

Ripener Influences on Sugar Yields: 2006 USDA Research

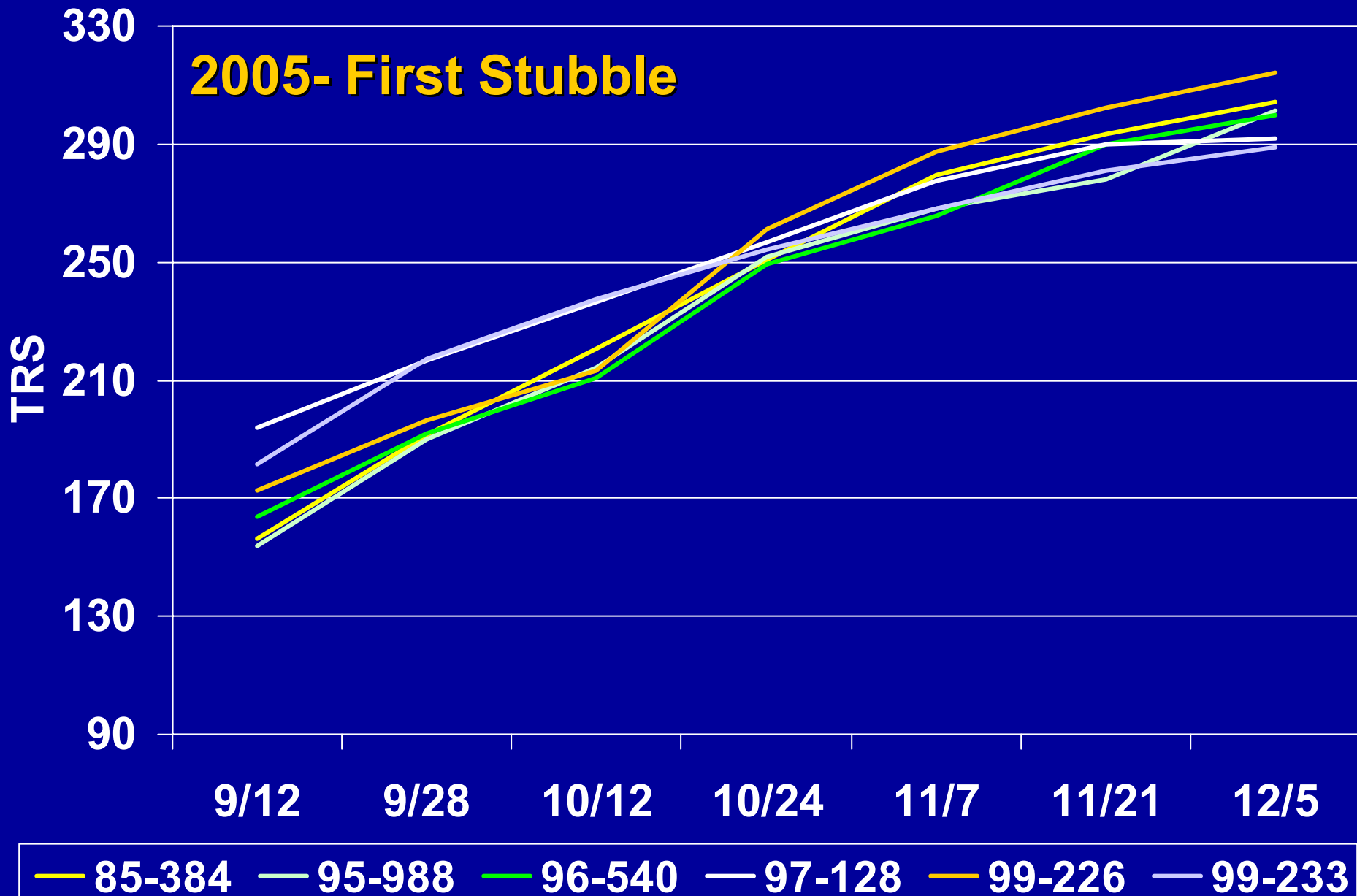


**Ed Richard, Jr., Caleb Dalley, and
Ryan Viator**

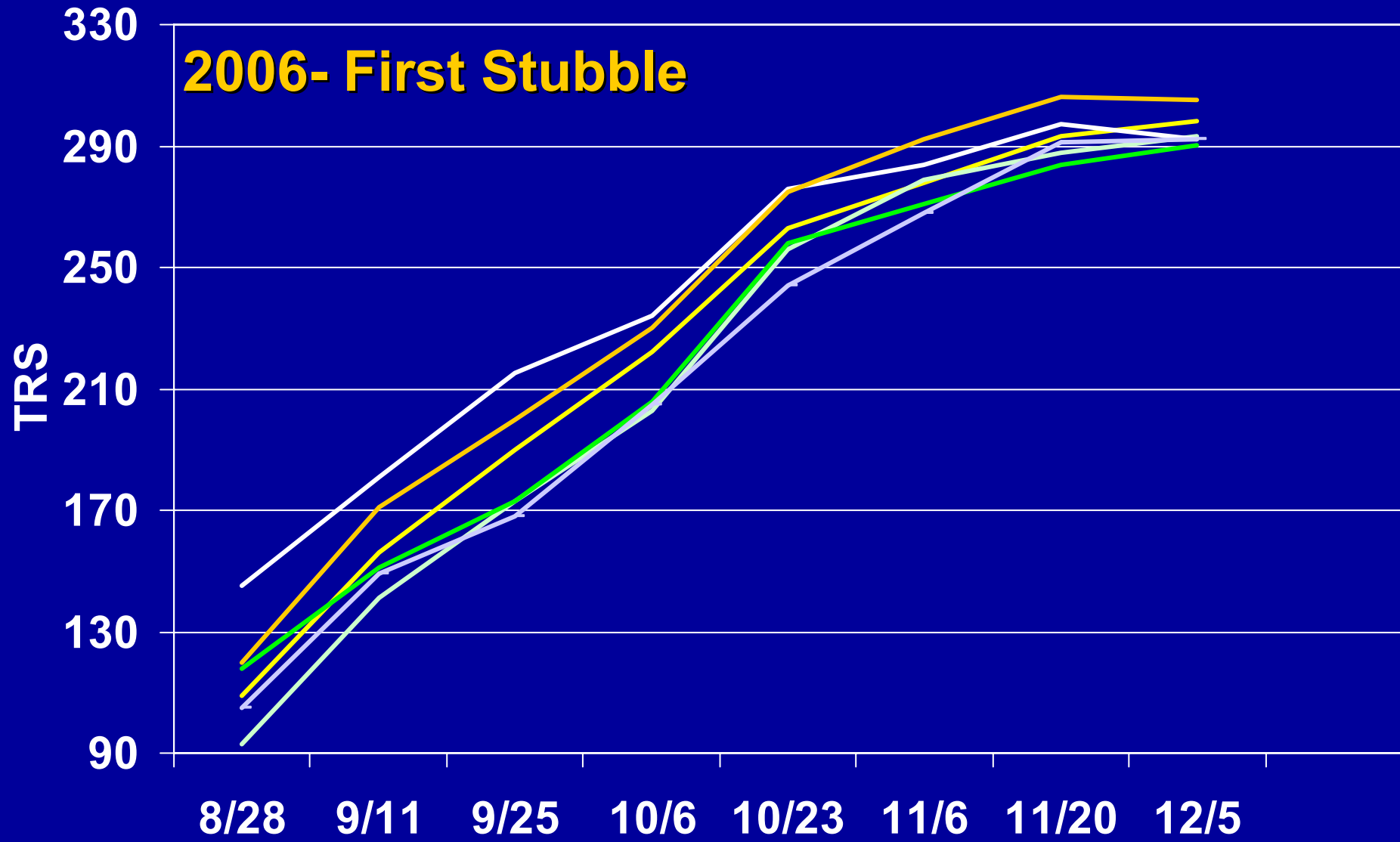
**USDA-ARS Sugarcane Research Laboratory
Houma, LA**

MATURITY STUDIES

2005- First Stubble



MATURITY STUDIES



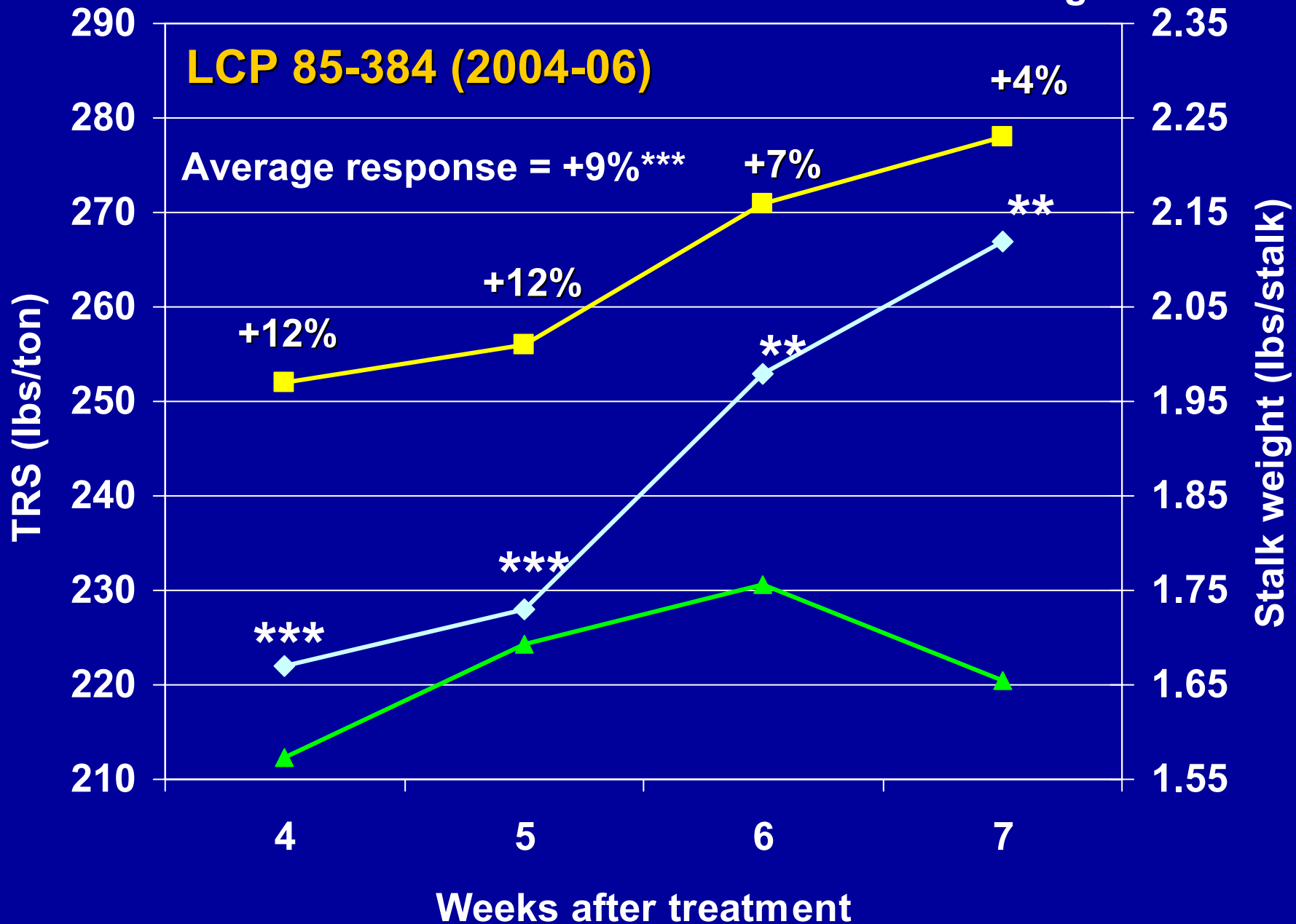
— 85-384 — 95-988 — 96-540 — 97-128 — 99-226 — 99-233

