

Salinity Yield Loss, Potassium and Micronutrient Studies

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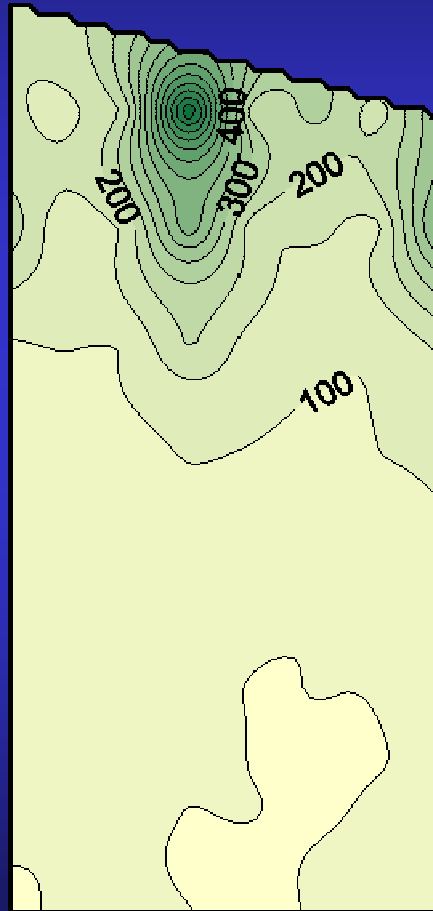


Effects of Salinity on Cane and Sugar Yields

- Waguespack Farms, Dularge, LA, 2009.
 - 1st ratoon, L 99-226
 - 10 acres, (56 rows x 900 ft)
 - Plots, 7 rows x 75 ft
- All plots harvested with combine harvester.
- Plot weights via weigh wagon with billet sampler.
- All samples analyzed for sucrose at USDA/ARS Ardoyne Lab.
- Soil samples collected to determined conductivity.
- Experiment repeated in 2010, 2011 at Waguespack Farms with plant-cane and 1st ratoon Ho 95-988.

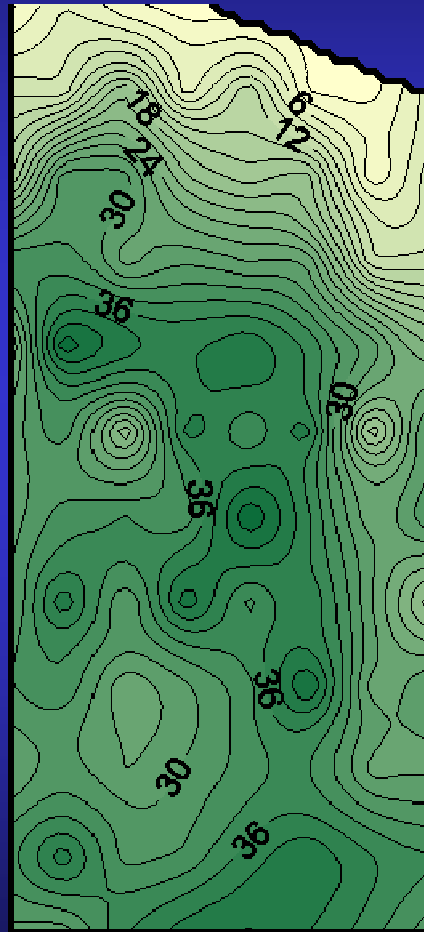
Effects of Salinity on Soil Conductivity

Waguespack Farms, Dularge, LA, 2009



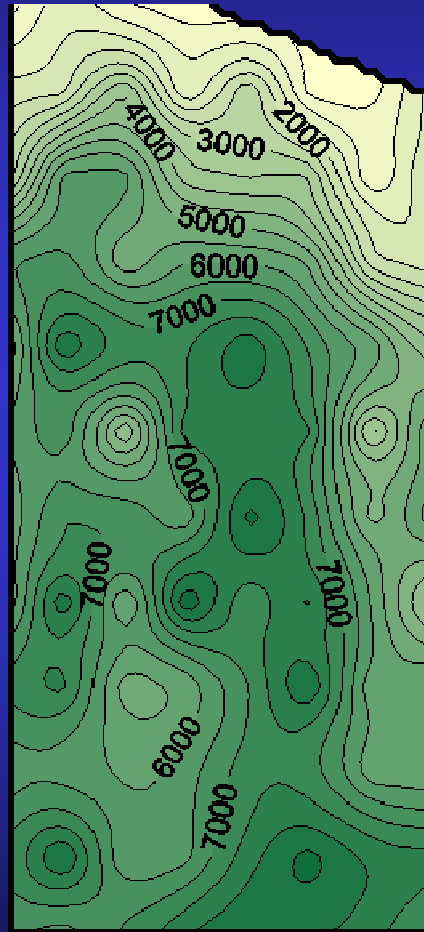
Effects of Salinity on Cane Yields (T/A)

Waguespack Farms, Dularge, LA, 2009, 1R

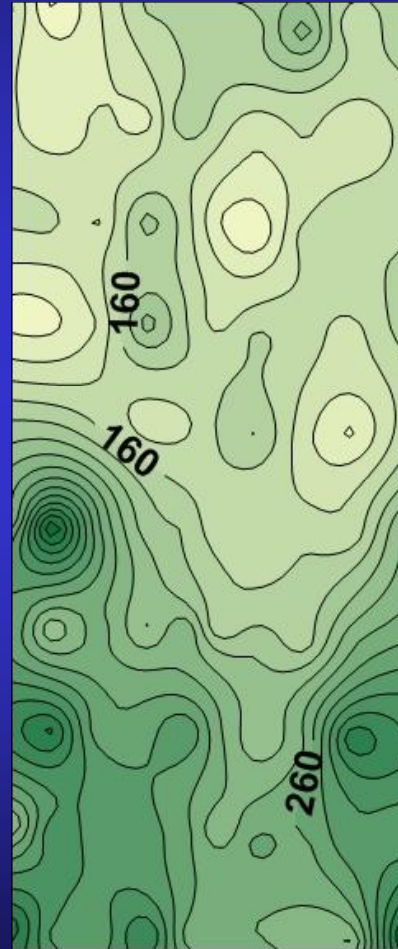


Effects of Salinity on Sugar Yields (lbs/A)

