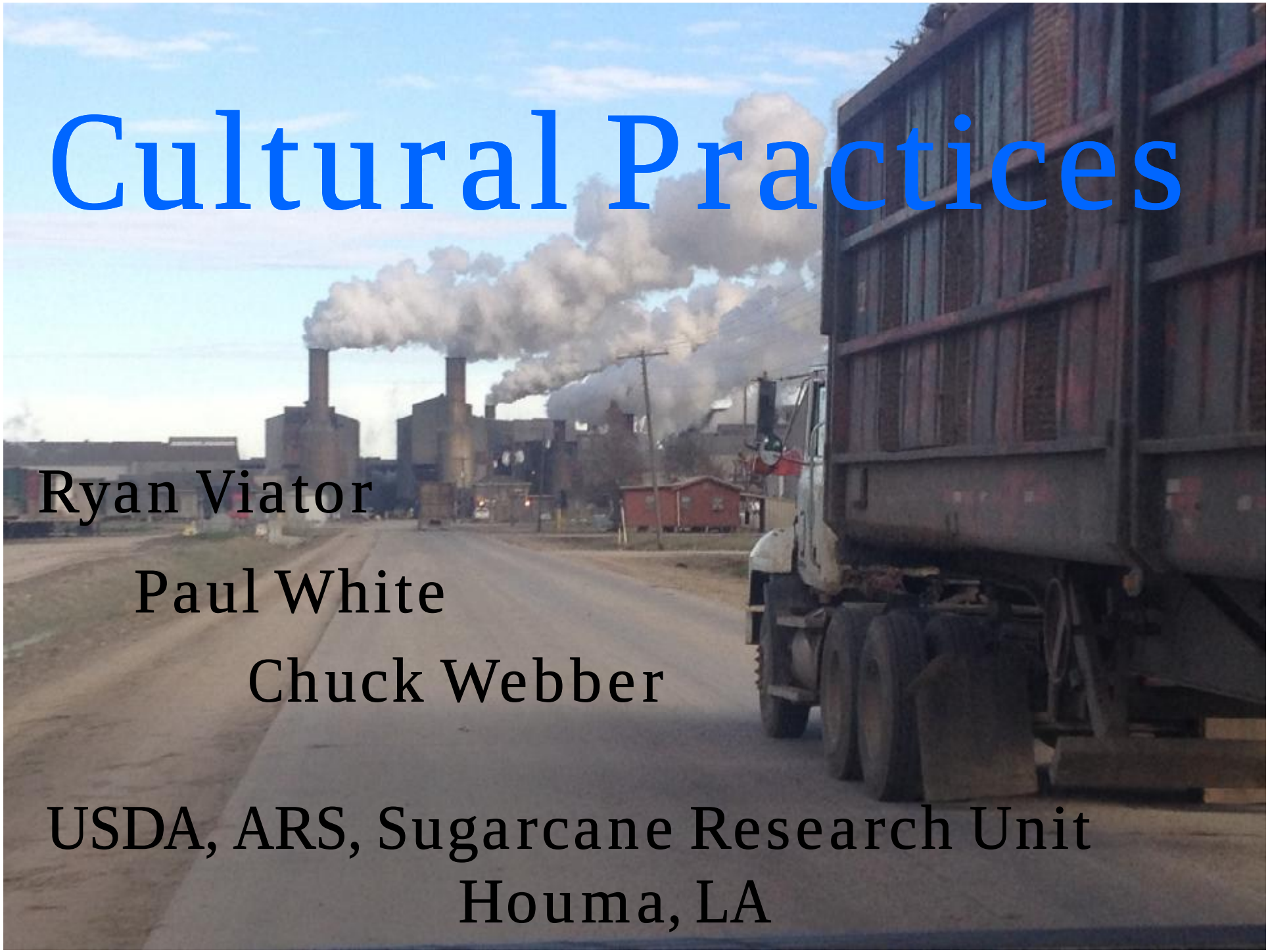


Cultural Practices

Ryan Viator

Paul White

Chuck Webber

USDA, ARS, Sugarcane Research Unit
Houma, LA

Presentation Overview

- Residue Management: Burning
- Alternative Residue Options
- Shredding
- Lay-by
- Flooding Tolerance
- Stubbling Ability

