

A photograph of a sugarcane field during harvest. In the foreground, there is a dense field of cut sugarcane stalks. In the middle ground, a large harvester is actively cutting the cane, with a conveyor belt system moving the stalks into a trailer. Another harvester is visible in the background to the right. The background shows a line of trees under a clear sky.

# Potash Requirements in Sugarcane Production

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Sugarcane Research Unit



# Potassium (K<sub>2</sub>O)

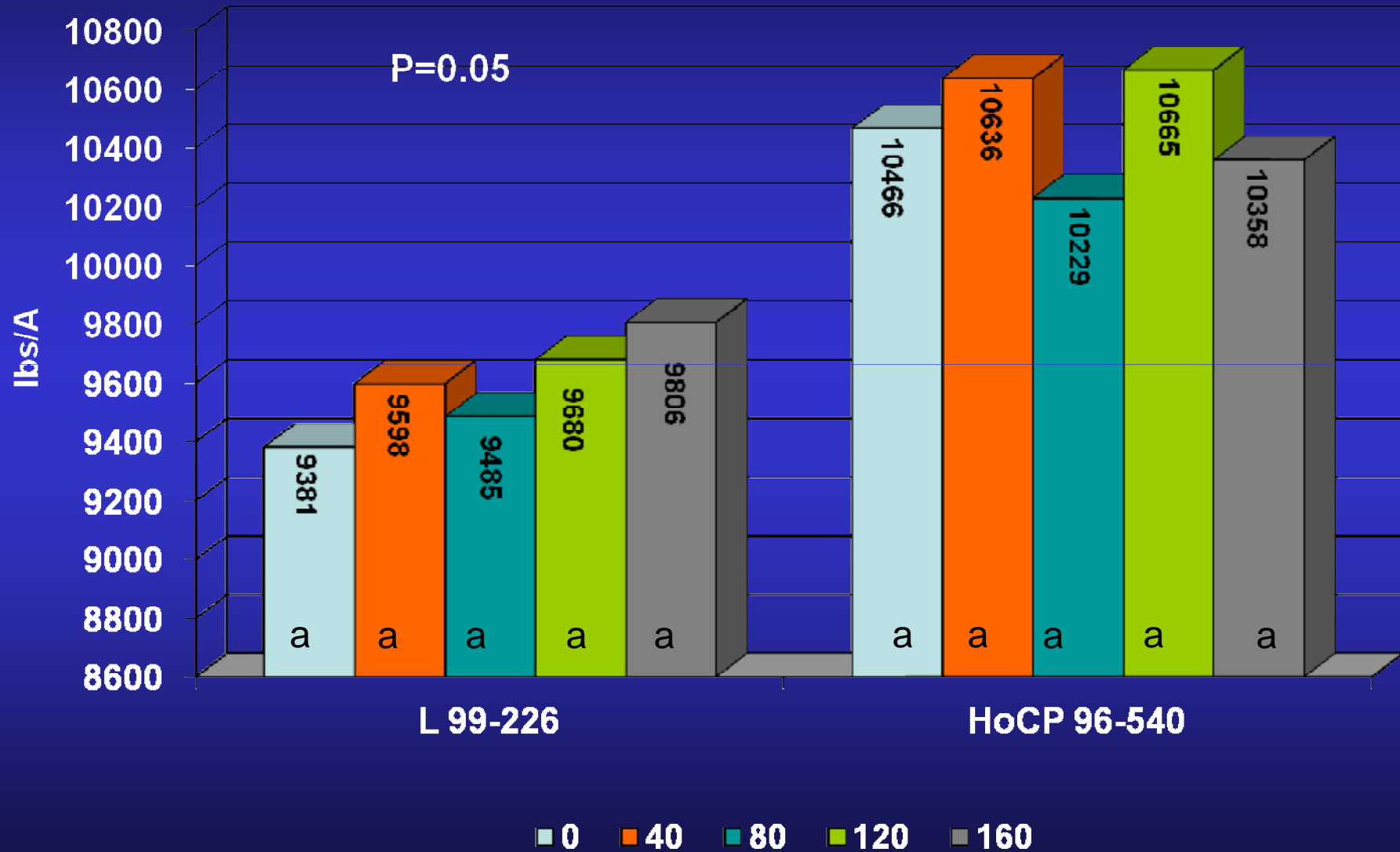
- About 3 lbs removed / T cane.
- Potassium rate recommendations are based on soil test.
- Potassium is important for proper water use and may help in drought tolerance.
- Potassium deficient plants are more prone to certain diseases and more likely to lodge.

Soil test	Plant	Stubble
Very Low	130	140
Low	110	120
Medium	80	80
High	0	0
Very High	0	0

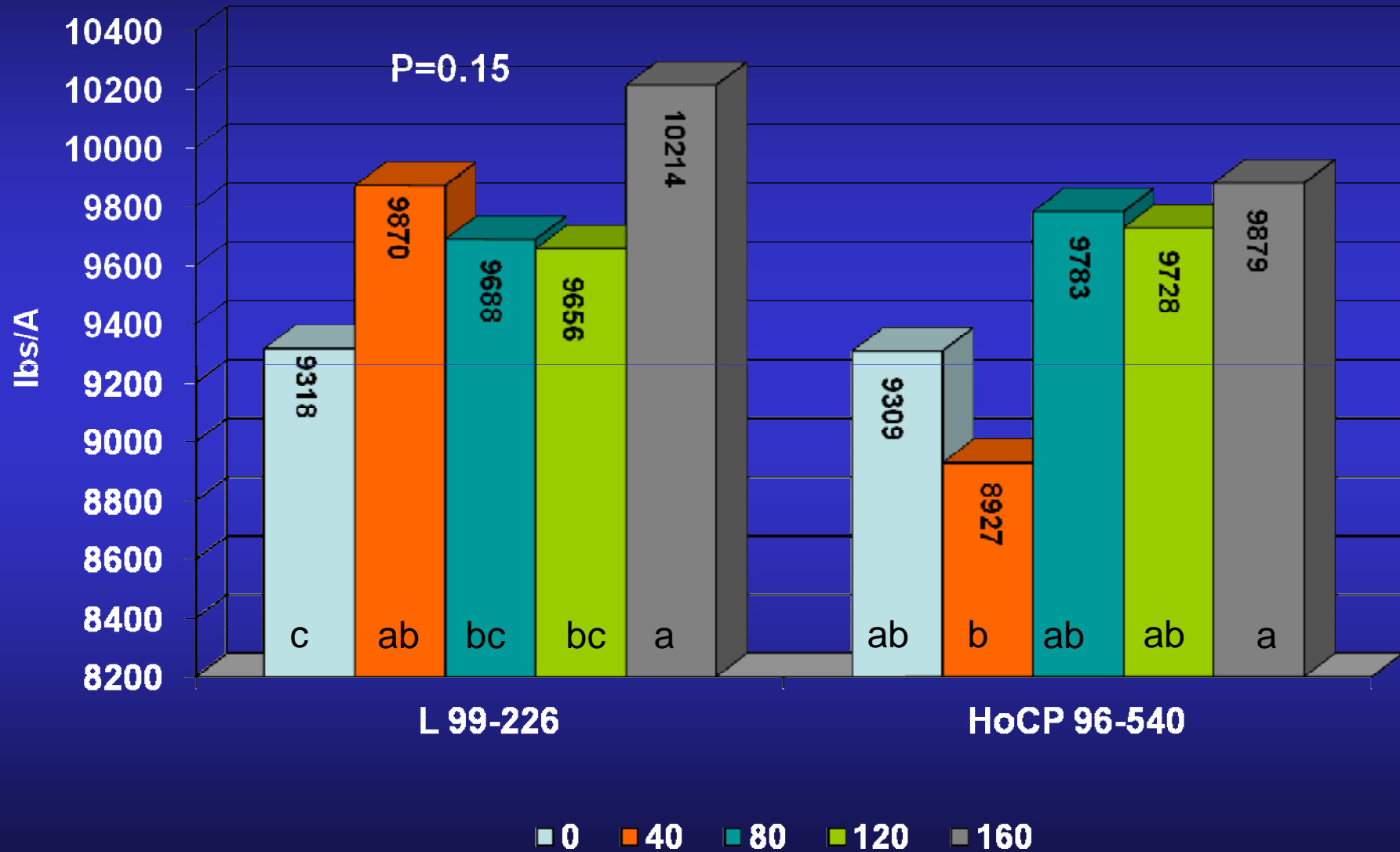
## USDA Potassium Fertilizer Studies, 2011-2012

- Varieties: HoCP 96-540, L 99-226
- Crop Age: PC, 1R, 2R
- All soils tested low for potassium
- K rates: 0, 40, 80, 120, 160 lbs  $K_2O/A$  (KCl)
- Reps: 6