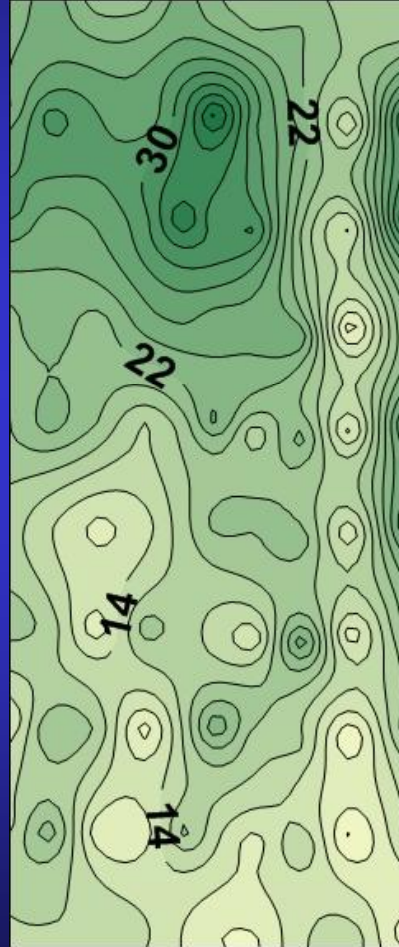
Waguespack Farms, Dularge, LA, 2009, 1R



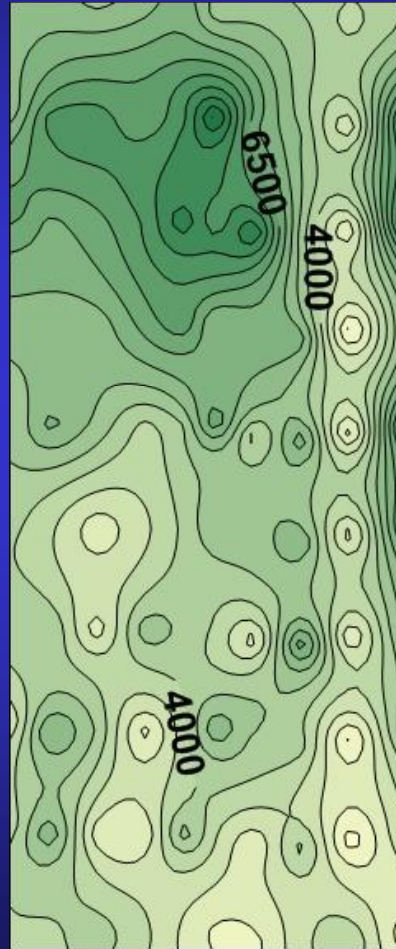
Effects of Salinity on Soil Conductivity Waguespack Farms, Dularge, LA, 2011



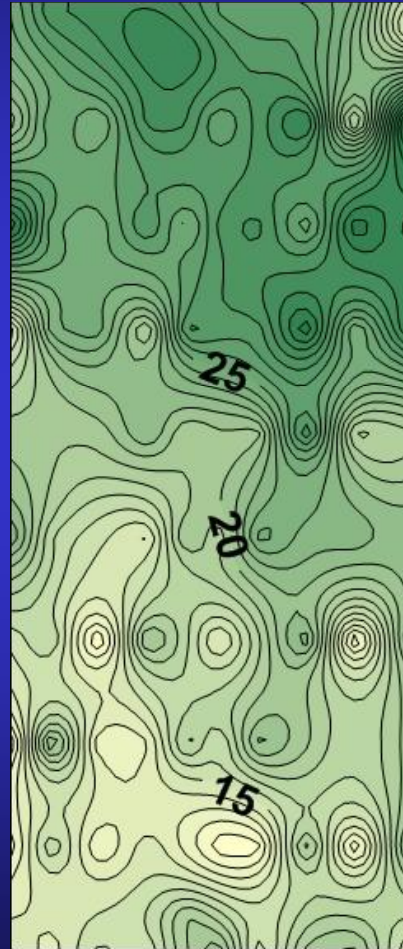
Effects of Salinity on Cane Yields (T/A) Waguespack Farms, Dularge, LA, 2010, PC



Effects of Salinity on Sugar Yields (lbs/A) Waguespack Farms, Dularge, LA, 2010, PC



Effects of Salinity on Cane Yields (T/A) Waguespack Farms, Dularge, LA, 2011, 1R



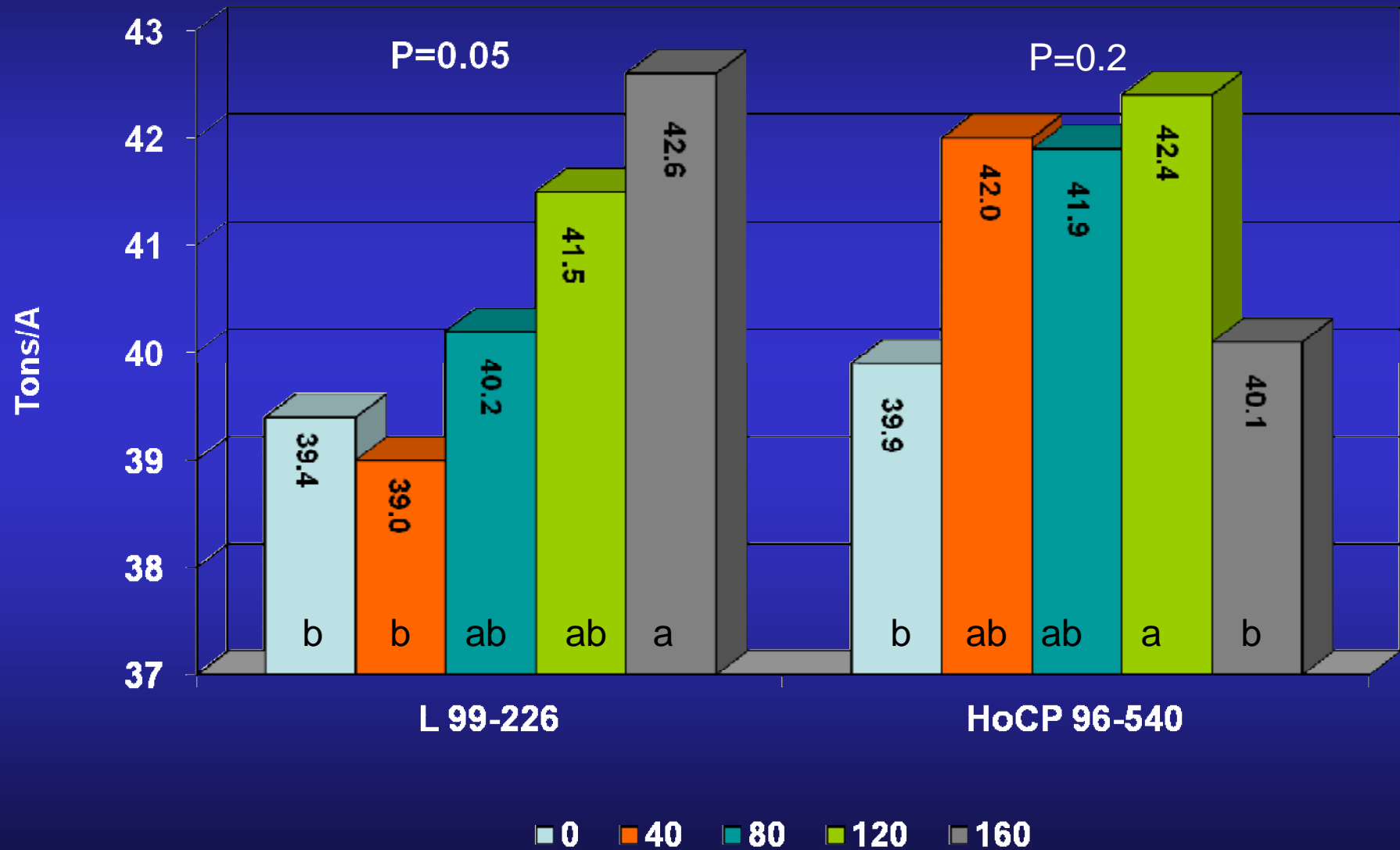
Effects of Salinity on Sugar Yields (lbs/A) Waguespack Farms, Dularge, LA, 2011, 1R