Residue Management

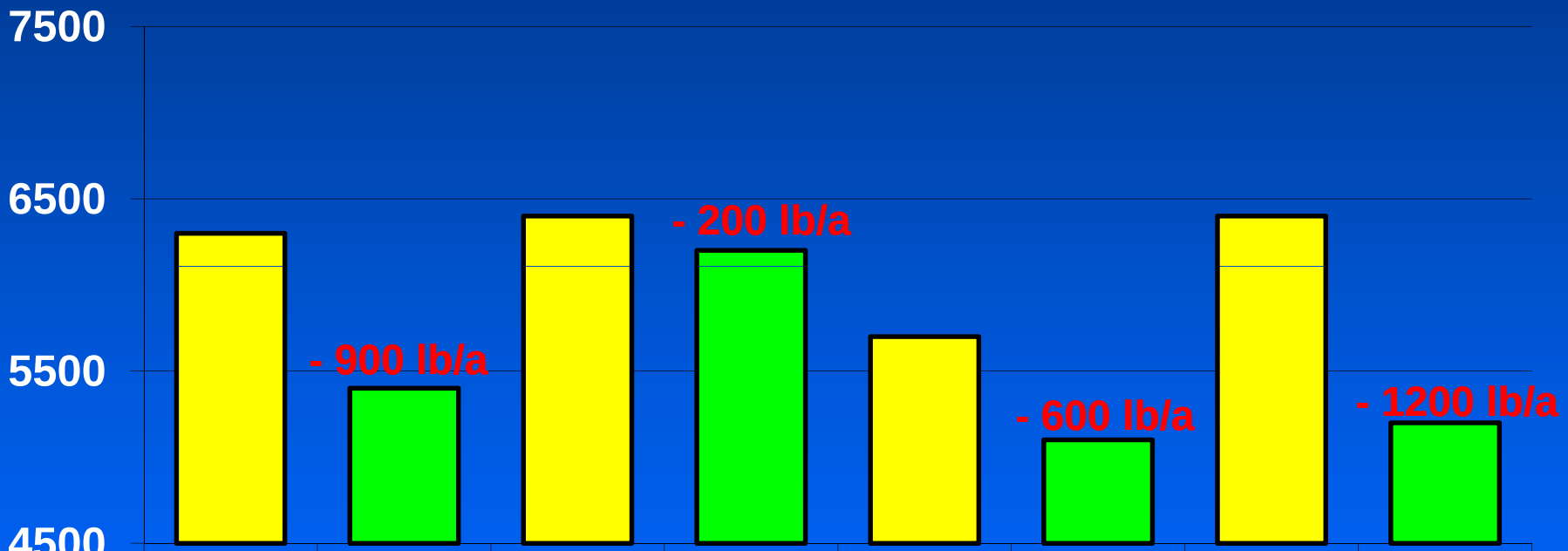
Burning vs. Full Retention of Trash

- 4 Varieties:
  HoCP 96-540, L 99-226,
  L 03-371, & HoCP 04-838
- 1st Stubble
- Heavy Soil
- 2 Years

Burning vs. Full Retention of Trash

Sugar Yield

lb/a



	540 Burned	540	226 Burned	226	371 Burned	371	838 Burned	838
lb/a	6300	5400	6400	6200	5700	5100	6400	5200
		- 14%		- 3%		-11%		-19%

Summary

All varieties show some yield loss with the trash blanket.

