

Status of Insecticide Resistance: Cotton Aphid

Jeff Gore

Mississippi State University
Stoneville, MS

Don Cook - MSU

Angus Catchot - MSU

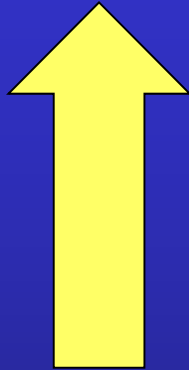
Roger Leonard - LSU

Gus Lorenz - UA

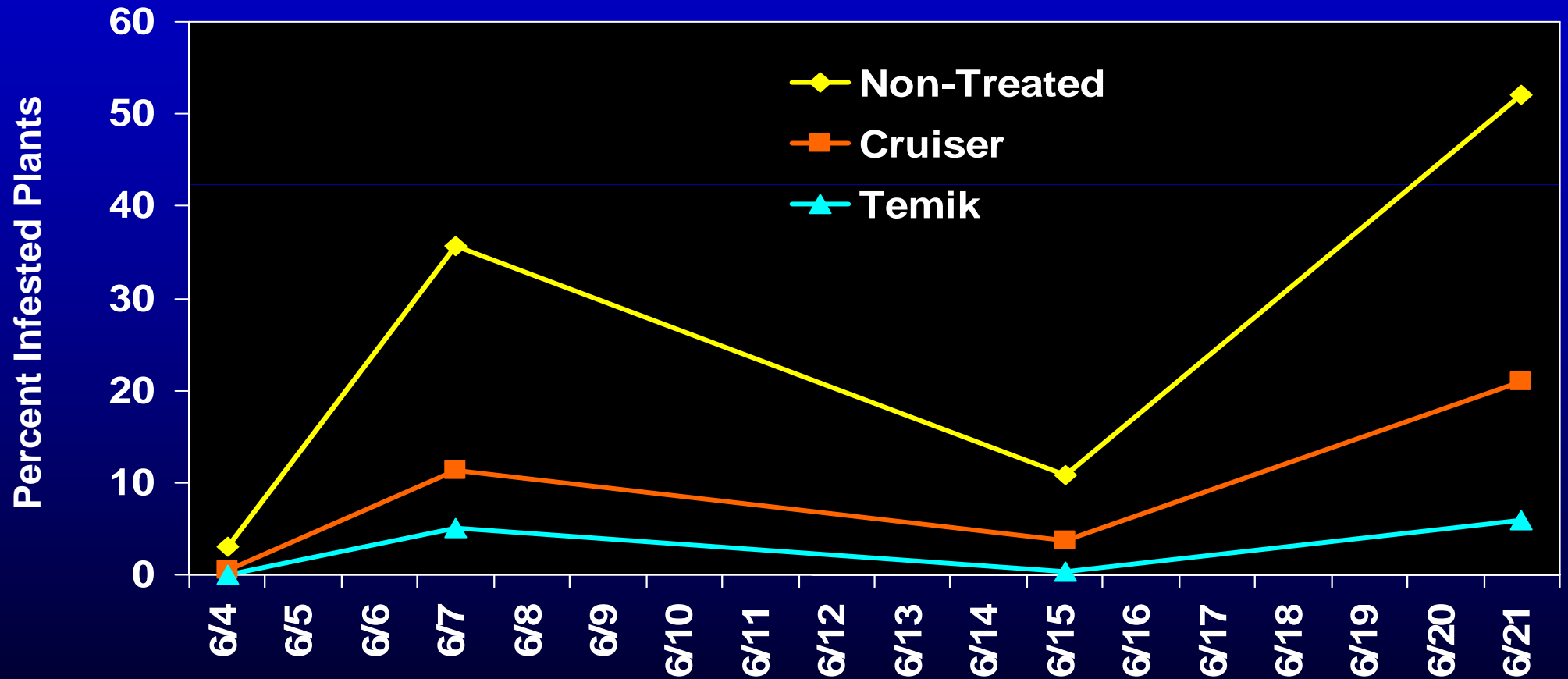
Scott Stewart - UT



At-Planting Insecticides



Impact of At-Planting Insecticides on Aphid Populations