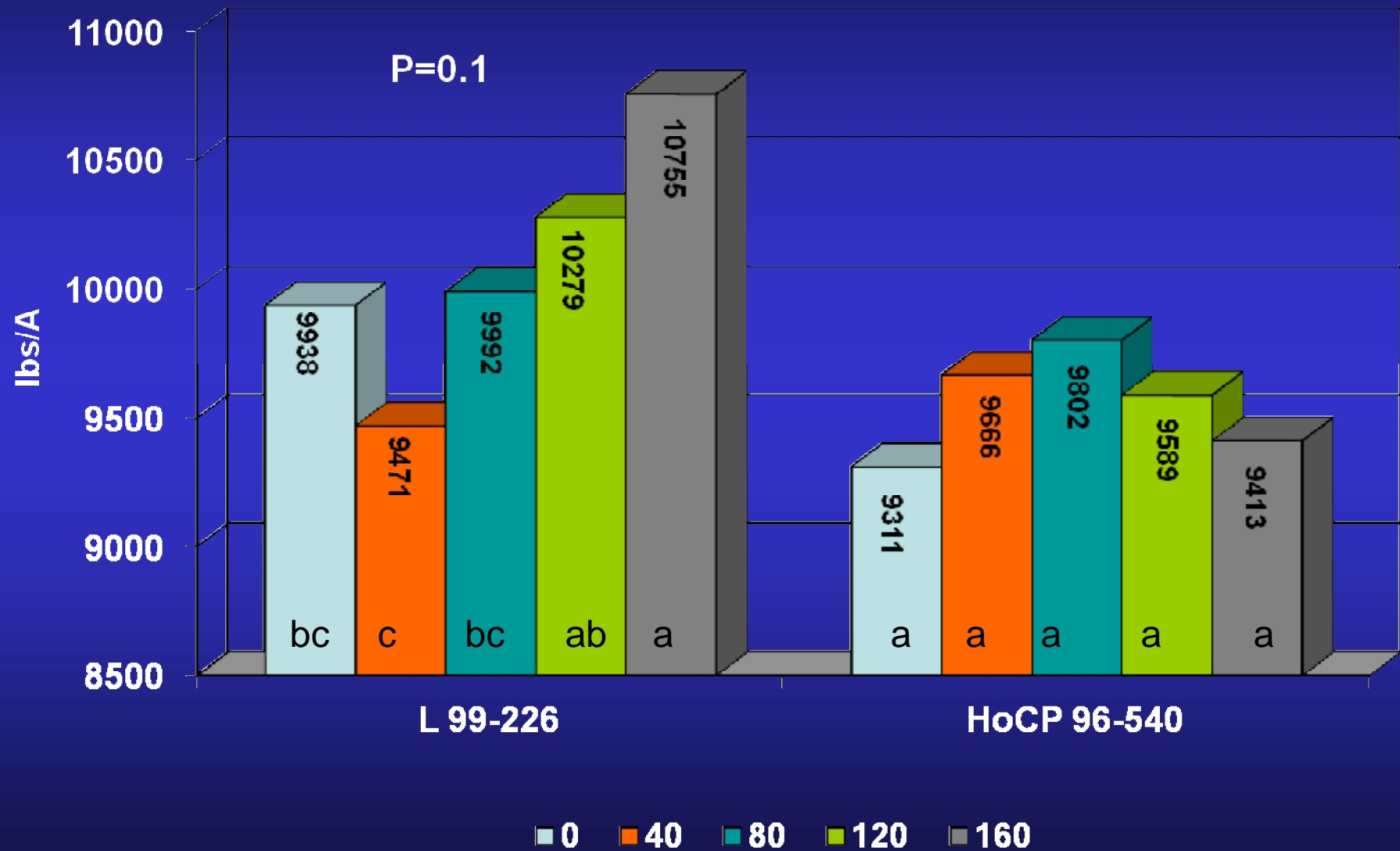
USDA Potassium Fertilizer Studies, 2011

- Varieties: HoCP 96-540, L 99-226
- Crop Age: PC, 1R
- K rates: 0, 40, 80, 120, 160 lbs K_2O/A (KCl)
- Reps: 6

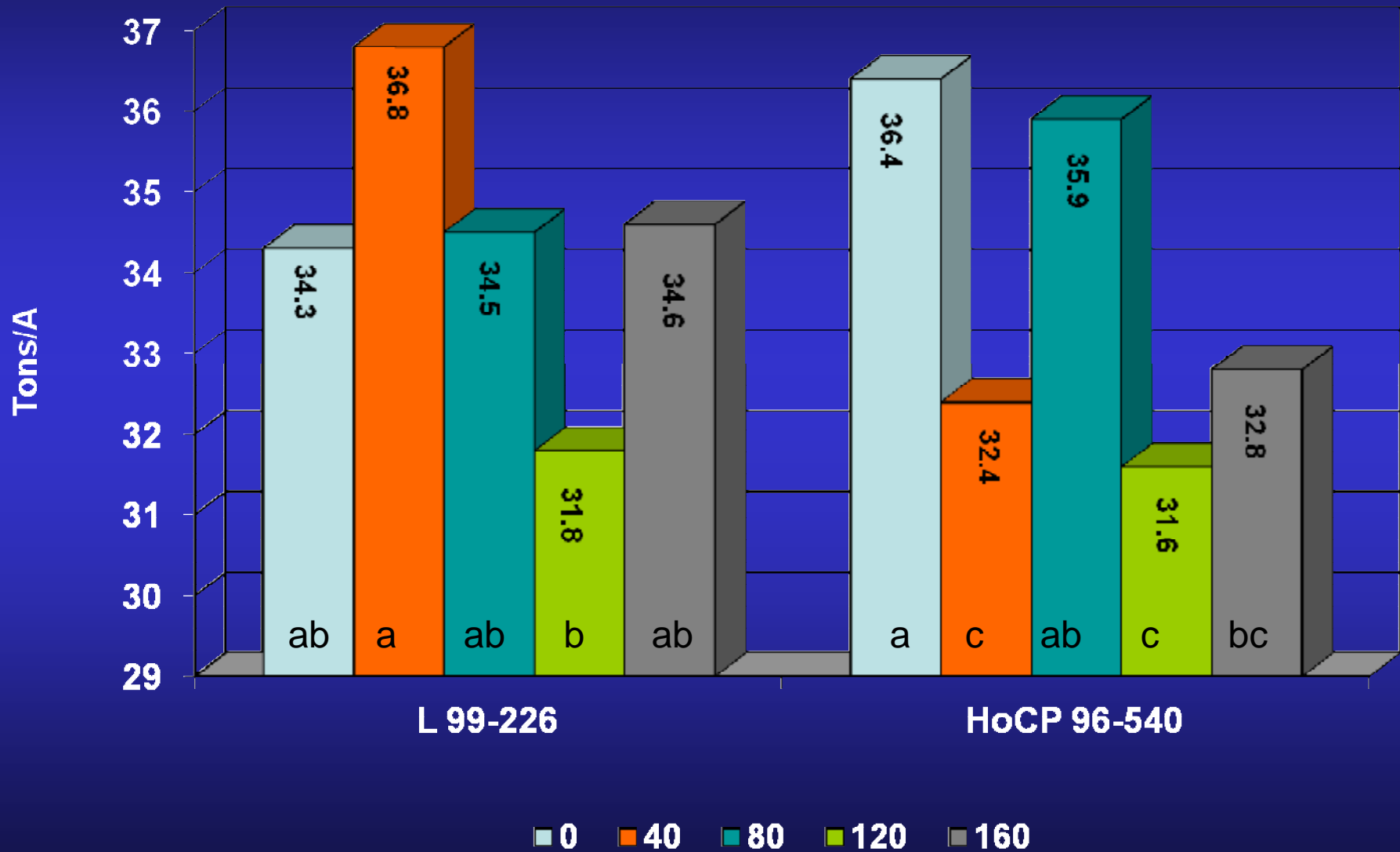
Varietal Response to Potassium Fertilizer Tons/A, Plant cane, USDA, 2011



