
West Indian Cane Fly (Fulgorid) Experiences From the 2012 Season

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West Indian Cane Fly

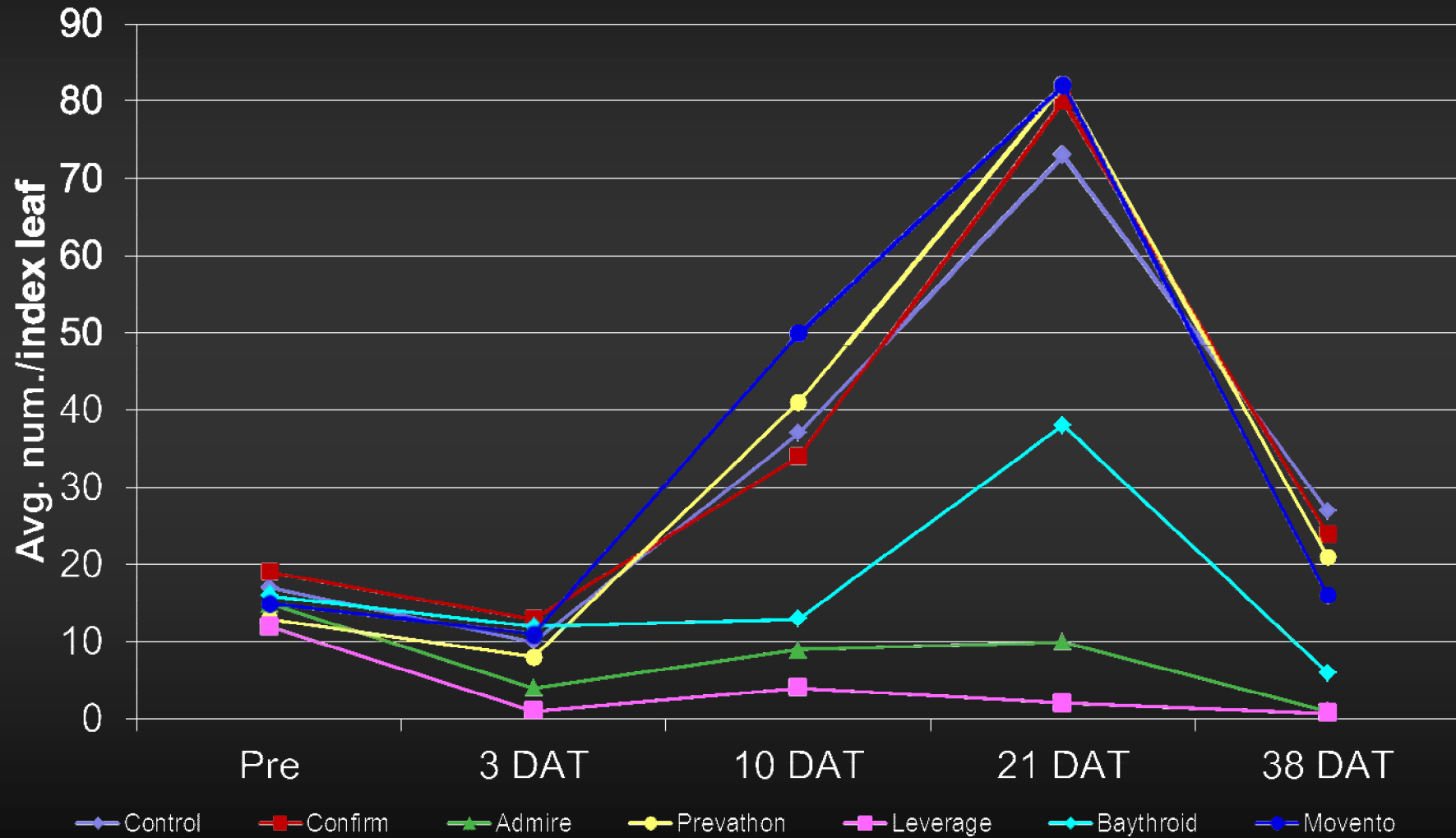
- *Saccharosydne saccharivora* – “sugar-eater”
- “True Bugs”
- Piercing/sucking mouth parts
- Incomplete life cycle = no pupae
- Life history
 - 5 nymphal stages
 - 6.5 – 7 weeks at 80° F



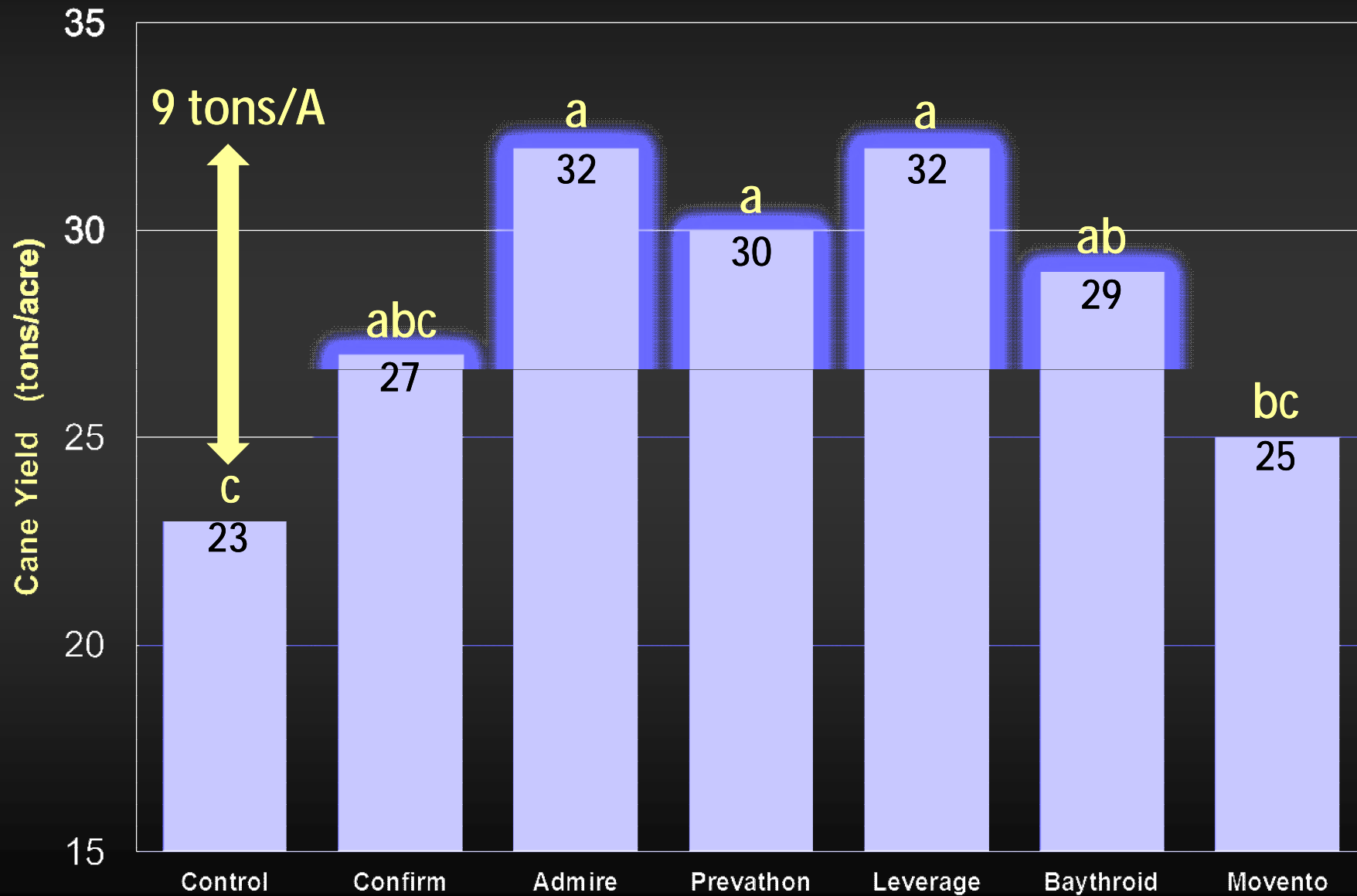
Damage/History of WICF in LA

- Damage
 - Direct = loss of sap
 - Indirect = sooty mold/photosynthesis and transpiration
- Notable Infestations
 - 1944 (first report)
 - 1956
 - 1969
 - 1997
 - 2012