# Varietal Response to Potassium Fertilizer Sugar/A, Plant cane, USDA, 2012



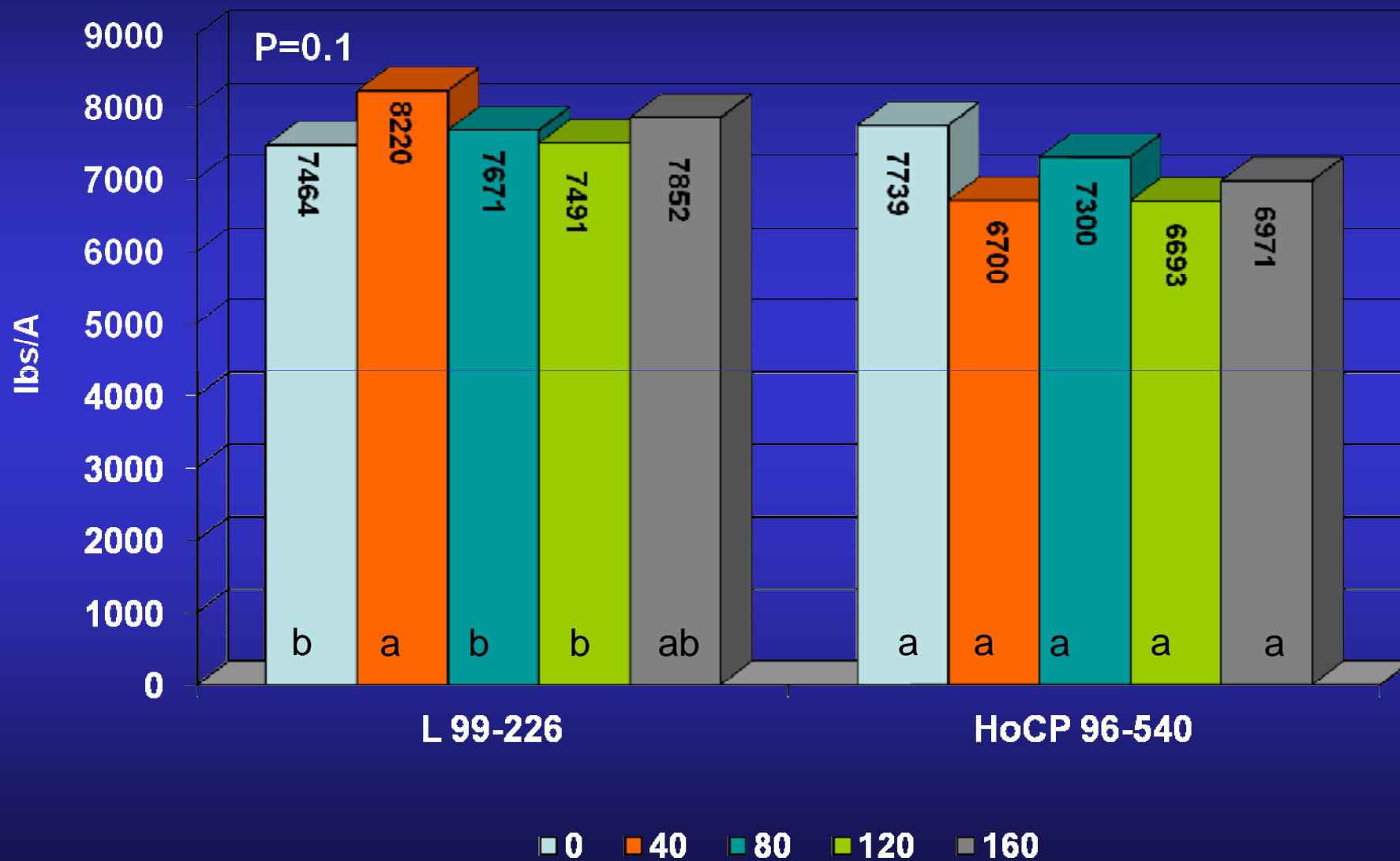
# Varietal Response to Potassium Fertilizer Sugar/A, 1<sup>st</sup> stubble, USDA, 2012