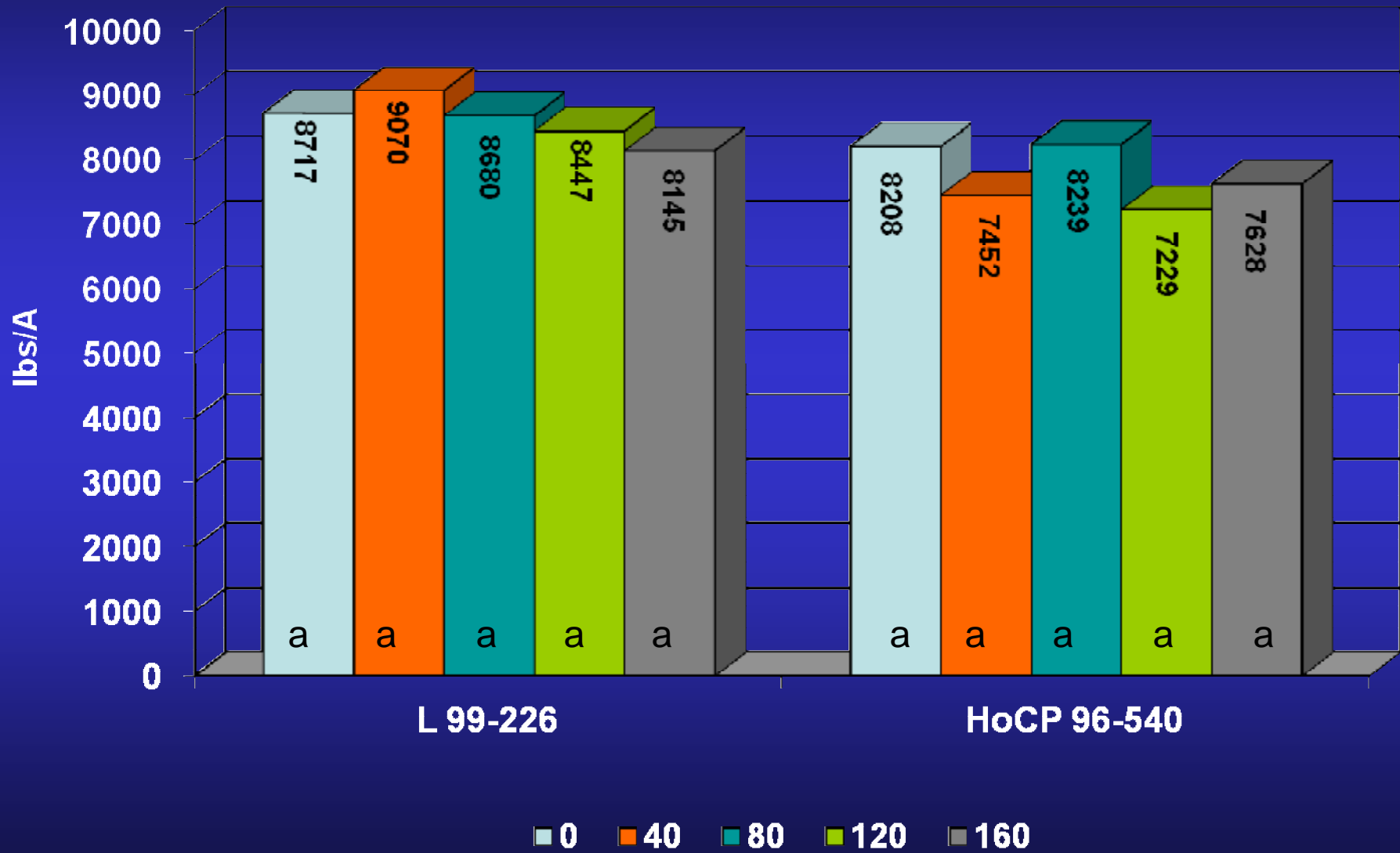
Varietal Response to Potassium Fertilizer Sugar/A, Plant cane, USDA, 2011



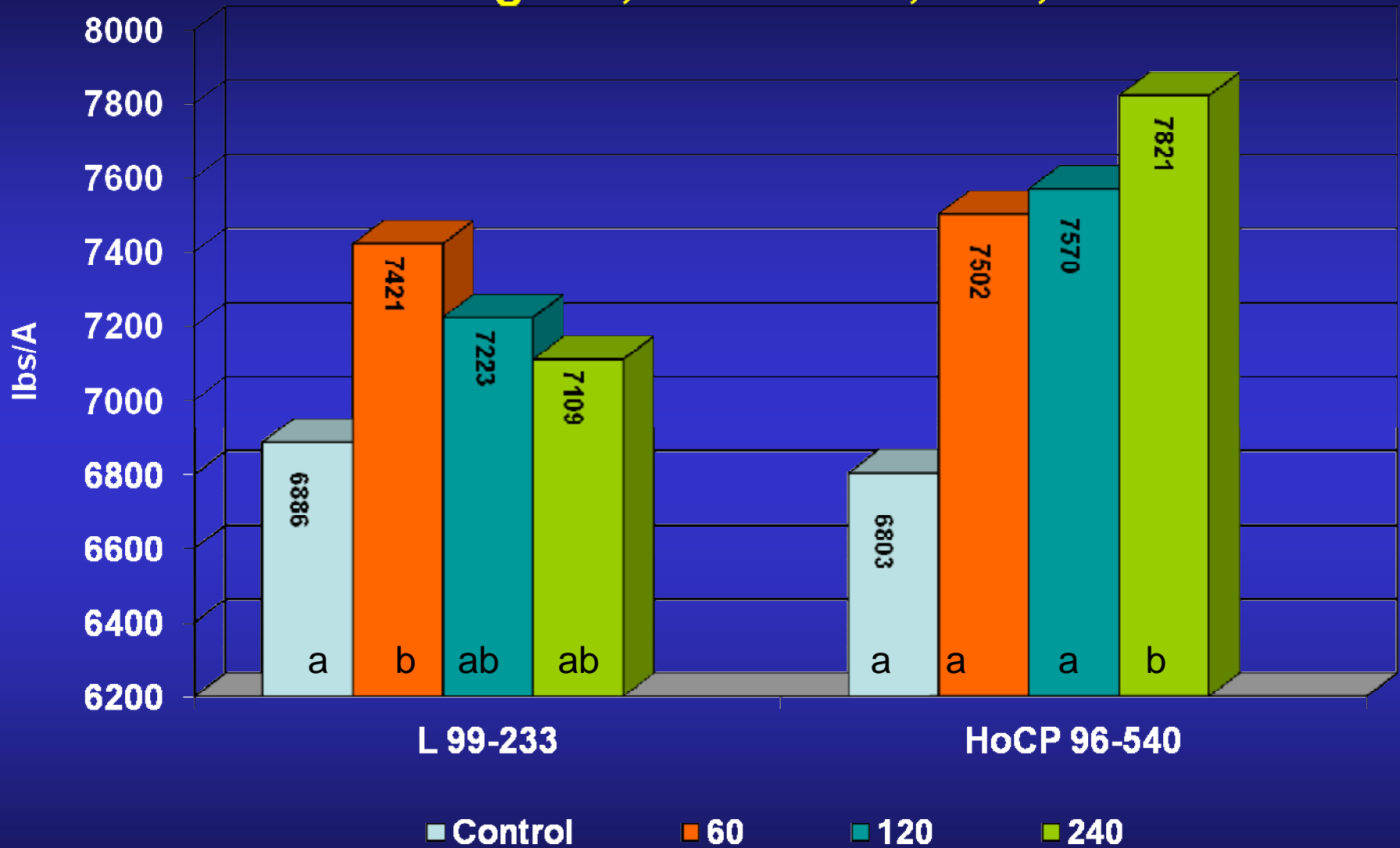
Varietal Response to Potassium Fertilizer Tons/A, 1st Stubble, USDA, 2011