Variety Response to Glyphosate

- **Application date: 1st of September \pm 5 days**
- **6 oz/acre rate of Polado + 0.5% v/v NIS***
- **Sampled (15 stalks) at 4, 5, 6, and 7 WAT**
 - Stalk weights
 - TRS
- **Varieties tested**
 - LCP 85-384 (2004-06)
 - HoCP 96-540 (2004-06)
 - L 97-128 (2004-06)
 - L99-226 (2006)
 - L99-233 (2005-06)

***Roundup WeatherMAX (5.3 oz/acre) applied in 2006**

◆ Control ■ Treated ▲ Stalk weight

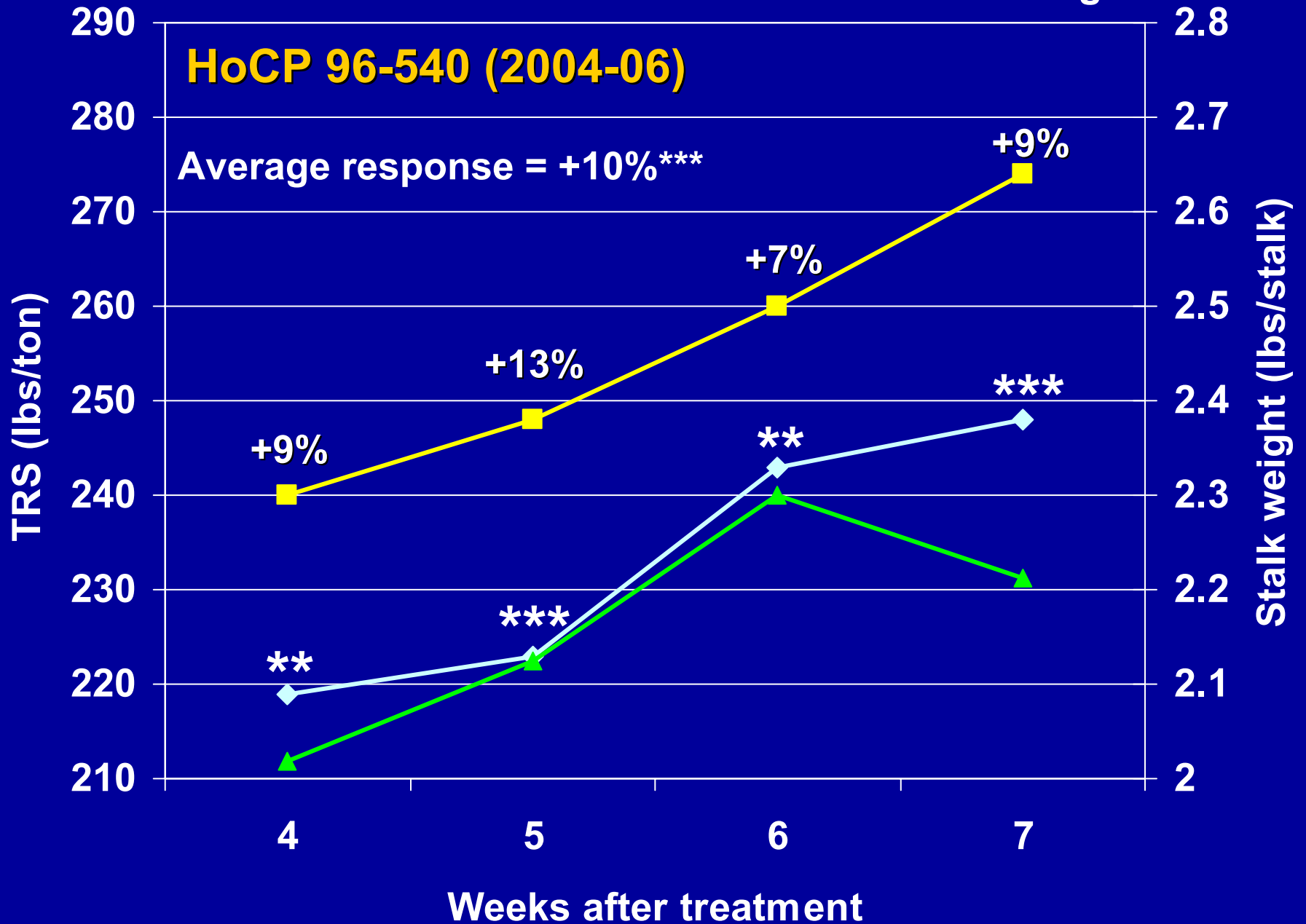


ns = no significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

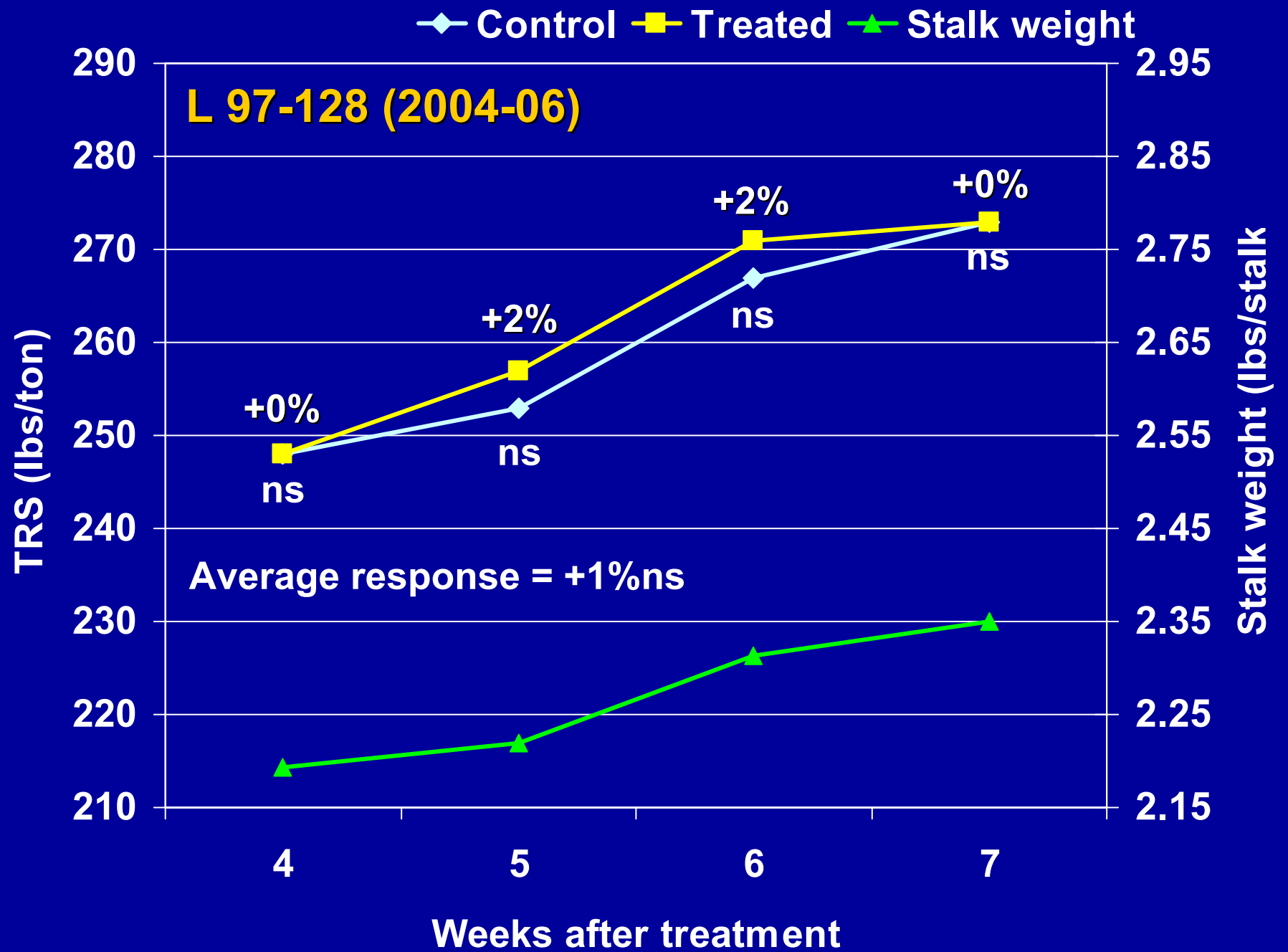
◆ Control ■ Treated ▲ Stalk weight

HoCP 96-540 (2004-06)