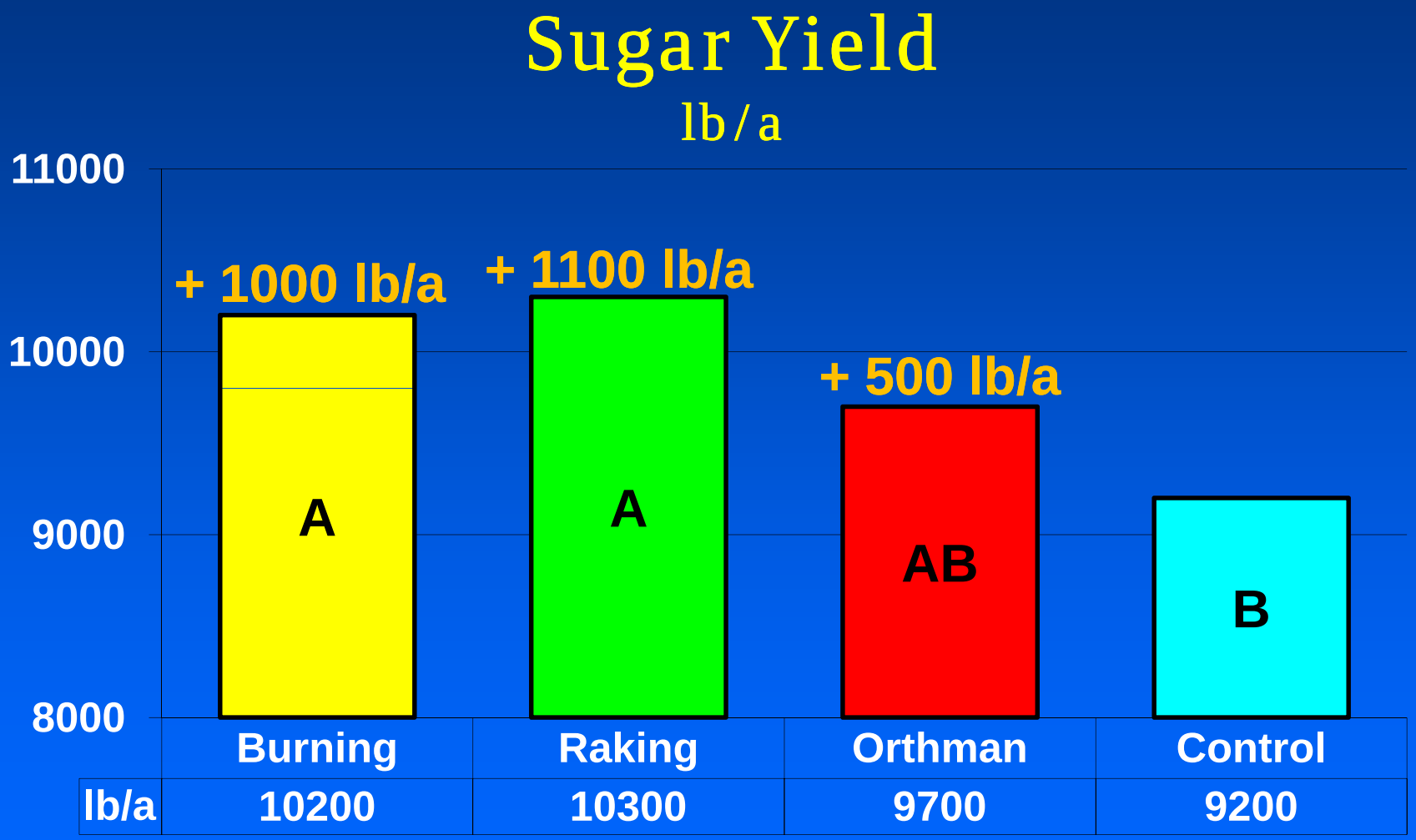
L 99-226 did show the lowest impact from trash retention, but sugar yields were still down by 3% (200 lb/ac).

Alternative Residue Options

Burn, Rake, Orthman Sweep vs. Control

- HoCP 96-540
- 1st Stubble
- Sandy Soil
- Mid-January

Burn, Rake, Orthman Sweep vs. Control



HoCP 96-540, Sandy Soil

($p<0.05$)

+O, +20, and +40 lb N/a

- Can added N offset the detrimental impact of not burning the trash?
- 0, 20, or 40 lb N/a was applied in addition to the standard application of 120 lb N/a to the control (full residue retention).
- April
- Sandy Soil

+O, +20, and +40 lb N/a

Sugar Yield

lb/a

	+ 0 N lb/a	+ 20 N lb/a	+ 40 N lb/a
SUGAR	9500	9500	10100

Full Residue Retention

($p<0.05$)