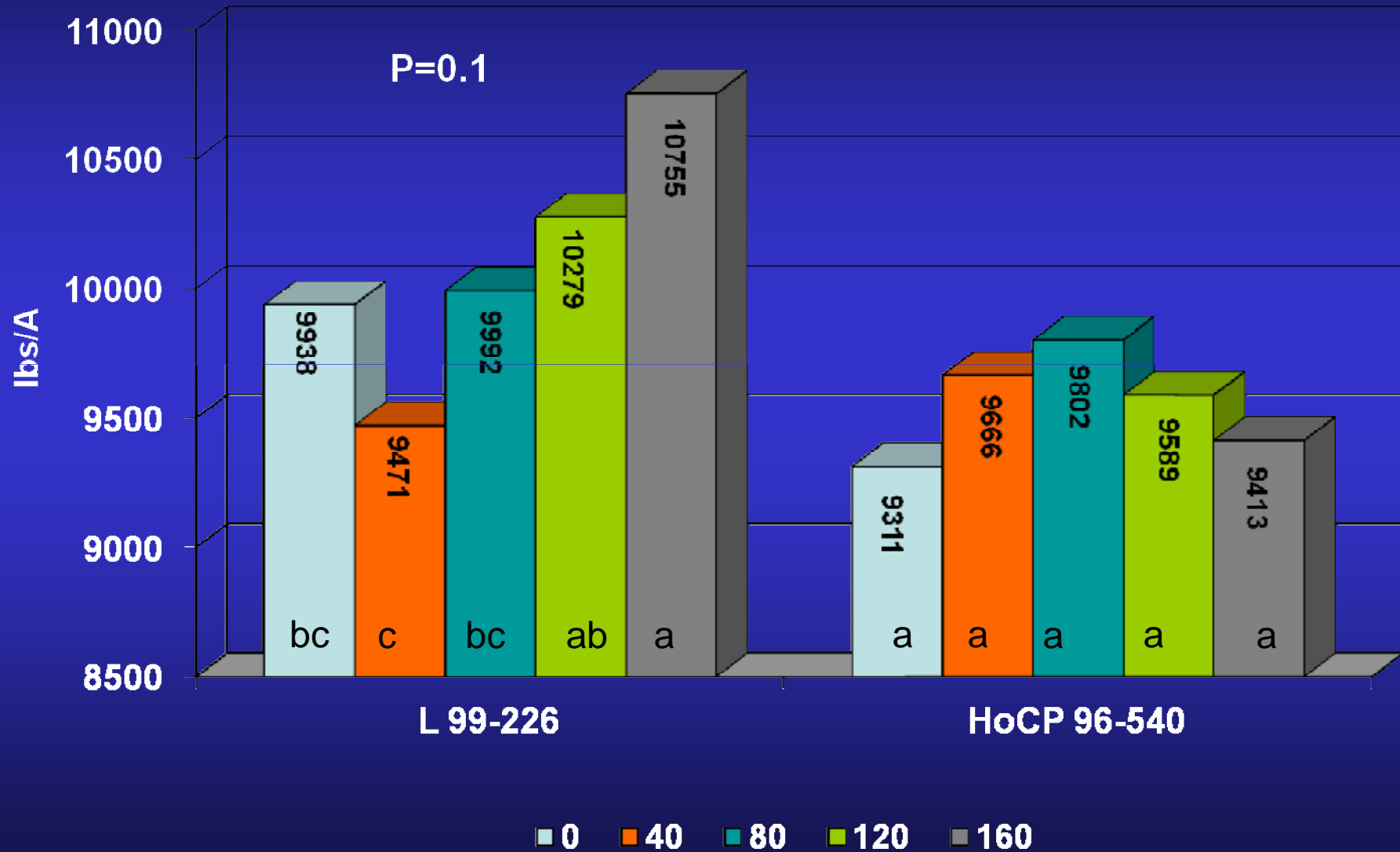


# Varietal Response to Potassium Fertilizer

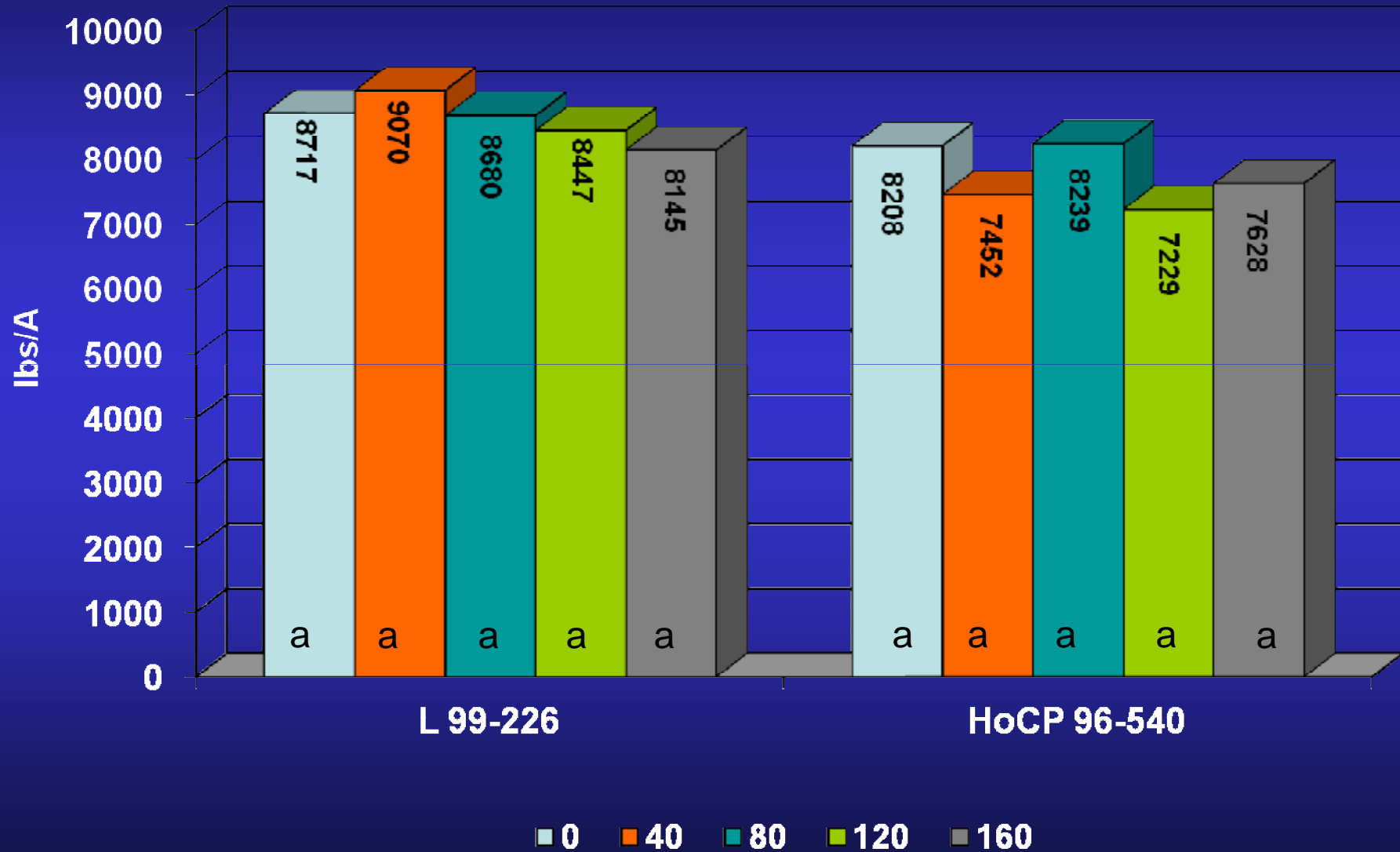
## Sugar/A, 2<sup>nd</sup> stubble, USDA, 2012



# Varietal Response to Potassium Fertilizer Sugar/A, Plant cane, USDA, 2011



# Varietal Response to Potassium Fertilizer Sugar/A, 1<sup>st</sup> Stubble, USDA, 2011





# Summary of Potassium Studies (2011-2012)

- Optimum K Rate - 0-160 lb N/A, HoCP 96-540, L 99-226, Plant cane, 1<sup>st</sup> and 2<sup>nd</sup> stubble.
- Response to potassium was location specific.
- Additional research needed and all studies will be continued through 2<sup>nd</sup> stubble.

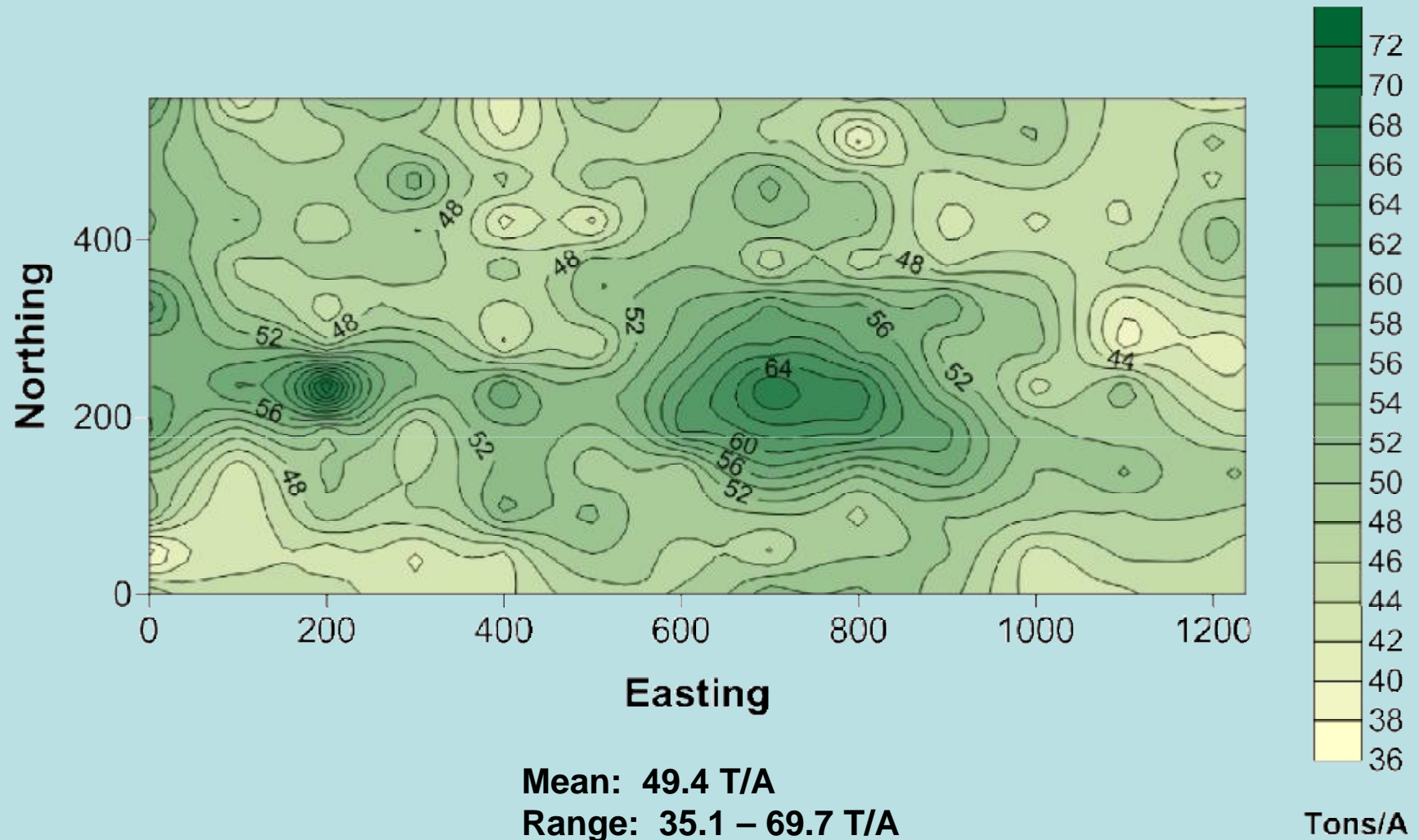
# VR Potash Study Armelise Plantation, 2012, HoCP 96-540, PC



