



Control Issues

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LSU AgCenter - Northeast Region





Aphids



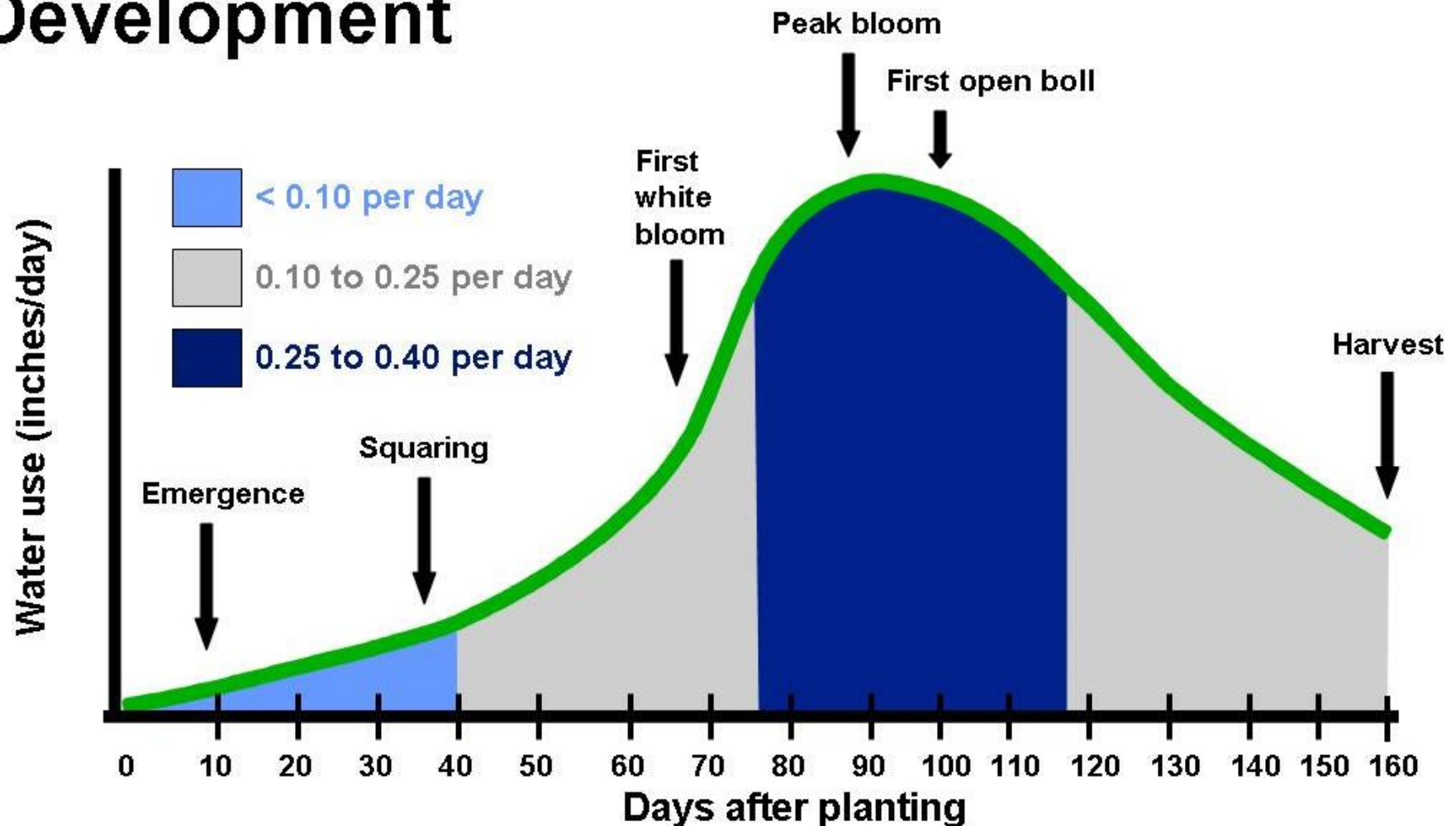
*Aphid Threshold

- * Current LA treatment threshold
 - * Treat when honeydew, leaf crinkling, and stunting begin to occur uniformly
- * Base decision on plant stress
 - * **Physiological stage of growth**
 - * Pre-bloom - treatment rarely justified
 - * May see some stunting
 - * Early bloom
 - * Moderate stress, moderate threshold; may be as low as 50 aphids leaf
 - * Heavy boll filling
 - * High stress, lower threshold; may be as low as 25 aphids per leaf
 - * **As modified drought stress**
 - * The more droughty, the more apt to see injury