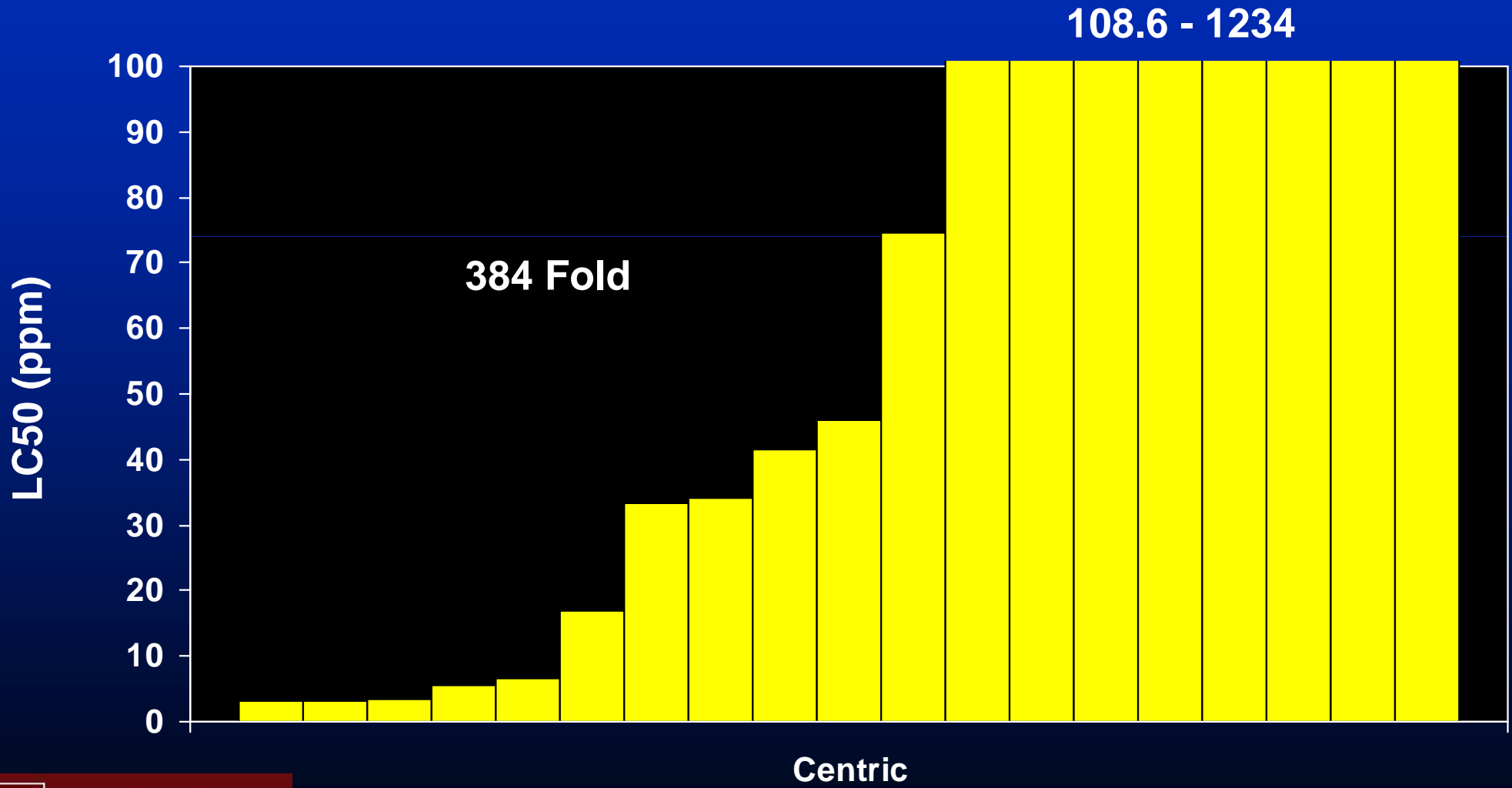
Data generated from large blocks of cotton >5 acres

Insecticide Efficacy Against Aphids, 2004

Treatment/form.	Rate/acre lb AI	Percent Aphid Control	
		2 DAT	7 DAT
2004			
Intruder 70WP	0.026	99.2	95.4
Centric 40WG	0.047	98.4	96.7
2006			
Intruder 70WP	0.05	74.9	94.4
Centric 40WG	0.047	85.5	88.6