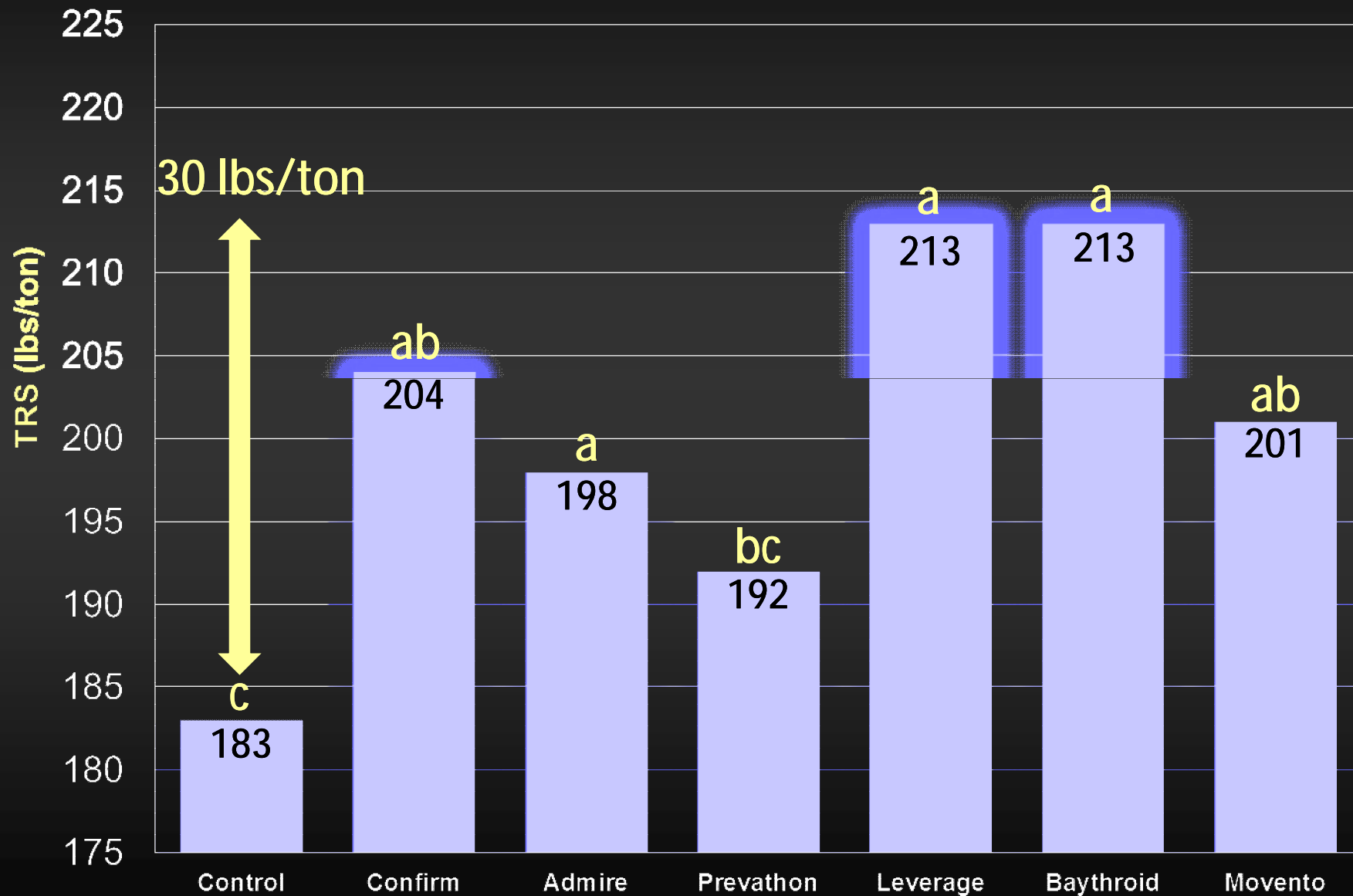
WICF Counts: L99-233



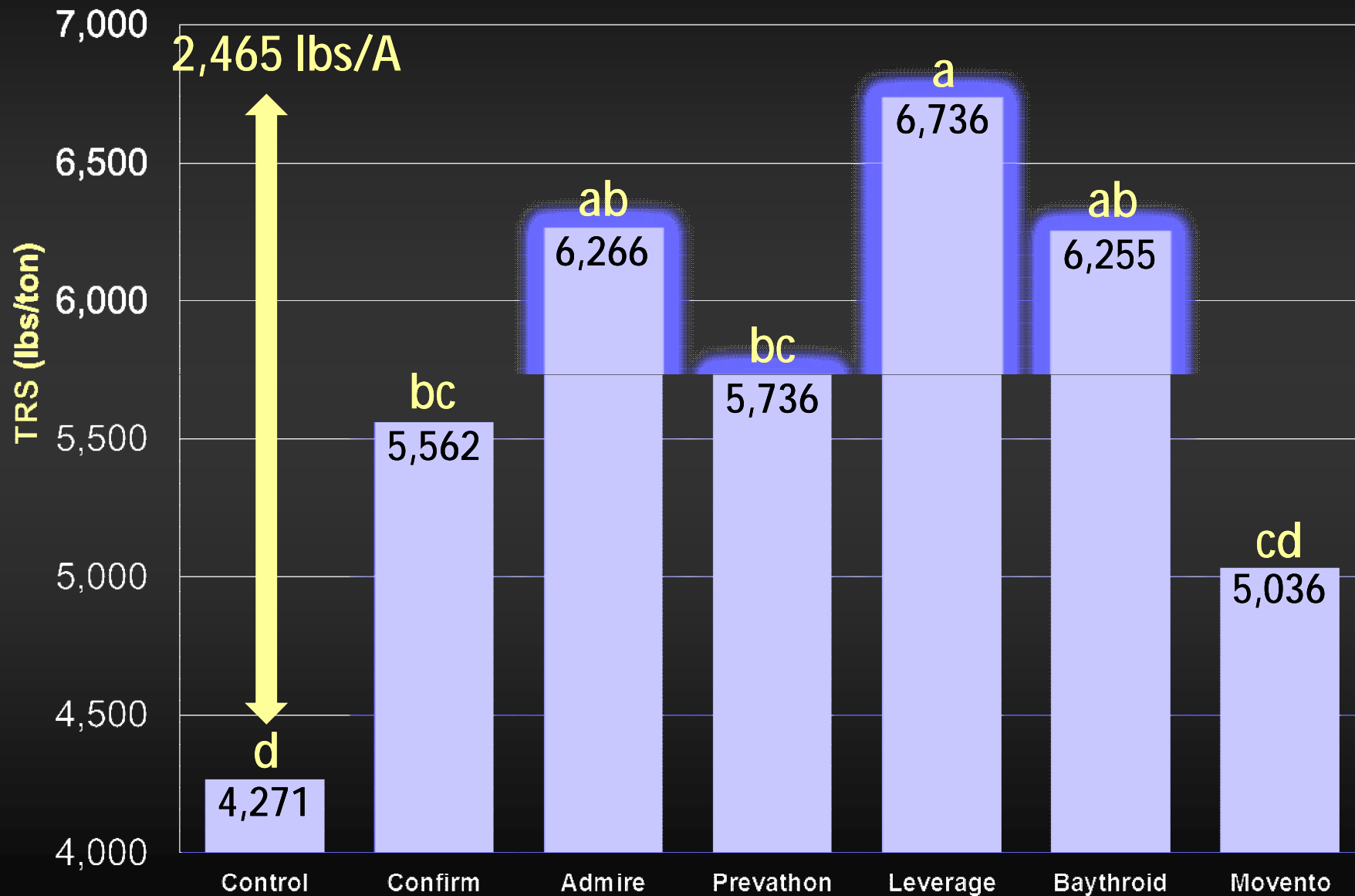
Sugarcane Yields



TRS Yields



Sugar Yields



Anticipated Problems in Control

- Complex of species
 - YSA
 - SCA
 - WICF
 - SC Leaf Hopper
- Resurgence
- Timing of Application
- Coverage



Near/Long Term Strategy

- Continue to collect insecticide efficacy and yield loss data
- Seek a Section 18 Registration for Transform[®] (sulfoxaflor) for aphid control
 - Rely on currently labeled pyrethroids for WICF control
- Seek a full Section 3 Federal label for Transform

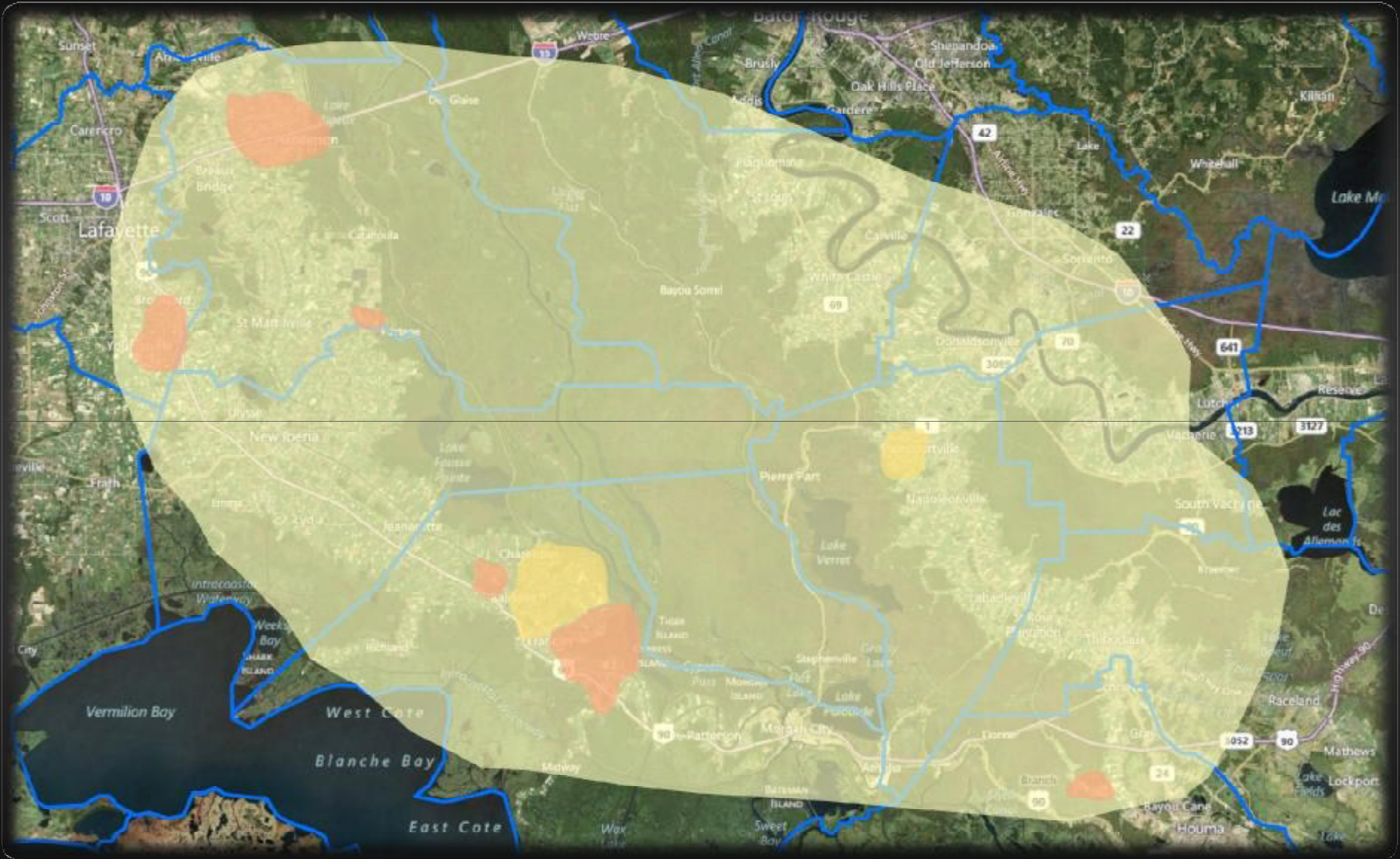
Timeline

- Mild winter and considerable rainfall
- First severe infestations began in early March
- Rainfall made infestations worse
- Many areas had a complex of WICF and aphid species, along with other hopper species
- Rainfall continued to make the problem worse
- Many fields never did get the canopy engulfed in sooty mold, but it appeared the growth was being severely stunted
- Backpack efficacy trials began – Lance/Blaine
- USDA and LSU Researchers put out replicated efficacy trials
- It took at least two weeks to collect the data

Timeline continued.....

- Commercially applied 1,100 acres with Karate (pyrethroid) by air, but flared aphids
- Federal 24c Crisis Exemption – declared by LDAF on August 7th with data support from public research
- Only valid for 15 days (August 22nd) unless a Section 18 registration packet is submitted during that time frame
- Approximately 16,300 acres treated with imidacloprid
- Approximately 8,400 acres treated with a pyrethroid
- Infestations of WICF, SC Leaf Hopper, etc. moved into newly planted cane





plus further north....