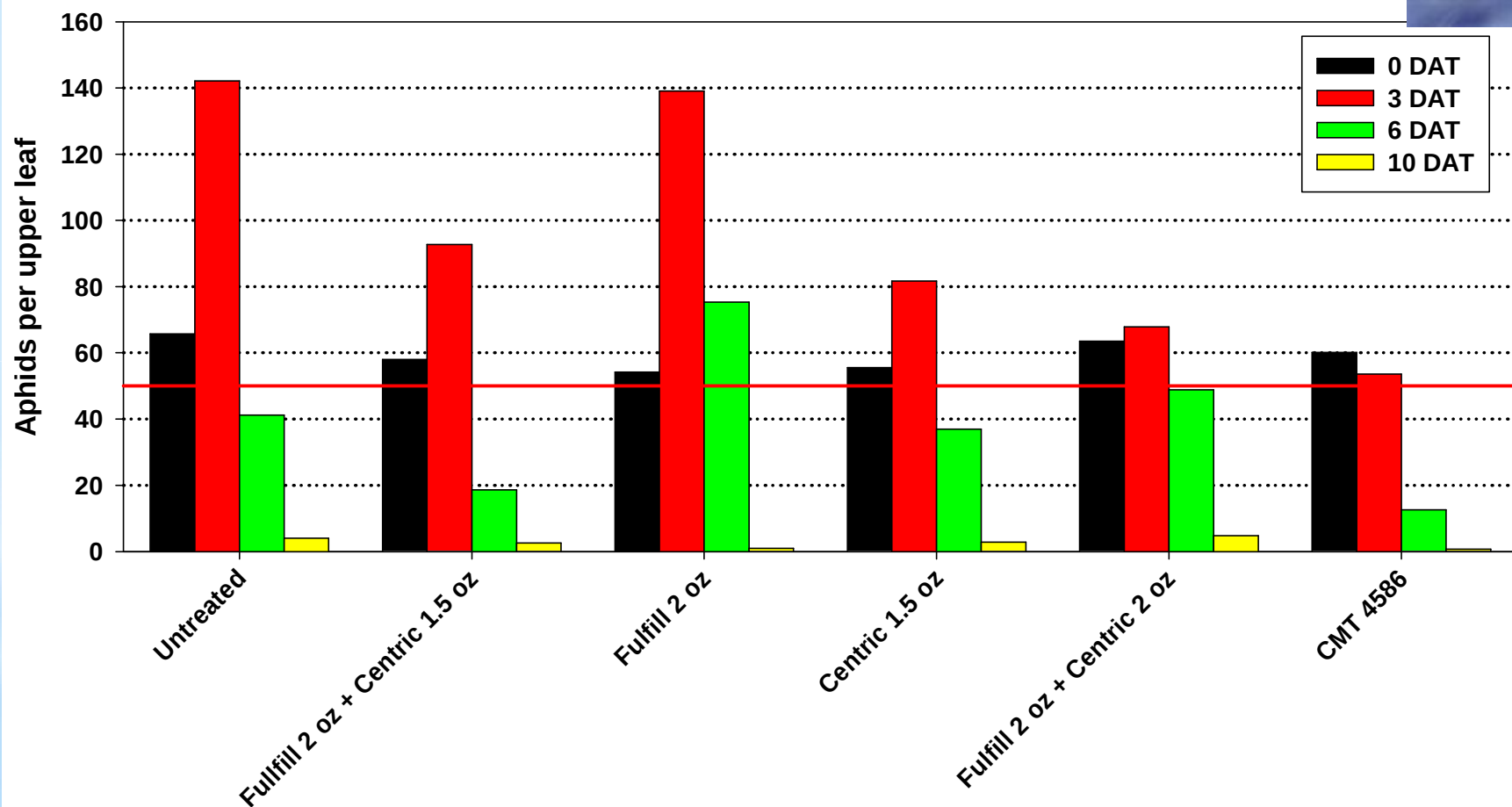


- * Alter aphid threshold in accordance with plant stress

Rate of Water Use In Relation To Cotton Development

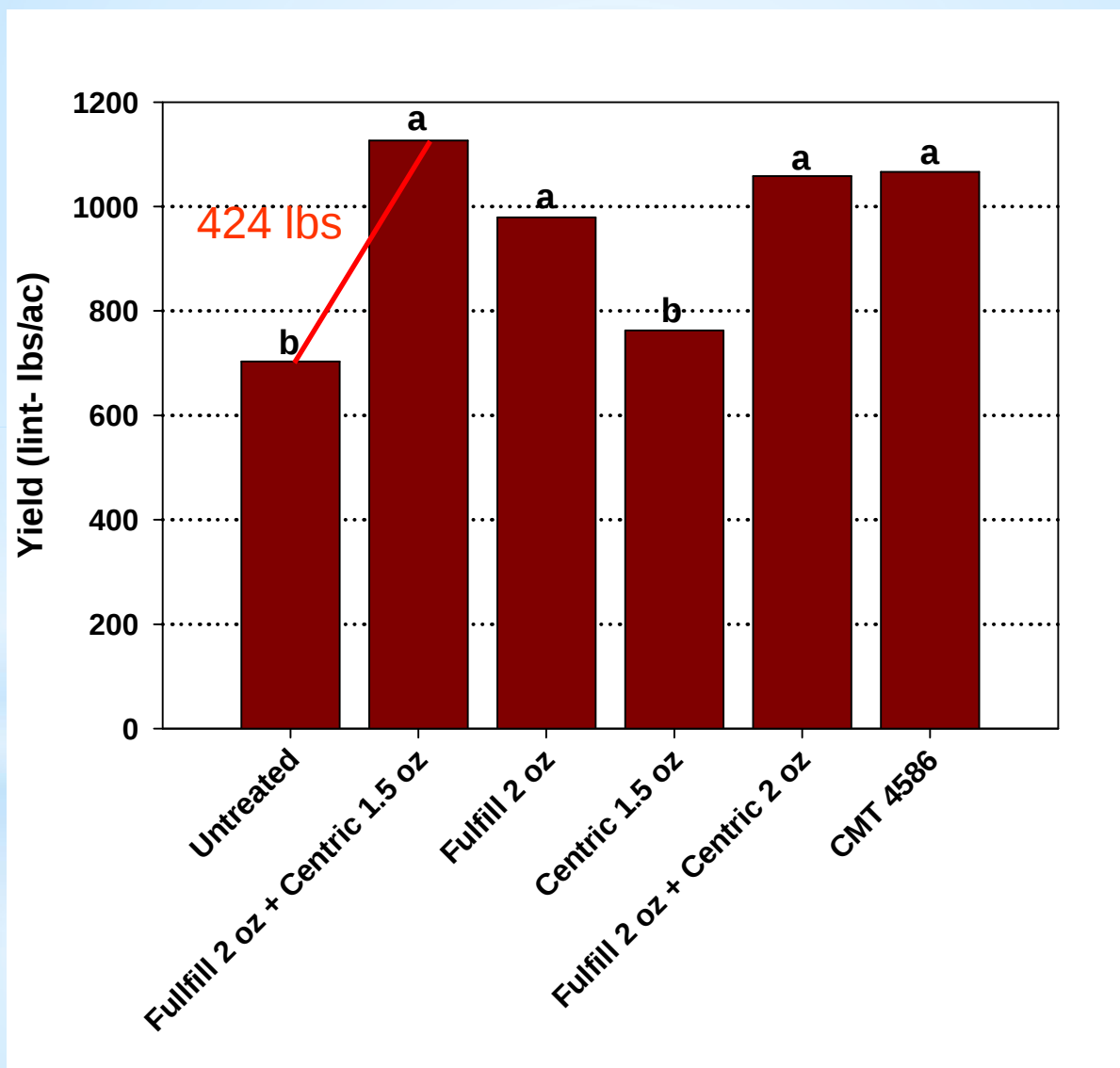


* Tom Green Co, TX - Peak bloom

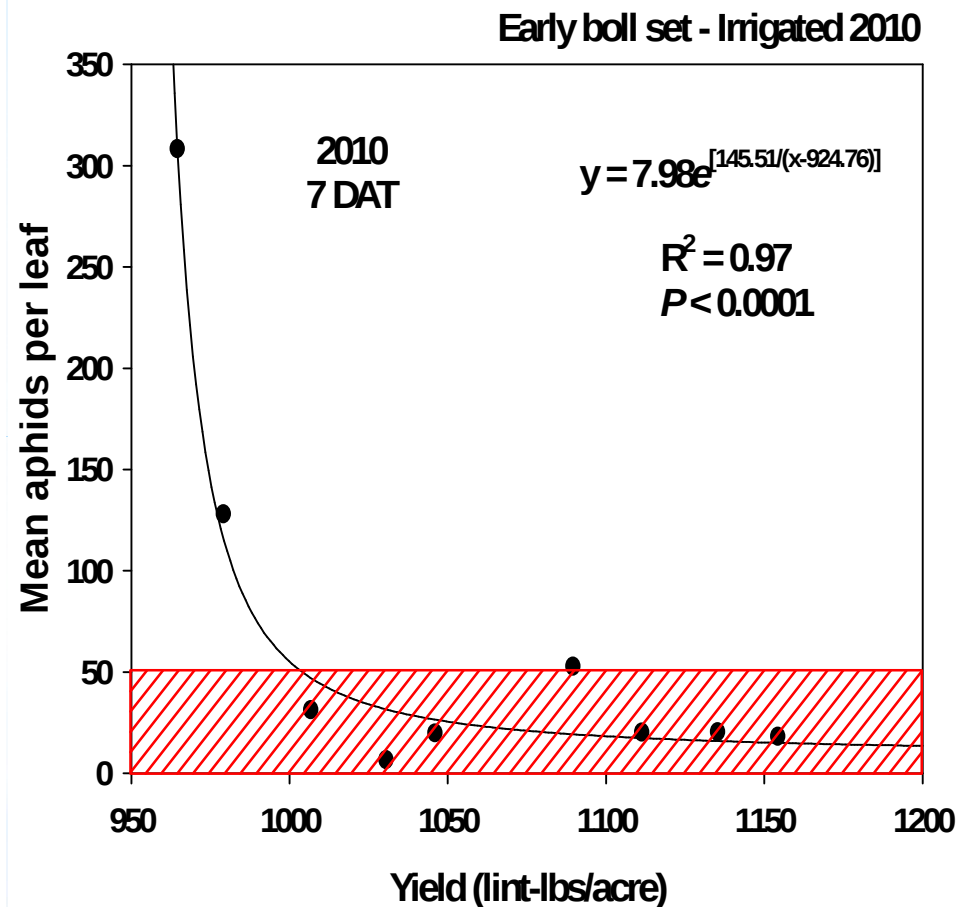
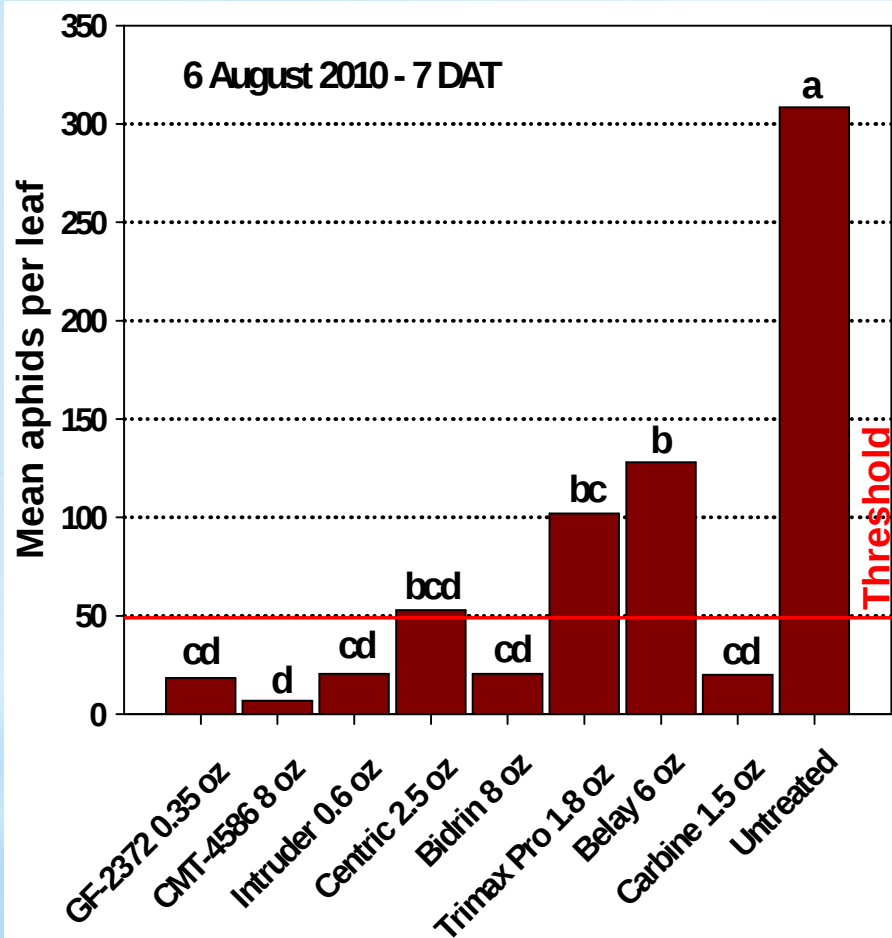


