

West Indian Canefly Yield Loss and Disease Vector Research

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LATMC

Marksville, LA

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West Indian Canefly (WIC)
Saccharosydne saccharivora



West Indian Canefly (WIC)

Saccharosydne saccharivora

Outbreaks –

- 1945
- 1969
- 1997
- 2012
- 2016
- 2019
- 2020
- 2025

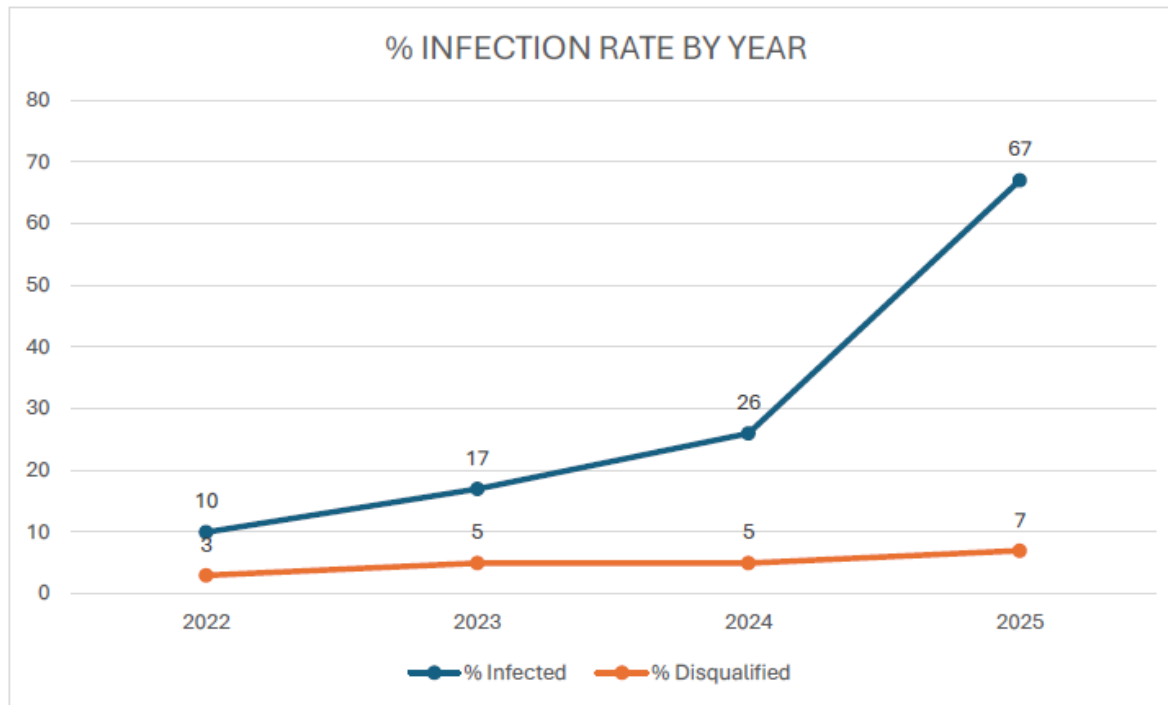


More frequent pest, not just following warm winters

West Indian Canefly (WIC)

Saccharosydne saccharivora

Sugarcane Yellow Leaf Virus Incidence (2022-2025)



Is WICF a vector of SCYLV?
No, not likely

SCYLV is a polerovirus, which are almost exclusively vectored by aphids

≈30 caneflies tested for SCYLV in 2025, all negative

West Indian Canefly (WIC)

Saccharosydne saccharivora

Transmission of a sugarcane yellow leaf phytoplasma by the delphacid planthopper *Saccharosydne saccharivora*, a new vector of sugarcane yellow leaf syndrome

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Phytoplasmas are bacterial and are all vectored by plant/leaf hoppers

WICF is a vector of sugarcane yellow leaf phytoplasma (SCYLP) in Cuba

SCYLP never documented in North or South America

Yellowing fields in 2025 all tested negative for SCYLP

SCYLV

SCA, *Melanaphis sacchari* is the most efficient vector

SCYLV detected in 1996, SCA in 1999

**Other species can vector
Rhopalosiphum spp.
*Myzus persicae***

SCA likely involved, but needs further investigation



Temporal Increase and Spatial Distribution of Sugarcane Yellow Leaf and Infestations of the Aphid Vector, *Melanaphis sacchari*

C. D. McAllister, former graduate student, J. W. Hoy, Department of Plant Pathology and Crop Physiology, and T. E. Reagan, Department of Entomology, Louisiana State University Agricultural Center, Baton Rouge 70803

ABSTRACT

McAllister, C. D., Hoy, J. W., and Reagan, T. E. 2008. Temporal increase and spatial distribution of sugarcane yellow leaf and infestations of the aphid vector, *Melanaphis sacchari*. Plant Dis. 92:607-615.