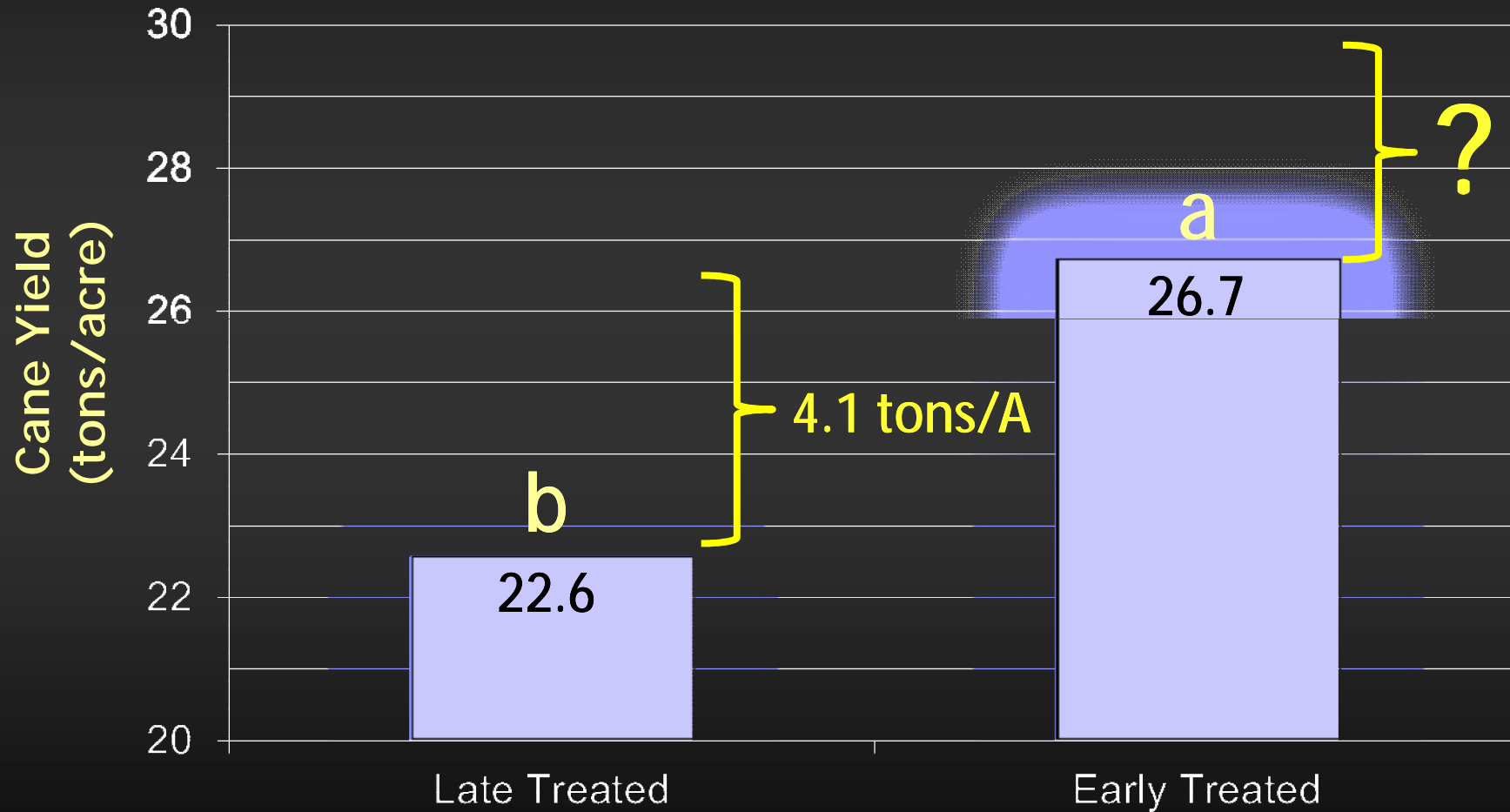
Commercial Yield Reduction Trials

540 3rd Stubble – Franklin, LA

- Treated July 17th by ground rig – 15 GPA
 - 4 Replications
- Leverage 360 (imidacloprid plus Baythroid)
- Infestations already had been heavy for 4 weeks
- Harvested October 10th in opening days of grinding and tracked loads at Sterling Sugars

West Indian Cane Fly/Aphid Complex

540 3rd Stubble – Franklin, LA



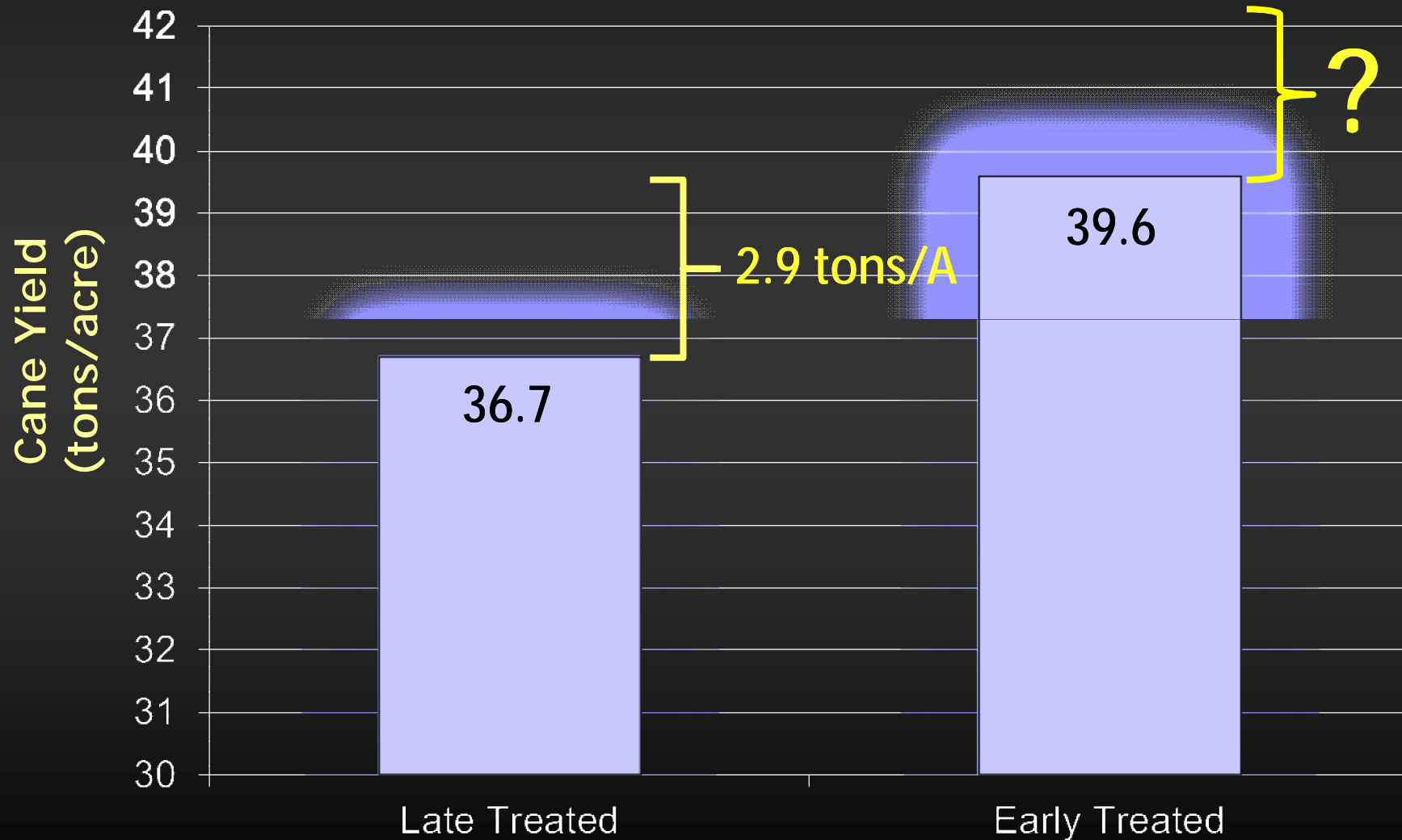
P= 0.1

540 Plant Cane – Franklin, LA

- Treated July 17th by ground rig – 15 GPA
 - Imidacloprid only at 2 GPA
 - 20 Rows side-by-side
- Airplane flew the late treated plot with the rest of the field on August 21st
 - *Difference in treatment timing was 5 weeks*
- Harvested January 6th to Sterling Sugars