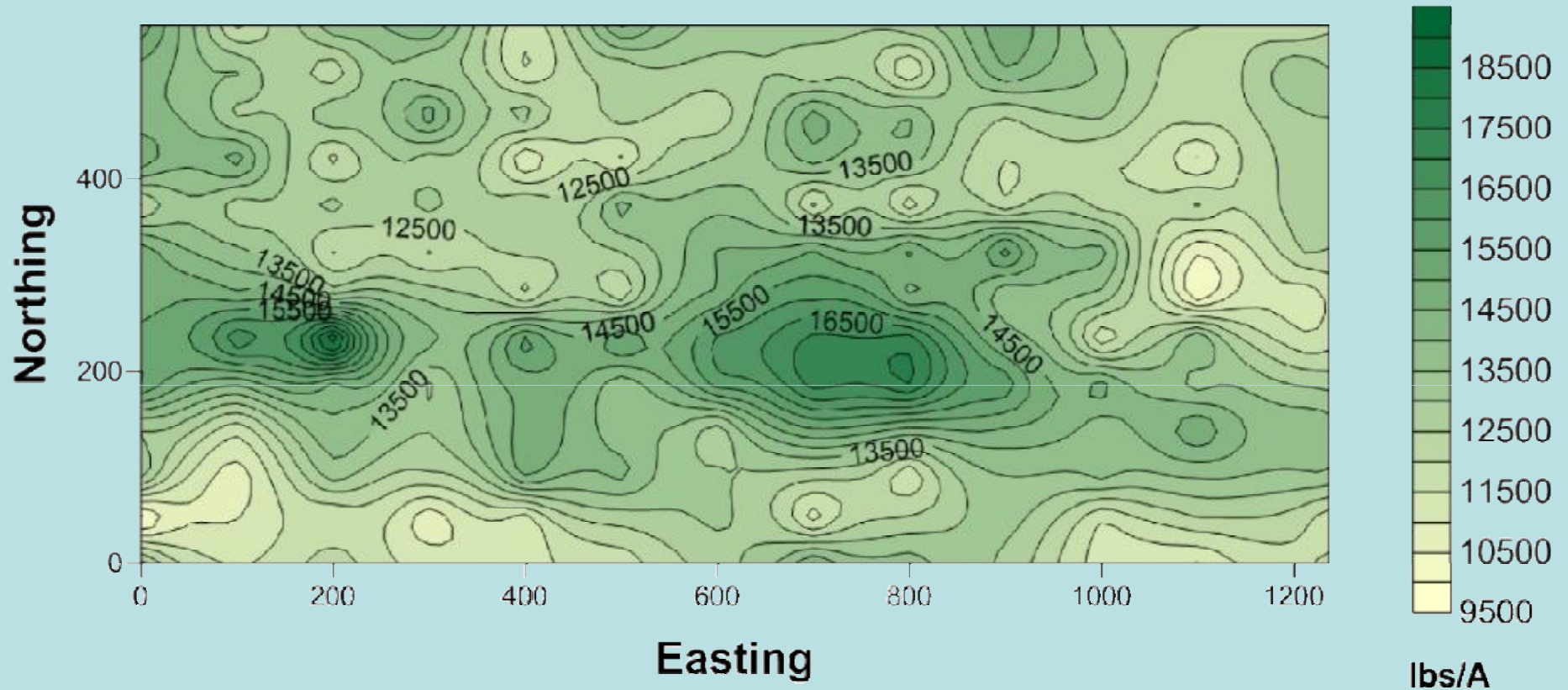
Management zones based on soil grid sampling.