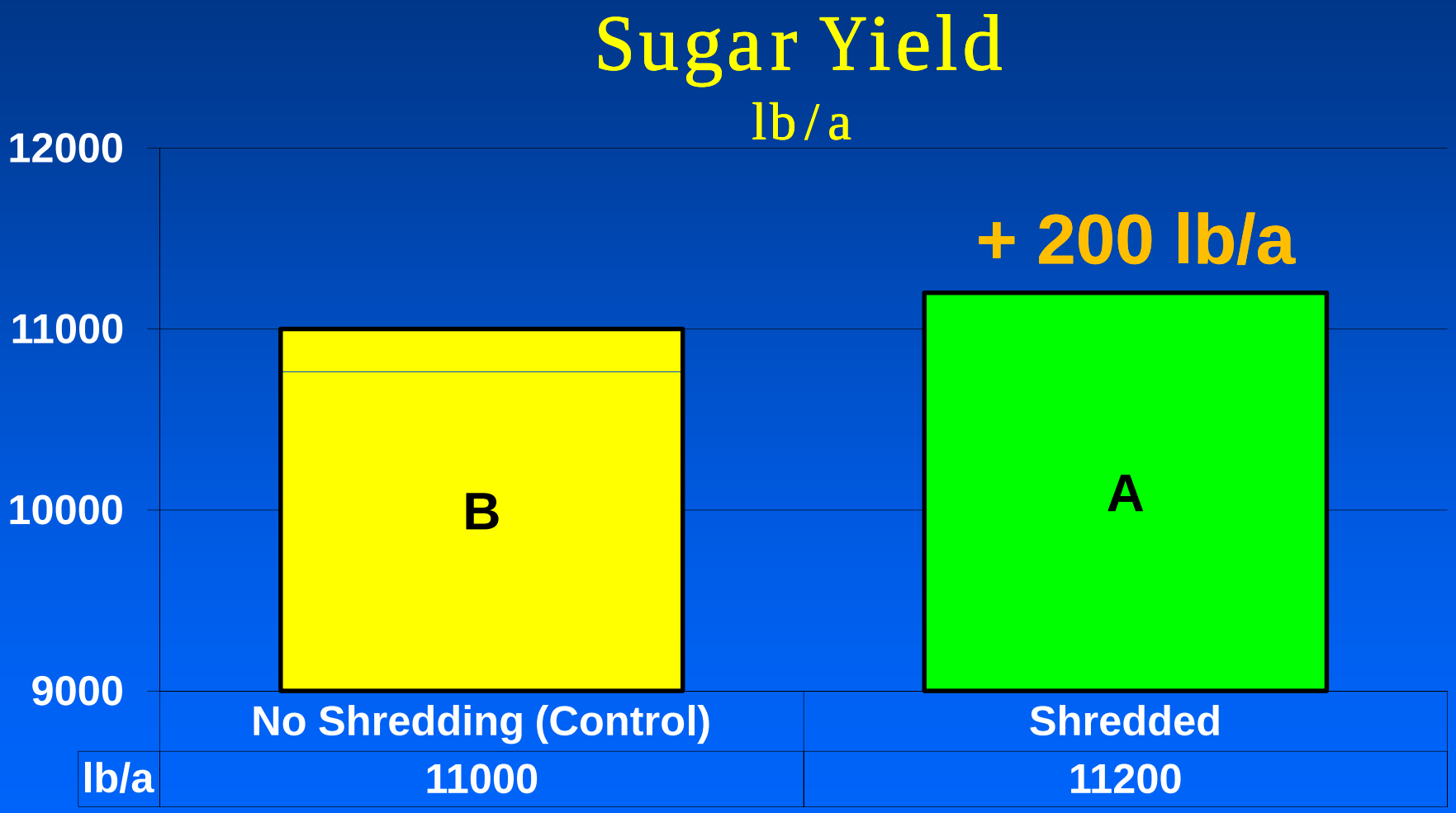
Summary

- Remove residue/mulch as soon as possible…especially if ripener was applied.
- Additional N may help mitigate yield loss where you can't burn.

No Shredding vs. Shredding

- L 99-226 Plant-cane
- Heavy Rust Infestation in the Fall
- Winter Killed, Plants 2 ft Tall
- 6 Inches of New Green Growth
- Shredded Feb. 1 Above Green Growth

No Shredding vs. Shredding



Shredded Feb. 1 Above Green Growth

(p<0.10)

Burning vs. No Burning After Shredding

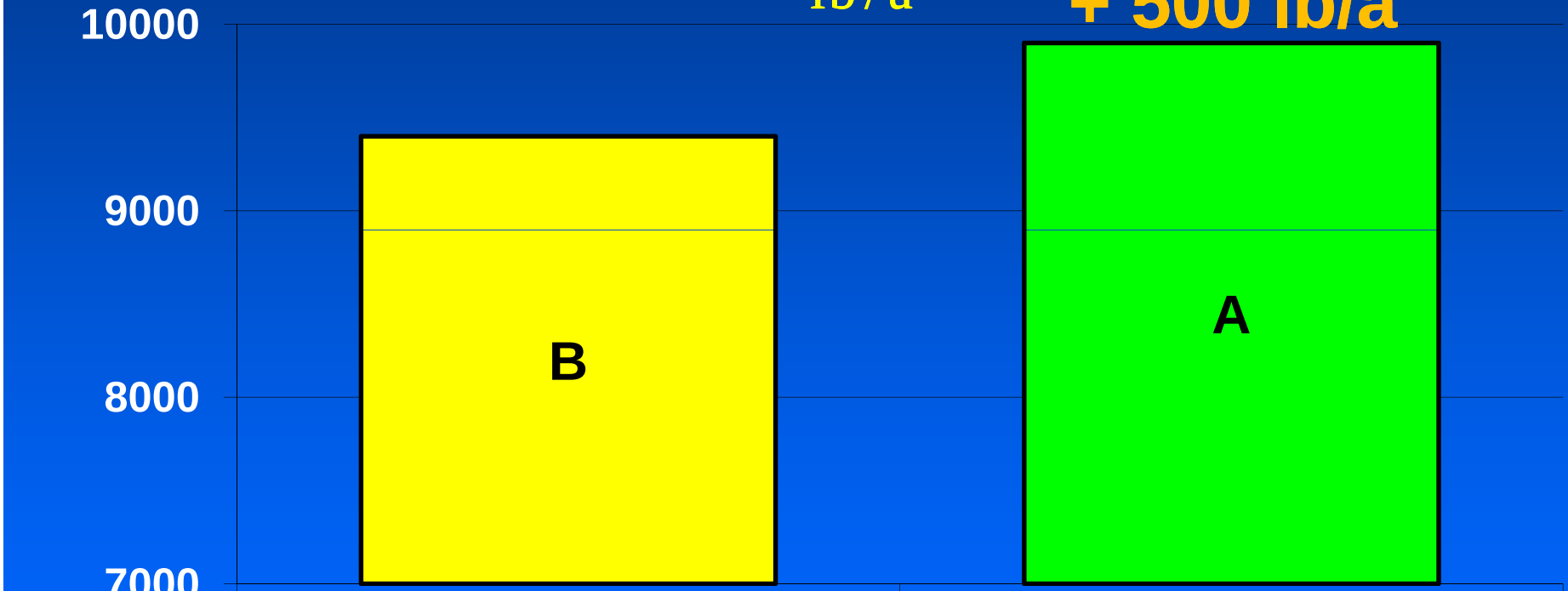
- Same Location as Shredding Experiment
- L 99-226 Plant-cane
- 6 inches of Green Growth
- Burned 3 Days After Shredding (Feb. 4)

