

# Sugarcane Insects Management

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# Susceptibility of SCB to Confirm

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<b>Strain</b>	<b>LC<sub>50</sub></b>	<b>LC<sub>90</sub></b>	<b>RR<sub>50</sub></b>	<b>RR<sub>90</sub></b>
<b>Alexandria</b>	<b>0.14</b>	<b>0.31</b>	<b>1</b>	<b>1</b>
<b>Duson</b>	<b>0.53</b>	<b>2.17</b>	<b>3.78</b>	<b>7.00</b>
<b>Duson selection</b>	<b>3.34</b>	<b>83.69</b>	<b>23.8</b>	<b>269.9</b>

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Resistance ratios were obtained with Alexandria strain as ratio divisor

# Absence of SCB Cross-Resistance (Biorational Insecticides)

Insecticide	Alexandria (Susc.)	Duson (Res.)	Resistance Ratio	Duson (10 selections)	Resistance Ratio
	LC <sub>50</sub>	LC <sub>50</sub>	RR	LC <sub>50</sub>	RR
<b>Confirm</b> (tebufenozide)	0.14	0.53	<b>3.42</b>	3.80	<b>27.1</b>
<b>Diamond</b> (novaluron)	0.11	0.08	--	0.33	<b>3.00</b>

Resistance ratios were obtained with Alexandria strain as ratio divisor

# SCB insecticide aerial applications

2004

2007

Treatment	Rate (oz/ac)	% bored internodes	Treatment	Rate (oz/ac)	% bored internodes
Diamond 0.83EC	8.0	1.58c	Diamond 0.83EC	9	0.57c
Diamond 0.83EC	12.0	2.45c	Confirm 2F	8	1.20bc
Confirm 2F	8.0	7.88b	Prolex 1.25EC	2	2.63b
Untreated control	--	19.29a	Untreated control	-	8.60a
<i>P &gt; F</i>		< 0.0001	<i>P &gt; F</i>		<0.0001

Means within column followed by the same letter are not significantly different ( $P > 0.05$ , Tukey's HSD).