Data from Dr. Chris Sansone and Rick Minzenmeyer

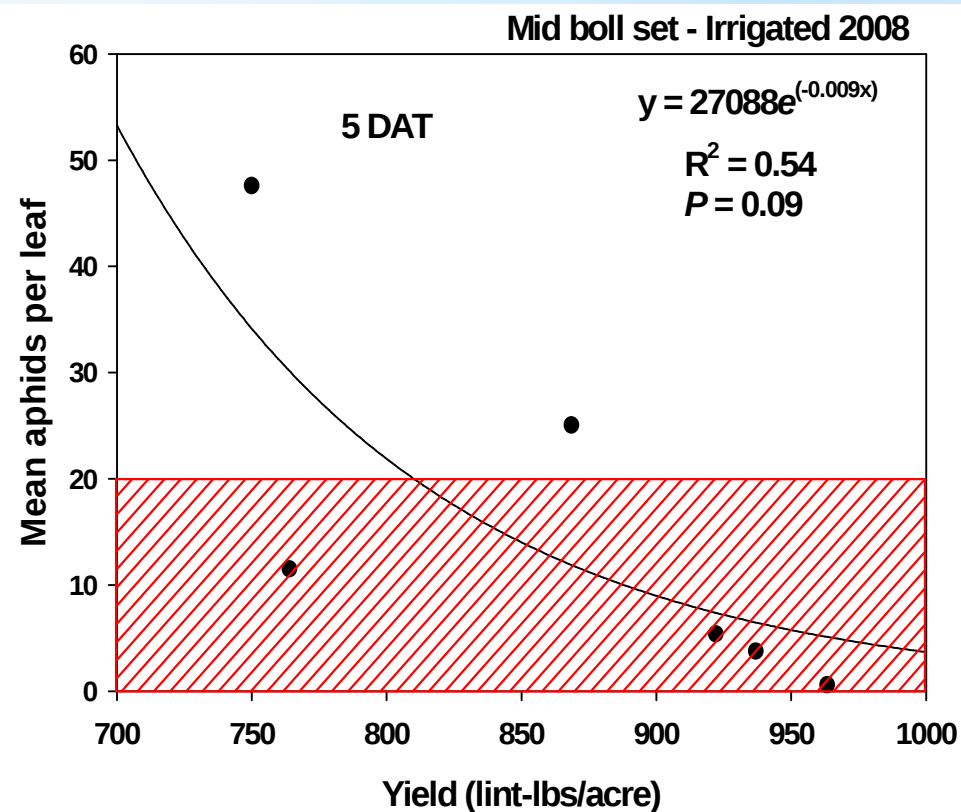
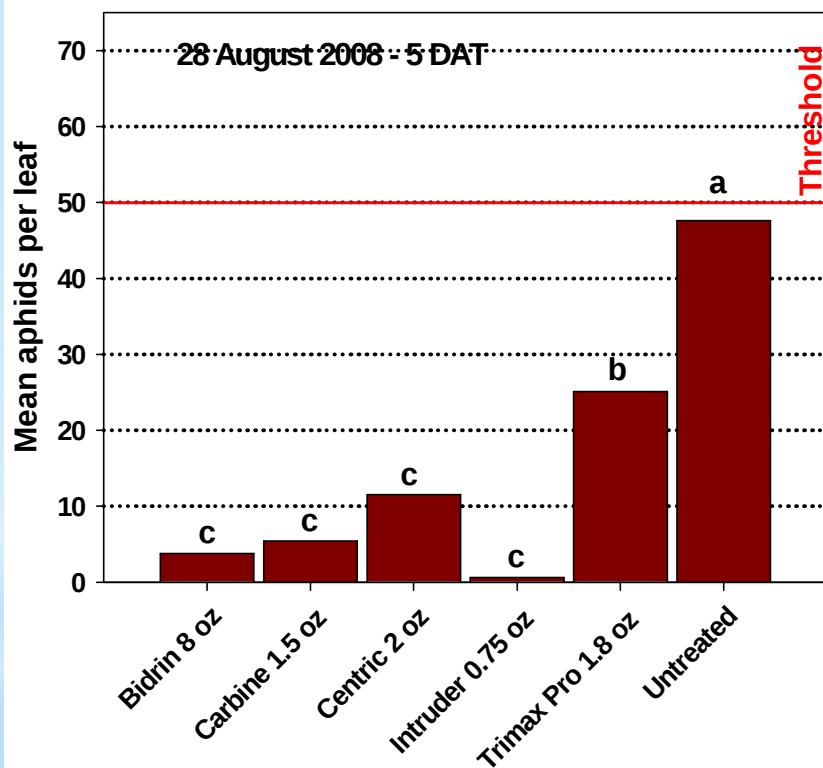
*Tom Green Co, TX - 2010