Burning vs. No Burning After Shredding

Sugar Yield

lb/a

+ 500 lb/a



	Burned	No Burning (Control)
Sugar lb/a	9400	9900

Shredded Feb. 1 Above Green Growth

(p<0.10)


Lay-by Experiment

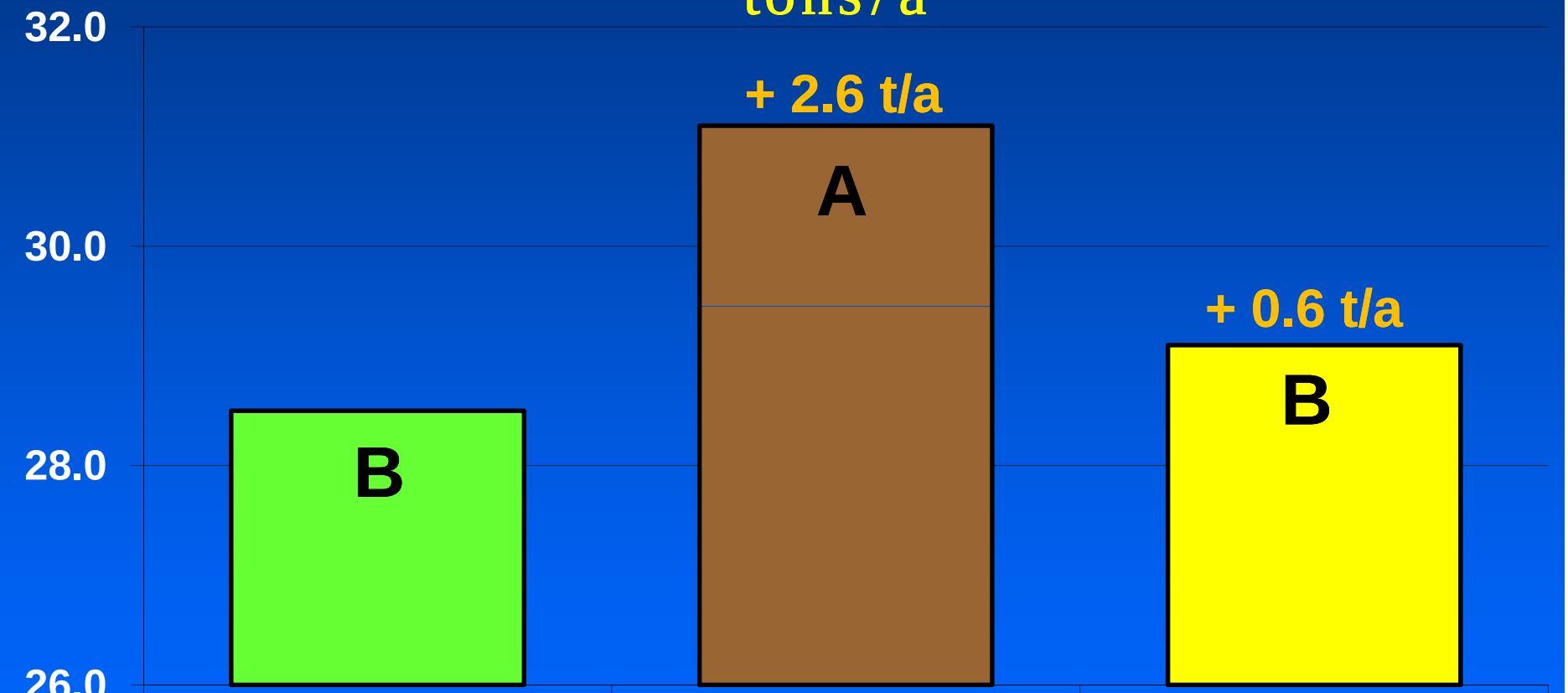
0, 2, or 4 Inches Lay-by

- HoCP 96-540
- First and Second Stubble
- Heavy and Light Soils
- 2 yrs. x 2 locations
- May

