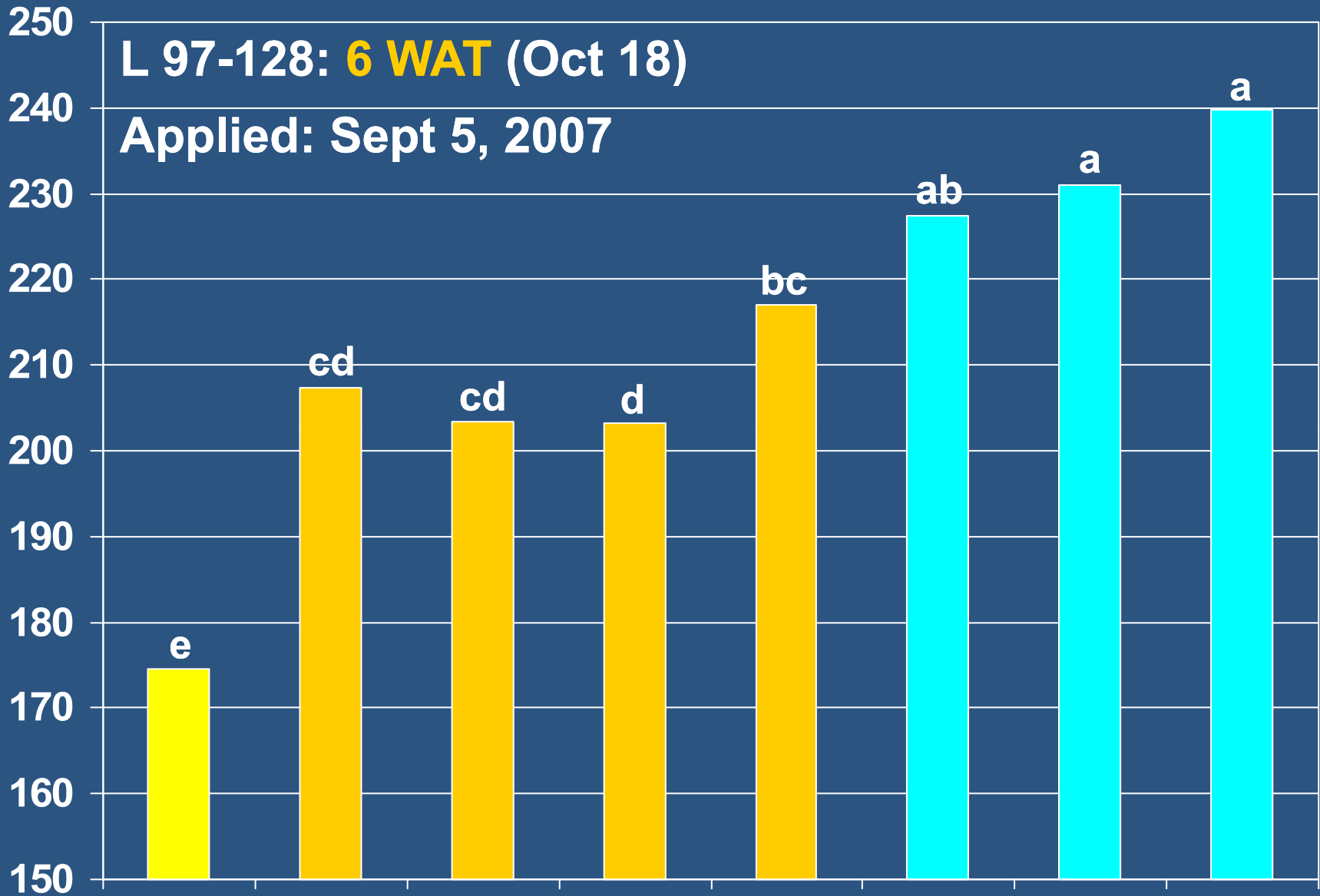
Touchdown

Total

L 97-128: 6 WAT (Oct 18)

Applied: Sept 5, 2007

TRRS (lbs/T)