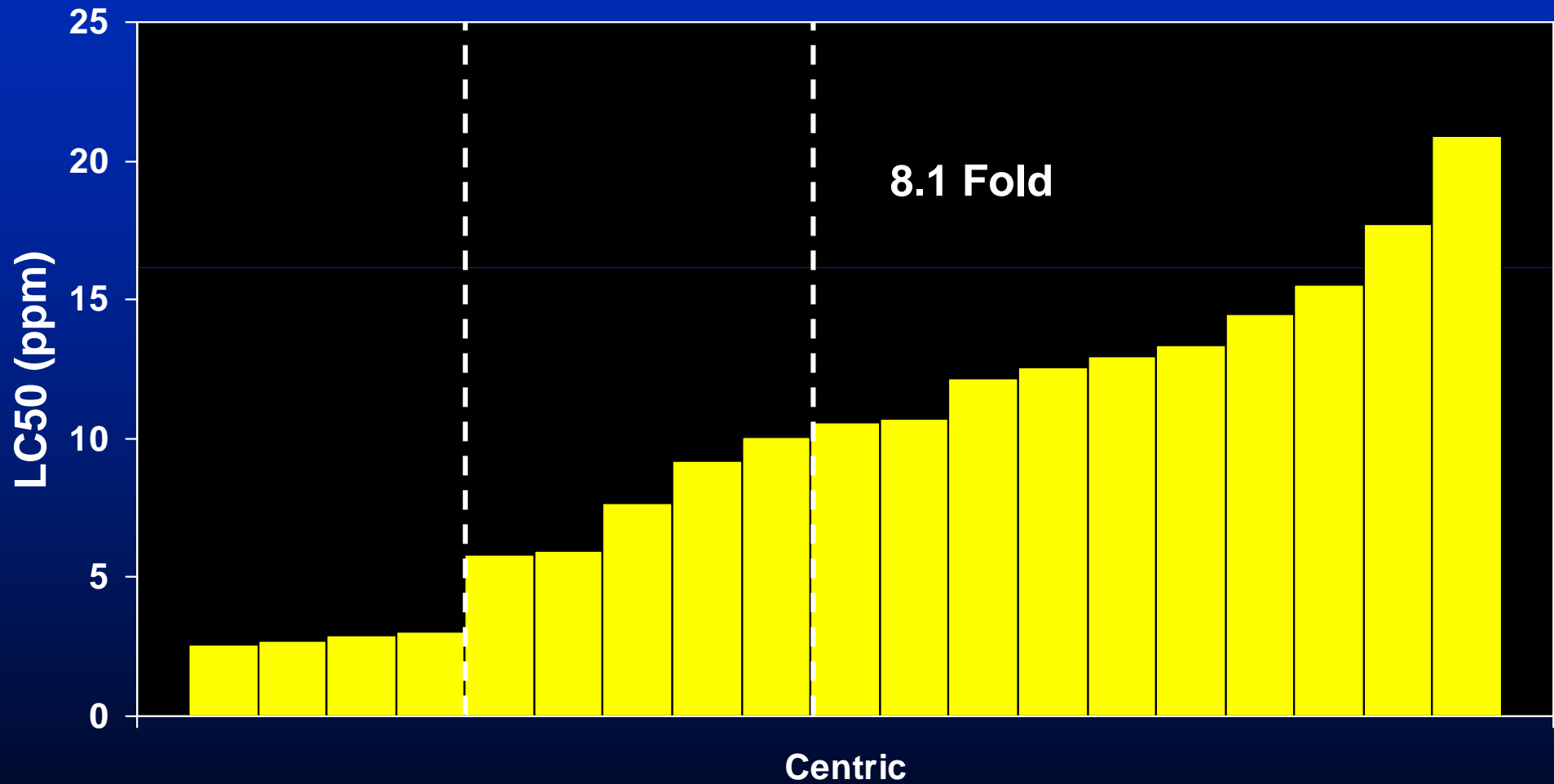
Cotton Aphid Leaf-Dip Bioassays – 2008-2010