infection in the field, and (iv) determine the spatial distributions of aphid colonization and virus infections. The goals of the research were to gain information about the epidemiology of yellow leaf and apply

West Indian Canefly (WIC)

Saccharosydne saccharivora



Honeydew



Sootymold



Mixed infestations WIC + Sugarcane aphid



Mixed infestations WIC + Sugarcane aphid



Bayer CropScience LP
700 W. Chesterfield Parkway FF4
Chesterfield, MO 63017
1-800-999-BAYER (1-800-993-2937)

SIVANTO™ prime
EPA Reg. No. 264-1141

For Use on Sugarcane to control Sugarcane
Aphids and Yellow Sugarcane Aphids.

SECTION 18 CRISIS EXEMPTION

SLN: 25LA02

FOR DISTRIBUTION AND USE ONLY IN THE STATE OF LOUISIANA UNDER SECTION 18 EMERGENCY EXEMPTION

This labeling must be in possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire Directions for Use and Disclaimer of Warranties before using this product. Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the registered product label for SIVANTO™ prime (EPA REG. NO.264-1141).

Any adverse effects resulting from the use of SIVANTO™ prime under this Section 18 Emergency Exemption must be immediately reported to the Louisiana Department of Agriculture and Forestry.

EFFECTIVE PERIOD:

This Section 18 Emergency Exemption becomes effective 07/03/2025 and expires on 07/18/2025.