0, 2, or 4 Inches Lay-by

Cane Yield

tons/a

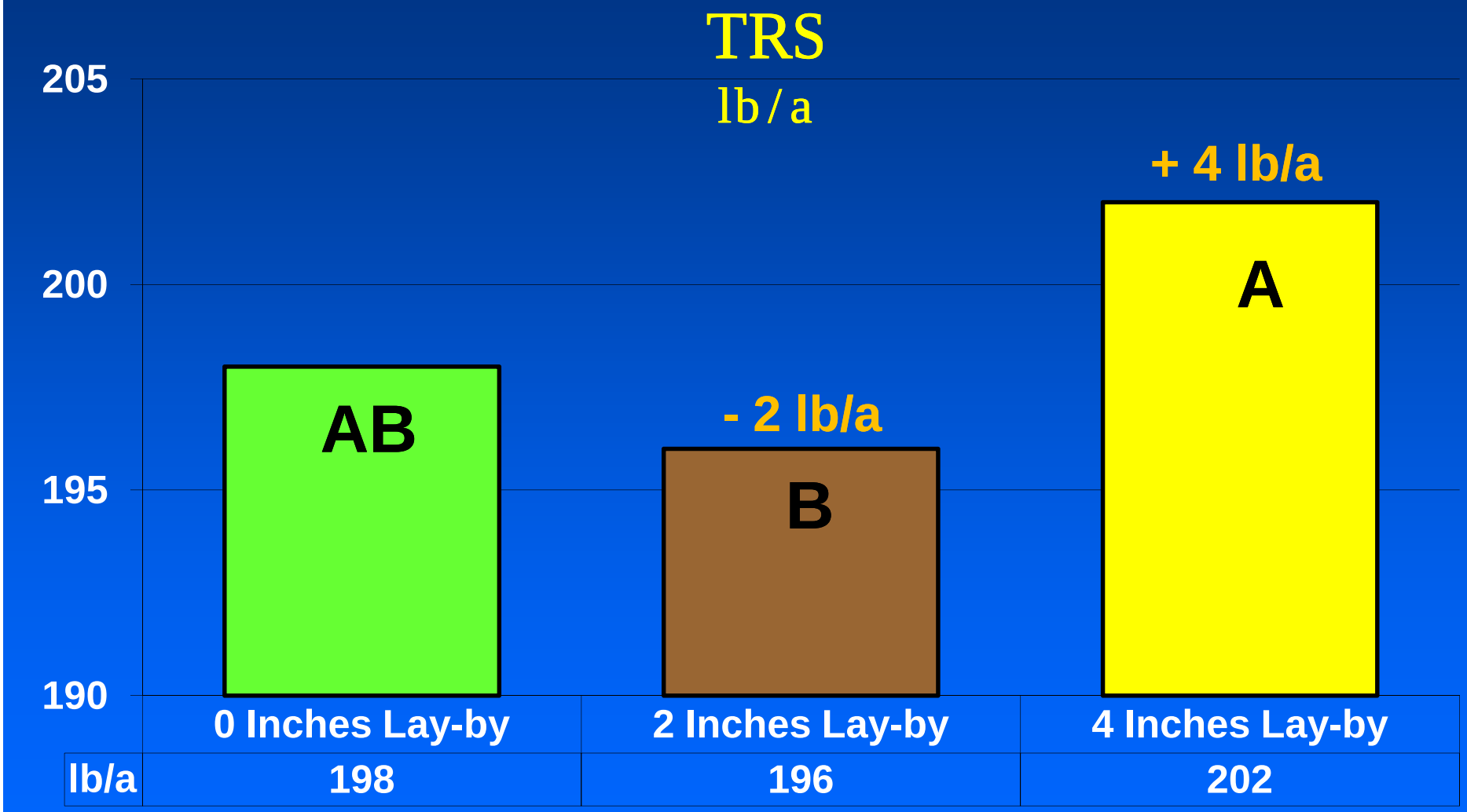


	0 Inches Lay-by	2 Inches Lay-by	4 Inches Lay-by
tons/a	28.5	31.1	29.1

HoCP 96-540, 1st and 2nd Stubble

(p<0.10)