Non-treated

10.8 oz

13.6 oz

19 oz

27.2 oz

5.75 oz

7.7 oz

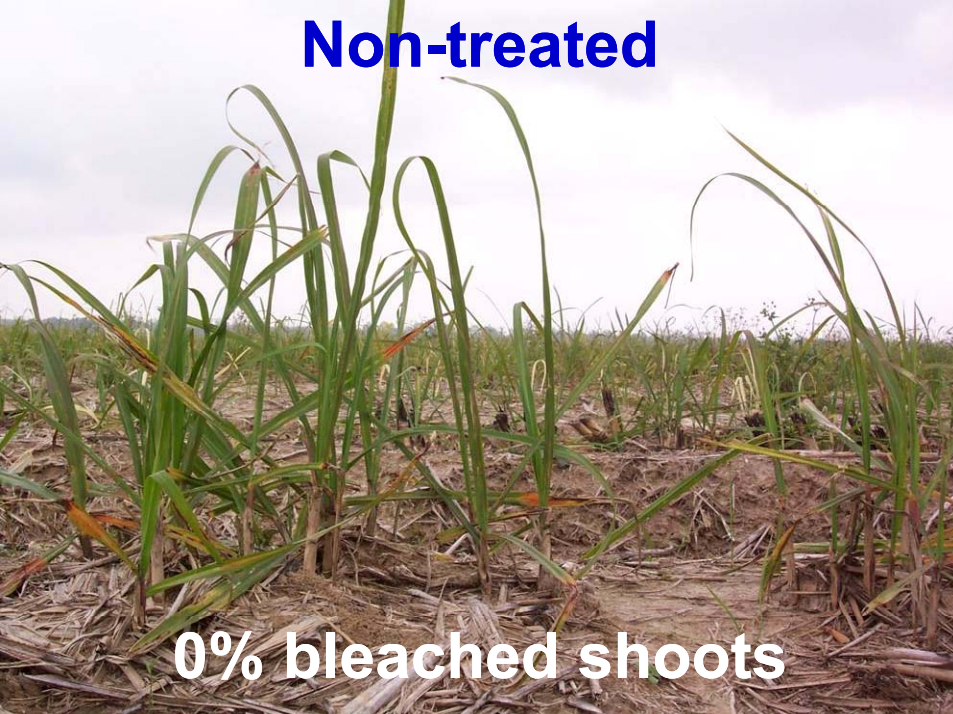
9.6 oz

Palisade

Touchdown

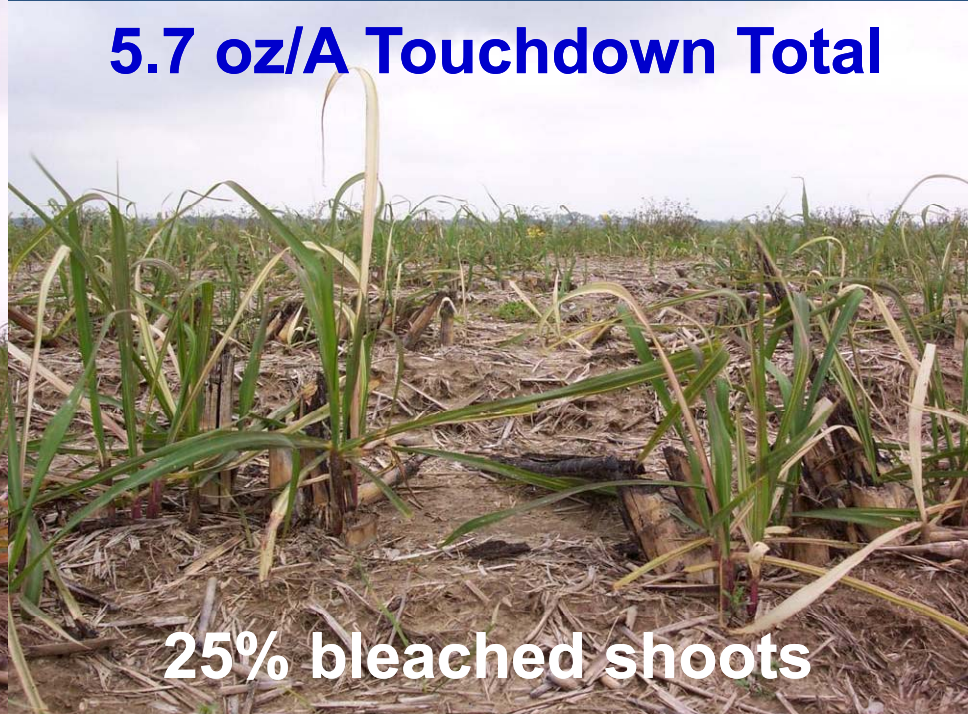
Total

Non-treated



0% bleached shoots

5.7 oz/A Touchdown Total



25% bleached shoots

7.7 oz/A Touchdown Total



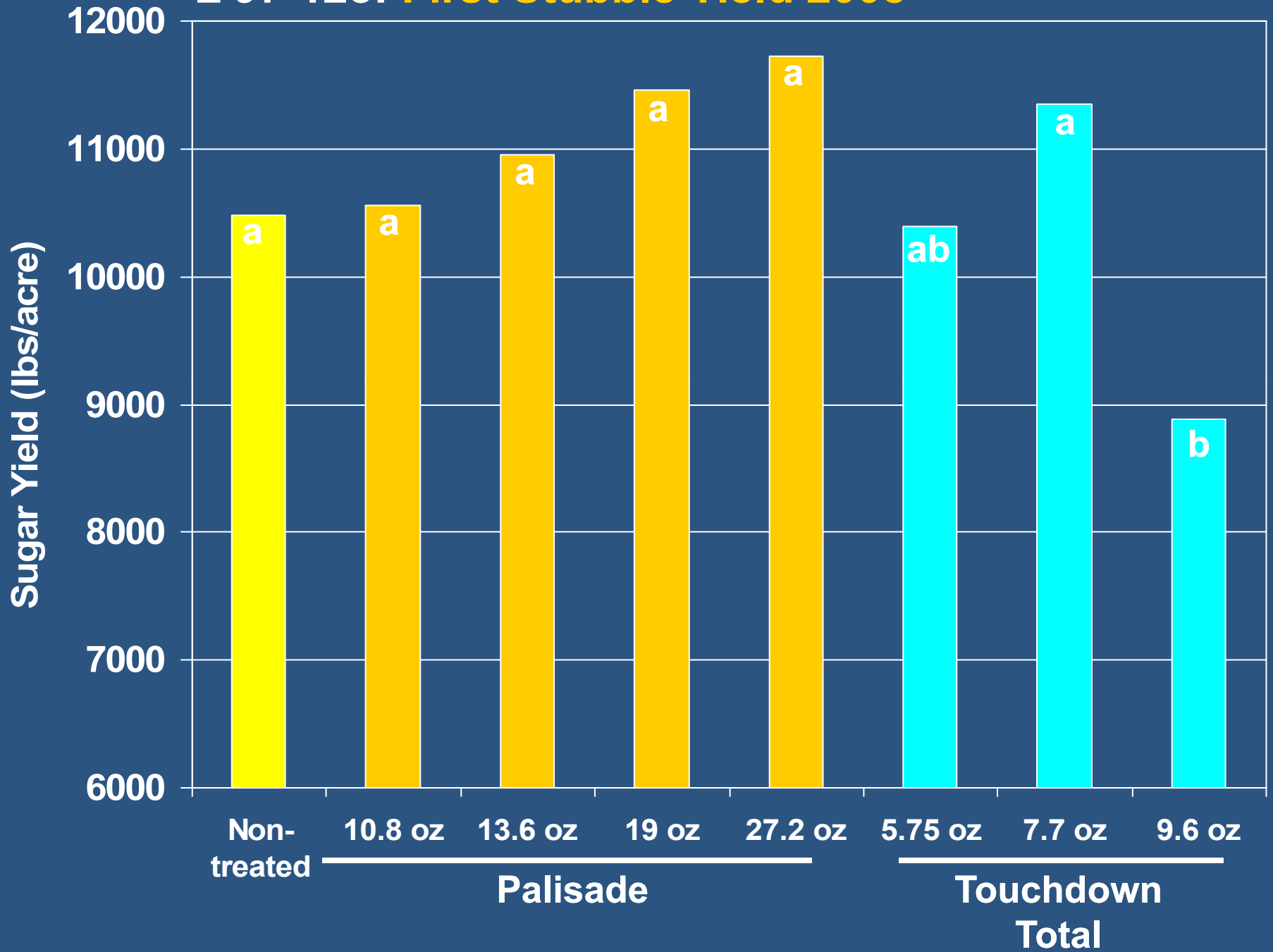
59% bleached shoots

9.6 oz/A Touchdown Total



76% bleached shoots

L 97-128: First Stubble Yield 2008



Conclusions

- Higher rates of glyphosate
 - Did not significantly increase TRS
 - Increased injury observed in spring
 - Highest rate reduced yield of first-stubble crop
- Palisade
 - Increased TRS, but not as much as glyphosate
 - Did not negatively affect first-stubble crop

Future Research Needed

- A better understanding of varietal response to glyphosate ripener applications
- An evaluation of alternative ripeners on all currently recommended sugarcane varieties
- Need to determine rainfastness of current ripeners and the need for additional surfactants to improve rainfastness
 - Low use rates used for ripener application may not have enough surfactant for optimal absorption
 - How long is long enough? Are follow-up applications needed?

Questions?