WIC yield loss trials



4 Small plot trials

White and Dally – 2012

Wilson and Beuzelin - 2016

4 large plot trials with commercial applicators

B. Viator 2012 and 2016

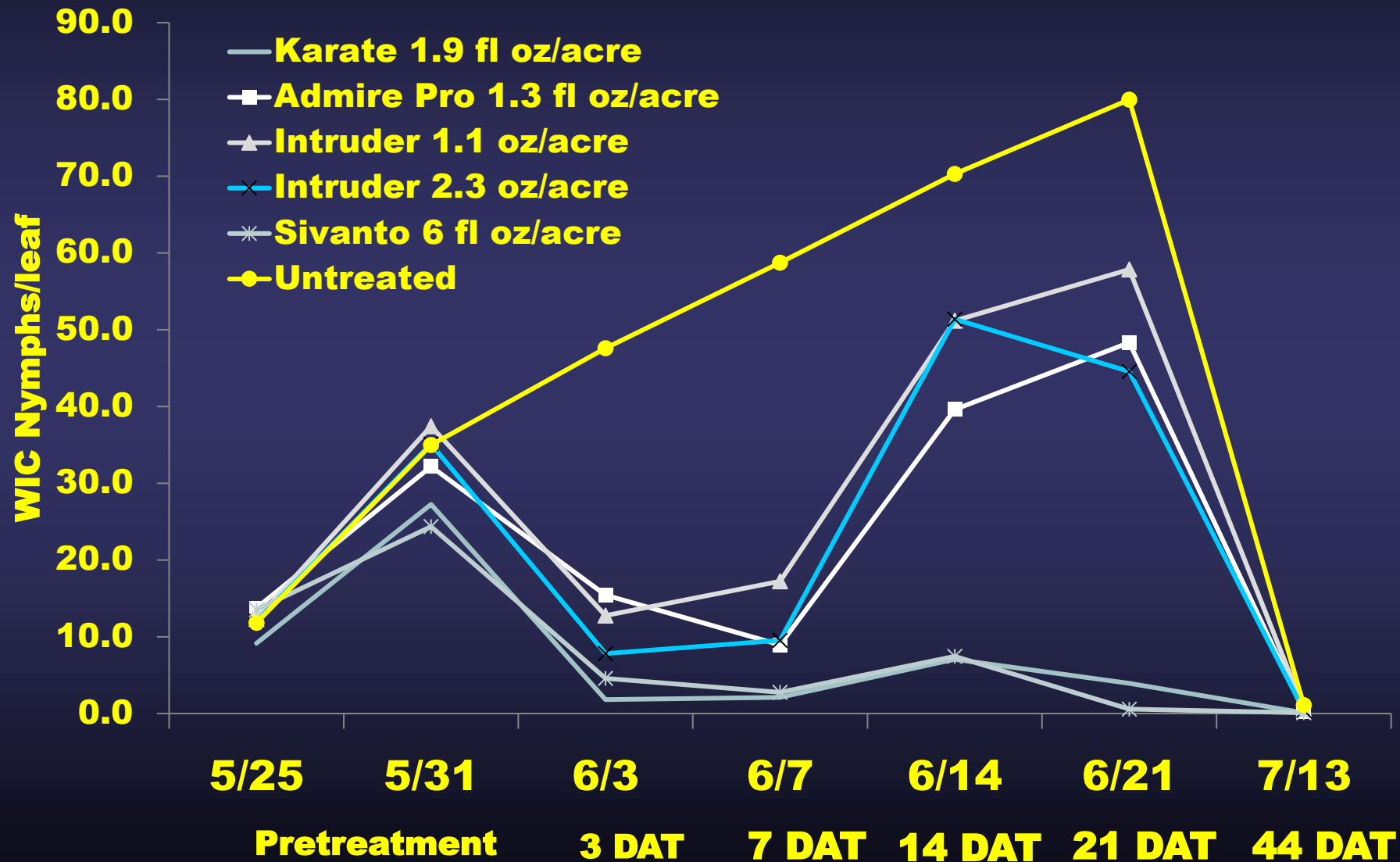
R. Viator et al. 2025

Spatial grid study 2016

Johnson and Richard

Insecticide Efficacy

Pointe Coupee - 2016



Treatment Yields

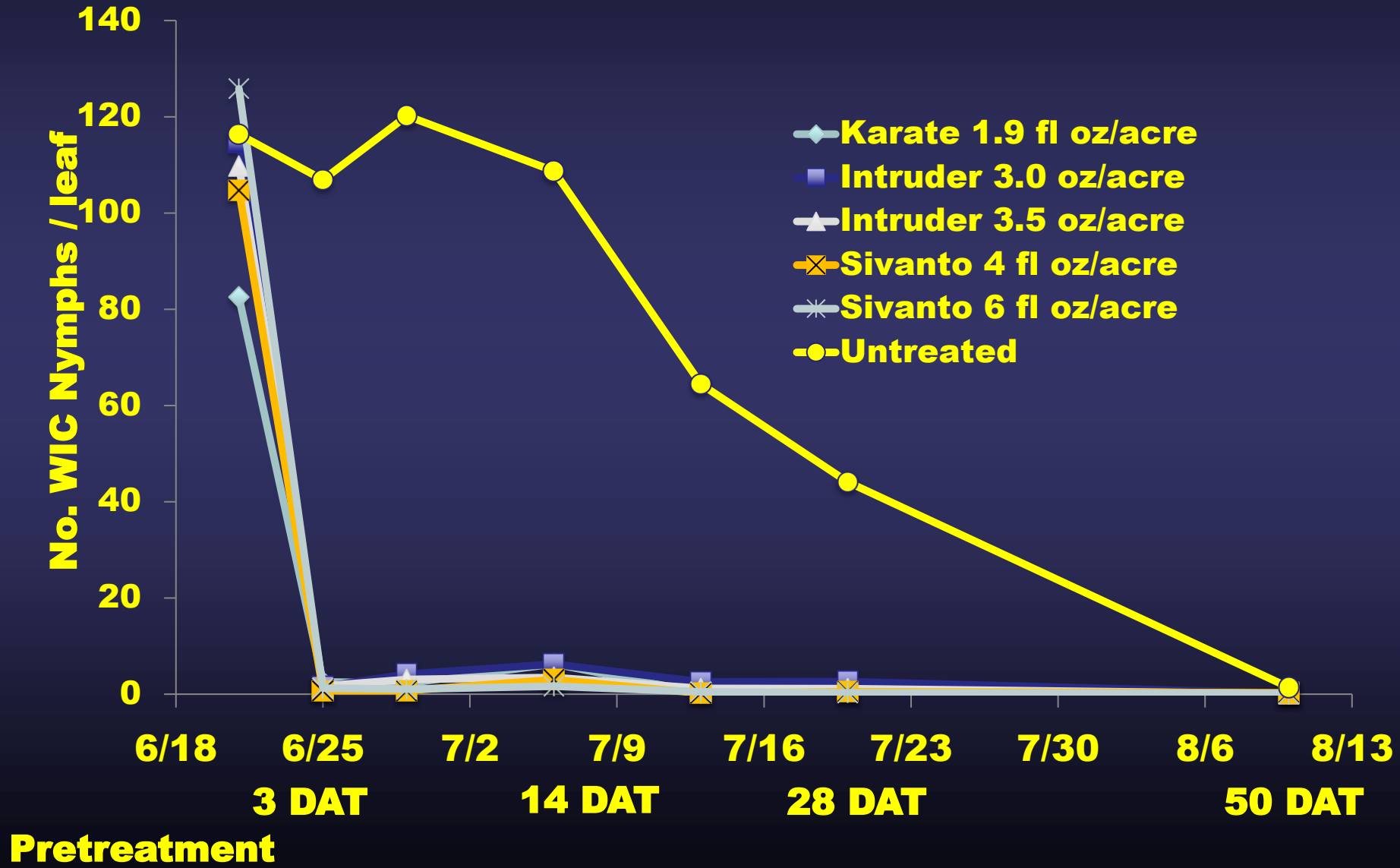
Pointe Coupee - 2016

Treatment	Sugarcane (tons)/a	TRS	Sugar (lbs)/a
Treated	25.9	258.1	6647
Non-treated	21.7	247.4	5335
% loss	16.2%	4.1%	19.7%
<i>P</i> =	0.412	0.237	0.309
<i>F</i> =	0.71	1.52	1.11

Wilson, B.E., et al. 2020. West Indian canefly (Hemiptera: Delphacidae): An emerging pest to Louisiana sugarcane. J. Econ. Entomol. 113: 263-272.