Average response = +10%***

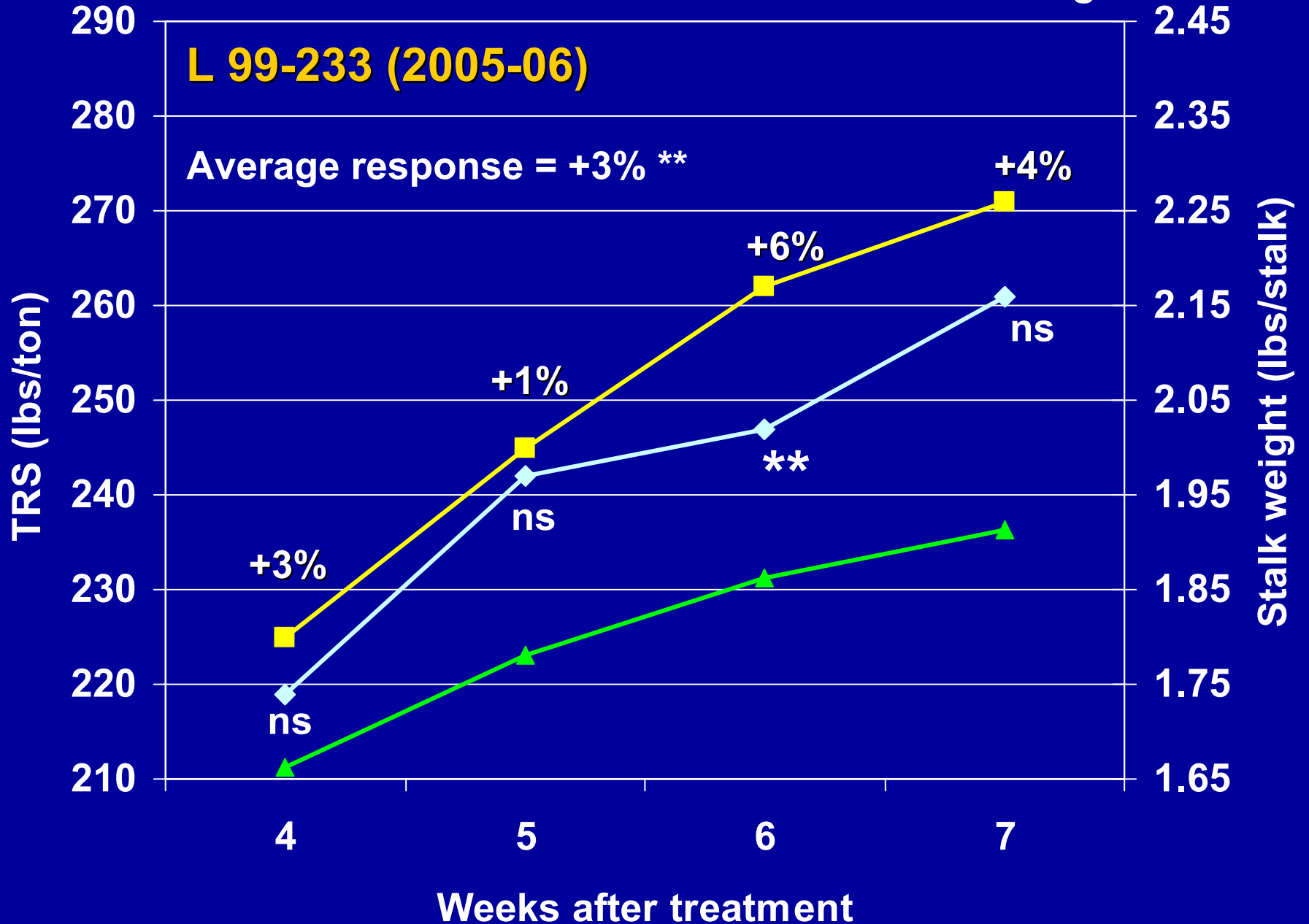


ns = no significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01



ns = no significant difference; * = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$

◆ Control ■ Treated ▲ Stalk weight



L 99-233 (2005-06)

Average response = +3% **

+3%

+1%

+6%

+4%

ns

ns

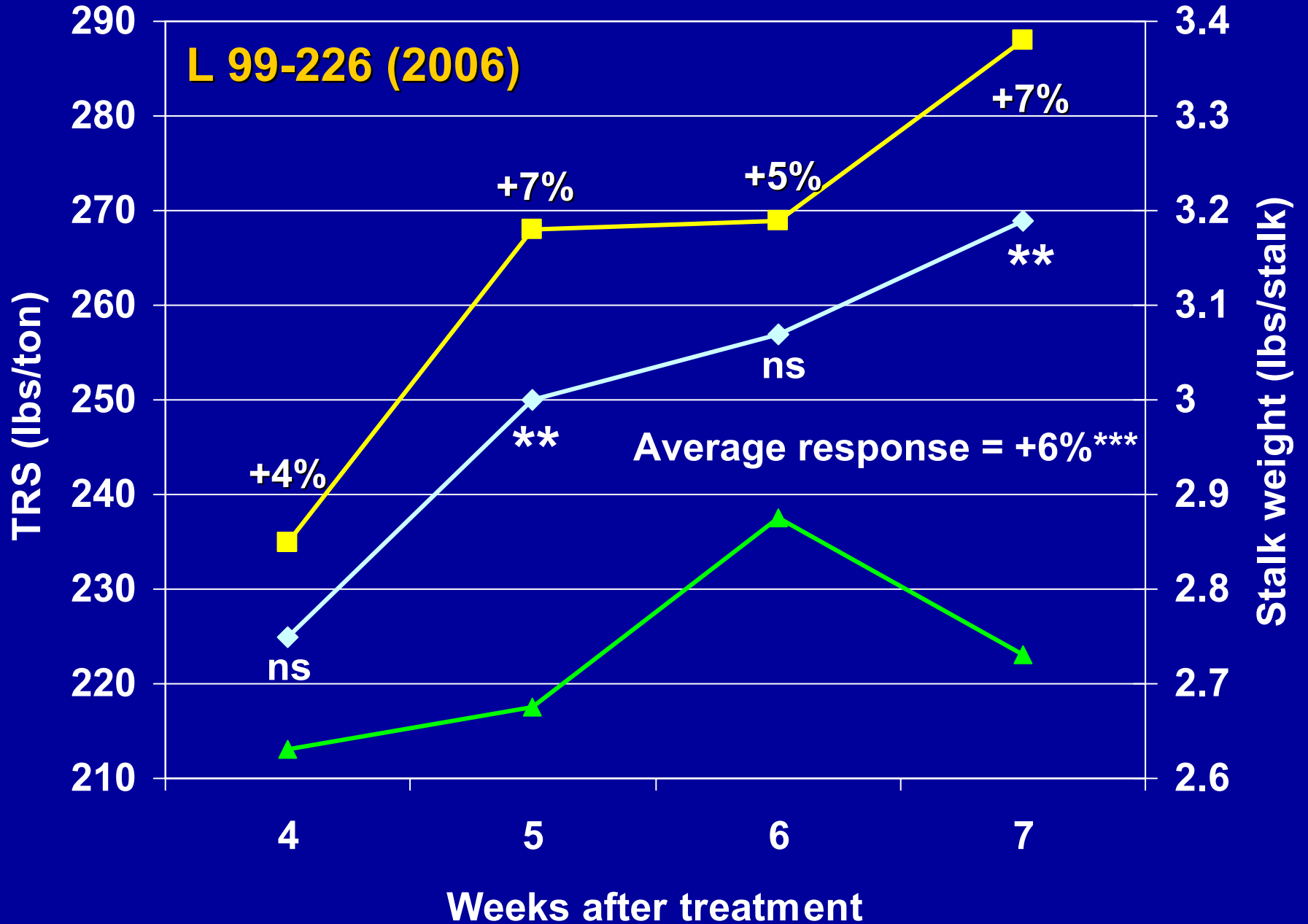
**

ns

Weeks after treatment

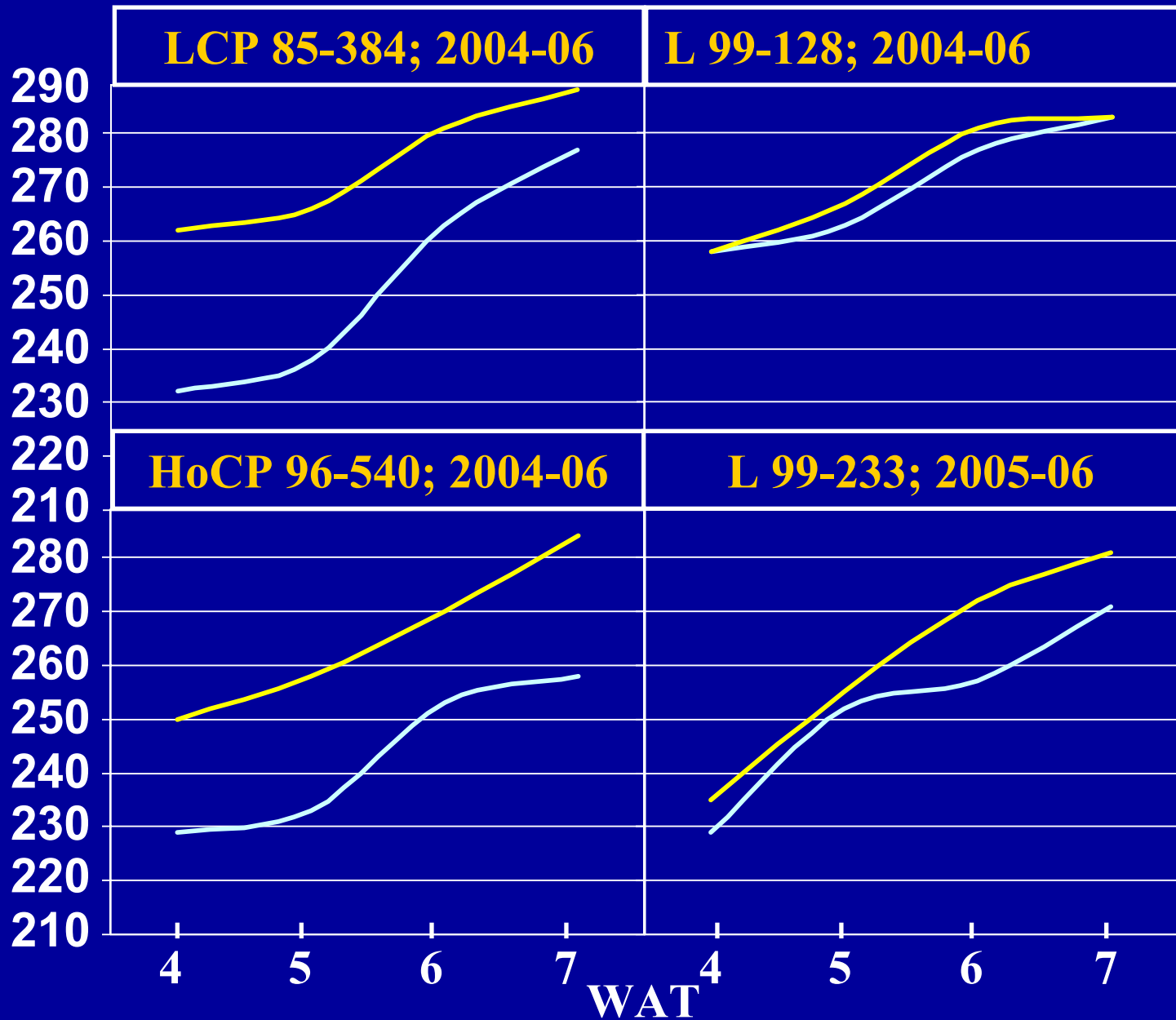
ns = no significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