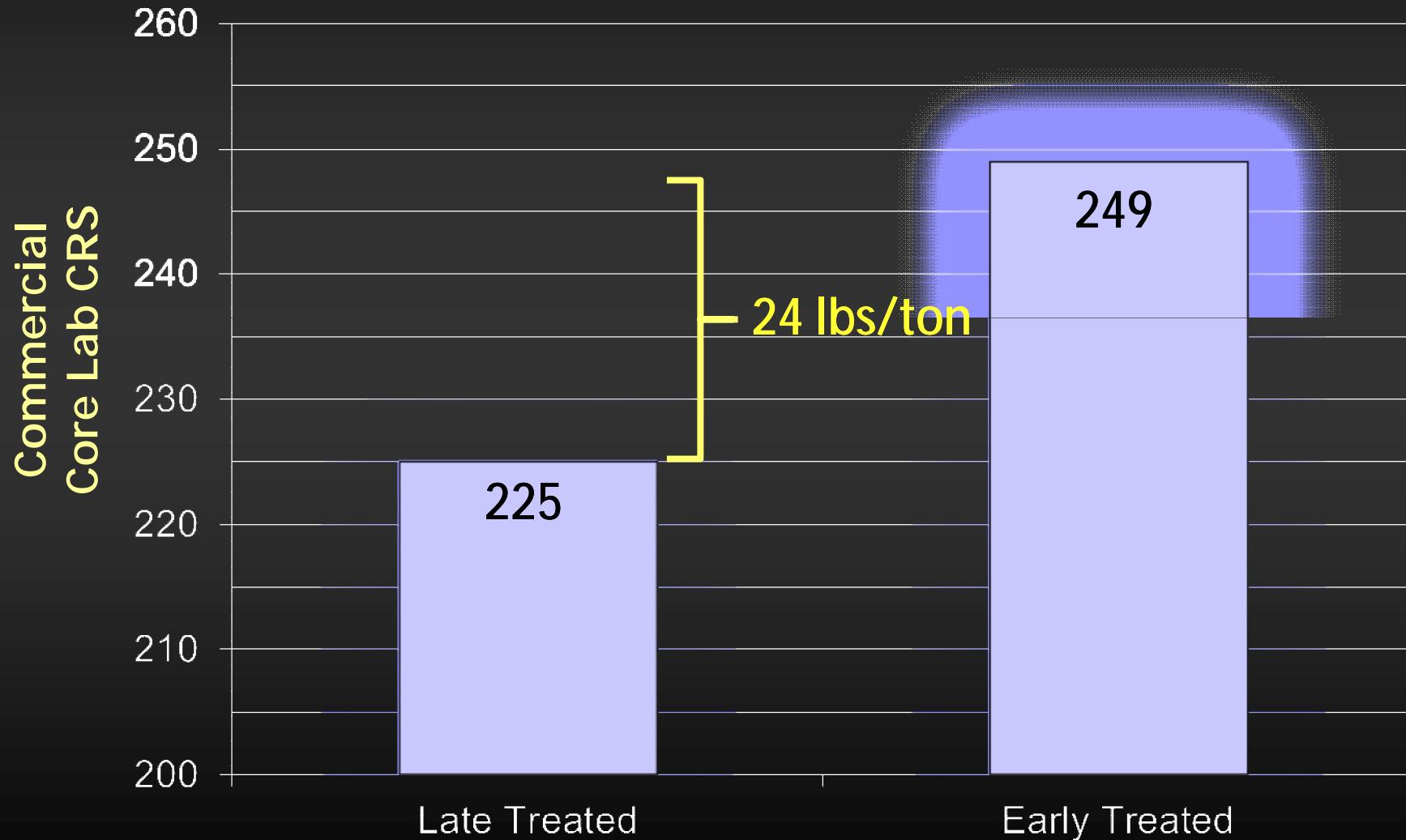
West Indian Cane Fly/Aphid Complex

540 Plant Cane – Franklin, LA



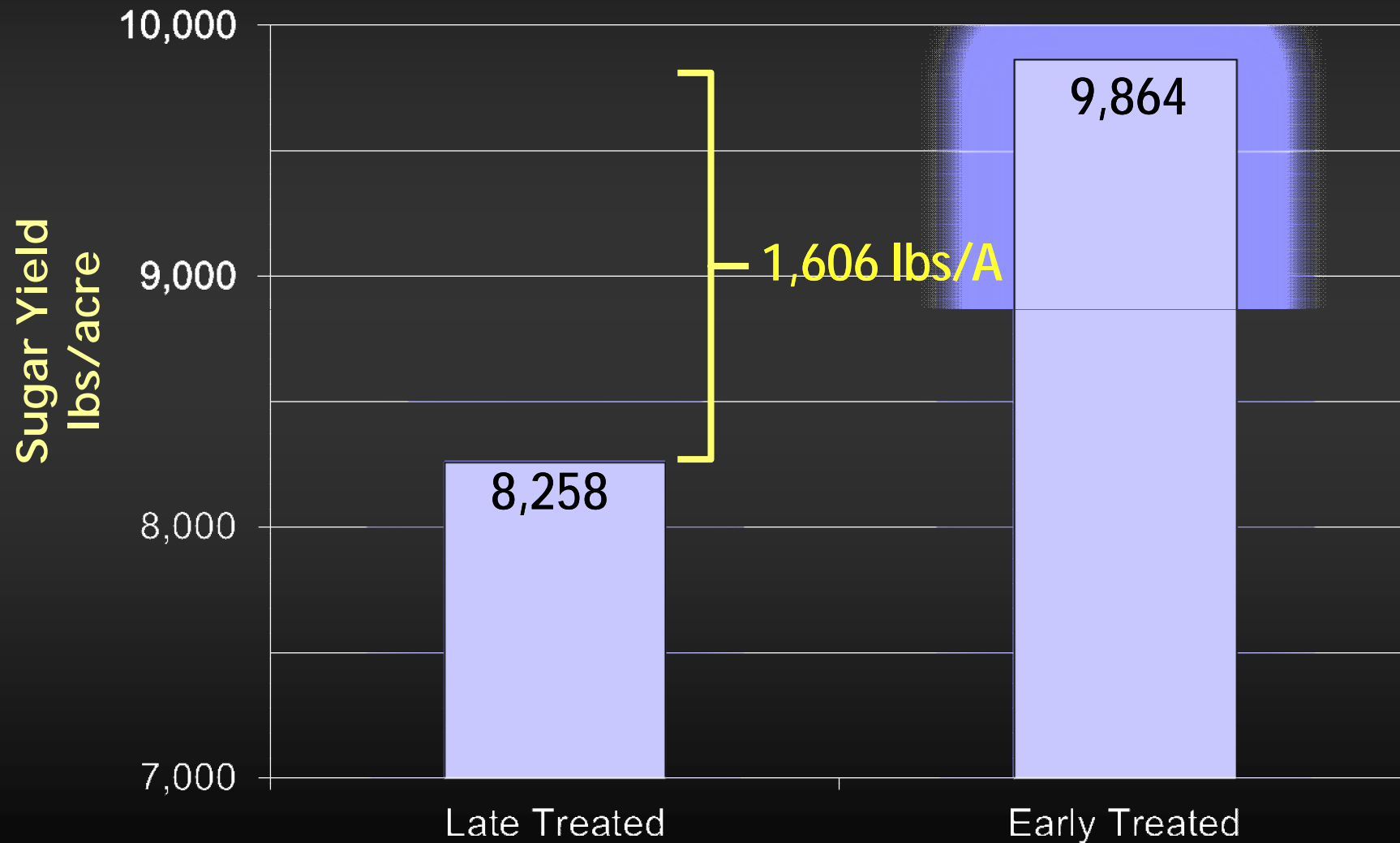
West Indian Cane Fly/Aphid Complex

540 Plant Cane – Franklin, LA



West Indian Cane Fly/Aphid Complex