Insecticide Efficacy

WBR – 2016 – L 01-299



Treatment Yields

West Baton Rouge - 2016

Treatment	Sugarcane (tons)/a	TRS	Sugar (lbs)/a
Treated	28.5	212.5	6056
Non-treated	26.6	204.7	5449
% loss	6.7%	3.7%	10.0%
<i>P</i> =	0.401	0.313	0.255
<i>F</i> =	0.74	1.07	1.38

Wilson, B.E., et al. 2020. West Indian canefly (Hemiptera: Delphacidae): An emerging pest to Louisiana sugarcane. J. Econ. Entomol. 113: 263–272.

Treatment Yields

St. Martin Parish – 2025

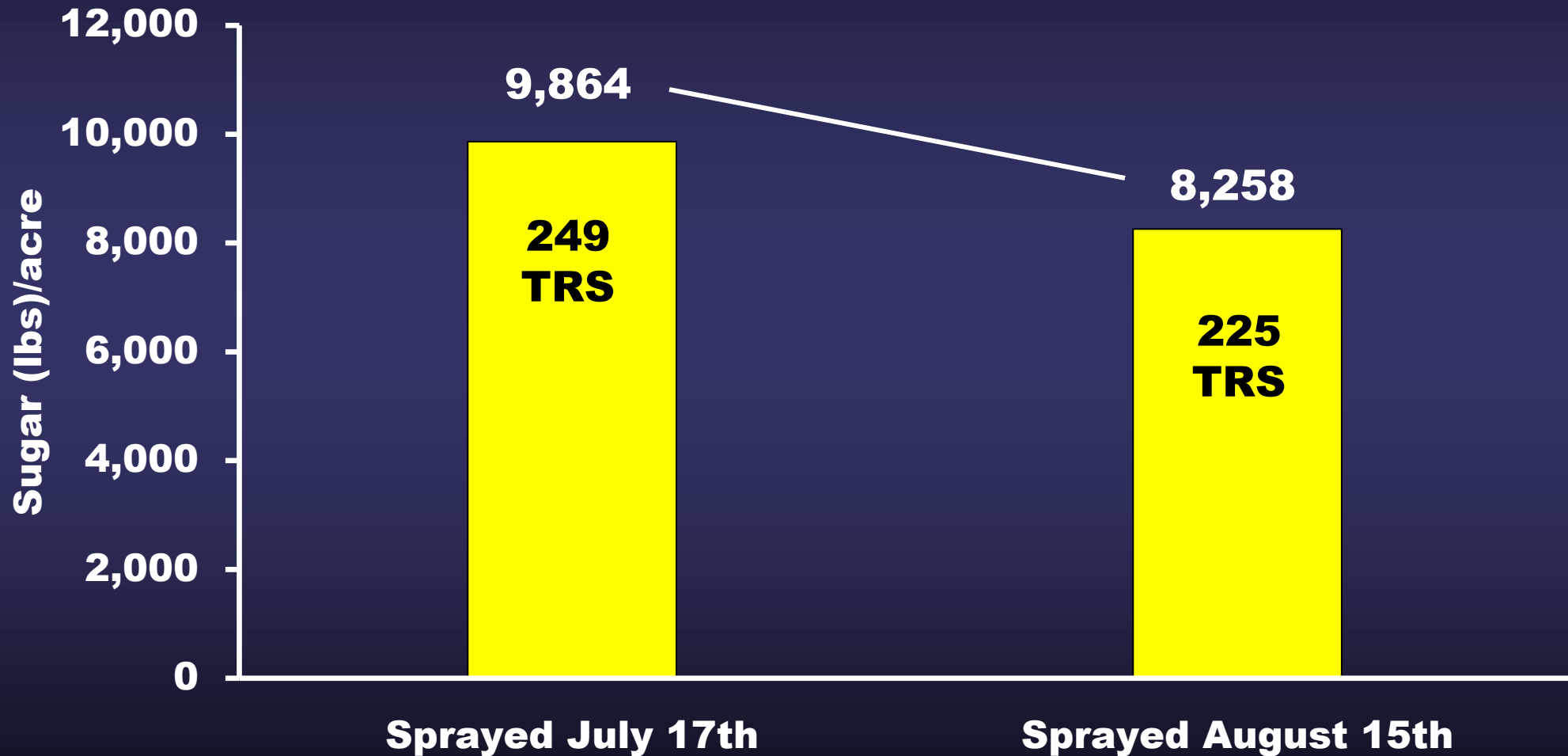
L01-299, Sprayed July 8th

Treatment	Sugarcane (tons)/a	TRS	Sugar (lbs)/a
Treated	41.0	242	9,923
Non-treated	33.5	244	8,174
% loss	18.3%	NA	17.6%
<i>P</i> =	0.003	0.683	0.014