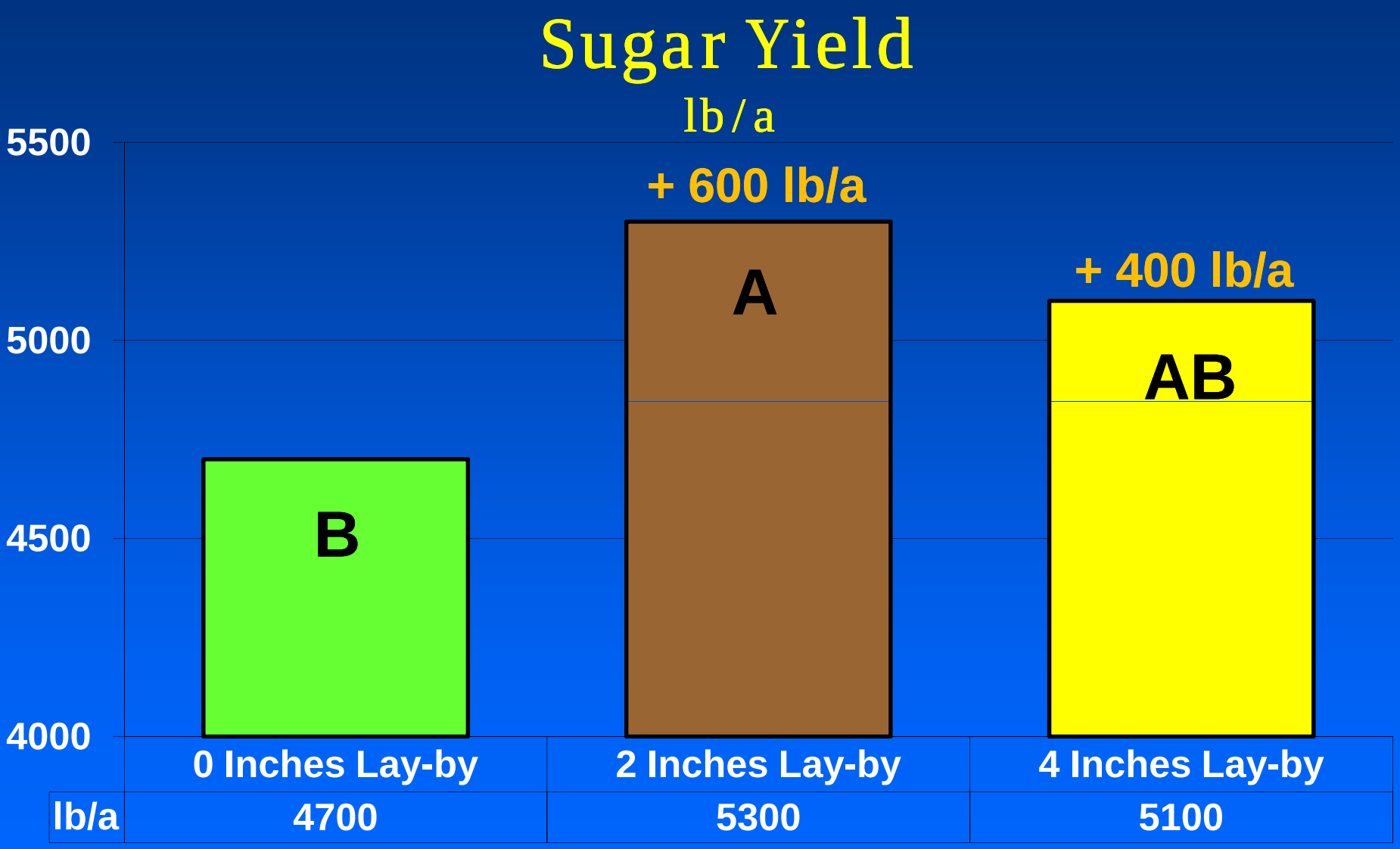
0, 2, or 4 Inches Lay-by



HoCP 96-540, 1st and 2nd Stubble

(p<0.10)

0, 2, or 4 Inches Lay-by



HoCP 96-540, 1st and 2nd Stubble

(p<0.10)

Summary

- HoCP 96-540 had improved yields with 2 and 4 inches of soil added to the row top at lay-by relative to 0 (no lay-by).