◆ Control ■ Treated ▲ Stalk weight



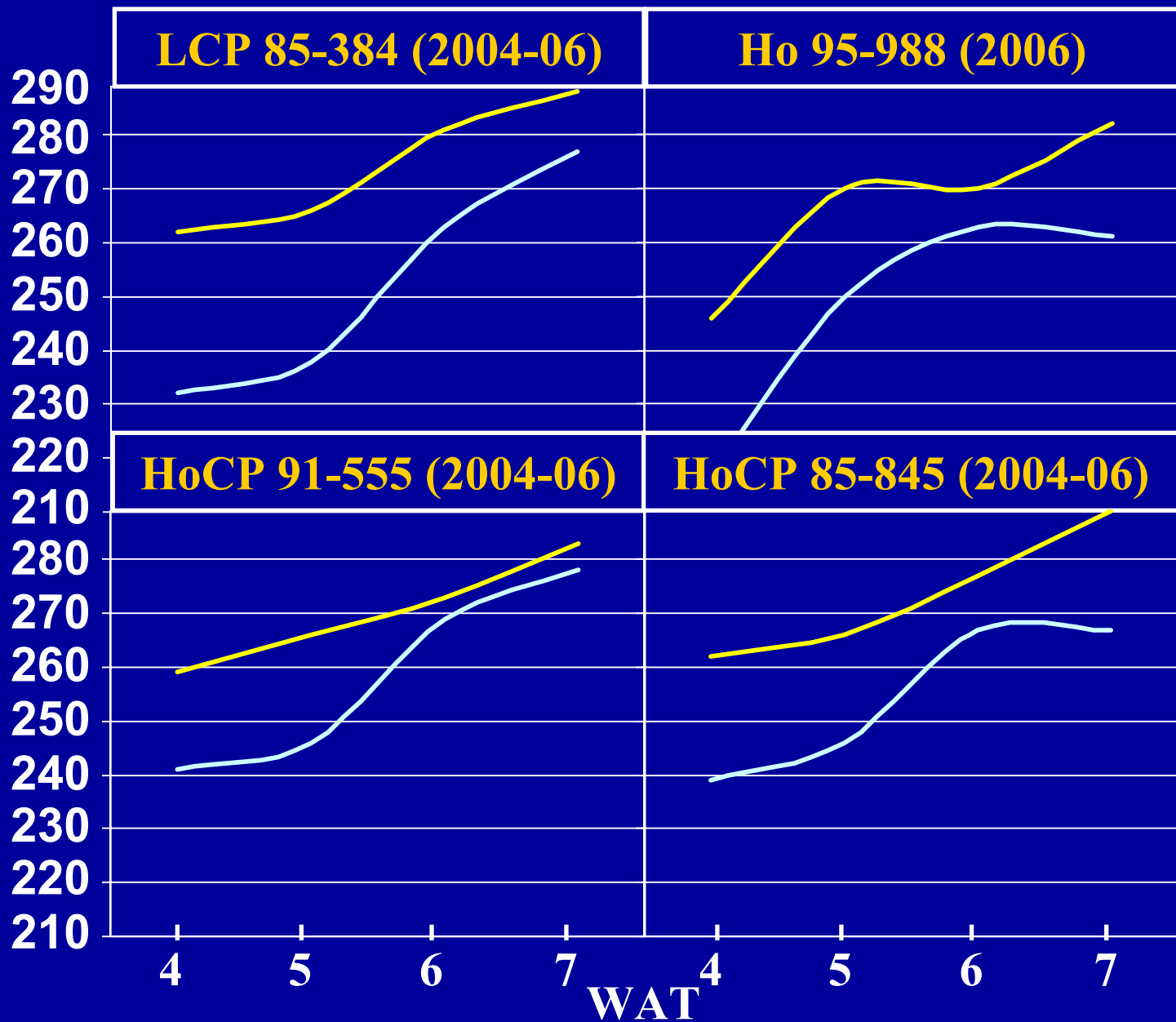
ns = no significant difference; * = p<0.10; ** = p<0.05; *** = p<0.01

TRS (lbs/T)



— Polado — Check

TRRS (lbs/T)



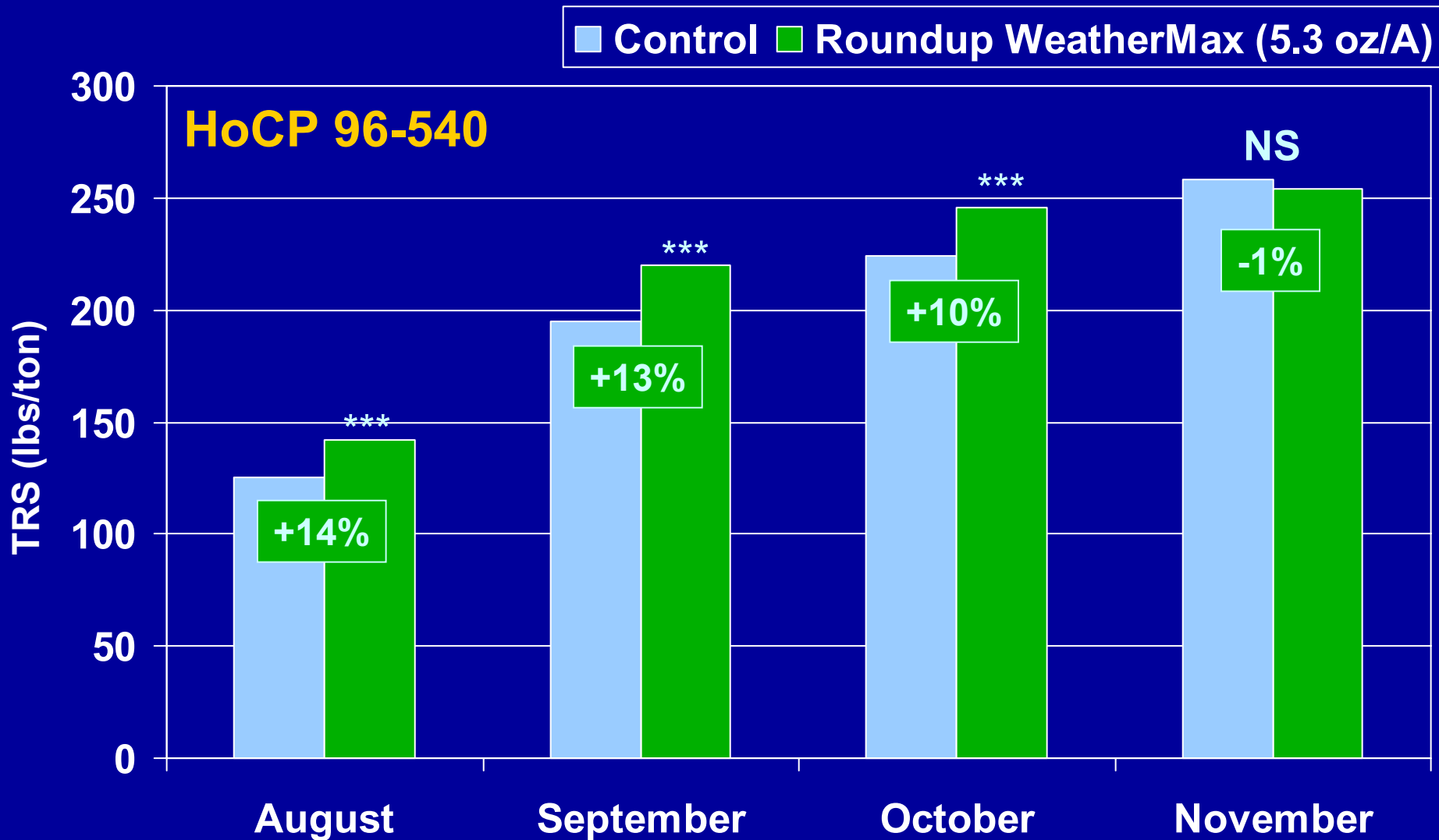
— Polado — Check

Timing of Ripener Application

- **HoCP 96-540**
- **Ripener application dates (four week intervals):**
 - August (August 9)
 - September (September 5)
 - October (October 2)
 - November (October 30)
- **Formulation and Rate**
 - Roundup WeatherMAX- 5.33 oz/A
- **Location:**
 - Ardoyne Plantation; cooperater Danny Naquin