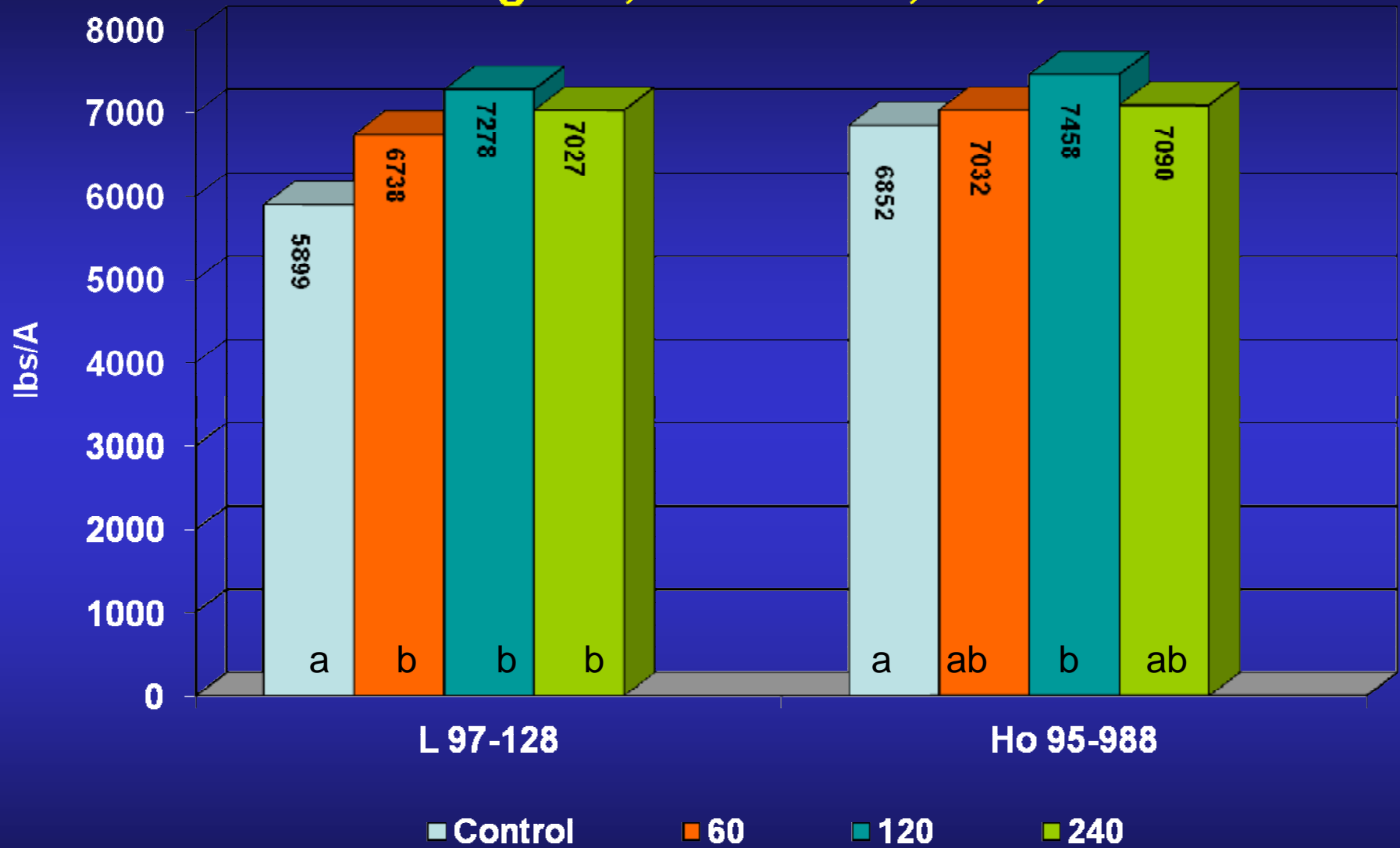
Varietal Response to Potassium Fertilizer Sugar/A, 1st Stubble, USDA, 2011