48 HAT

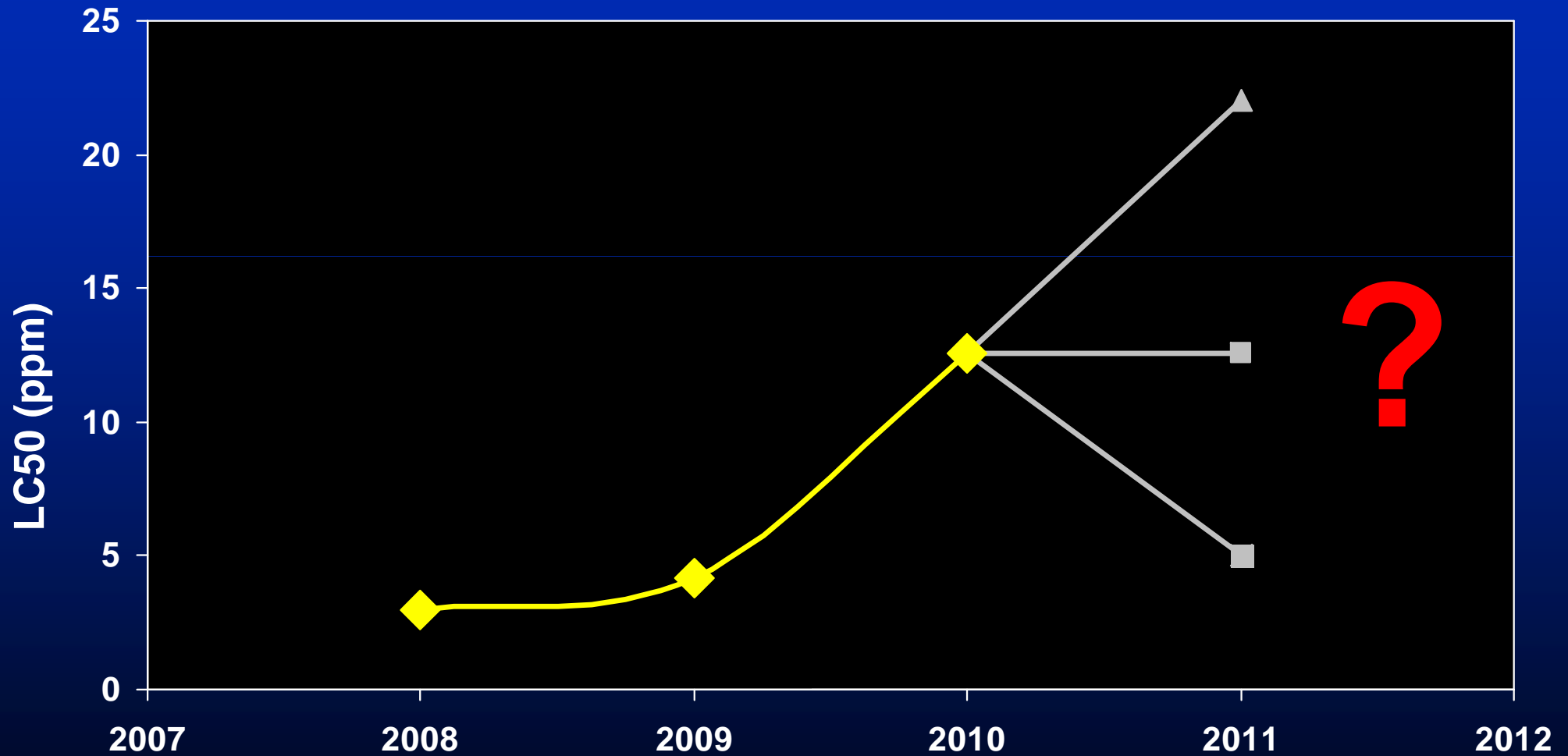


Cotton Aphid Leaf-Dip Bioassays – 2008-2010

72 HAT

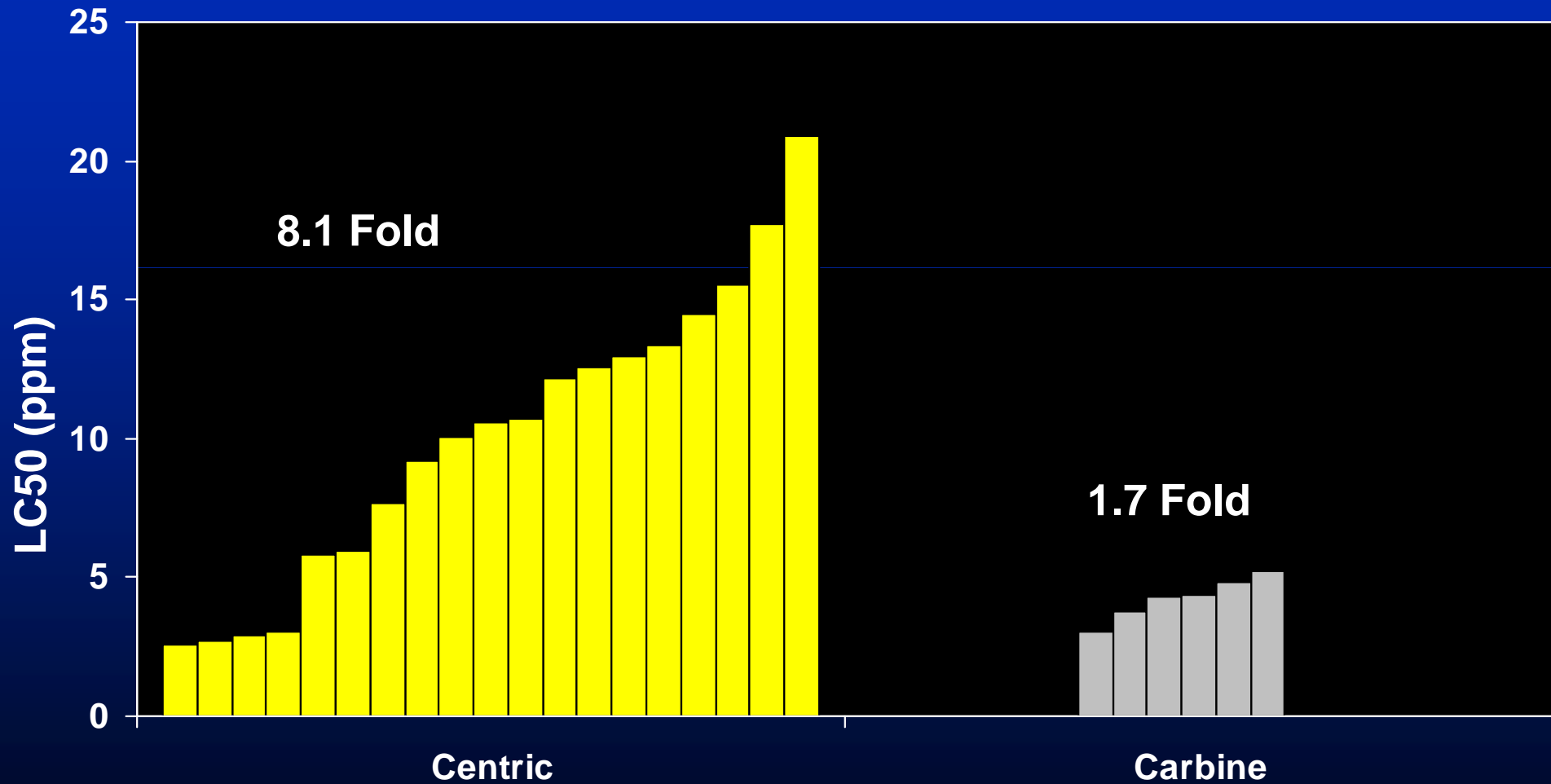


Susceptibility of Cotton Aphids from Non-Treated Fields to Thiamethoxam



Cotton Aphid Leaf-Dip Bioassays – 2008-2010

72 HAT





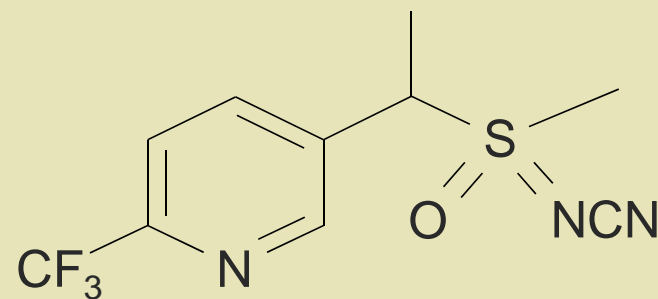
Sulfoxaflor

- Sulfoxaflor is a member of a new chemical class of insecticides: *Sulfoximines*
 - Discovered by and proprietary to Dow AgroSciences
- Sulfoxaflor is targeted for global development in all major crop groups