540 Plant Cane – Franklin, LA

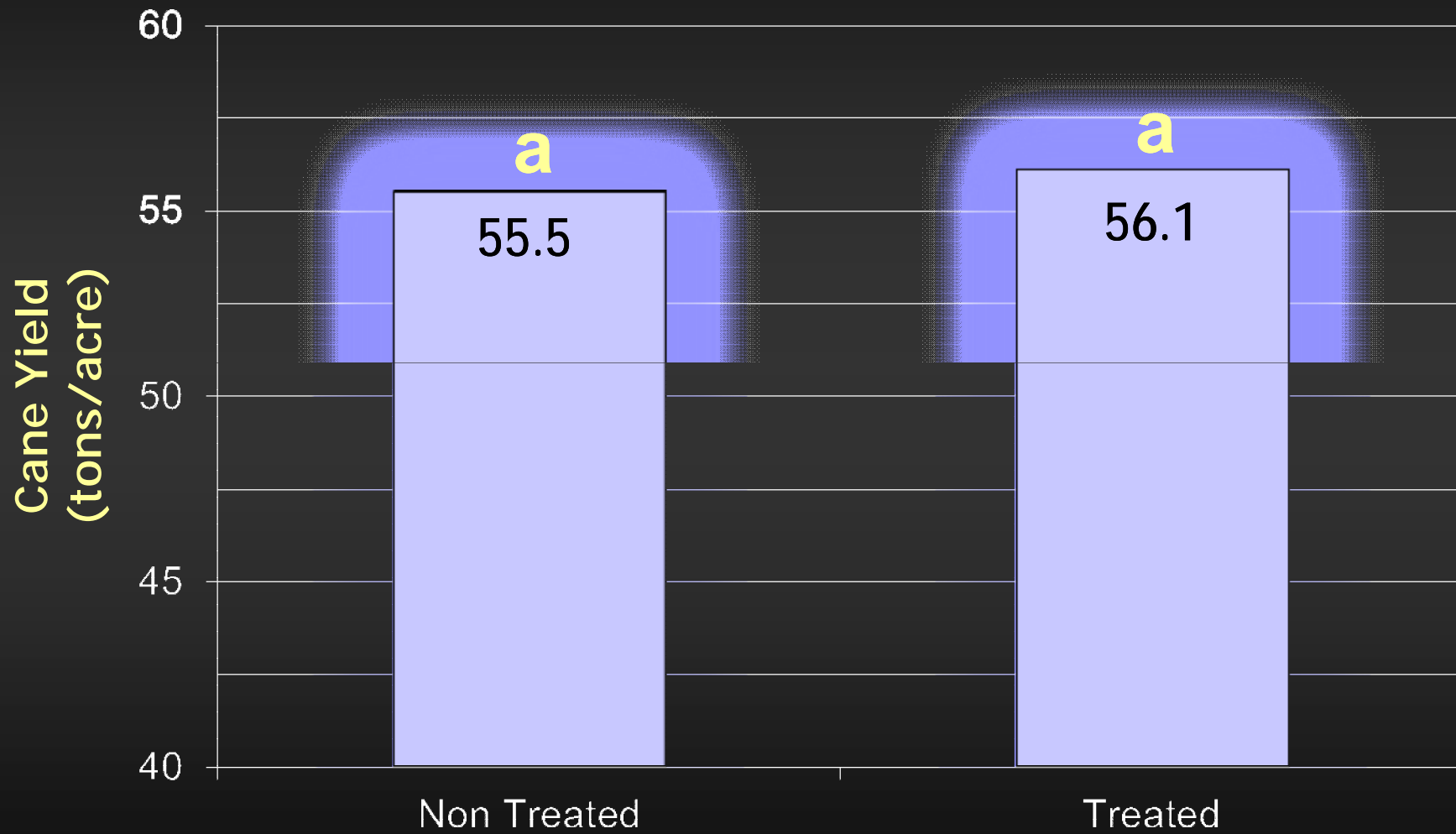


540 Plant Cane – Plaquemine, LA

- Treated August 21st by Air – 2 GPA
 - Leverage 360
 - 11 row plots – 3 replications
 - Infestations came in very late
- Harvested December 13th - Cora Texas