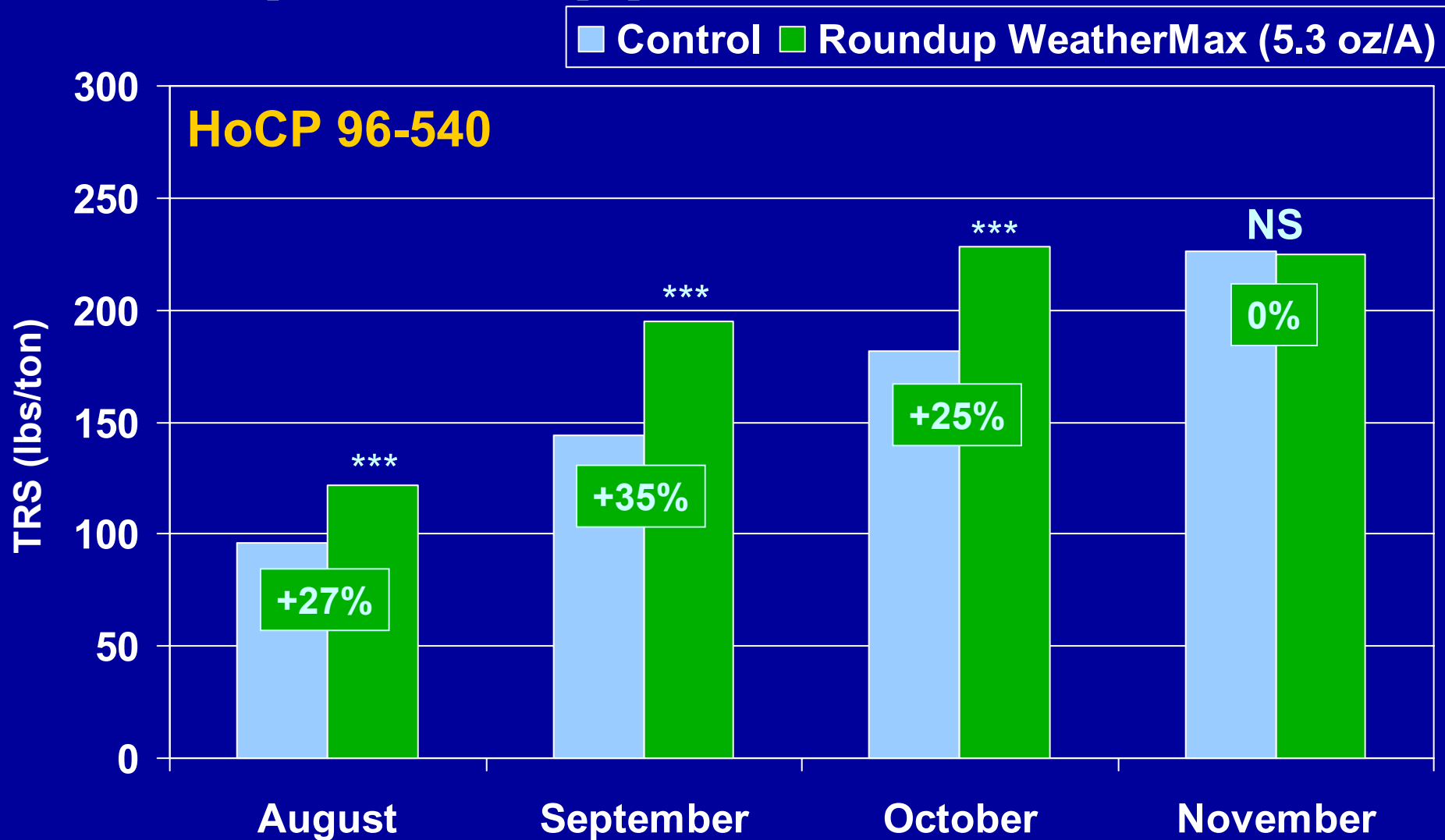


Sugarcane **Whole-stalk** Response to Ripener Application 5 WAT



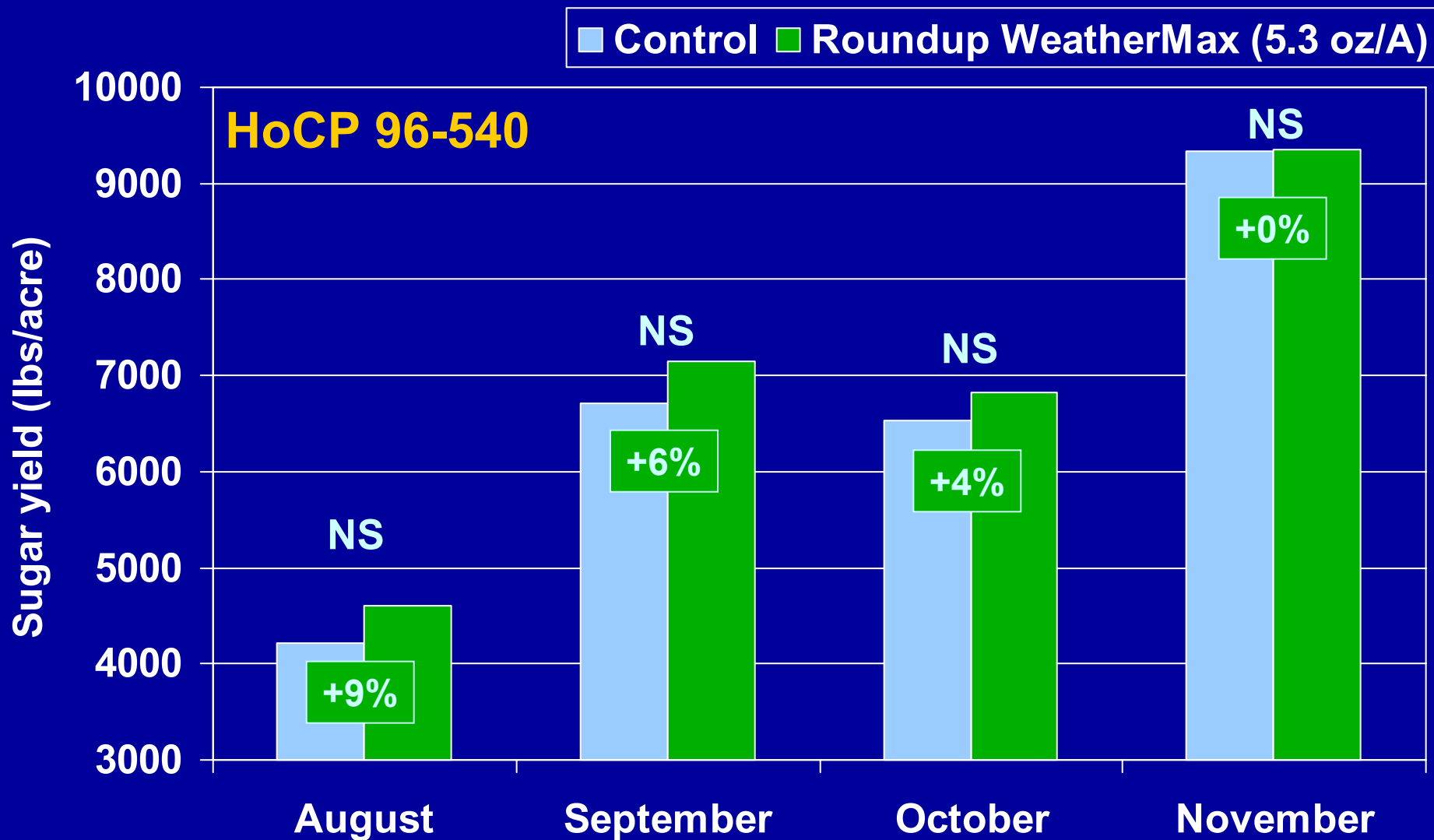
* = $p < 0.10$; ** = $p < 0.05$; *** = $p < 0.01$

Sugarcane **Top** Response to Ripener Application 5 WAT



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

Sugarcane **Whole-stalk** Response to Ripener Application 5 WAT



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

Alternative Ripener Comparison

Treatments:

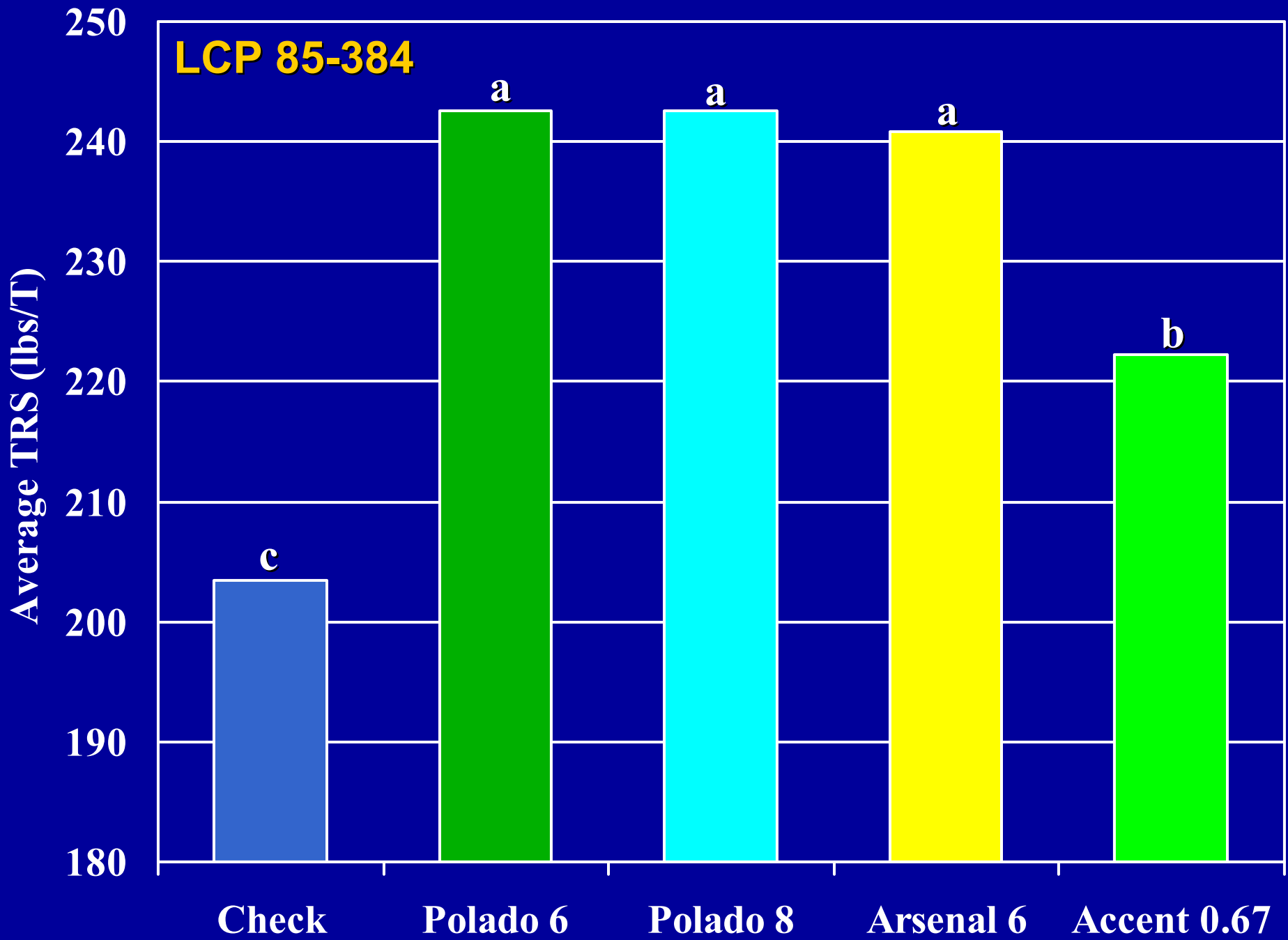
- Arsenal (6 oz/A; 2 lbs ae/gallon)
- Accent (2/3 oz/A; 75% DF)
- Polado (6 and 8 oz/A ; 4 lbs ae/gallon)