- Blaine Viator

# Dugas VR Potash HoCP 96-540, PC, 2012, Tons



# Dugas VR Potash HoCP 96-540, PC, 2012, Sugar

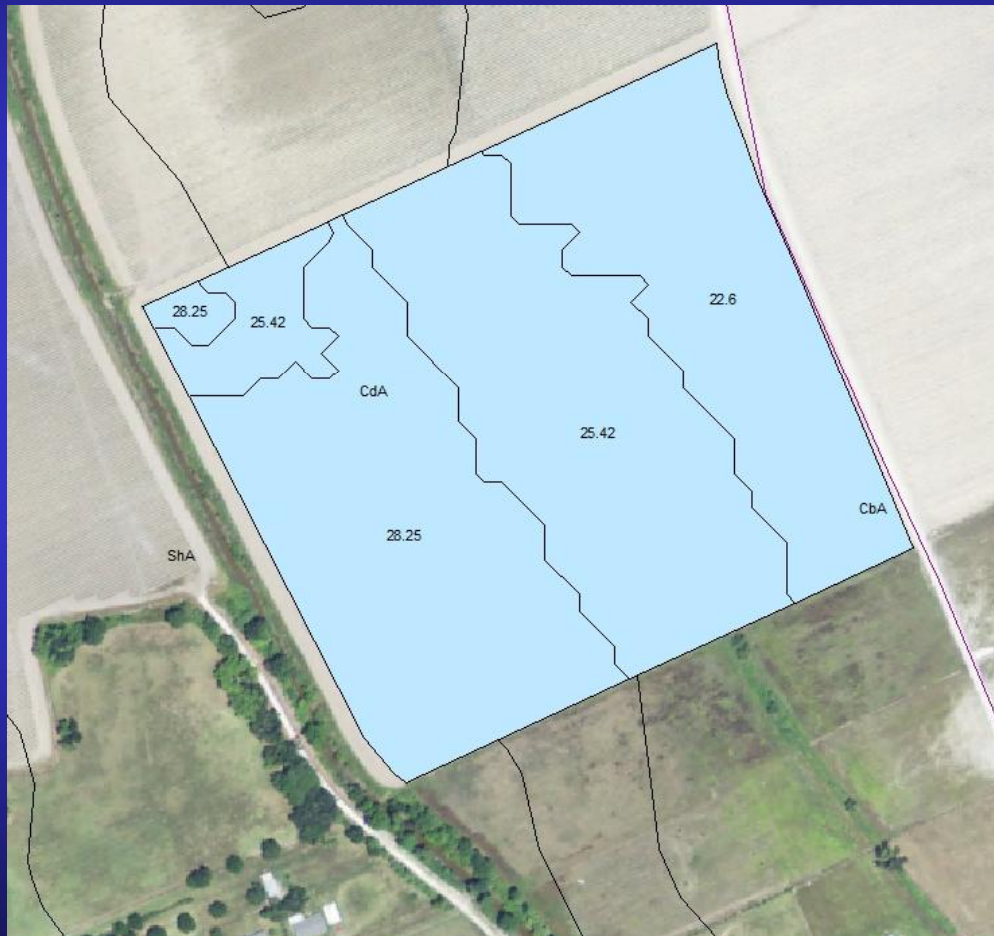


**Mean: 268 lb/T**  
**Range: 231 – 295 lb/T**

**Mean: 13,175 lb/A**  
**Range: 9,340 – 17,845 lb/A**



# VR Nitrogen Study, Acadia Plantation 2012, HoCP 96-540, PC



Management zones by Veris  
soil EC

Uniform N Rate: 90 lb N/A

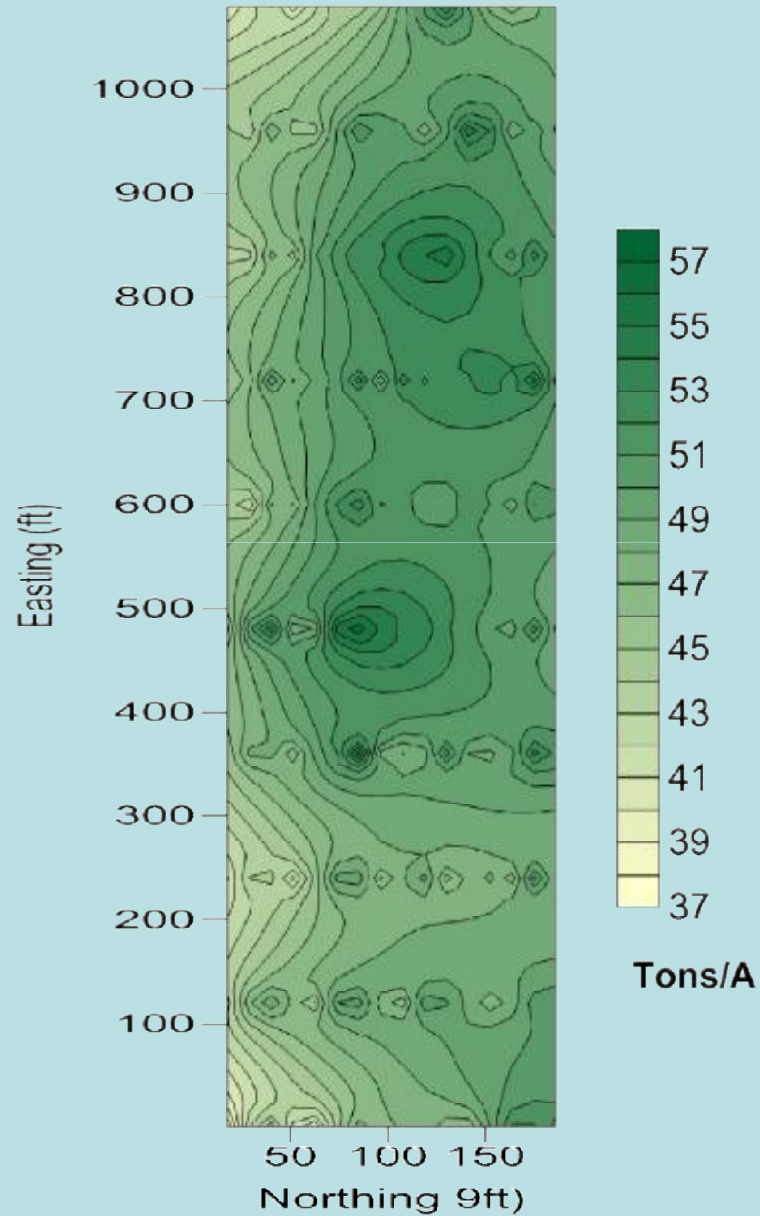
VR N Rate: 80, 90, 100 lb N/A

Plots: 6 rows x 1,200 ft

4 replications

# Acadia VR N Experiment 2012

## HoCP 96-540, PC, Tons/A



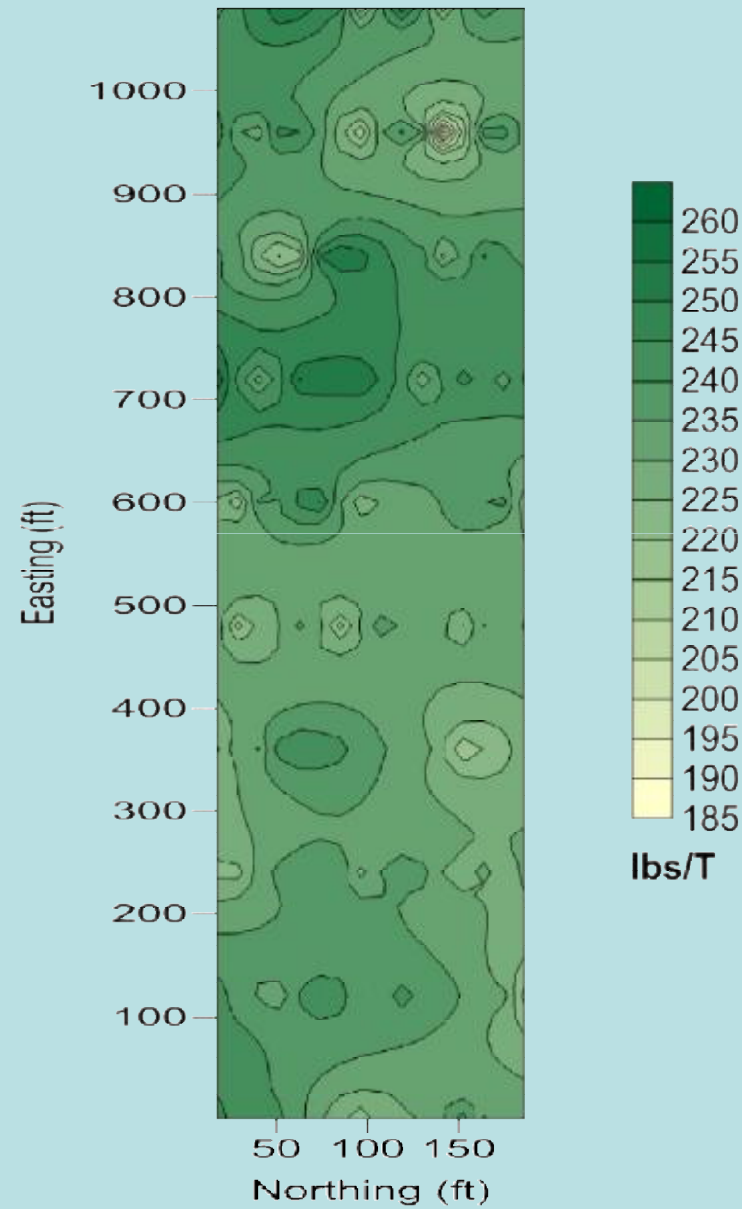
**Mean: 49.3 T/A**  
**Range: 35.3 – 60.7 T/A**