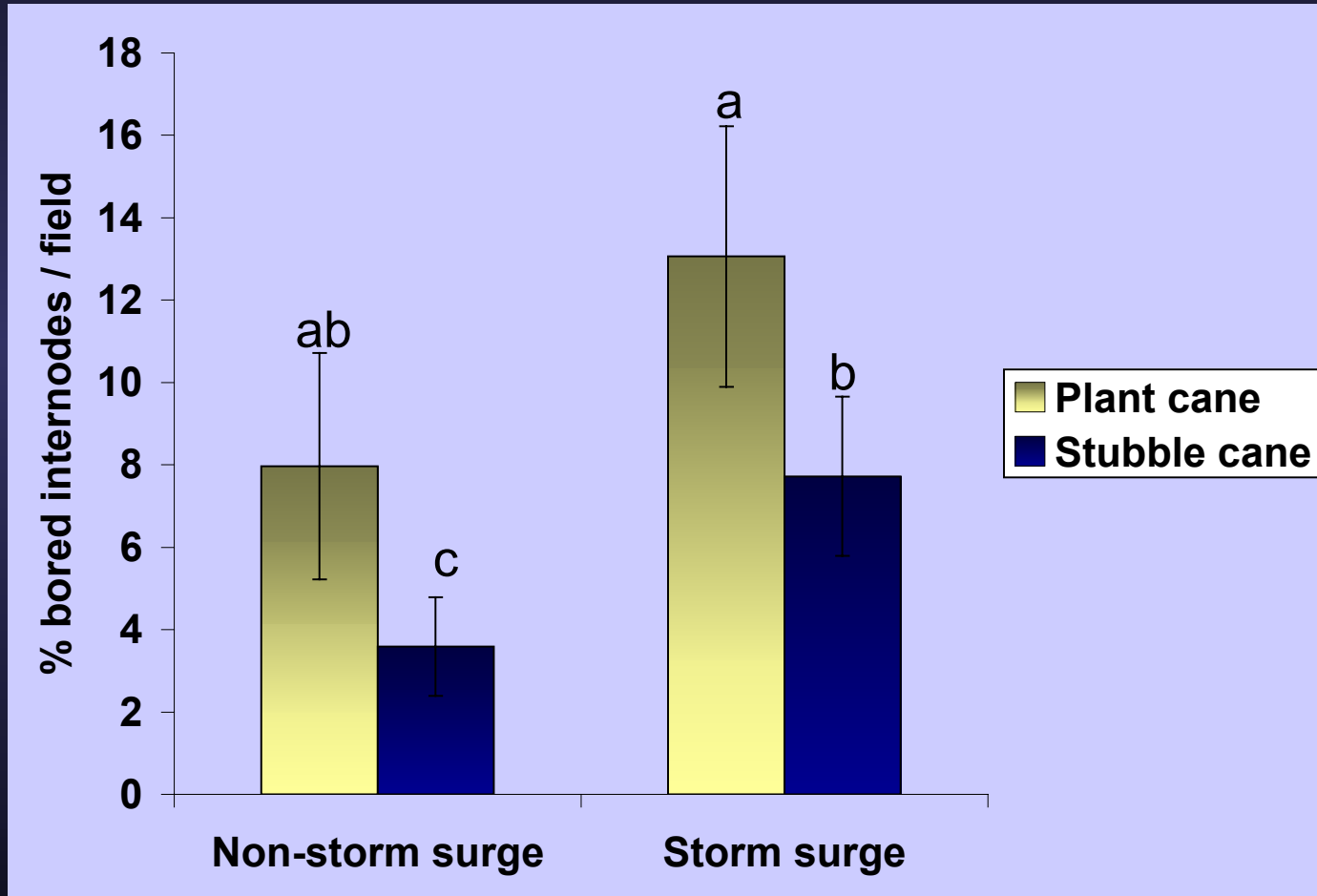
# SCB insecticide aerial applications

## Non-target arthropods (2007)

Treatment	Rate (oz/ac)	No. non-target arthropods / plot <sup>a</sup>			
		Imp. Fire Ants	Spiders	Pred. beetles	Field crickets
Diamond 0.83EC	9.0	140.8	39.2 a	23.2	29.6
Confirm 2F	8.0	176.8	29.8 ab	20.6	35.8
Prolex 1.25EC	2.0	177.0	21.0 b	21.0	27.2
Untreated control	--	149.8	35.8 ab	27.0	38.3
<i>P &gt; F</i>		0.87	0.01	0.42	0.62

# Hurricane Rita storm surge: Lessons learned

- 4.9 to 1.7-fold decrease in fire ants
- 2.4-fold increase in insecticide applications

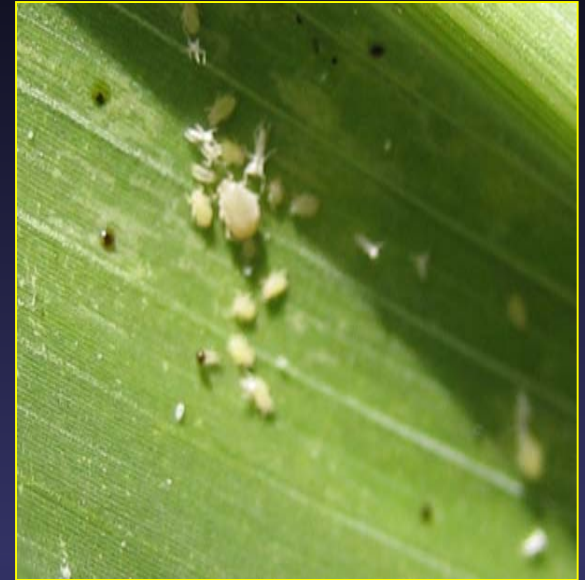


SAS, Proc Glimmix, Binomial distribution  
Tukey's HSD,  $\alpha = 0.05$

# Sugarcane aphids

*Melanaphis sacchari*

*Sipha flava*



## Economic thresholds

- Examine 20-25 stalks at several locations in field
- If >20 aphids/leaf on 3<sup>rd</sup> and 4<sup>th</sup> leaf for more than 2 weeks, treat with insecticides