Applications: 3 consecutive years to LCP 85-384

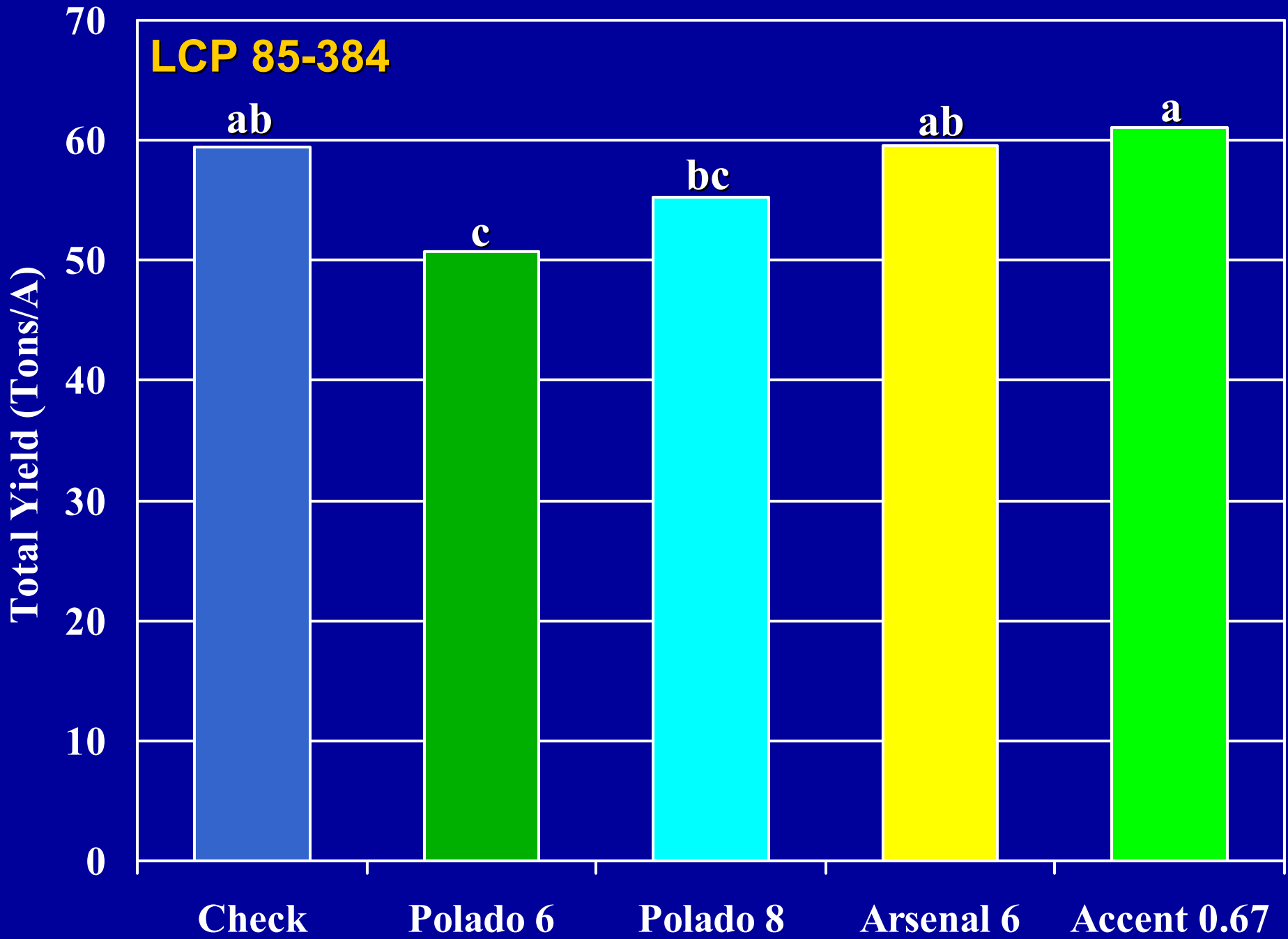
- Aug 15, 2003 (FR)
- Sept 17, 2004 (SR)
- Aug 25, 2005 (TR)

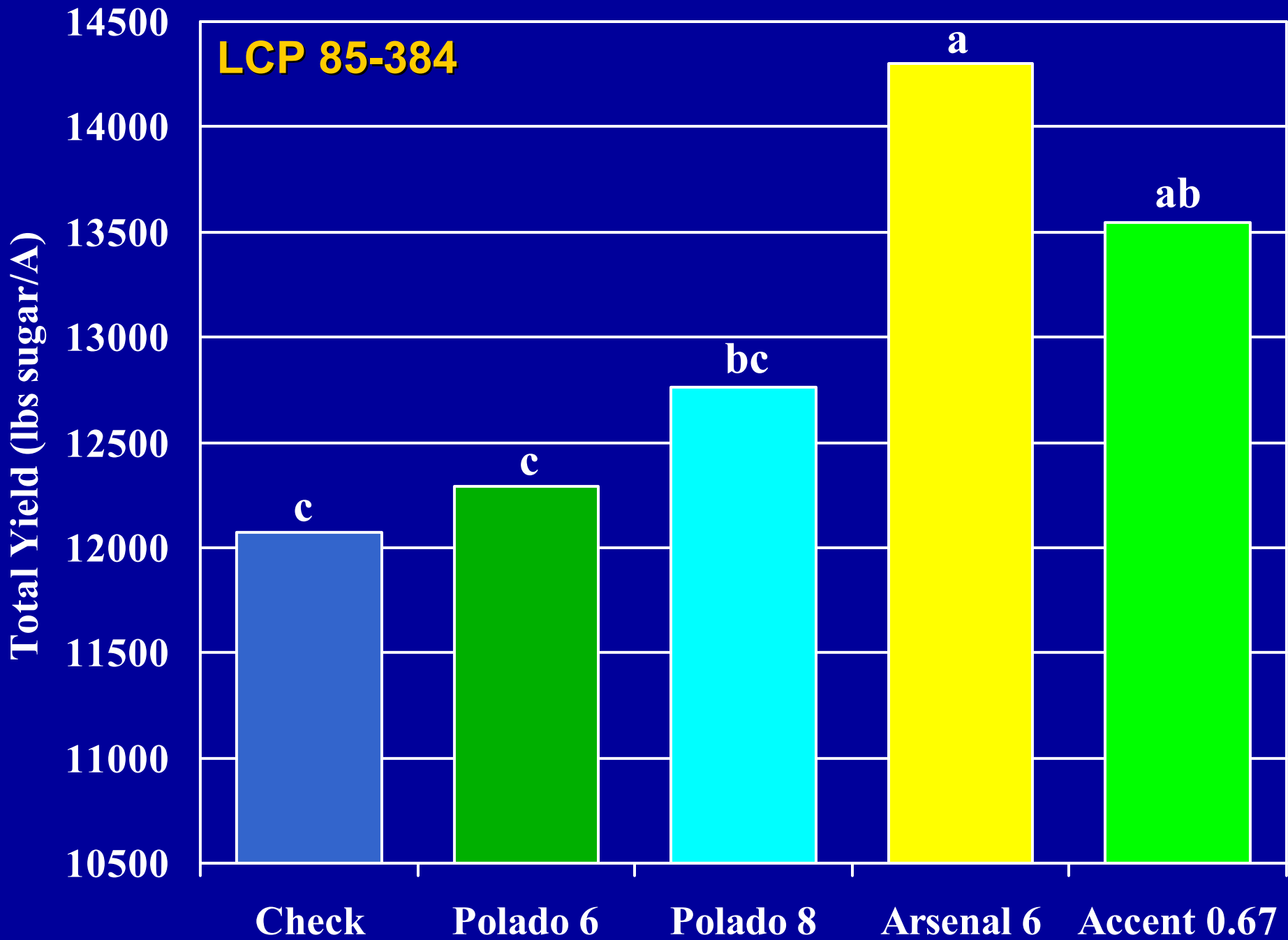
Chopper harvested: 7 WAT

- Plots: 17.5 by 40 ft with 4 reps
- Plot weights and TRS measured



LCP 85-384





Alternative Ripener Comparison

Treatments:

- Arsenal (6 oz/A; 2 lbs ae/gallon)
- Accent (1 oz/A; 75% DF)
- Palisade (14 oz/A)
- Polado (6 oz/A; 4lbs ae/gallon)

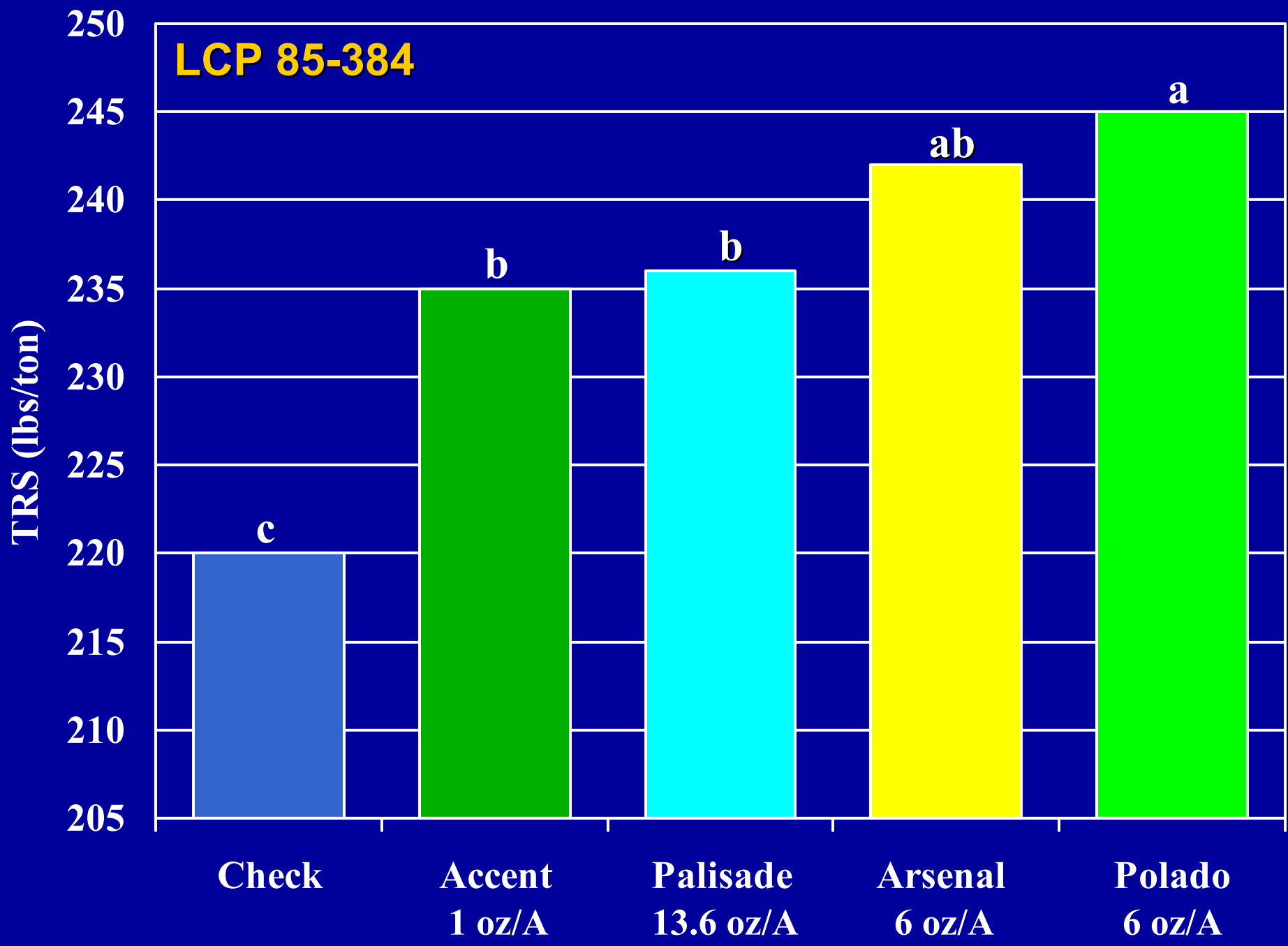
Applications: 3 location in LCP 85-384

- Sept 8, 2004 (FS)
- Sept 13, 2005 (SS)
- Aug 23, 2005 (FS)