* Moderately Stress Cotton - Early bloom



* Highly Stressed Cotton - Heavy boll load



Insecticides for Aphids



Pending Section 3 Label
Sulfoxaflor

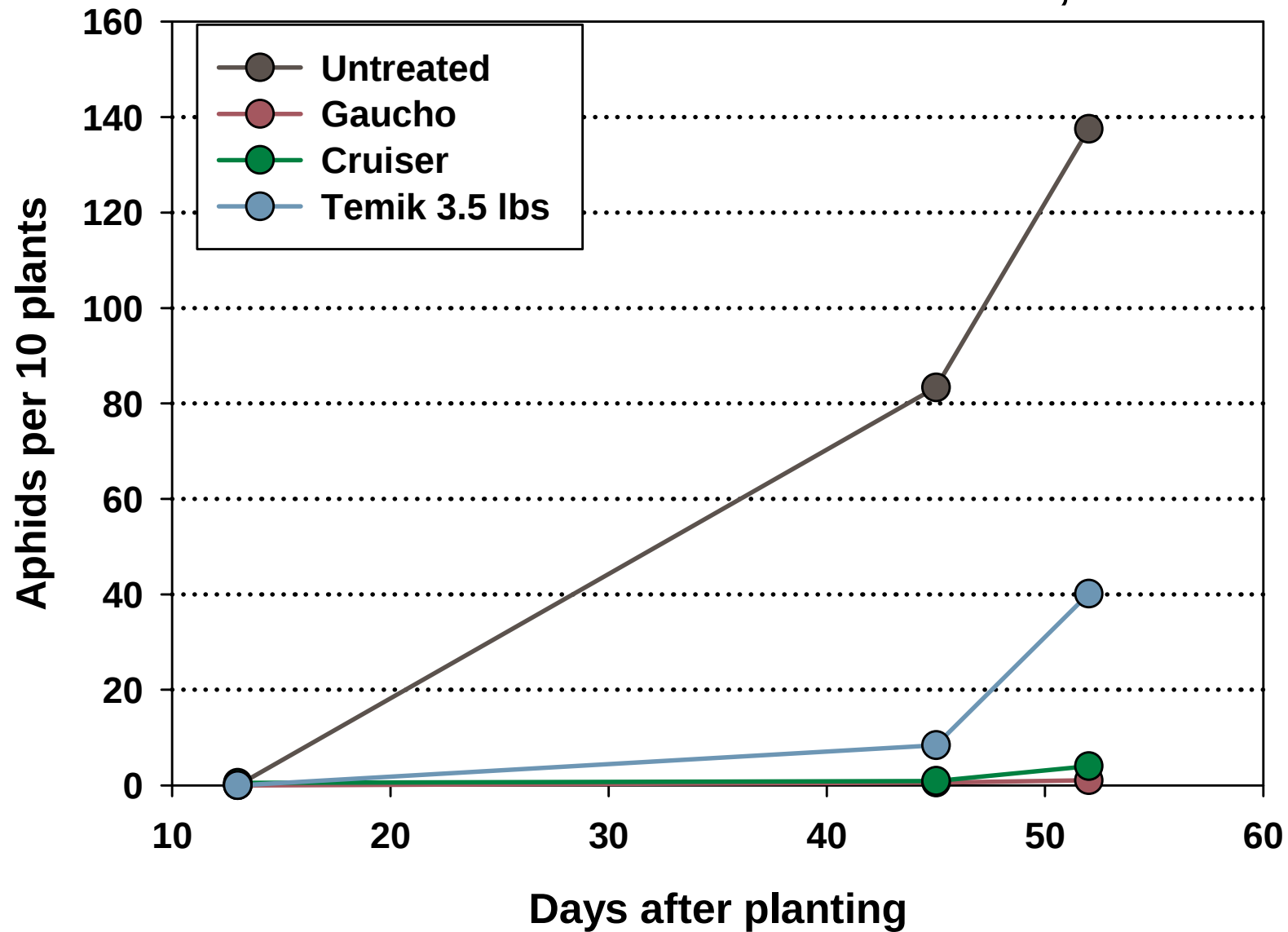


Flonicamid



Acetamiprid

Winnsboro, LA 2012



* Seed treatments do place selection pressure on aphids

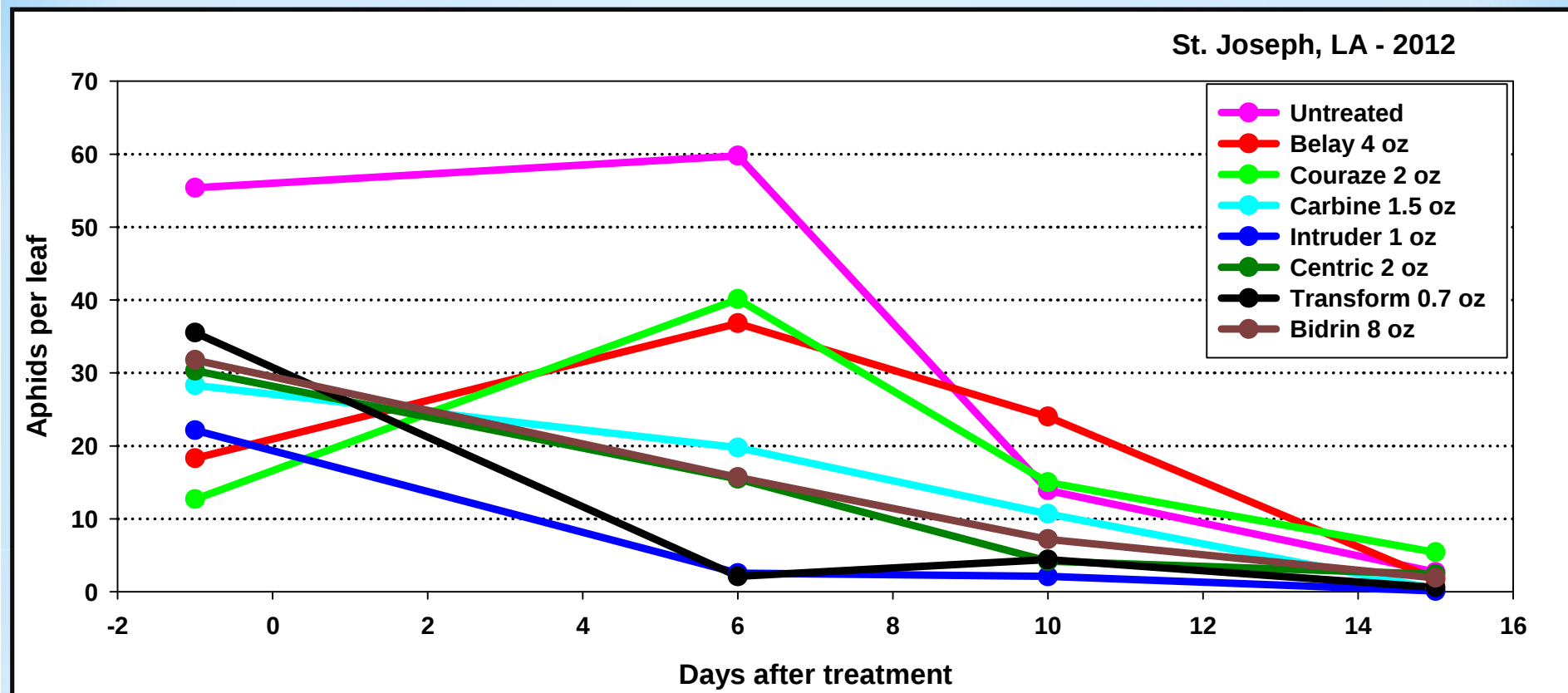
* Insecticide resistance - thiamethoxam

Data courtesy of Dr. Jeff Gore - MSU				Thiamethoxam (72H)	
Colony	Year		Trts.	LC50 (CI)	X ² (P)
Leland, MS	2008		2	12.95 (10.53-16.22)	4.45 (0.35)
Stoneville, MS	2008		0	3.05 (2.52-3.65)	4.98 (0.29)
Grenada, MS	2008		2	10.71 (6.44-18.81)	8.11 (0.09)
Grenada, MS	2008		1	15.56 (7.66-50.77)	12.97 (0.01)
Grenada, MS	2008		0	2.93 (1.63-4.63)	12.90 (0.02)
Grenada, MS	2009		0	2.56 (1.76-3.47)	6.23 (0.28)
Grenada, MS (A)	2009		1	14.50 (11.4-18.7)	10.76 (0.10)
Grenada, MS (B)	2009		1	12.15 (9.8-15.1)	8.35 (0.30)
Grenada, MS (C)	2009		1	5.93 (4.51-7.68)	8.89 (0.18)
Wayside, MS	2009		2	10.05 (8.07-12.69)	2.01 (0.85)
Marks, MS	2009		3	7.70 (5.91-10.15)	4.84 (0.44)
Arkansas (A)	2009		0	5.79 (4.69-7.12)	2.94 (0.71)
Arkansas (B)	2009		1	10.61 (8.31-13.89)	5.98 (0.31)
Grenada, MS	2010		1	20.90 (15.67-31.18)	3.79 (0.43)
Winnsboro, LA	2010		0	12.57 (9.35-18.37)	0.69 (0.95)
Glendora, MS	2010		1	9.21 (7.64-11.27)	2.18 (0.70)
Alexandria, LA	2010		1	13.35 (10.79-16.78)	3.53 (0.62)
Stoneville, MS	2010		1	17.71 (13.73-23.98)	1.78 (0.88)
Tennessee	2010		1	2.74 (2.31-3.24)	4.91 (0.18)
Belzoni	2011		2	122.42 (64.65-414.31)	0.93 (0.97)
Wayside	2011		0	23.77 (17.11-36.96)	2.88 (0.72)
Glendora	2011		2	57.52 (39.26-107.64)	2.32 (0.68)