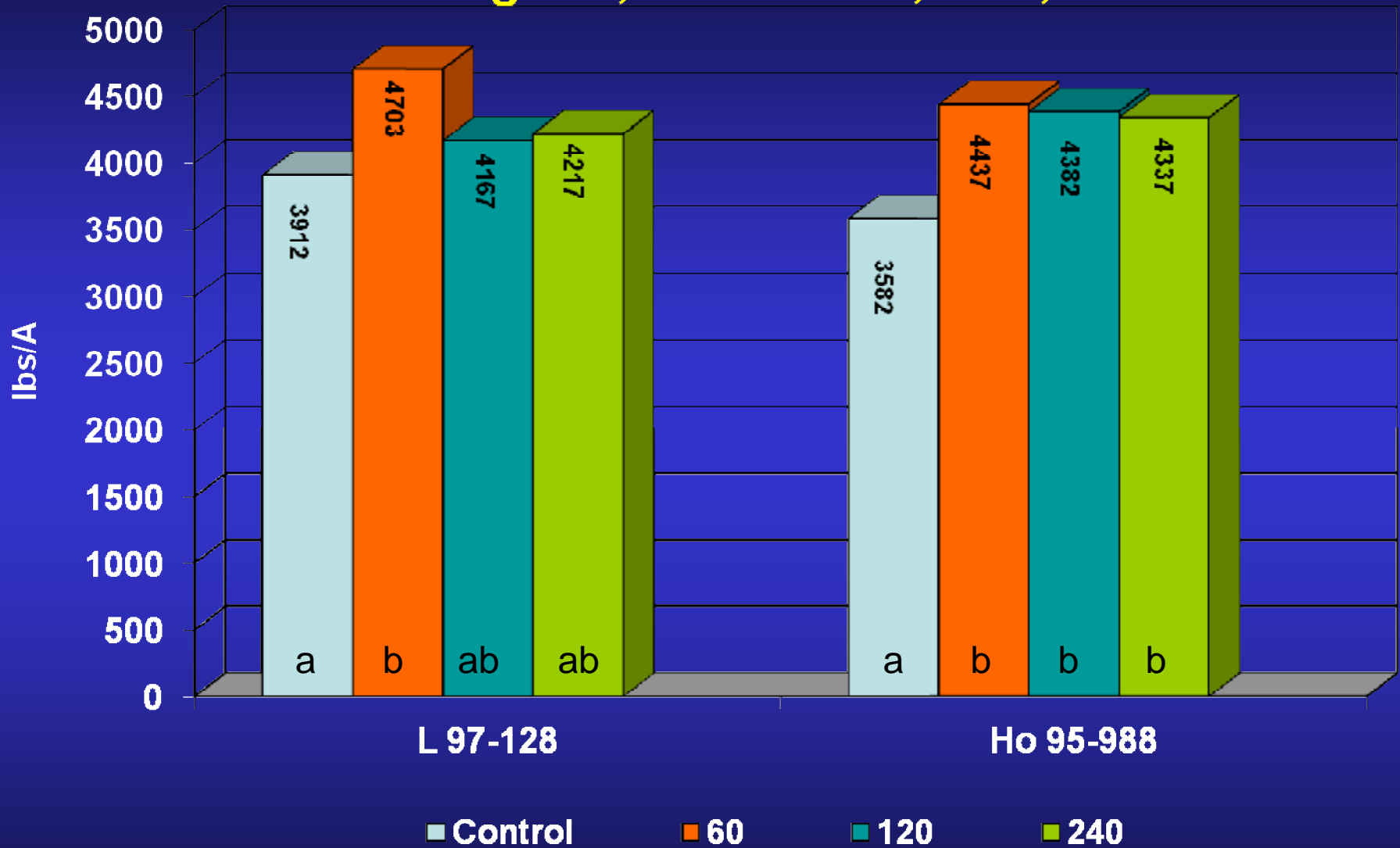
Varietal Response to Potassium Fertilizer Sugar/A, Plant Cane, LSU, 2008