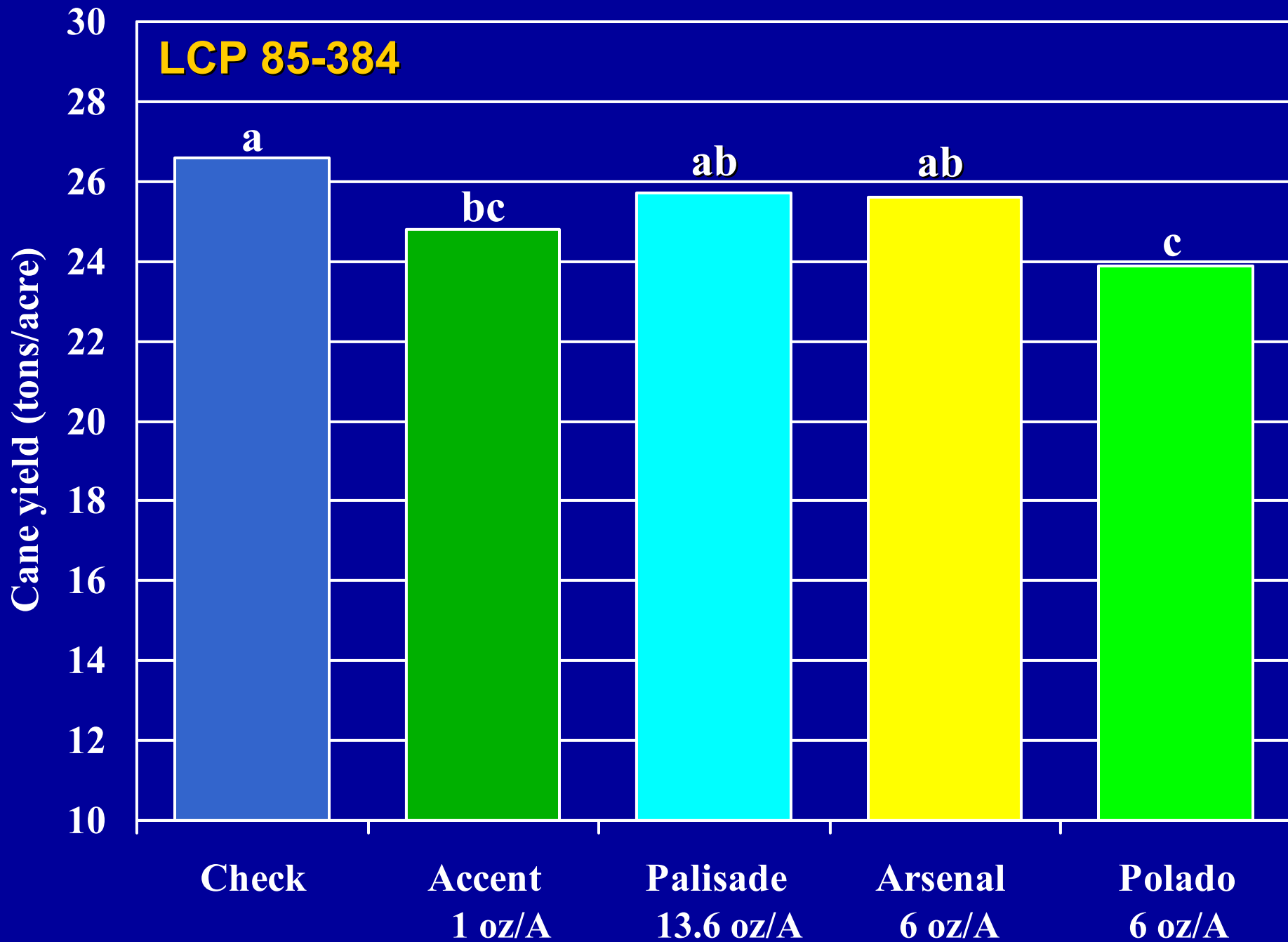
Chopper harvested: 7 WAT

- Plots: 17.5 by 40 ft with 4 reps
- Plot weights and TRS measured

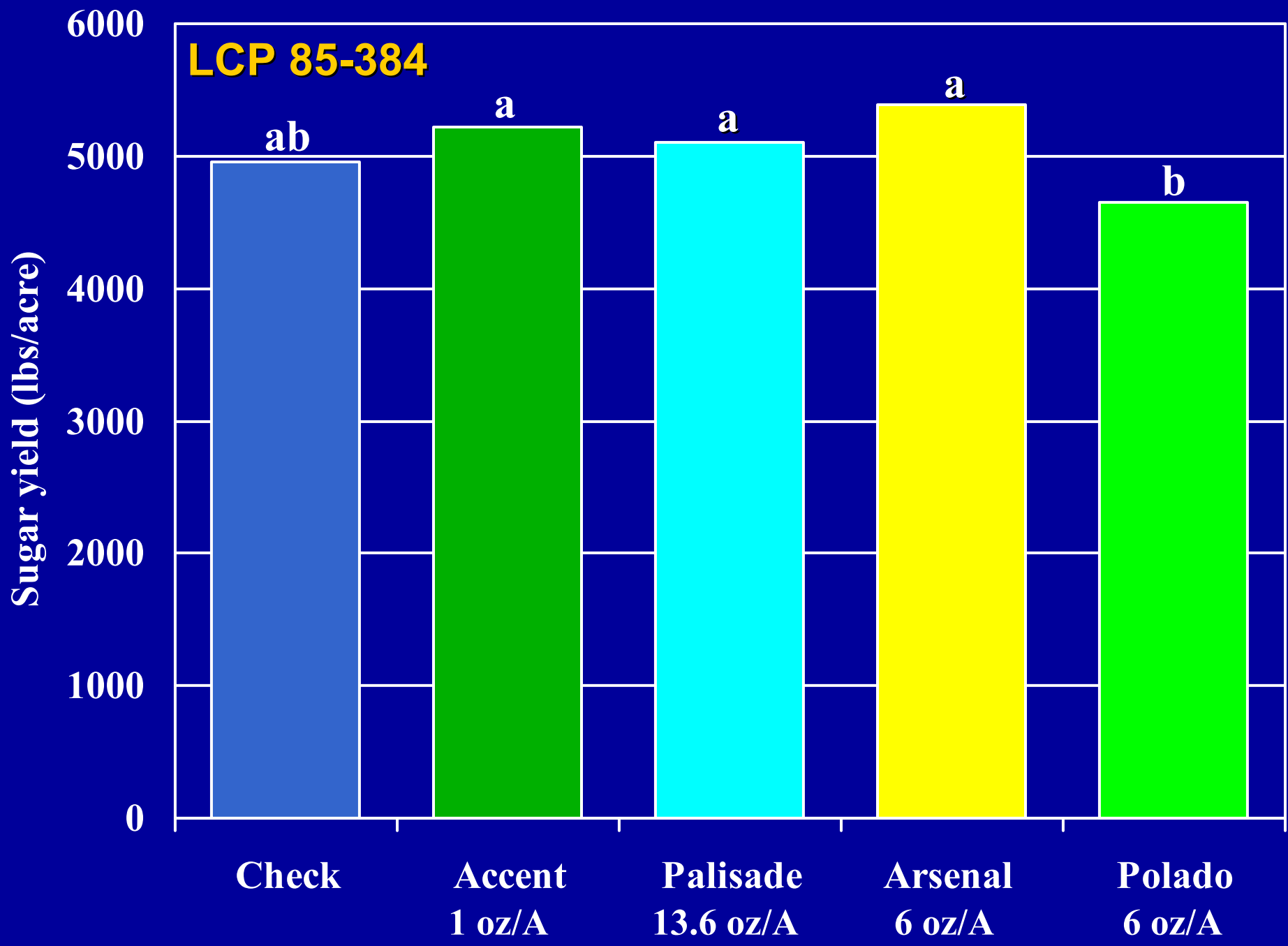
LCP 85-384



LCP 85-384



LCP 85-384



Alternative Ripener Comparison

Treatments:

- Arsenal (6 oz/A; 2 lbs ae/gal)**
- Accent (1 oz/A; 75% DF)**
- Palisade (14 oz/A)**
- Roundup WeatherMAX (5.3 oz/A; 4lbs ae/gal)**

Applications: HoCP 96-540

- Sept 26, 2006 (FS)**

Chopper harvested: 6 WAT

- Plots: 11.6 by 25 ft with 4 reps**
- Plot weights and TRS measured**

HoCP 96-540

TRRS (lbs/ton)