**Uniform N Rate: 49.4 a**

**VR N Rate: 49.2 a**

# Acadia VR N Experiment 2012

## HoCP 96-540, PC, TRS



**Mean: 236 lb/T**

**Range: 202-264 lb/T**

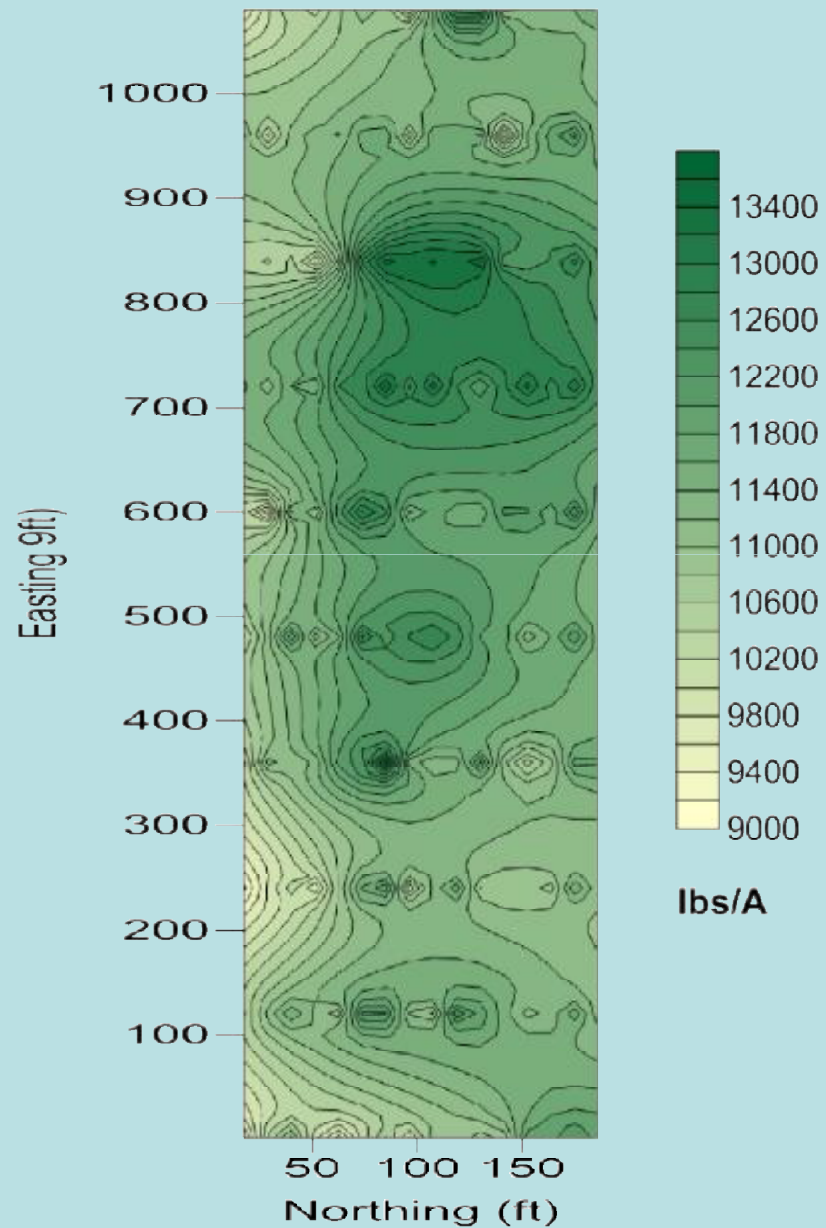
**Uniform N Rate: 235.8 a**

**VR N Rate: 235.7 a**



# Acadia VR N Experiment 2012

## HoCP 96-540, PC, Sugar/A



**Mean: 11,610 lb/A**

**Range: 7,965-14,880 lb/A**

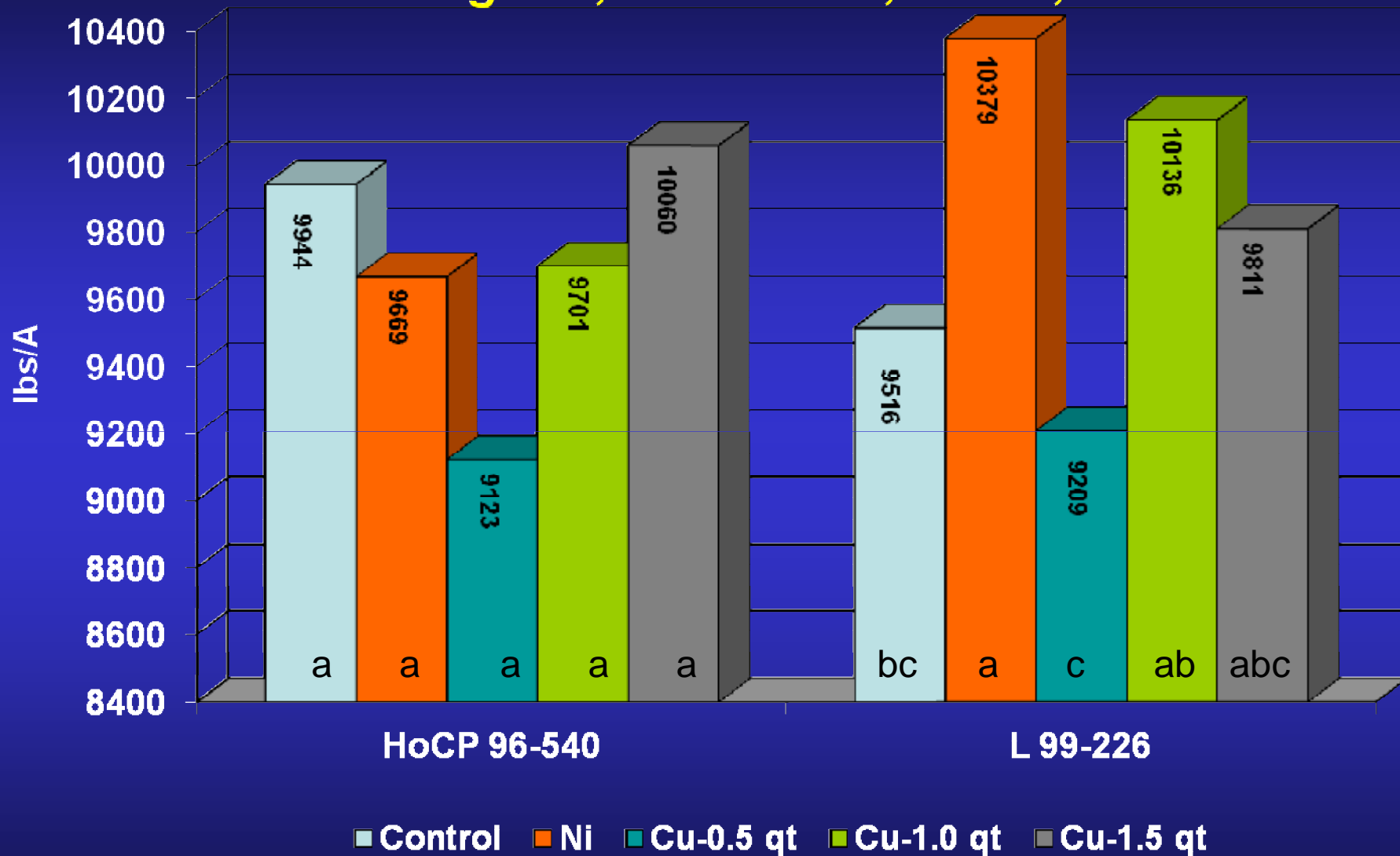
**Uniform N Rate: 11,638 a**

**VR N Rate: 11,579 a**

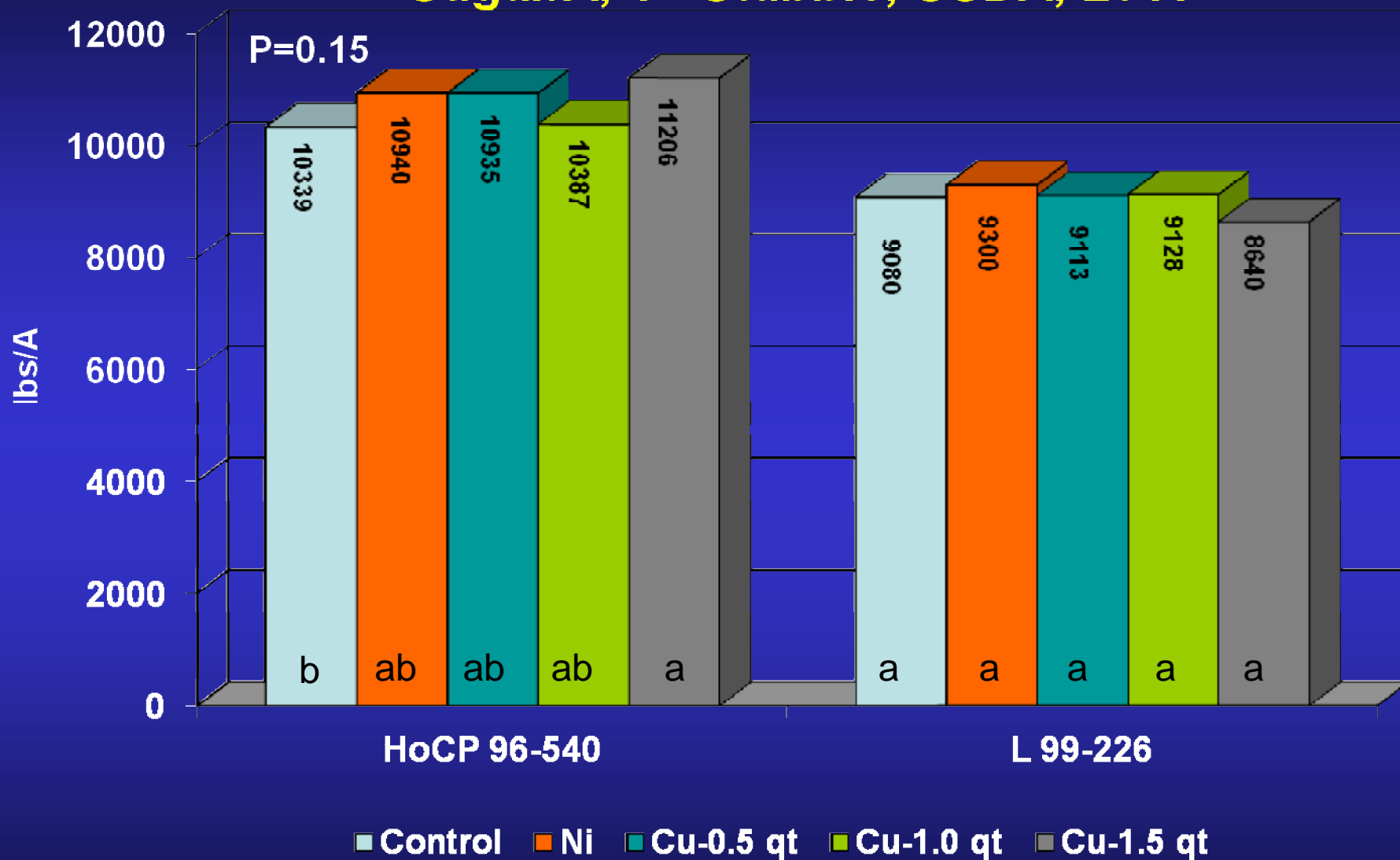
## Copper and Nickel Fertilizers

- May help with plant disease resistance.
- Important in metabolism of nitrogen.
- Important in photosynthesis and respiration.
  
- Foliar applied: 2x in May and June
  - Keylate Copper: 0.5, 1, 1.5 qt/A,
  - Nickel Plus: 300 ppm
- Varieties: HoCP 96-540, L 99-226
- Reps: 6

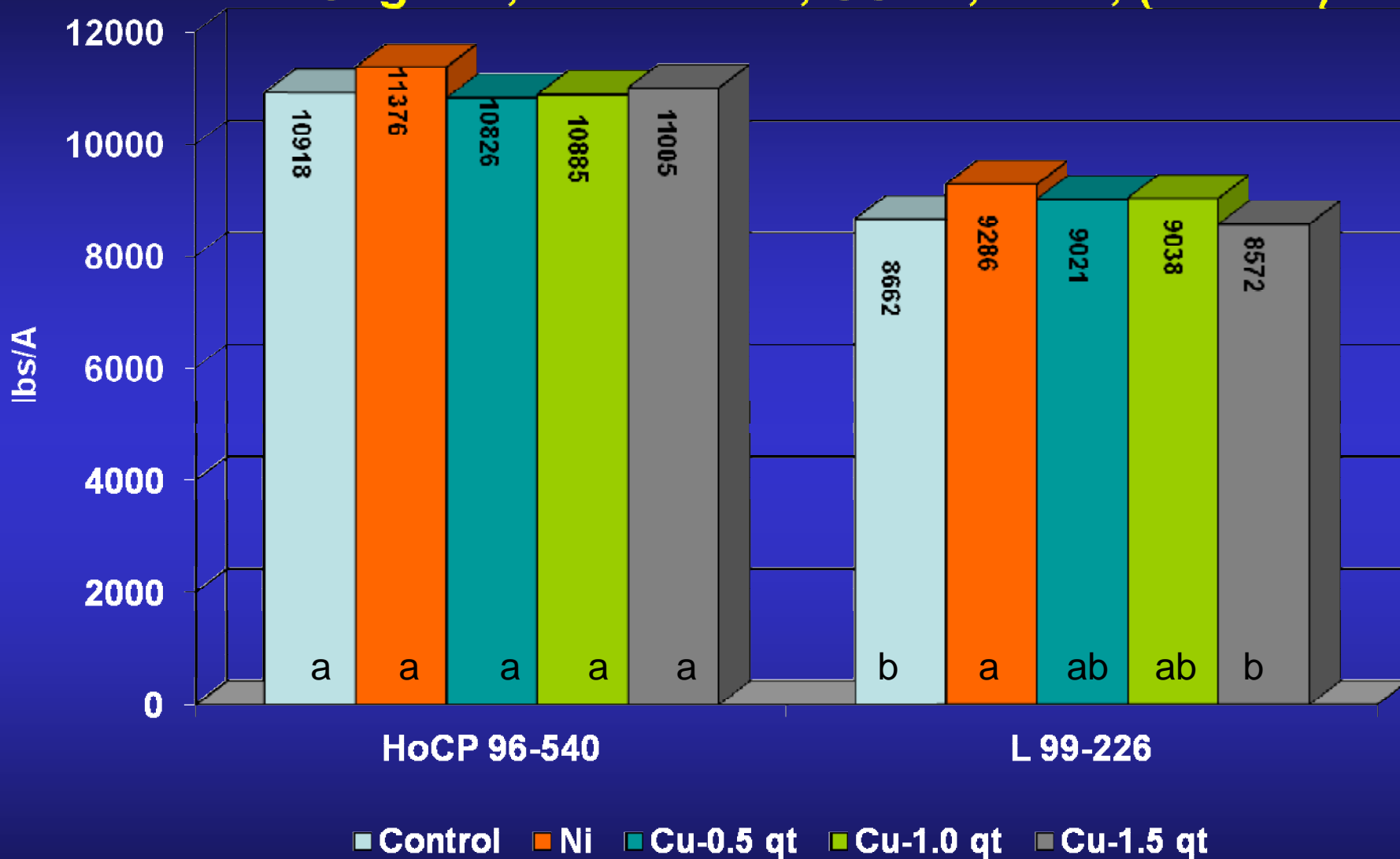
## Varietal Response to Ni and Cu Fertilizer Sugar/A, Plant Cane, USDA, 2010