West Indian Cane Fly

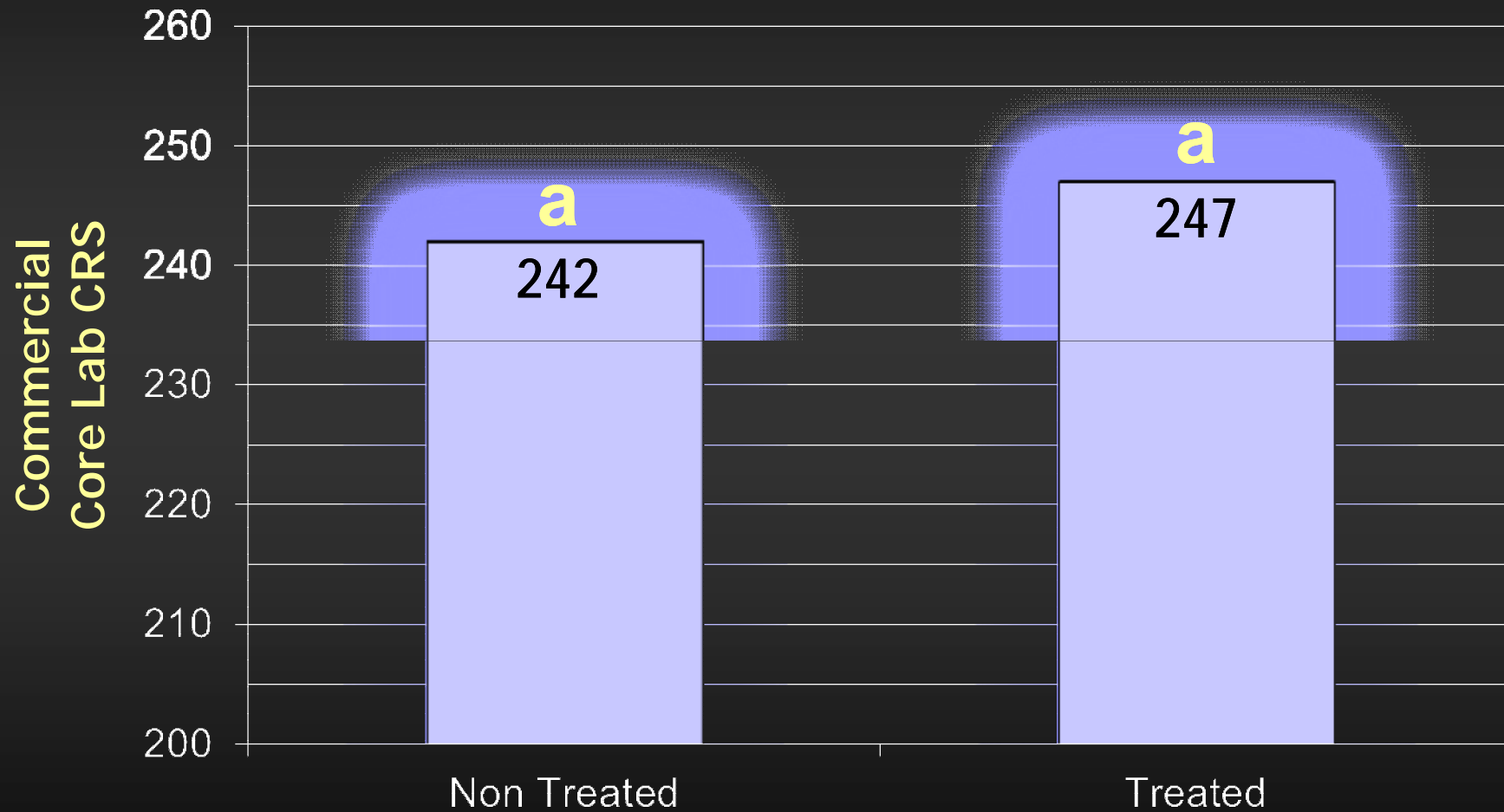
540 Plant Cane – Plaquemine, LA



P= 0.05

West Indian Cane Fly

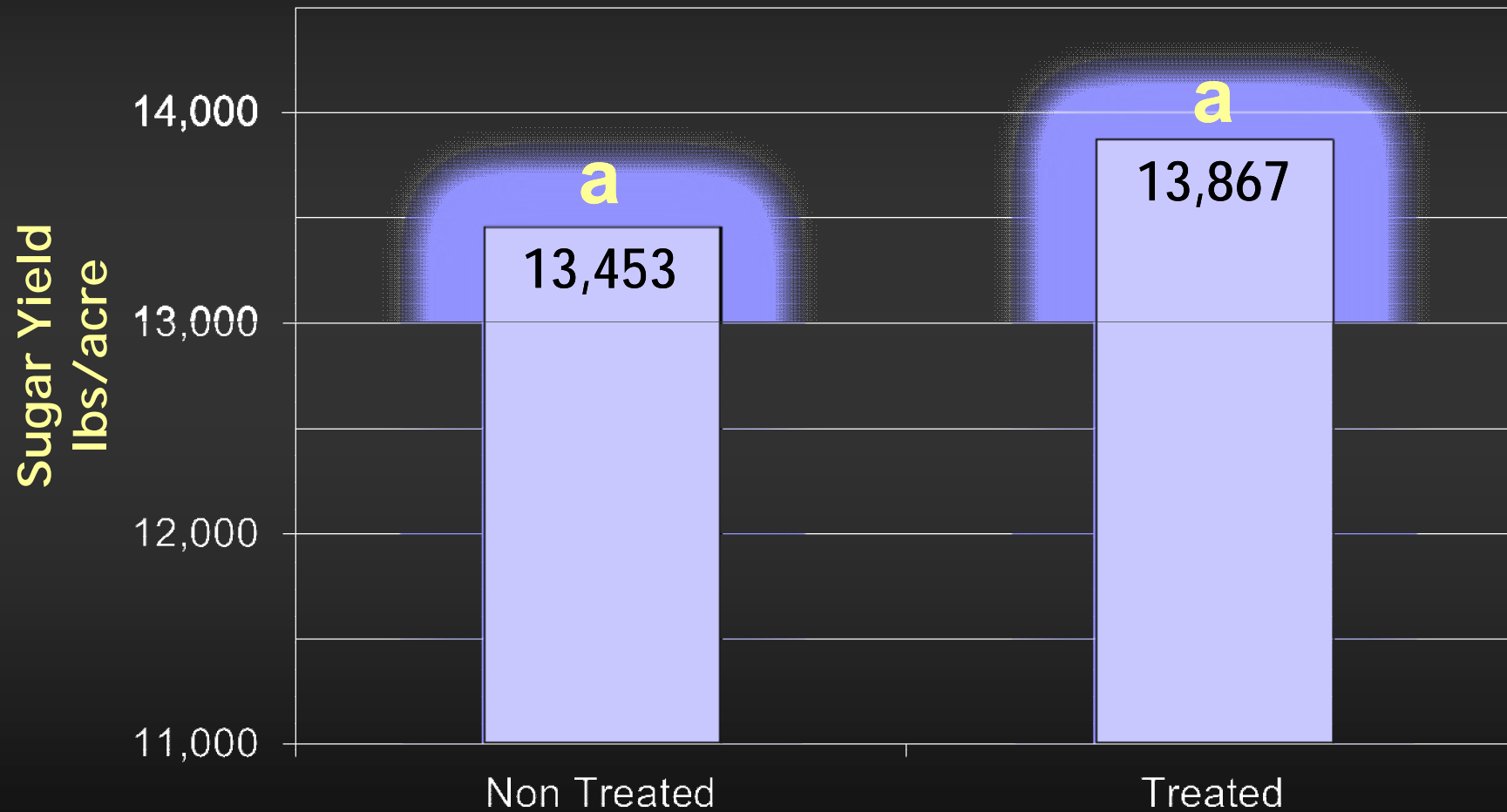
540 Plant Cane – Plaquemine, LA



P= 0.05

West Indian Cane Fly

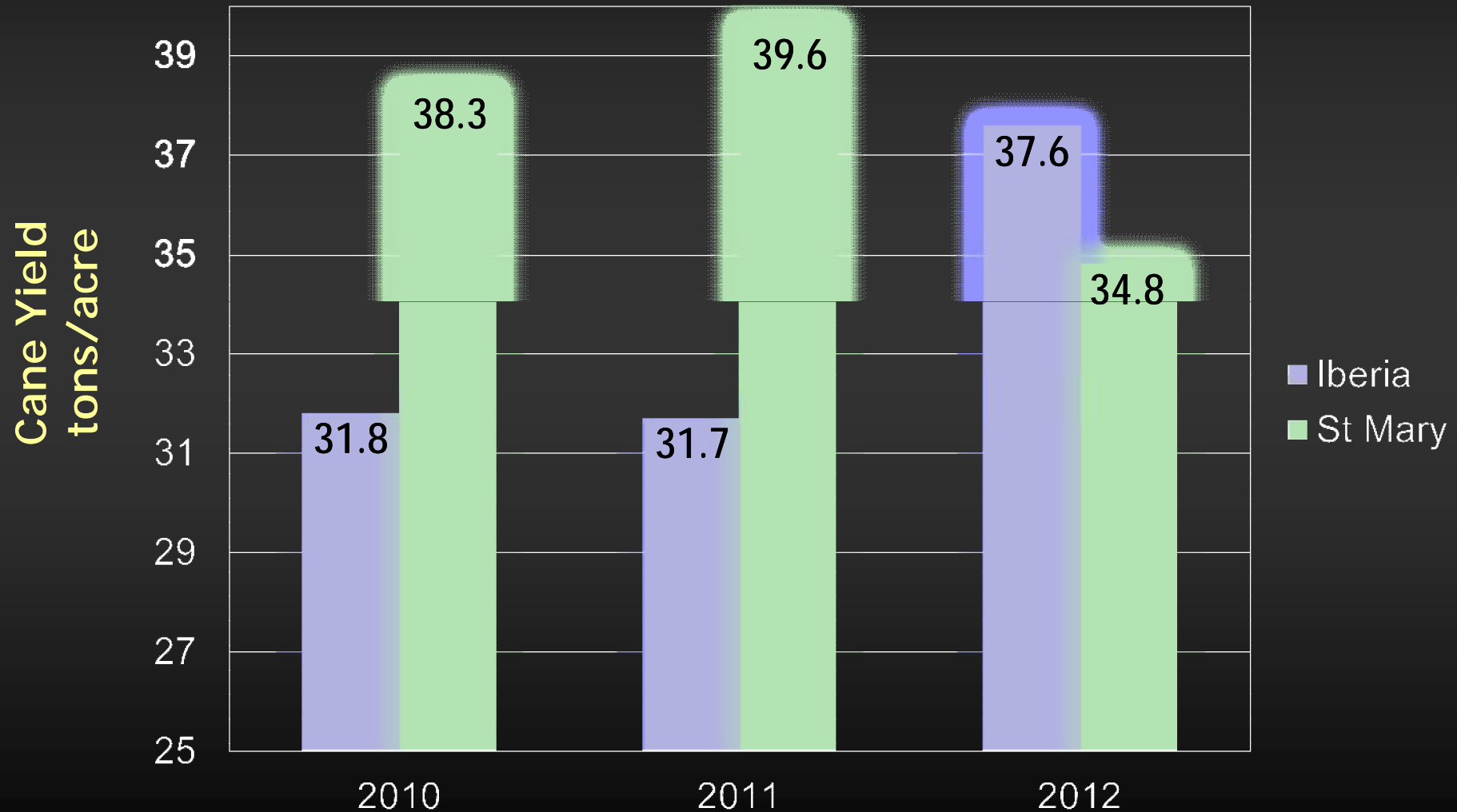
540 Plant Cane – Franklin, LA



P= 0.05

West Indian Cane Fly/Aphids

Grower "X" Yield History



Ingram, J.W., H. Jaynes, and R.N. Lobedell, 1939
 Proc. Int Soc. Sugarcane Techn.

The West Indian sugarcane borer (*Diatraea saccharalis* (F.) was first reported from this cane in Florida by Van Dine in 1906. It was subsequently found distributed in the same in the Everglades area. Careful searches in experimental station cane plantings and in various commercial fields did not reveal its presence elsewhere in Florida. It has not been found on sugarcane elsewhere in the continental United States, except that a single specimen was collected from grass and weeds in a peach orchard in Ponce de Leon, Ga., on August 25, 1934, by H. E. Turner, indicating a species that is distributed in parts northward to a large area or that it was accidentally introduced to that section from southern Florida or from other favored countries.

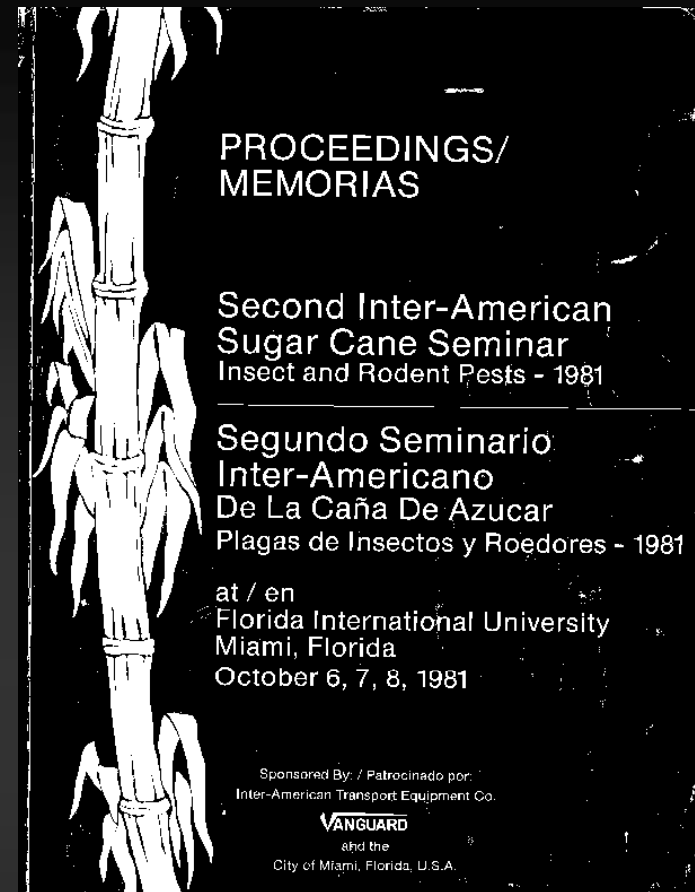
The adult of this insect is pale green and has transparent wings. The nymph is of a dusky color and bears a characteristic long white filament at its caudal end. The eggs are laid in small clusters on the under side of the leaf and are covered with a waxy film. Nearly all the insects are found on the under side of the leaf, although they are sometimes found in the central whorl and rarely on the upper leaf surface. In addition to sugarcane, this insect was found to feed on members of three other grasses, namely, *Digitaria sanguinalis*, *Ischaemum scoparium*, and *Pennisetum setaceum*.