Varietal Response to Potassium Fertilizer Sugar/A, 1st Stubble, LSU, 2007



Varietal Response to Potassium Fertilizer Sugar/A, 2nd Stubble, LSU, 2008

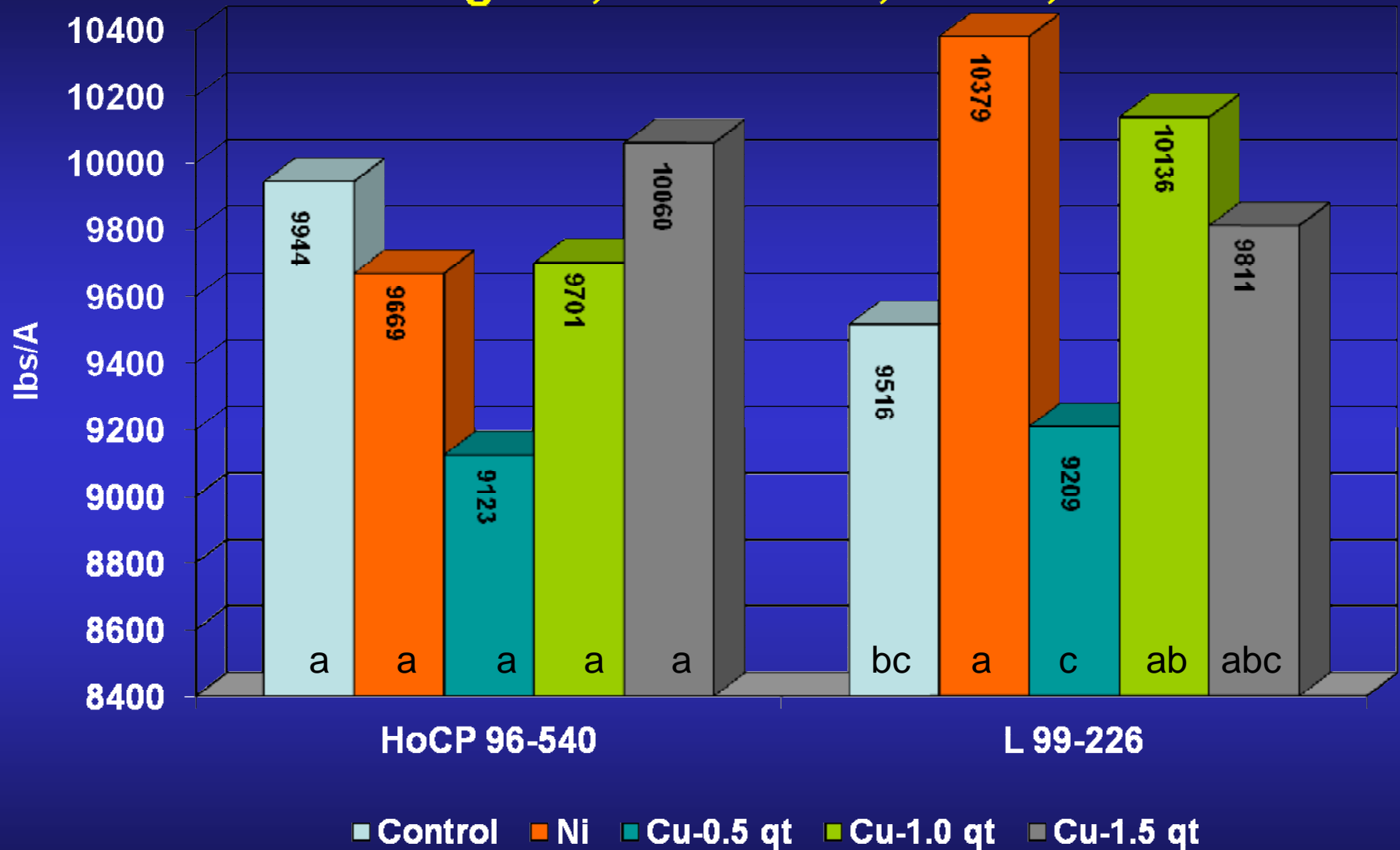


Copper and Nickel Fertilizers

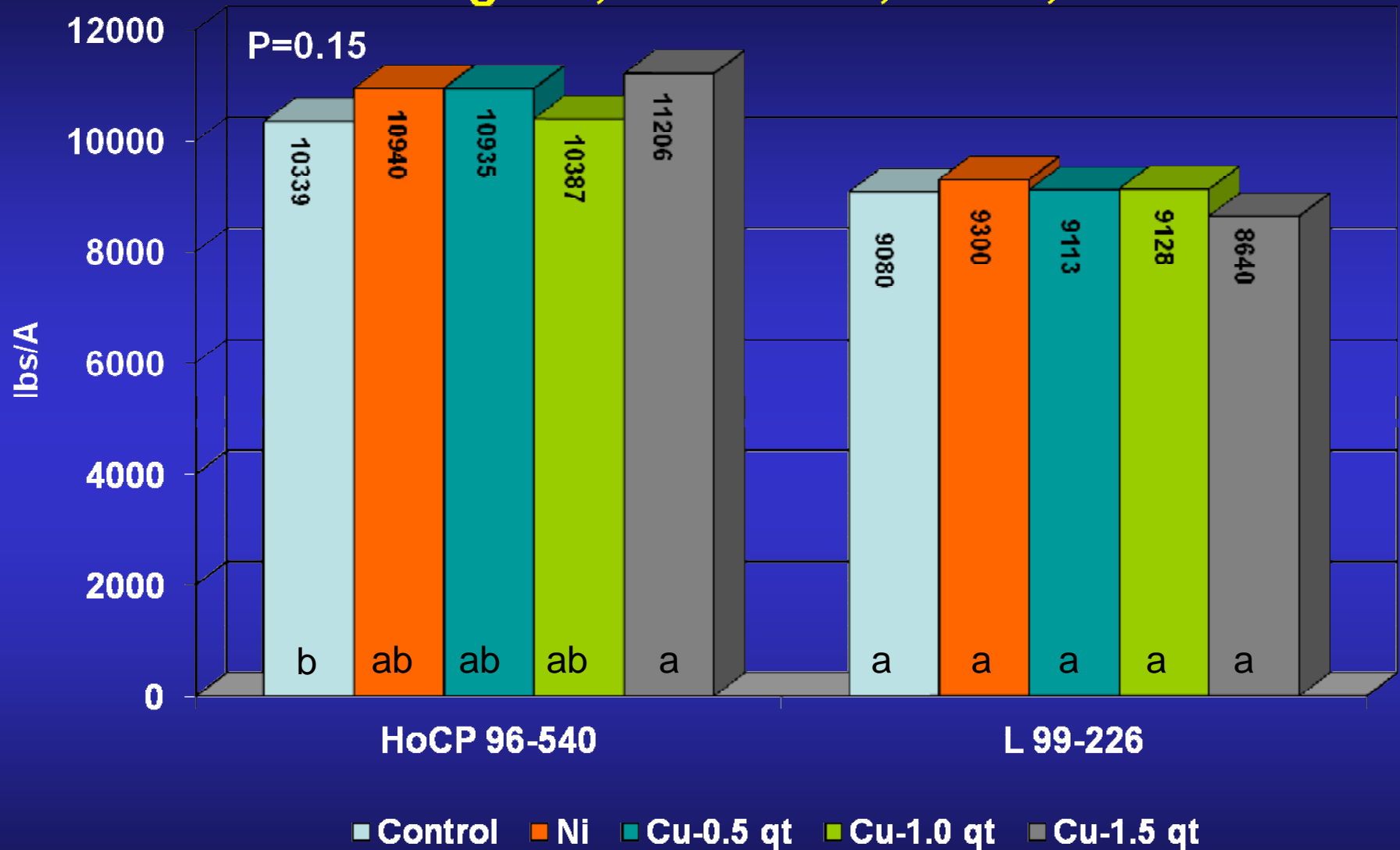
- May help with plant disease resistance.
 - Important in metabolism of nitrogen.
 - Important in photosynthesis and respiration.
 - Foliar applied: 2x in May and June
 - Keylate Copper: 0.5, 1, 1.5 qt/A,
 - Nickel Plus: 300 ppm
- Reps: 6



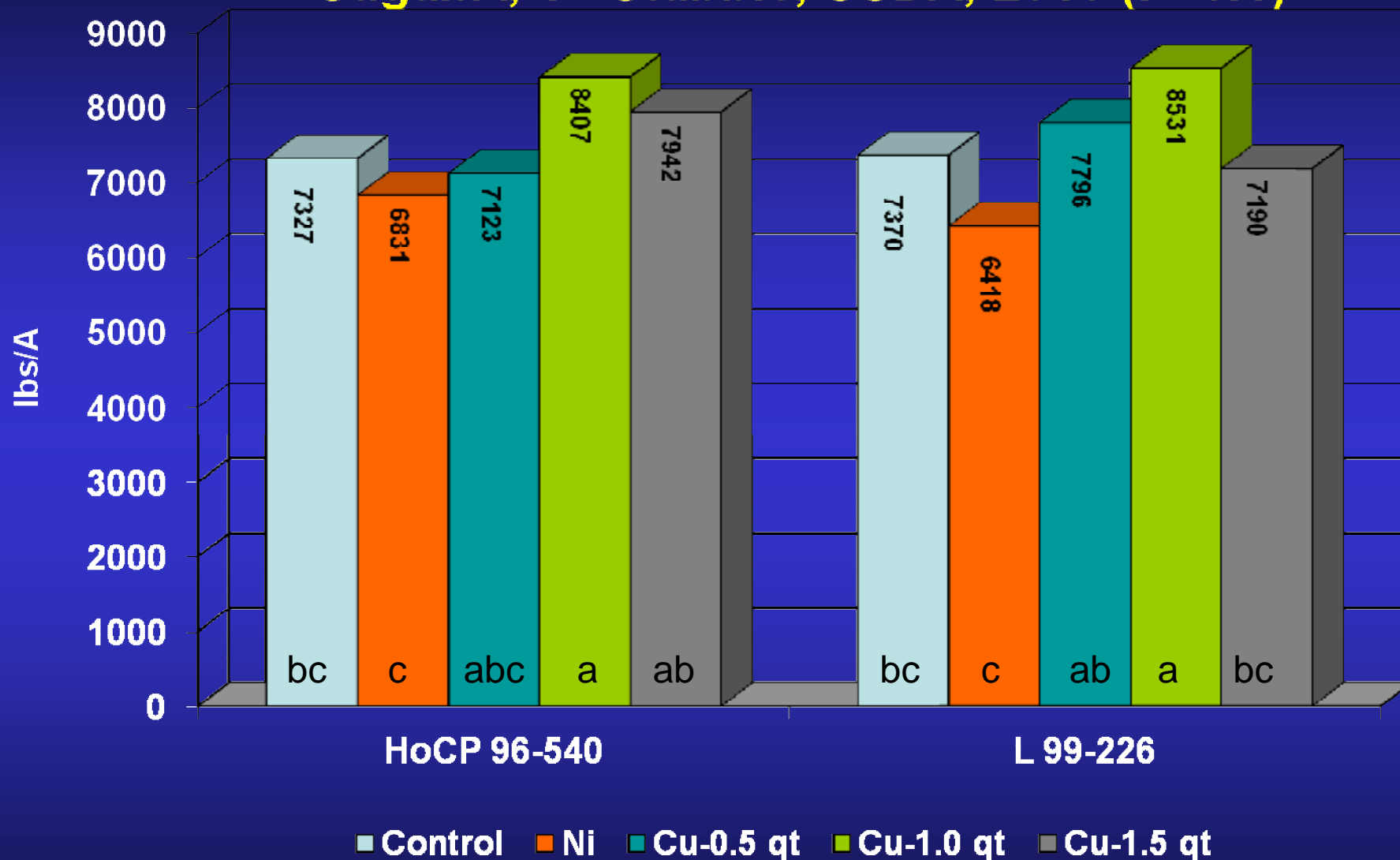
Varietal Response to Ni and Cu Fertilizer Sugar/A, Plant Cane, USDA, 2010