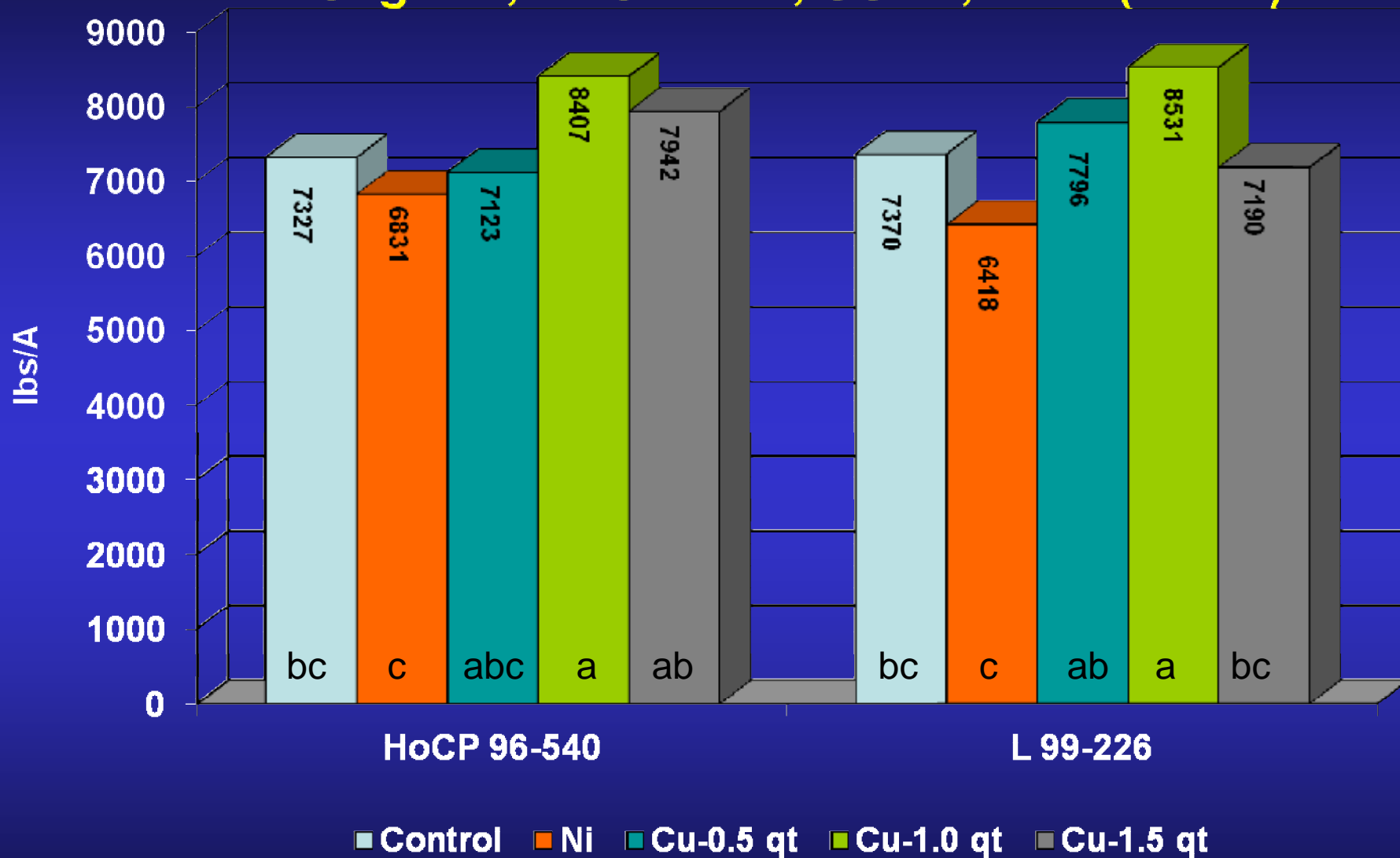
# Varietal Response to Ni and Cu Fertilizer Sugar/A, 1<sup>st</sup> Stubble, USDA, 2011



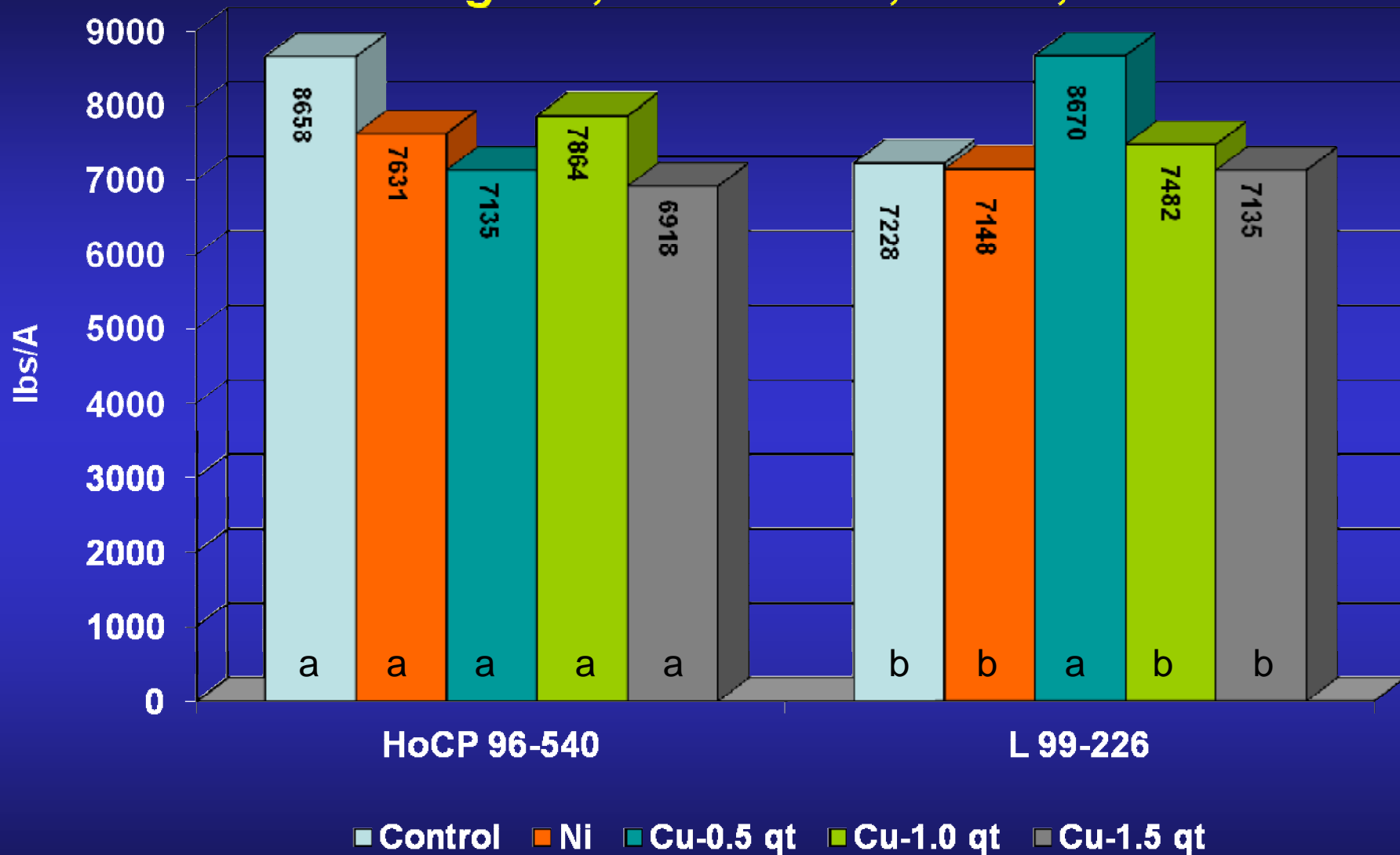
## Varietal Response to Ni and Cu Fertilizer Sugar/A, 2<sup>nd</sup> stubble, USDA, 2012, (P=0.15)