R. Viator, K. Gravois, A. Finger, and W. Judice

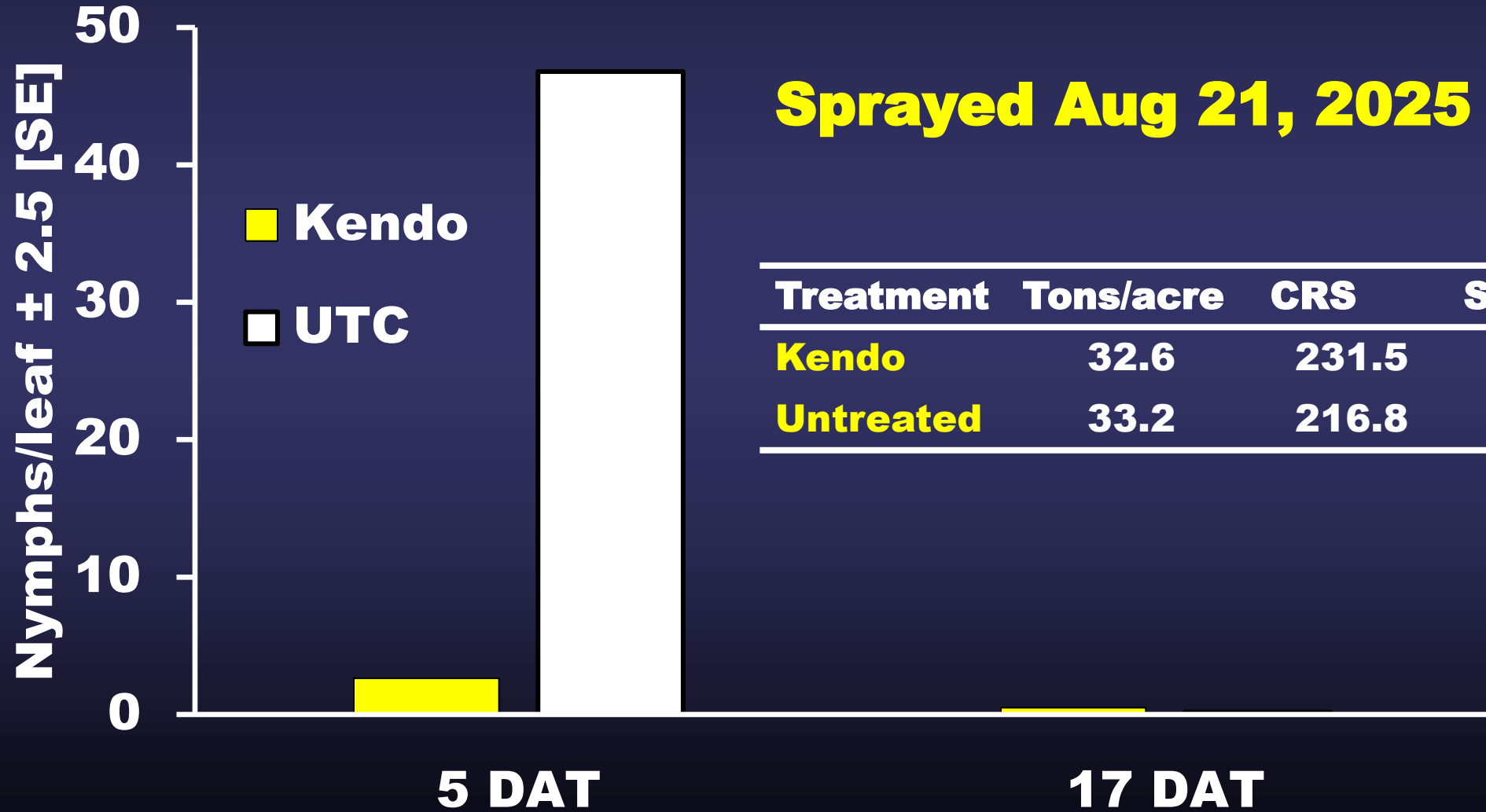
Application Timing

B. Viator Trial – 2012 (WIC & SCA)