St. Joe, LA	2011		1	70.41 (36.15-243.07)	1.26 (0.94)
Winn., LA	2011		0	26.19 (18.56-41.99)	2.54 (0.77)
Lubbock, TX	2011		0	17.89 (14.19-23.47)	1.76 (0.88)

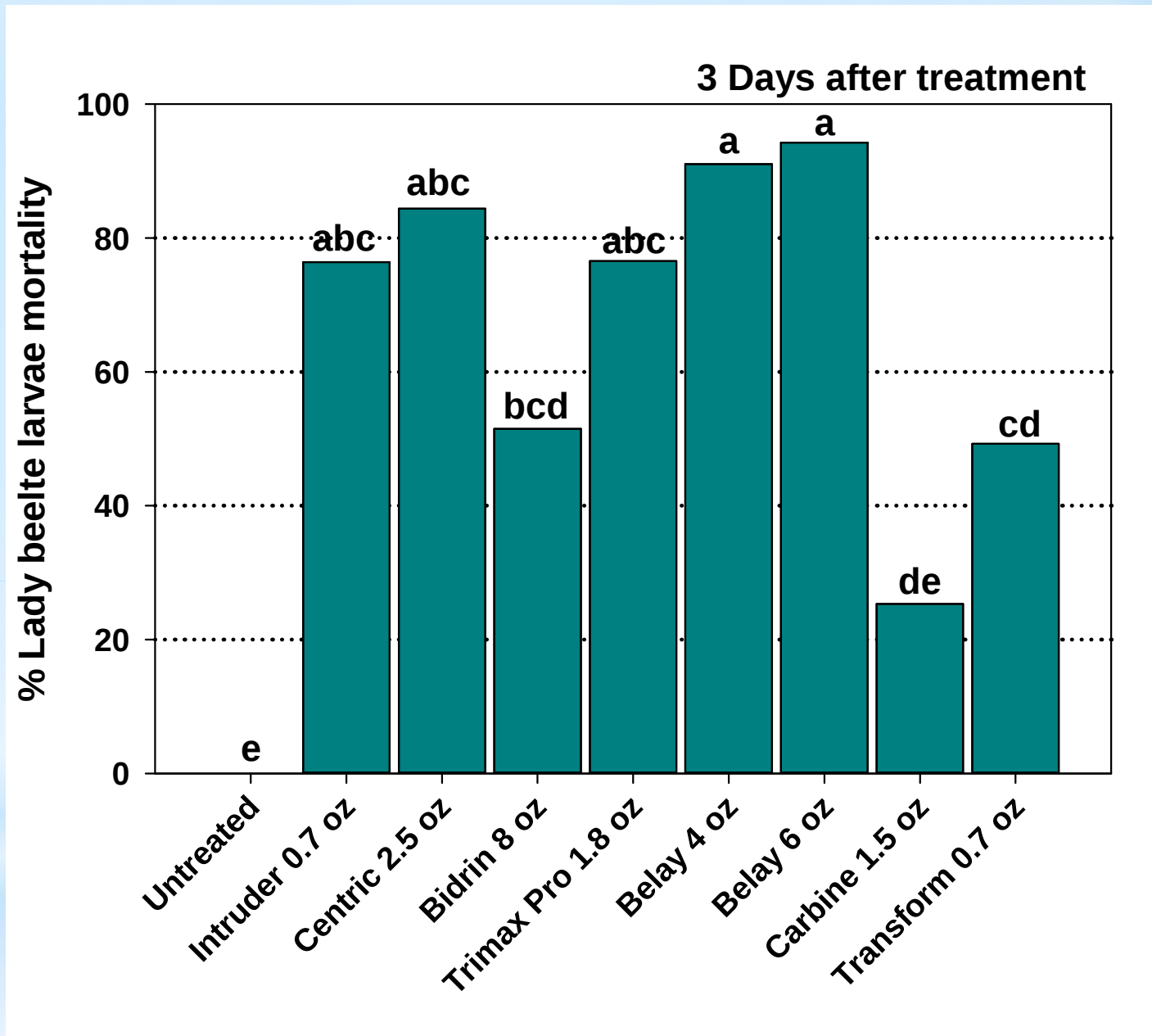
A susceptible population would have a LC50 of ~3.00 ppm

* Insecticide resistance - sulfoxaflor

Data courtesy of Dr. Jeff Gore - MSU				Sulfoxaflor (72H)	
Colony	Year		Trts.	LC50 (CI)	X ² (P)
Leland, MS	2008		2	0.92 (0.70-1.20)	6.46 (0.17)
Stoneville, MS	2008		0	1.25 (0.97-1.62)	1.92 (0.75)
Grenada, MS	2008		2	1.23 (0.95-1.58)	6.82 (0.23)
Grenada, MS	2008		1	1.23 (0.98-1.54)	8.83 (0.12)
Grenada, MS	2008		0	1.51 (1.11-2.09)	5.66 (0.23)
Grenada, MS	2009		0	1.6 (1.20-2.03)	4.56 (0.24)
Grenada, MS (A)	2009		1	2.86 (1.97-3.88)	8.20 (0.15)
Grenada, MS (B)	2009		1	1.79 (1.00-2.69)	6.72 (0.24)
Grenada, MS (C)	2009		1	1.60 (1.16-2.06)	2.73 (0.60)
Wayside, MS	2009		2	2.40 (1.90-2.97)	5.01 (0.29)
Marks, MS	2009		3	4.13 (2.97-5.59)	1.53 (0.91)
Arkansas (A)	2009		0	2.90 (2.22-3.71)	6.50 (0.16)
Arkansas (B)	2009		1	3.40 (2.82-4.12)	0.51 (0.92)
Grenada, MS	2010		1	2.96 (2.53-3.45)	3.45 (0.33)
Winnsboro, LA	2010		0	2.55 (2.14-3.00)	1.57 (0.67)
Glendora, MS	2010		1	2.14 (1.89-2.44)	5.09 (0.28)
Alexandria, LA	2010		1	2.78 (2.37-3.25)	2.49 (0.48)
Stoneville, MS	2010		1	2.09 (1.83-2.40)	4.53 (0.48)
Tennessee	2010		1	2.75 (2.37-3.18)	2.08 (0.56)
Belzoni	2011		2	2.77 (2.37-3.23)	3.11 (0.37)
Wayside	2011		0	3.56 (3.11-4.07)	3.18 (0.53)
Glendora	2011		2	2.71 (2.37-3.10)	4.03 (0.26)
St. Joe, LA	2011		1	1.46 (1.27-1.69)	0.66 (0.96)
Winn., LA	2011		0	2.88 (2.52-3.30)	1.56 (0.67)
Lubbock, TX	2011		0	2.24 (1.88-2.64)	4.39 (0.22)