- +500 lb/a Sugar

Flood Tolerance

Flooding vs. No Flooding

- 4 Varieties:
  - L 03-371, HoCP 04-838,
  - L 01-299, & L 01-283
- Plant Cane
- Flooding: 1 week/month

Flooding vs. No Flooding

Sugar Yield

lb/a

	Flooded	No Flooding (Control)
Sugar lb/a	7200	8600

Averaged Across 4 Varieties

(p<0.10)

Flooding vs. No Flooding

Sugar Yield

lb/a

	283 Flooded	283	299 Flooded	299	371 Flooded	371	838 Flooded	838
lb/a	7300	8500	7500	9000	6700	8700	6800	9100

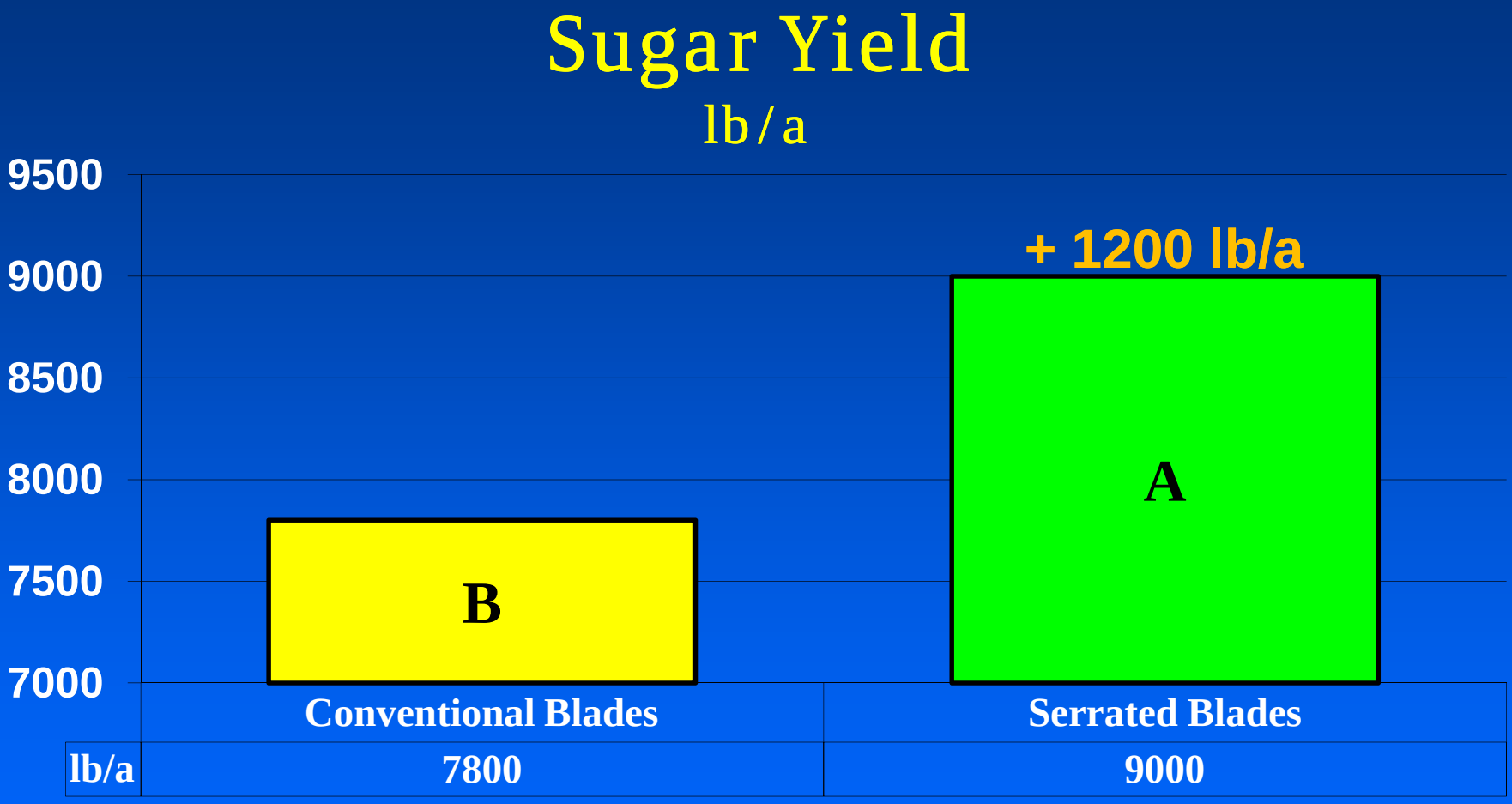
Stubbling Ability

Bottom Blades

Conventional vs. Serrated Blades

- What is the impact of blade type on subsequent stubble yields?
- 2 Locations, 1 Year
  HoCP 96-540, Plant Cane, Houma, LA
  L 99-226, 1st Stubble, Jeanerette, LA
- 2011: Blades Used
- 2012: Yields Measured

Conventional vs. Serrated Blades



Averaged Across Locations and Varieties

($p<0.05$)

Thank You