# Sugarcane aphid insecticidal control

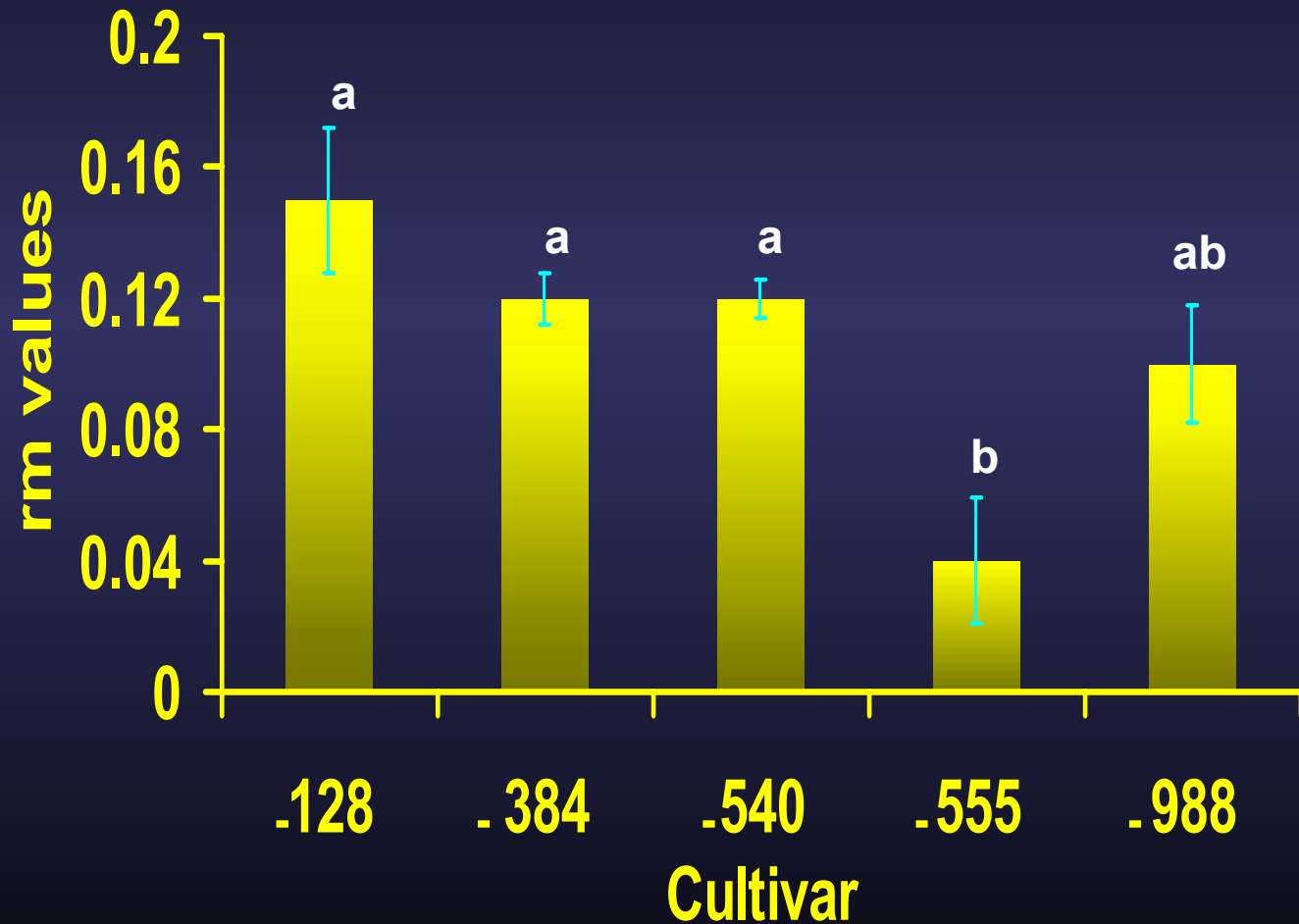
<b>Insecticide</b>	<b>Rate (lbs ai/acre)</b>	<b>Pretreatment Counts</b>	<b>4-day Post treatment counts</b>	<b>11-day Post treatment counts</b>
<b>Control</b>		<b>464a</b>	<b>379.1a</b>	<b>93.2a</b>
<b>Karate-Z</b>	<b>0.030</b>	<b>400a</b>	<b>36.6b</b>	<b>6.7b</b>
<b>Prolex 1.25EC</b>	<b>0.020</b>	<b>576a</b>	<b>27.9b</b>	<b>6.4b</b>
<b>Carbine 50WG</b>	<b>0.063</b>	<b>539a</b>	<b>18.3b</b>	<b>7.6b</b>
<b>Centric 40WG</b>	<b>0.050</b>	<b>740a</b>	<b>18.1b</b>	<b>5.9b</b>
<b>Trimax Pro</b>	<b>0.050</b>	<b>590a</b>	<b>9.2b</b>	<b>5.8b</b>
<b>Intruder WSP</b>	<b>0.035</b>	<b>674a</b>	<b>7.7b</b>	<b>6.1b</b>

Counts represent mean # of aphids per leaf.

Means within columns followed by the same letter are not significantly different ( $P > .05$ , Tukey's HSD).