260
255
250
245
240
235
230
225
220
215

b

b

b

b

a

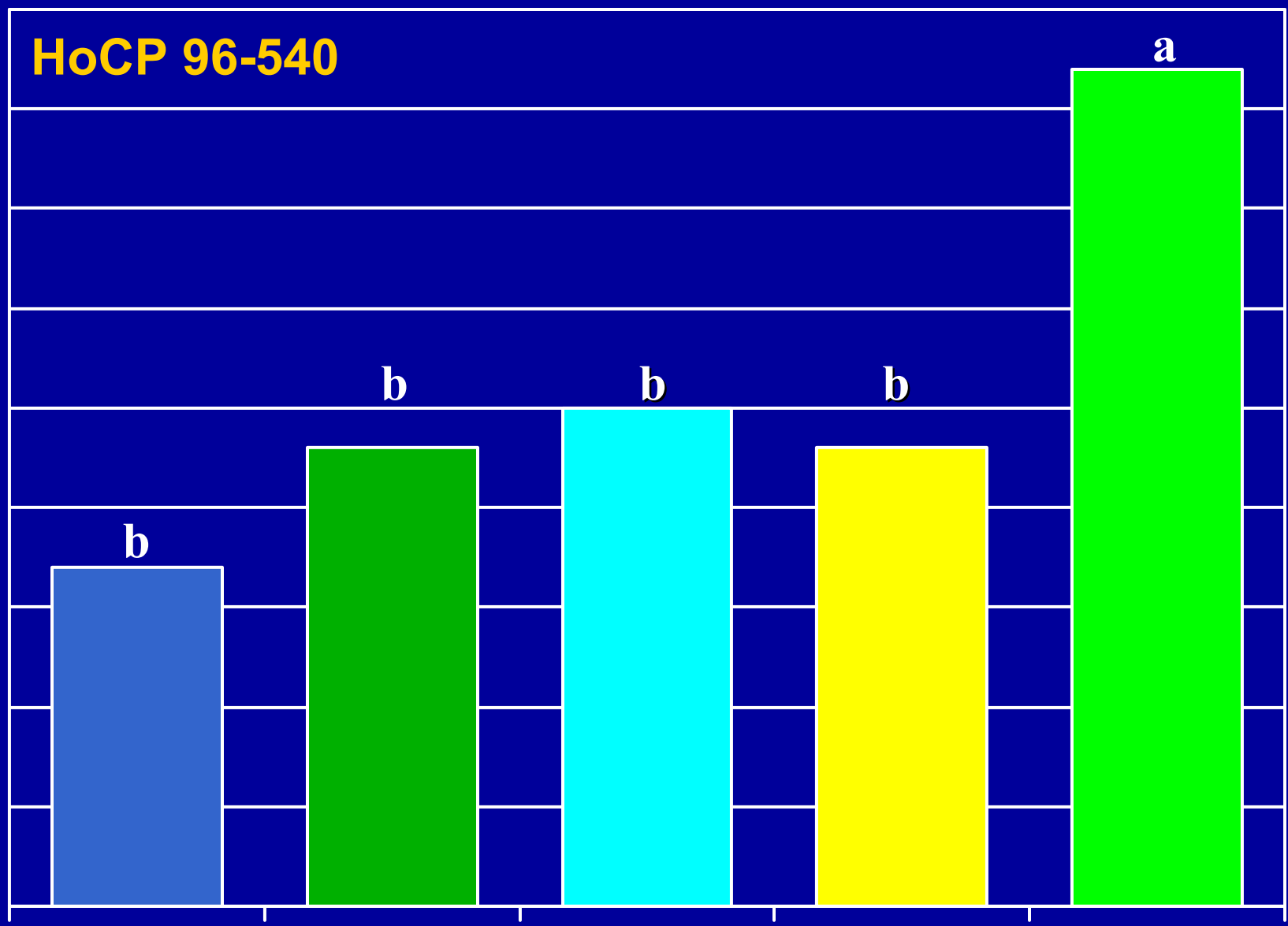
Check

**Accent
1 oz/A**

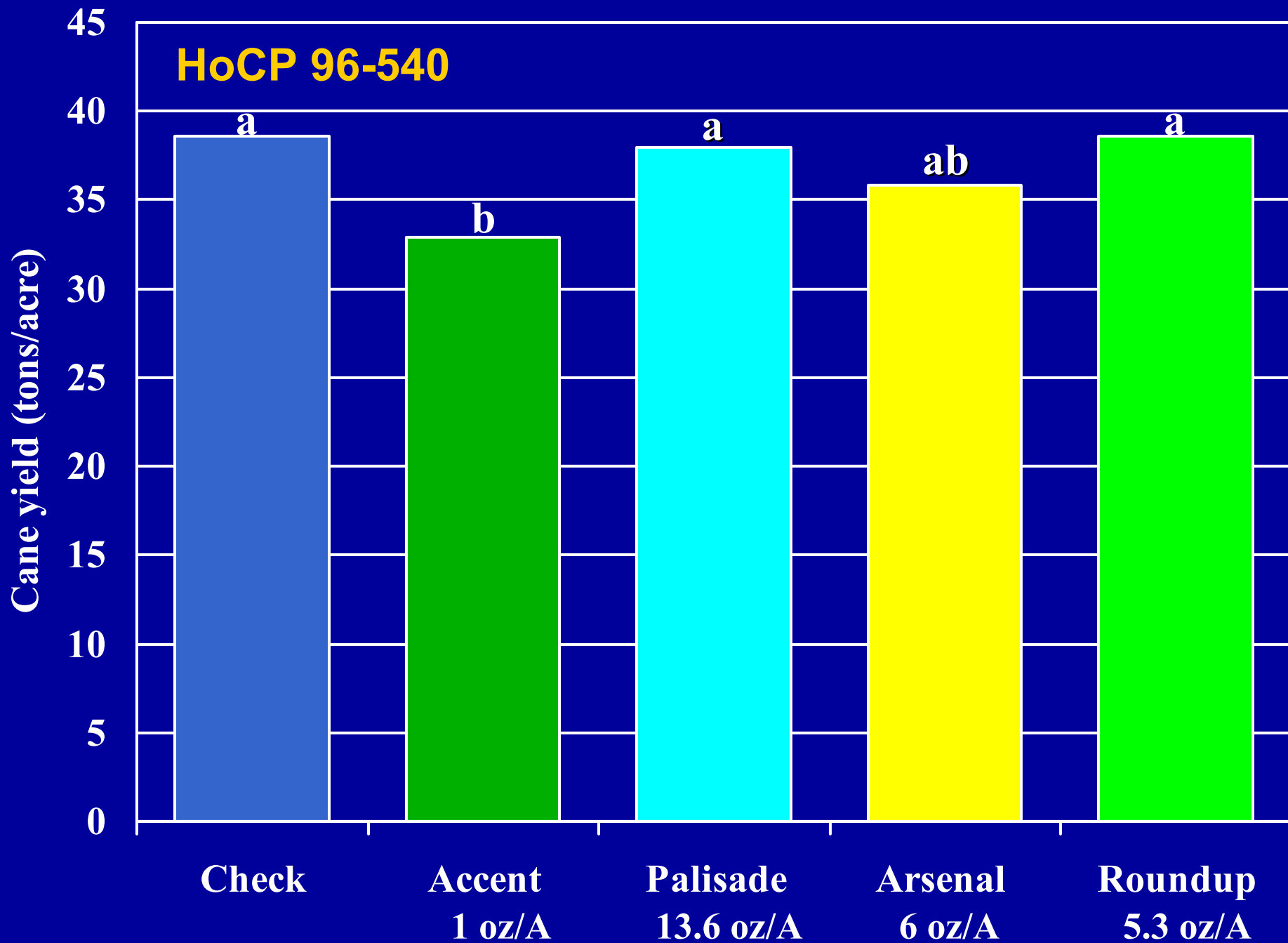
**Palisade
13.6 oz/A**

**Arsenal
6 oz/A**

**Roundup
5.3 oz/A**

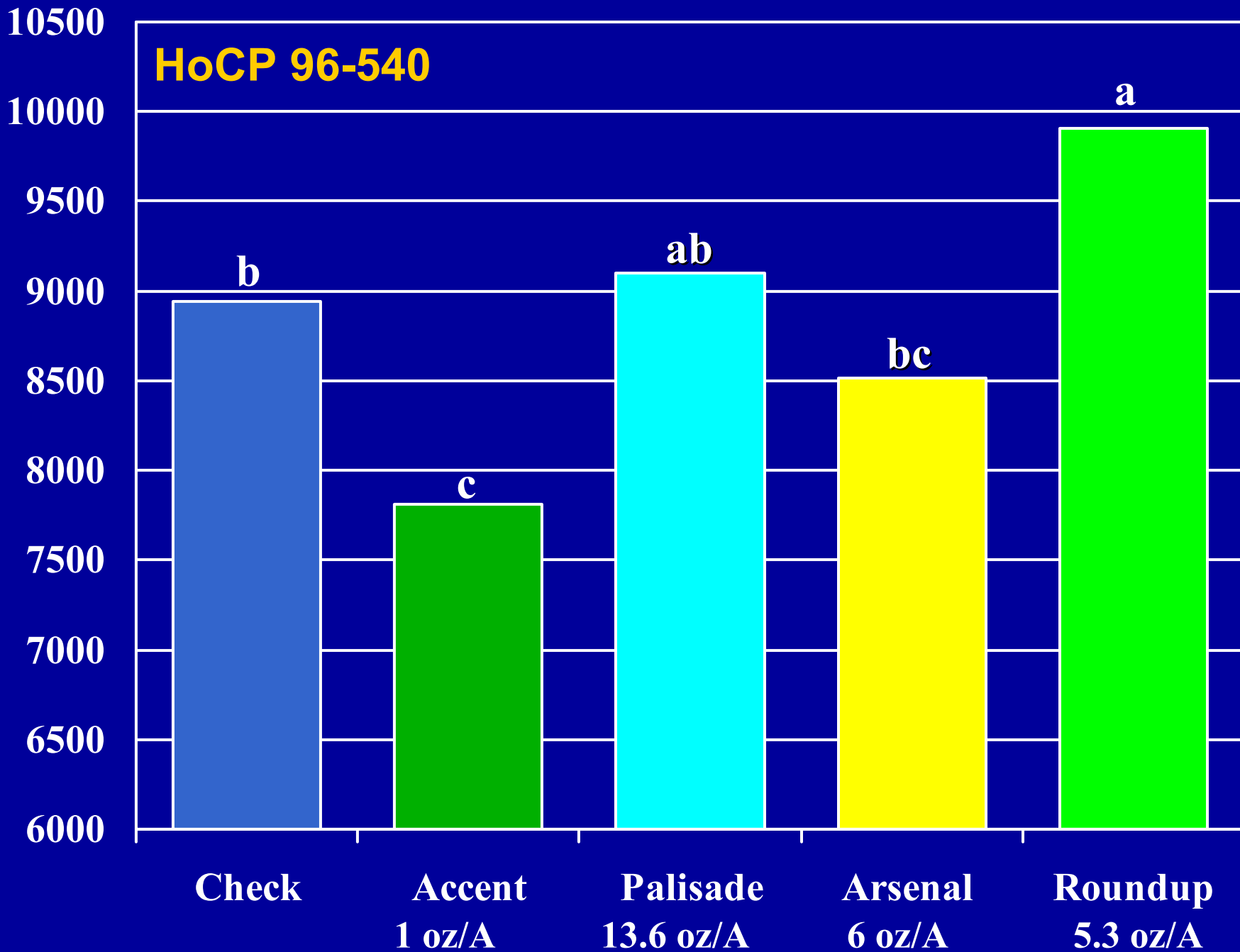


HoCP 96-540



HoCP 96-540

Sugar yield (lbs/acre)





Questions ???