Varying degrees of injury have been reported as caused by this insect in other countries. In some fields of the variety Co. 290 at Ft. Pierce in September, 1930, the injury was greater than that from any other insect present. Many of the healthy-looking leaves were withering and dying, and the leaves were covered with a sooty mold resulting from fungoid feeding. The mold, of course, is a fungus which grows on the honeydew given off by this borer. Red rot was appearing in neighboring fields. It seemed that a loss of at least 10 per cent would result. The variety Co. 291 showed only a small amount of injury. In September, 1937, injury was almost nonexistent.

Both pupae and adults have been observed to be heavily parasitized by a dipterid, *Goniatops* sp. Parasitized individuals are conspicuous owing to the black larval case of the parasite which appears on the side of the insect. In September, 1937, a dipterid was determined as *Goniatops perlae* (H. H. G.) was observed ovipositing in an egg cluster. No parasites were reared from 105 egg clusters collected and observed.

It would undoubtedly be of value to introduce the parasite *Stenomacrus* *gambus* (Pict.) and *Chorebus* *ovatus* (Ashmead), which are of value in some

- Ingram et al., USDA
- 1939
- 10% Yield Reduction



- T. Falloon: Sugar Industry Research Institute, Jamaica
- 1981
- 3 – 11 tons/A loss

Observations

233, 128 > 540, 950 > 299 > 226

Nitrogen content of leaves plays some role

Lots of questions, and research needed,
but.....

Black canopy may not be the
best trigger for treatment





Acknowledgments

- Lance Rodriguez, Independent Consultant
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