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

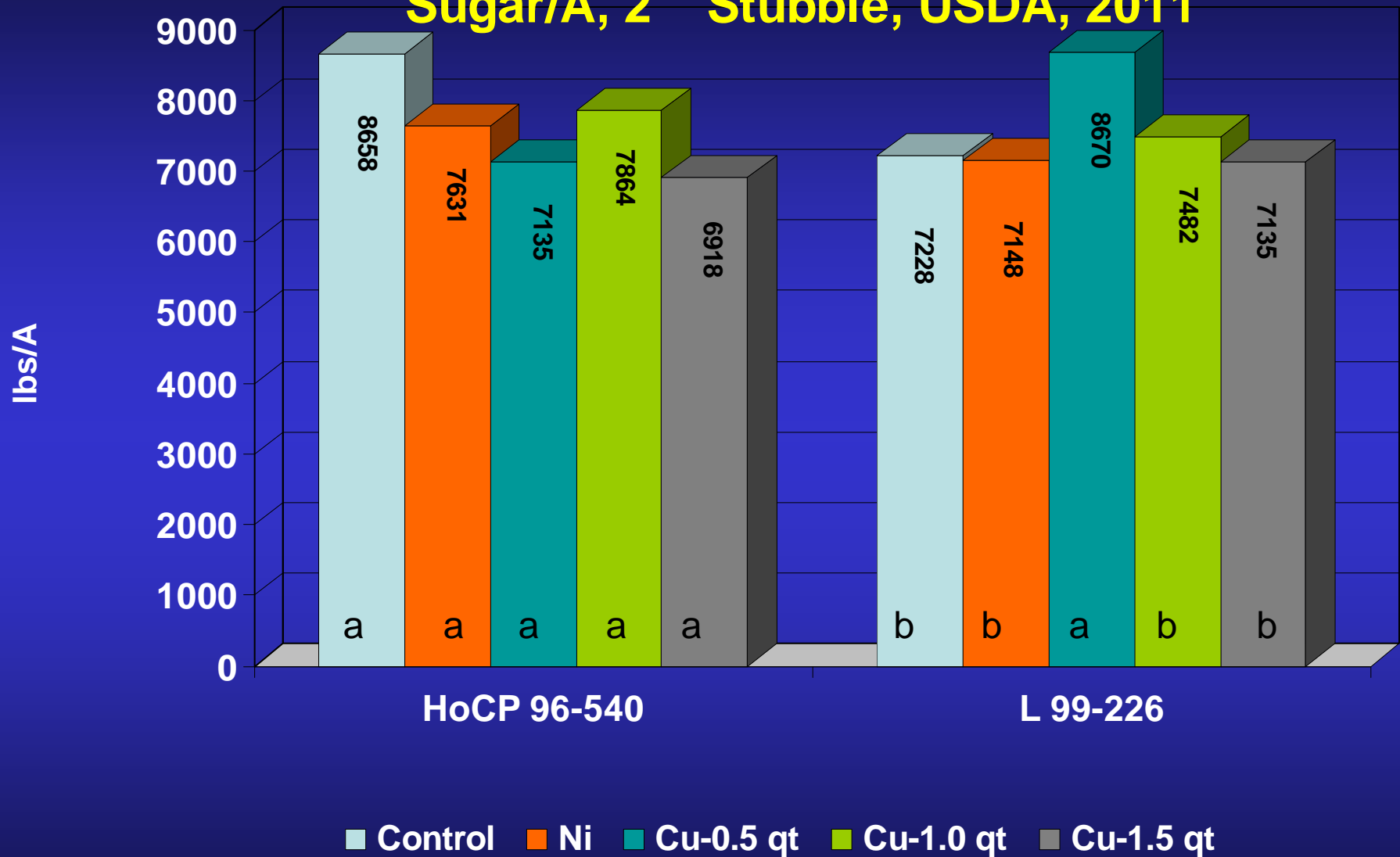


Varietal Response to Ni and Cu Fertilizer Sugar/A, 1st Stubble, USDA, 2010 (P=0.1)



Varietal Response to Ni and Cu Fertilizer

Sugar/A, 2nd Stubble, USDA, 2011



Sugarcane Planting Study

- Sugarcane Variety: HoCP 96-540
- Treatments:
 - Control
 - STO-01: 0.5 pt/A (0.6 l/ha) at planting.
 - STO-01: 1 pt/A (1.2 l/ha) at planting.
 - STO-01: 1 pt/A at planting + 1 pt/A in spring.
 - Bioforge: 1 pt/A at planting.
- Reps: 4



Sugarcane Planting Study

Treatment	Tons* (Mg/ha)	TRS (kg/Mg)	Sugar (kg/ha)
Control	49.1b	225a	11,090a
STO-01 (0.5 pt/A)	48.6b	226a	10,980a
STO-01 (1 pt/A)	52.2a	214a	11,150a
STO-01 (1+1 pt/A)	48.5b	230a	11,140a
Bioforge (1 pt/A)	49.6ab	216a	10,720a

* $P = 0.15$

Sugarcane Ripener Study

- Sugarcane Variety: HoCP 96-540
- Treatments:
 - Control
 - Powermax (Glyphosate): 5.3 pt/A (6.2 l/ha)
 - Stoller 13: 1, 2 lbs/A (1.12, 2.24 kg/ha)
 - Force: 4, 8 pts/A (4.6, 9.3 l/ha)
 - Force PM: 4, 8 pts/A (4.6, 9.3 l/ha)
- Reps: 4

Sugarcane Ripener Study

Treatment	Tons (T/A)	TRS (lb/T)	Sugar (lb/A)
Control	45.6	255	11,630
Powermax	46.8	271	12,660
Stoller-13 (1 lb/A)	44.1	269	11,870
Stoller-13 (2 lb/A)	45.2	258	11,630
Force (4 pts/A)	47.8	247	11,800
Force (8 pts/A)	47.5	250	11,870
Force PM (4 pts/A)	46.5	262	12,170
Force PM (8 pts/A)	43.6	264	11,460
	NS	0.1	NS

New & Ongoing Soil Fertility & Precision Agriculture Research Projects

- Phosphorus Rate & Source Study – R. Johnson, B. Tubana, H. Viator.
- Potassium Rate Studies, VR – R. Johnson
- VR Nitrogen (3-4 studies) – R. Johnson and H. Viator.
- Yield Monitors – R. Johnson, R. Viator and R. Price
 - Yield maps collected in large on-farm study.
 - New overhead monitor tested using new high speed laser sensors – excellent results.
 - Weigh plate monitor tested – significant challenges still exist to obtain desired accuracy.

Questions ?