# Cultivar Effect on Population Growth Rate



L 97-128

LCP 85-384

HoCP 96-540

Ho 95-988

HoCP 91-555

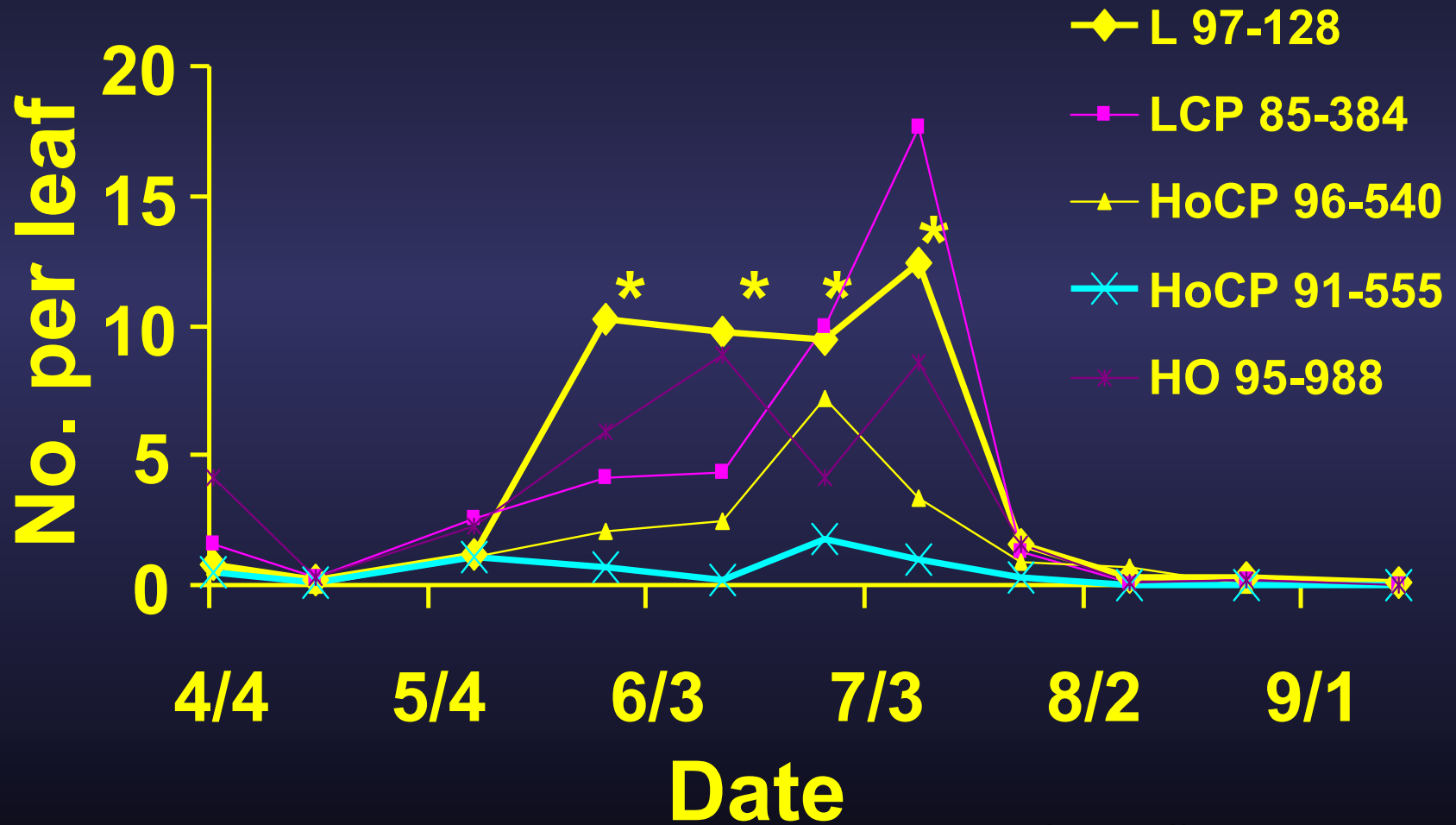
# Aphid populations on 5 sugarcane cultivars under field conditions

## Data Collection:

- April-September 2007
- Biweekly
- 10 plants per plot
- 2 leaves per plant
- 20 leaves/plot
- 100 leaves/cultivar
- Data on both yellow and sugarcane aphid



# Aphid populations on 5 sugarcane cultivars under field conditions (April-September 2007, biweekly data)



\* significant difference at  $P < 0.05$

# The Mexican rice borer (MRB)

*Eoreuma loftini*

Not detected in Louisiana  
in 2007



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