## Varietal Response to Ni and Cu Fertilizer Sugar/A, 1<sup>st</sup> Stubble, USDA, 2010 (P=0.1)



## Varietal Response to Ni and Cu Fertilizer Sugar/A, 2<sup>nd</sup> Stubble, USDA, 2011

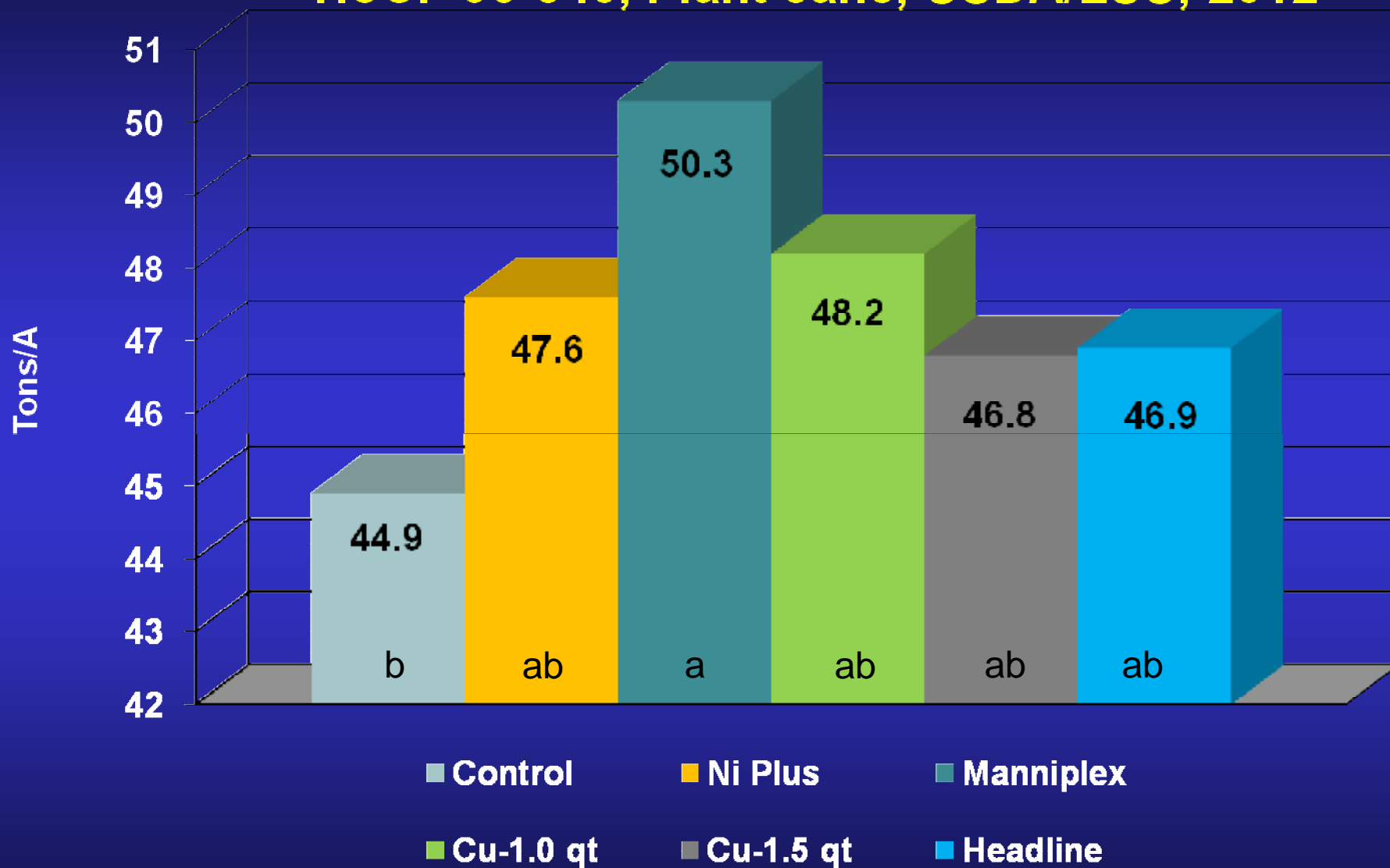




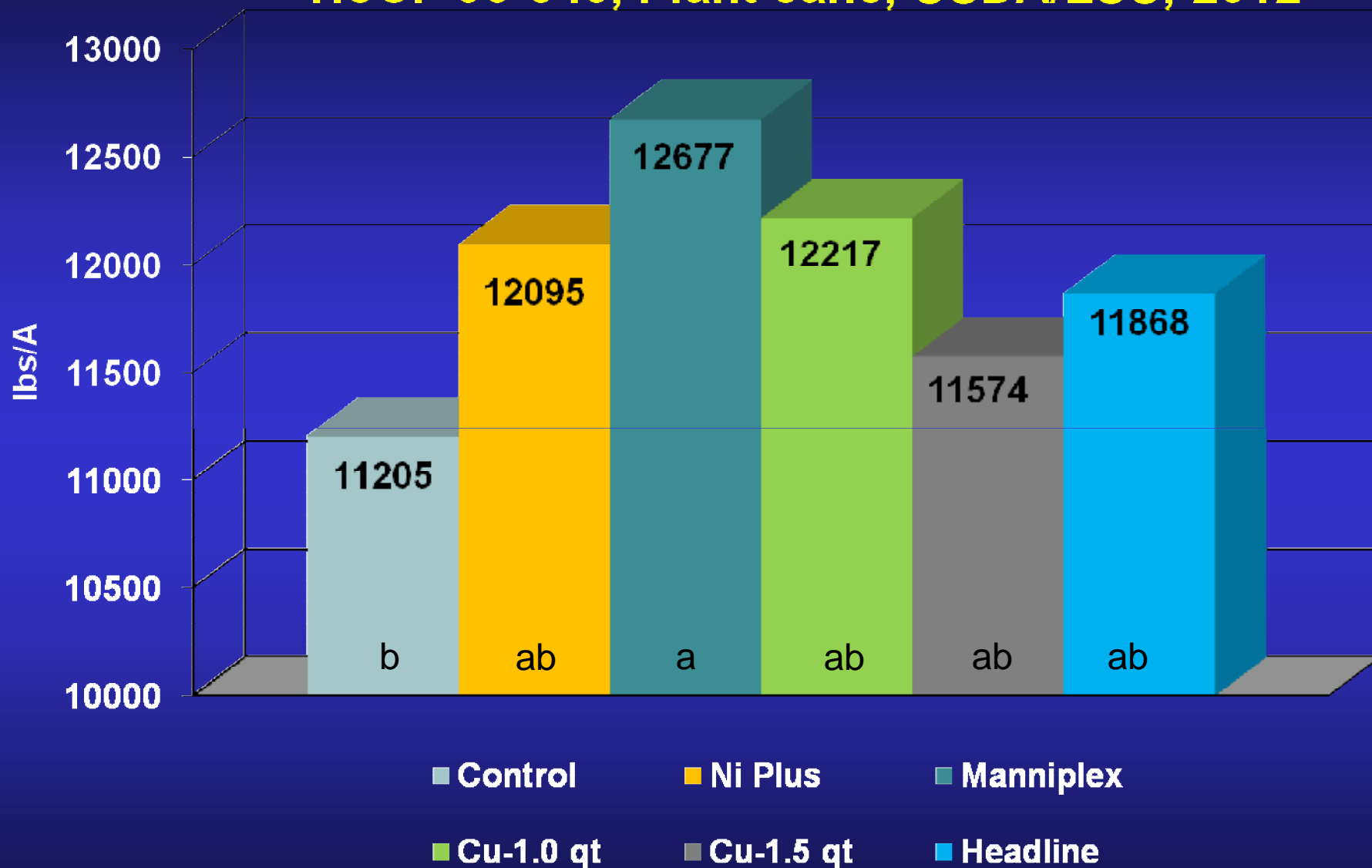
# USDA/LSU, Copper and Nickel Study

- Foliar applied: 2x in April and May
  - Keylate Copper: 1, 1.5 qt/A,
  - Nickel Plus: 300 ppm
  - Manniplex Nickel: 1 pt/A
  - Headline: 9 oz/A
- Variety: HoCP 96-540, PC
- Reps: 6

## Response to Ni and Cu Fertilizer Tons/A, HoCP 96-540, Plant cane, USDA/LSU, 2012



# Response to Ni and Cu Fertilizer Sugar/A, HoCP 96-540, Plant cane, USDA/LSU, 2012



**Questions ?**