Application Timing

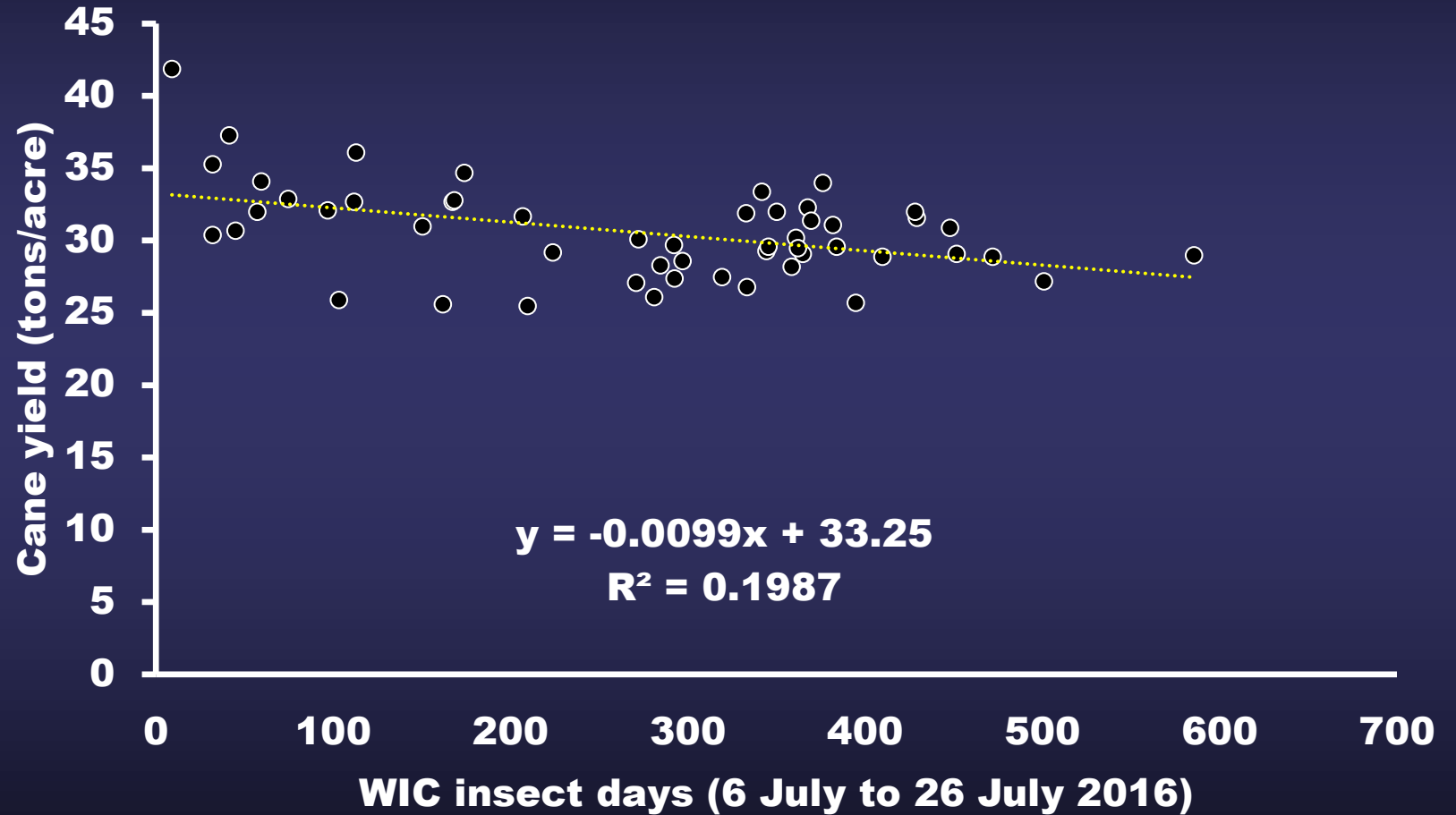
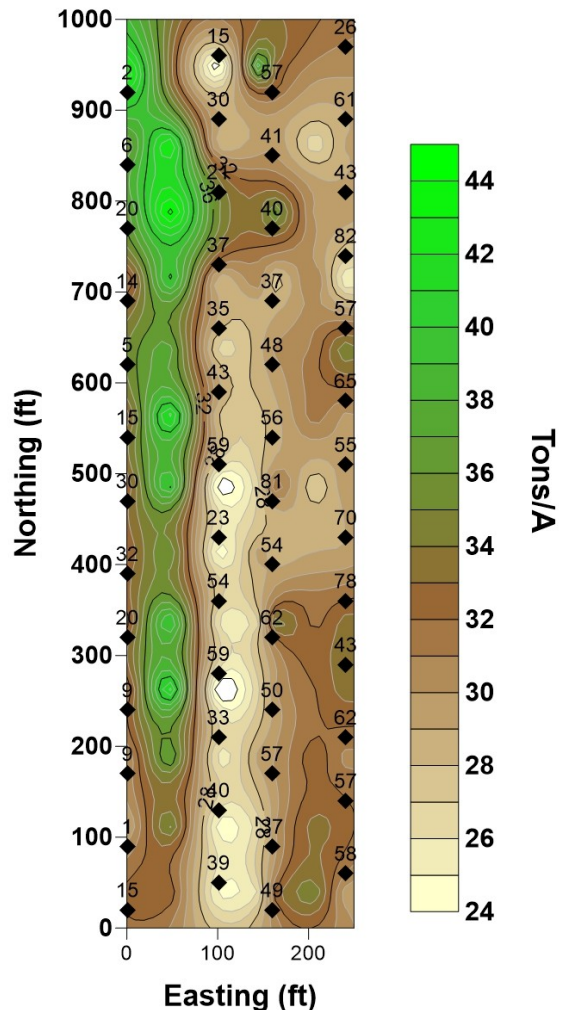
On-Farm Trial – St. Martinville 2025