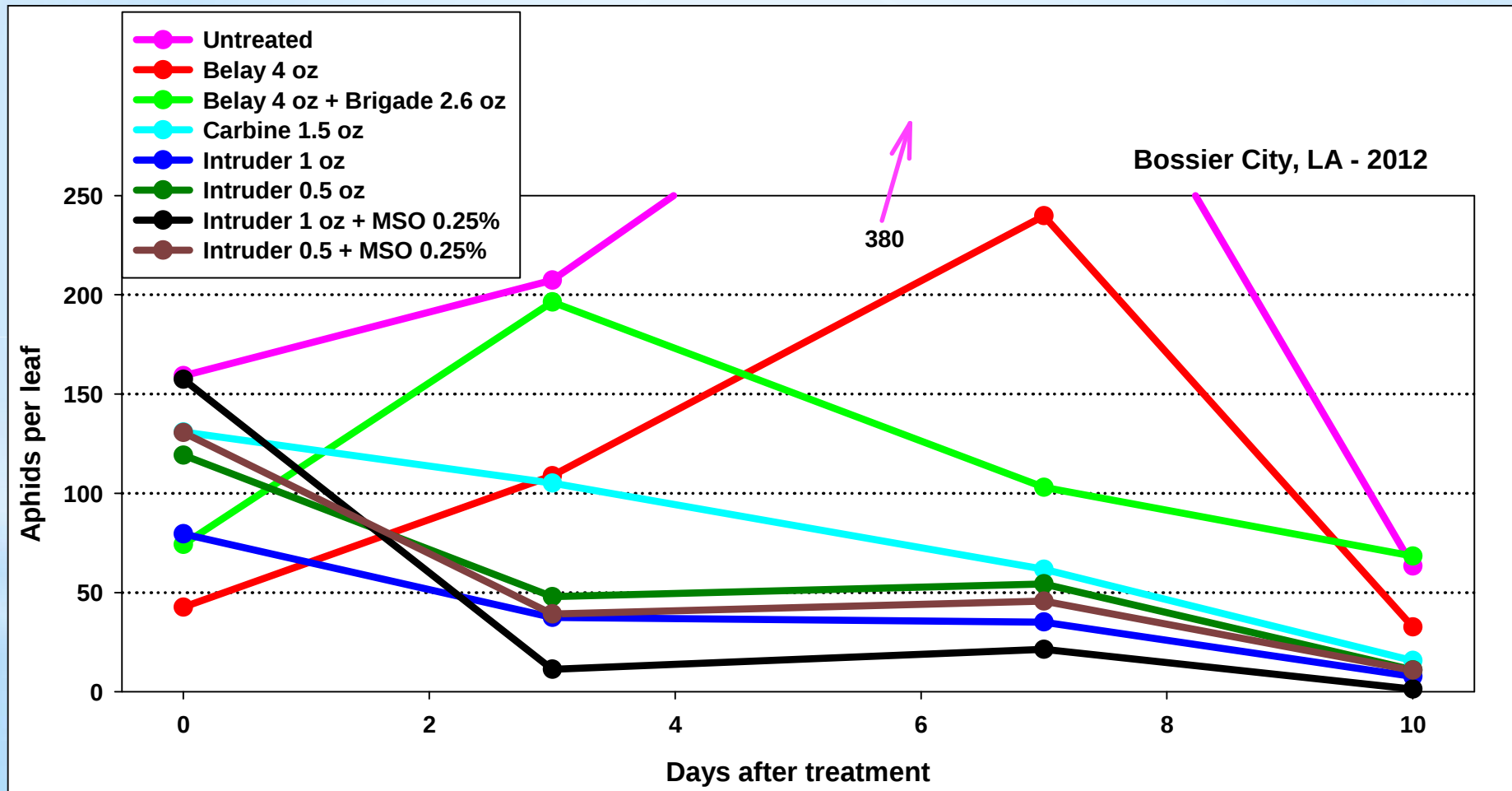


* Intruder and Transform offer the most consistent aphid control

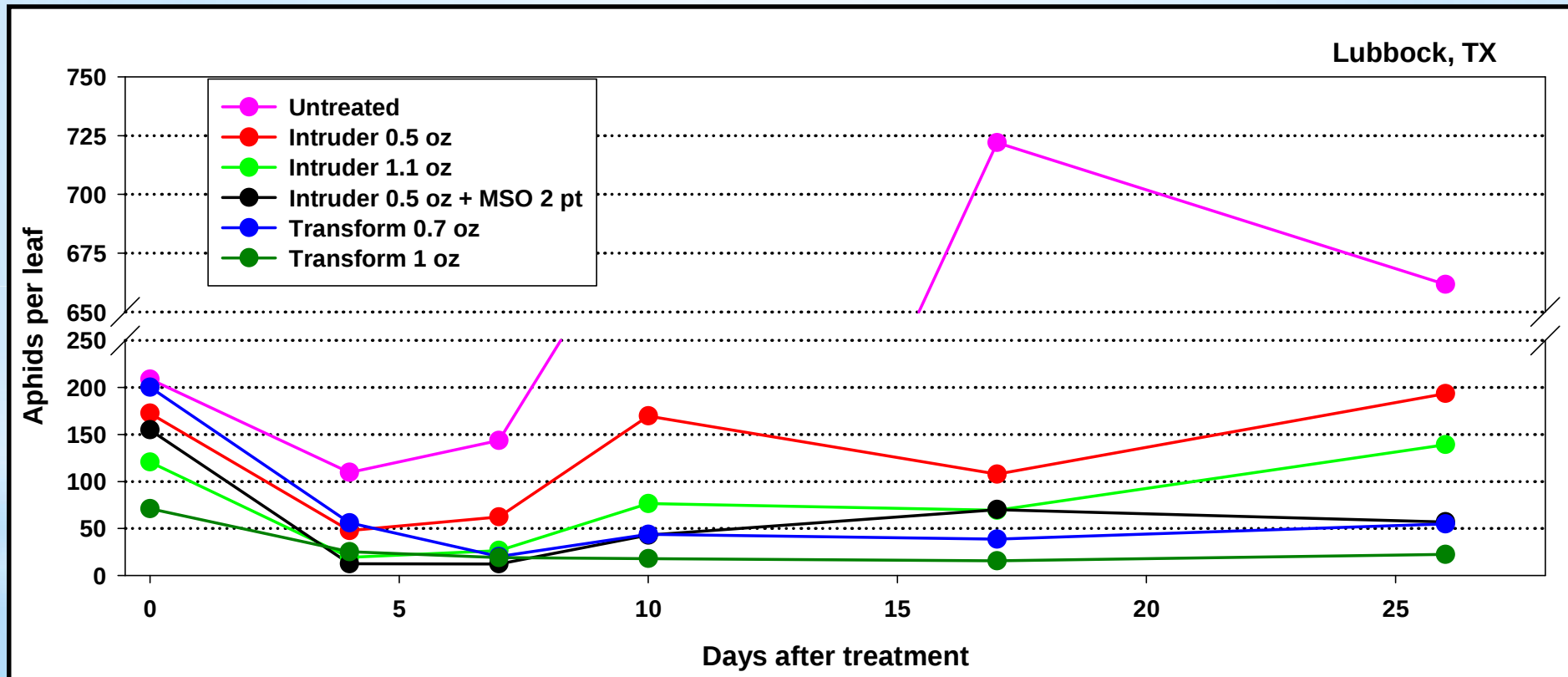


* Neonicotinoids are hard on lady beetle larvae

*MSO enhances Intruder activity



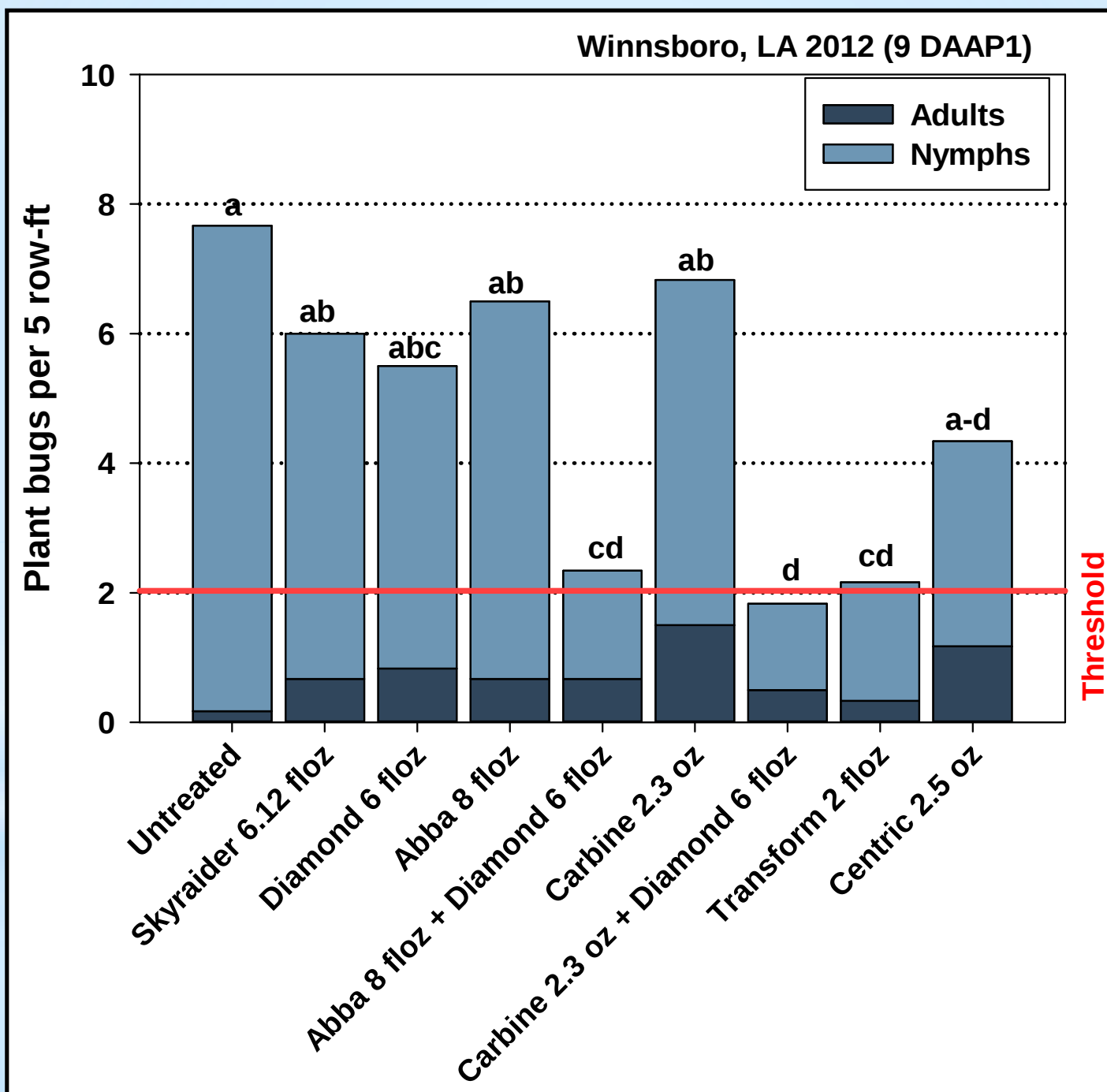
*MSO enhances Intruder activity

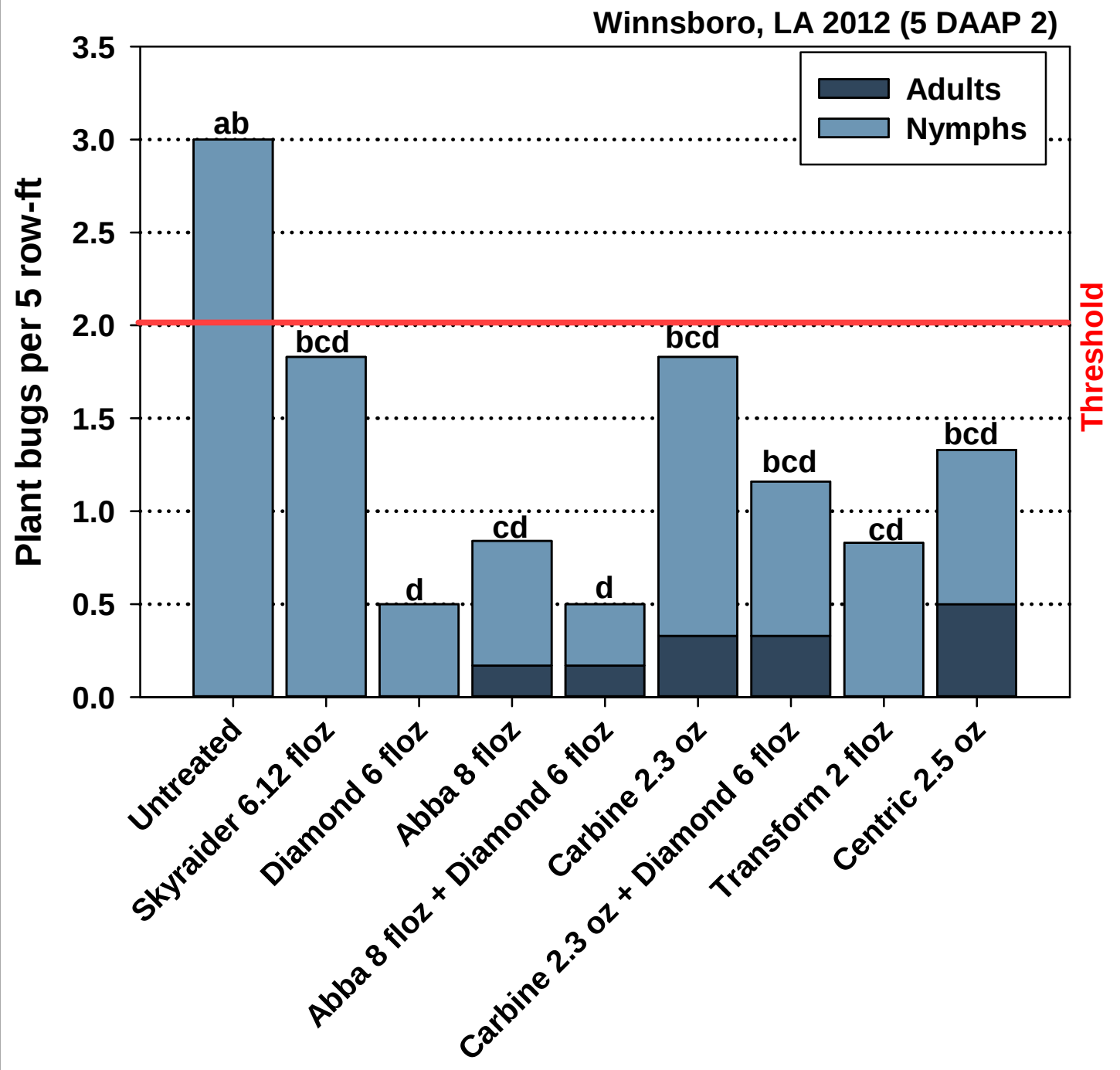


Transform for Plant Bugs



- * Doesn't have a Section 3 label yet
- * When labeled in cotton
 - * Dow is recommending Transform 1.5 oz/ac followed by Transform 1.5 oz/ac, 5 to 7 days later
 - * Strategy should work from a control point of view
 - * Might consider using Transform at 2 oz/ac on initial application if the plant bug population is high
 - * For resistance management purposes, we like Transform at 2 oz/ac followed by a different MOA 5-7 days later

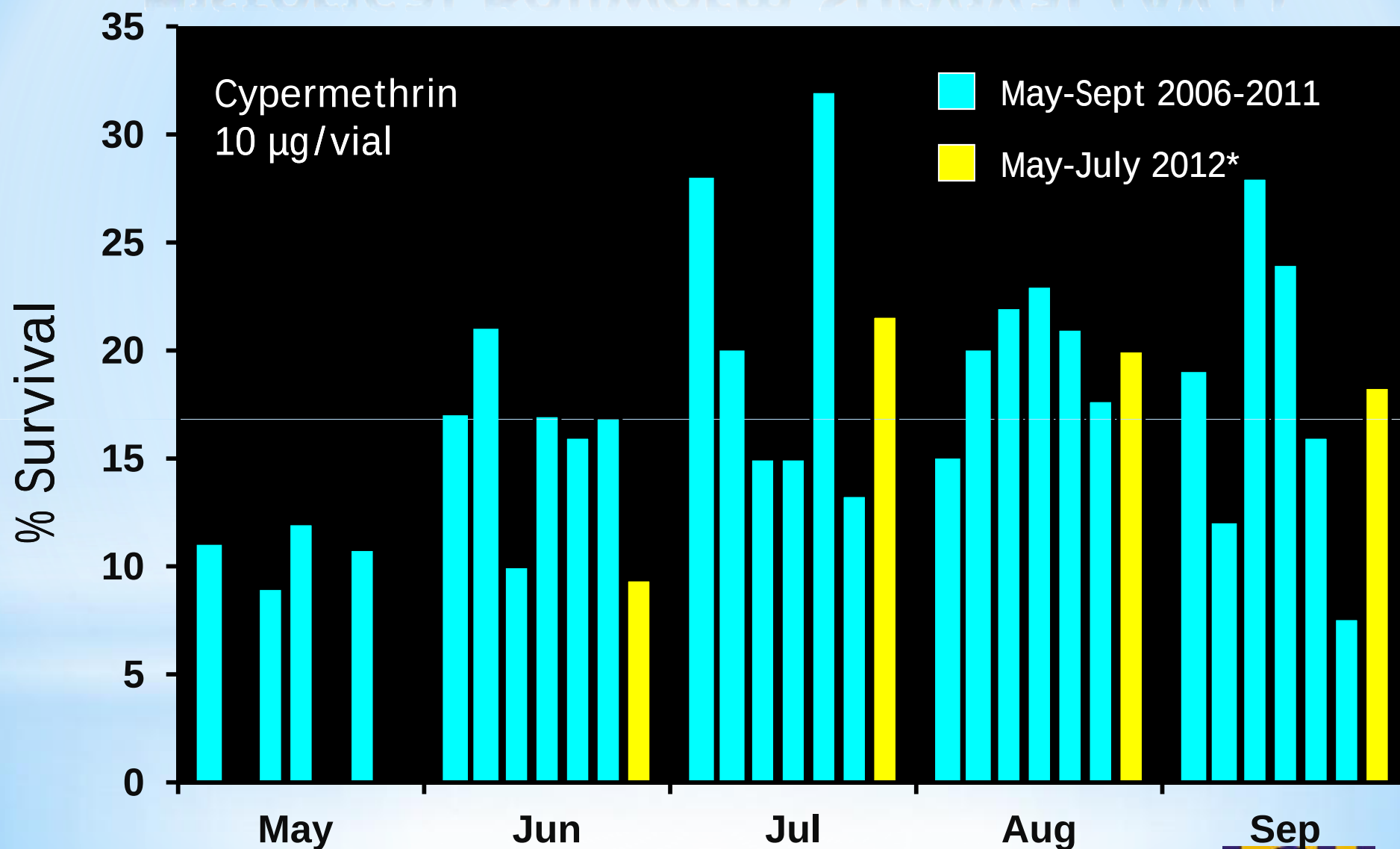




* Bollworm Resistance Monitoring

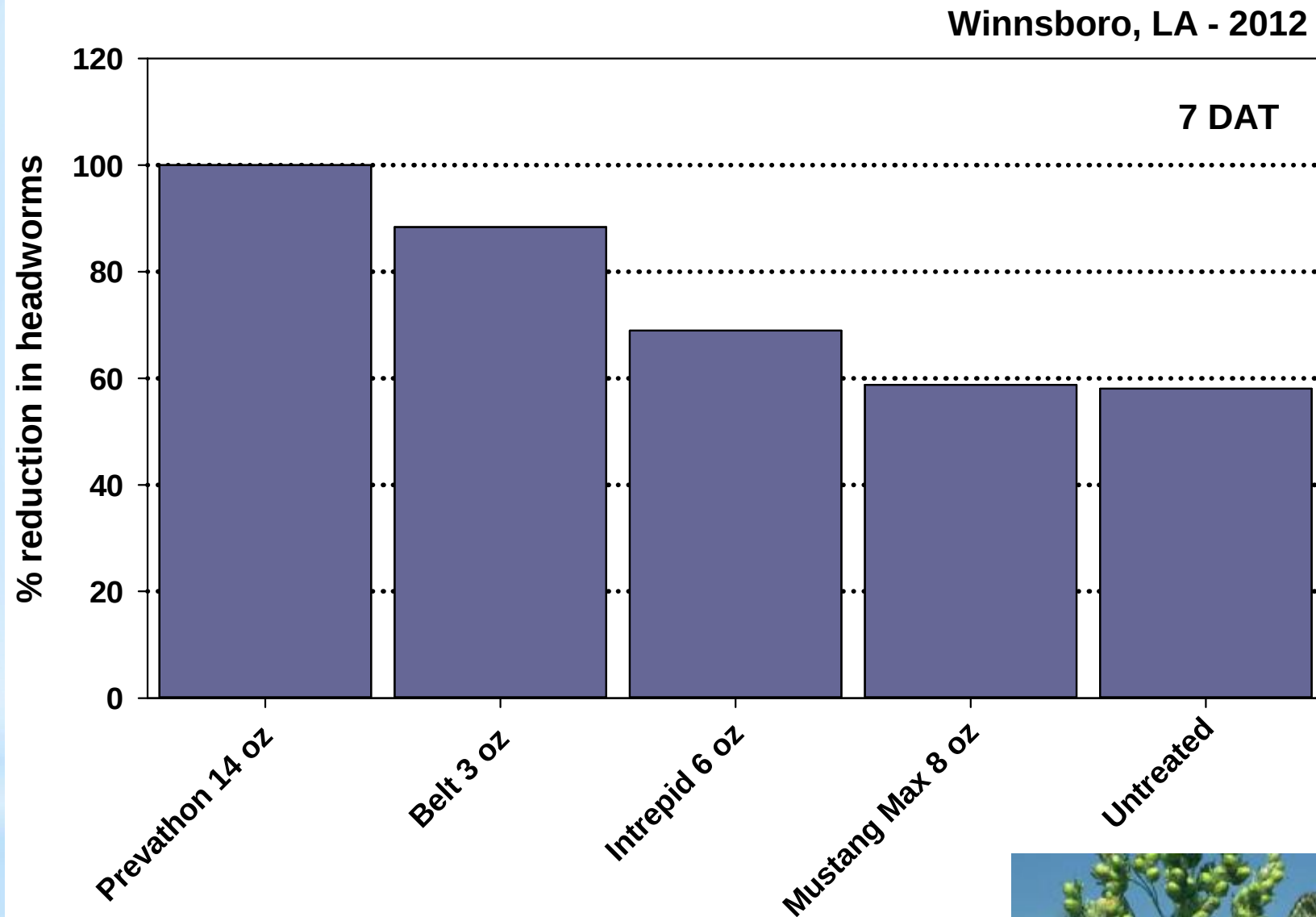


Historical Bollworm Survival (AVT)



* 2 collection sites, 936 moths tested Louisiana





* Pyrethroids offer little control



Research Supported by:



Questions?