Grid sampling study – HoCP 96-540 (6 acres)

Transect sampling 52 points

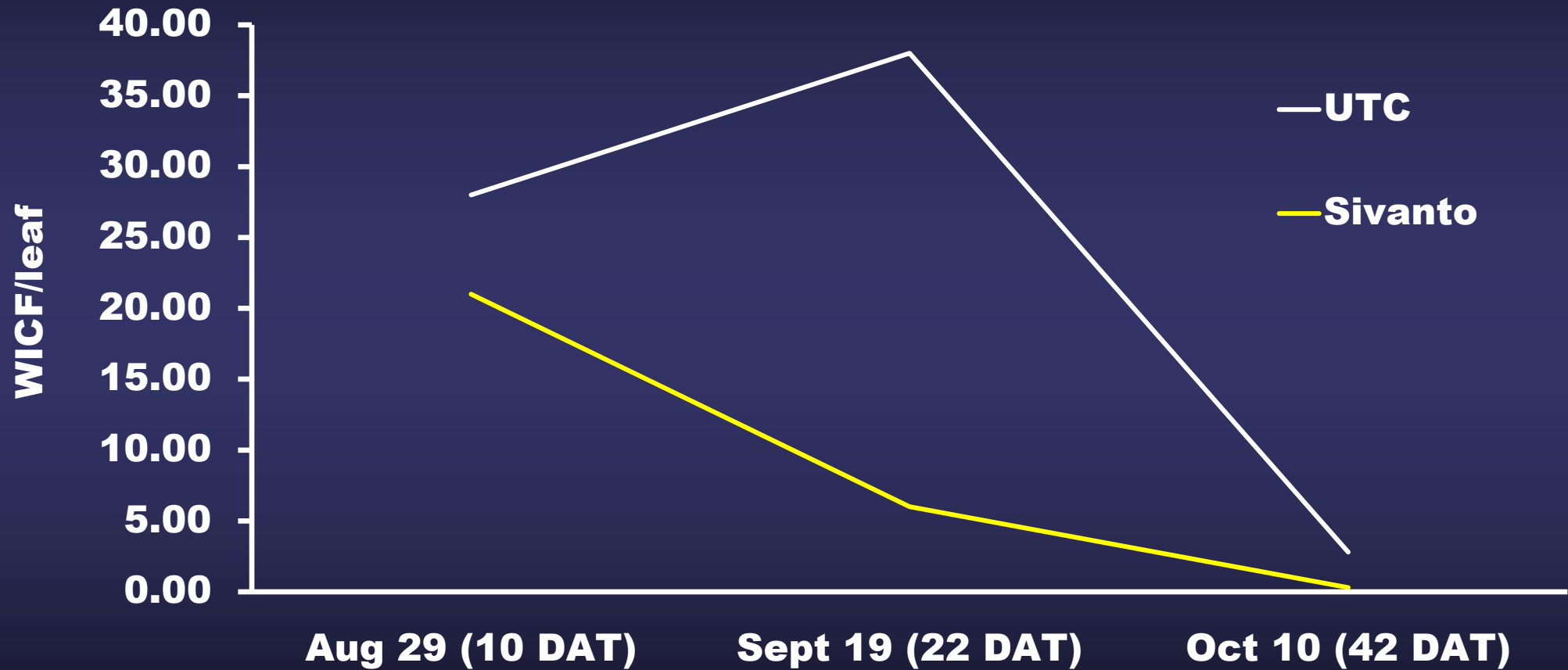
West Indian Cane Fly Test 2016 - Cane Yield



$F = 14.15, df = 1, 50; P < 0.001$

Application Timing

R. Viator Plant cane trial - 2025



$P < 0.05$

No differences in plant growth at any sampling date

Conclusions on WIC

Yield loss relationship: Many factors involved

- WIC Density
 - Duration of infestation
 - Timing of infestation
 - Sooty mold levels
 - Sugarcane cultivar
 - Crop year
 - Growing conditions
- Infestation severity
- Yield potential
-
- A diagram with two yellow brackets on the right side. The top bracket groups the first four factors: WIC Density, Duration of infestation, Timing of infestation, and Sooty mold levels. The bottom bracket groups the last three factors: Sugarcane cultivar, Crop year, and Growing conditions.

**>30 WIC/leaf, *increasing* over 2 weeks, sooty mold.
Benefits of spraying greatest in June-July.
Treating fall plant cane not recommended.**

Future work

Application timing trials

Season long protection vs June, July, August

SCA vs WICF vs Both

Flaring aphids?

Station Trials?

Variety x yield loss

True threshold trials

Sooty-mold vs direct loss

Greenhouse work

Varietal resistance?

Sooty mold?

Yellow Canopy Syndrome



Aphids → Scales → Mealybugs?



Identification: Pasture mealybug (*Heliococcus summervillei*)



Specimens collected and given to Taxonomist (LSAM)

Sequence checked against GenBank → No match

- **Including *H. summervillei* sequences from India**

Further analysis showed it as a sister species

Specimens sent to USDA APHIS and ID confirmed

Identification: Pasture mealybug (*Heliococcus summervillei*)



**Documented infesting
sugarcane in Australia in 2021**

Feeds on leaves and roots

Maybe “associated” with YCS

More problematic in pastures

Recognizing Pasture mealybug

Pasture mealybug



Much smaller, numerous

On leaves, roots?

Yield impacts TBD

Sugarcane mealybug

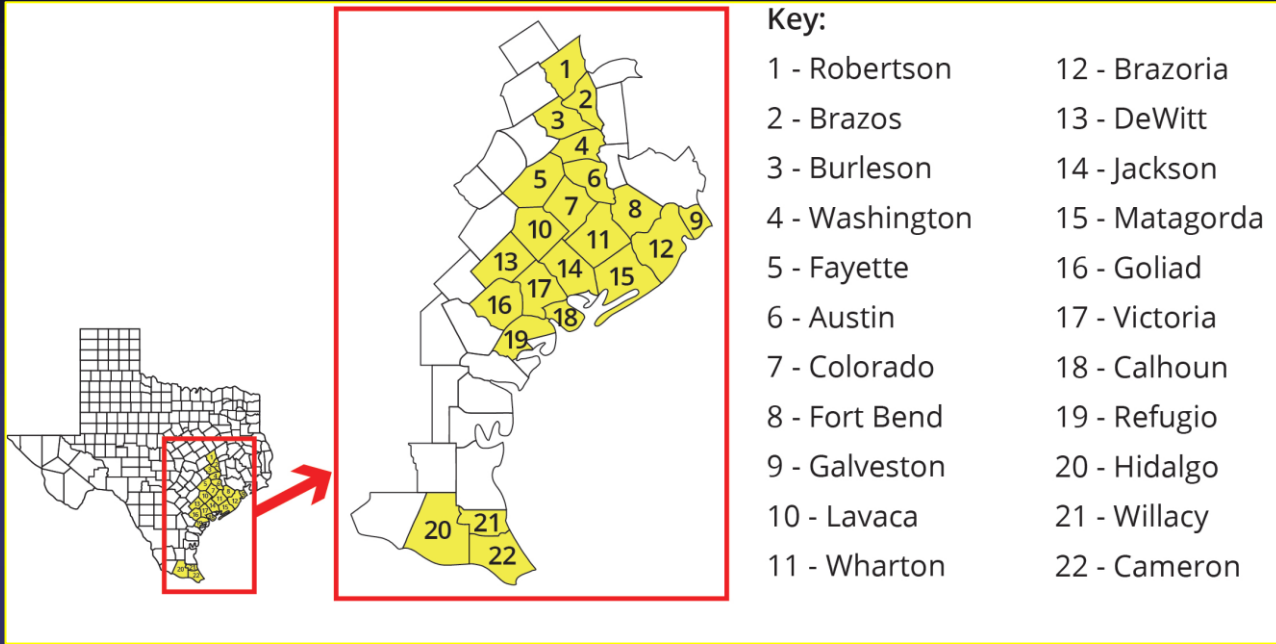


Larger, less numerous

On stalks, behind sheath

No impact to yield

Pasture mealybug



S. Biles et al.
Texas A&M



**Observed in Vermilion
and Iberia Parishes**

Acknowledgements

- **Funding from ASCL, USDA, and industry partners**
- **Stephen Baca and USDA APHIS**
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- **Al Orgeron and the IRS and SRS Staffs**
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Questions?



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