Insecticide Class: Sulfoximine

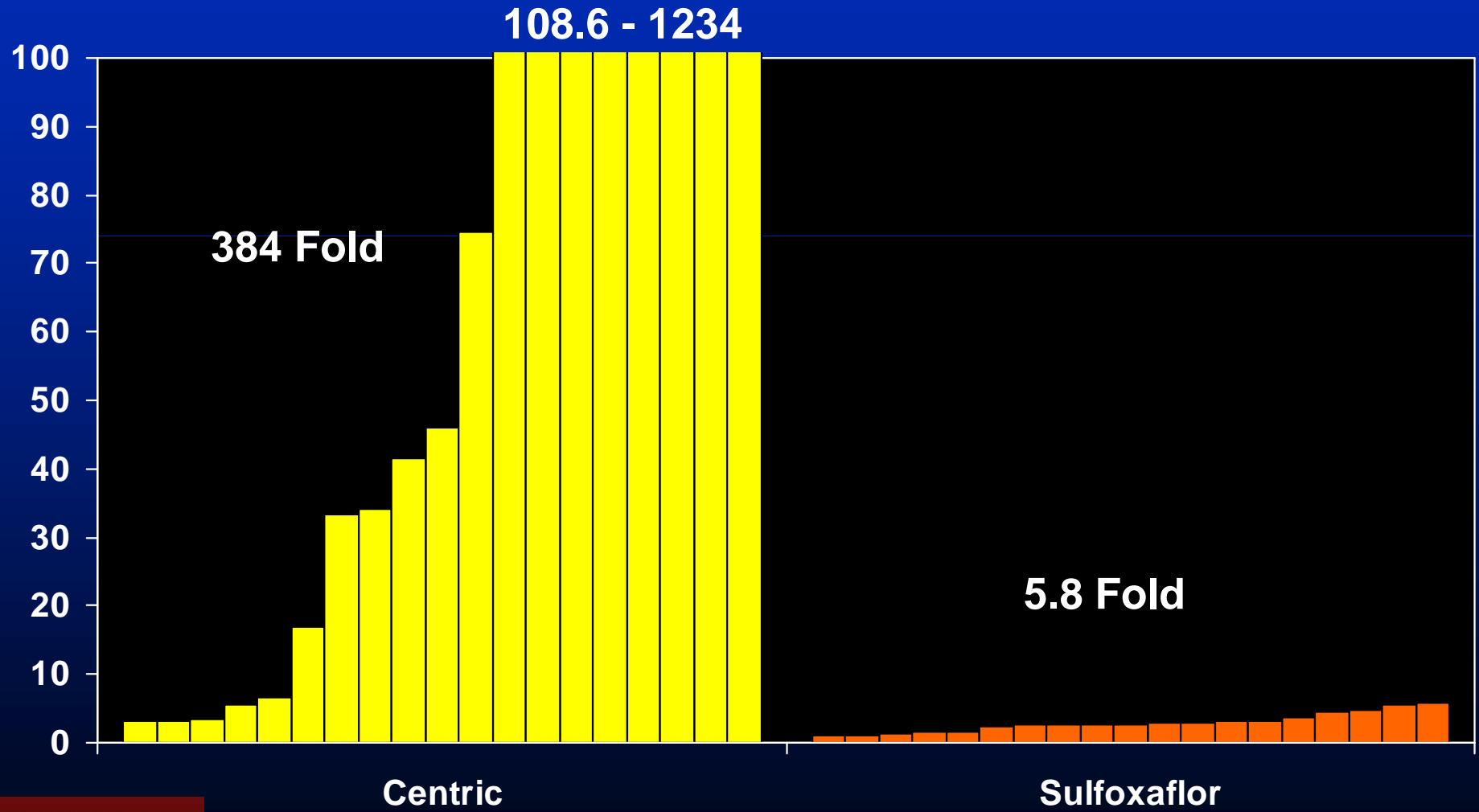
Transform WG

Rates: 0.75-1.5 oz./A



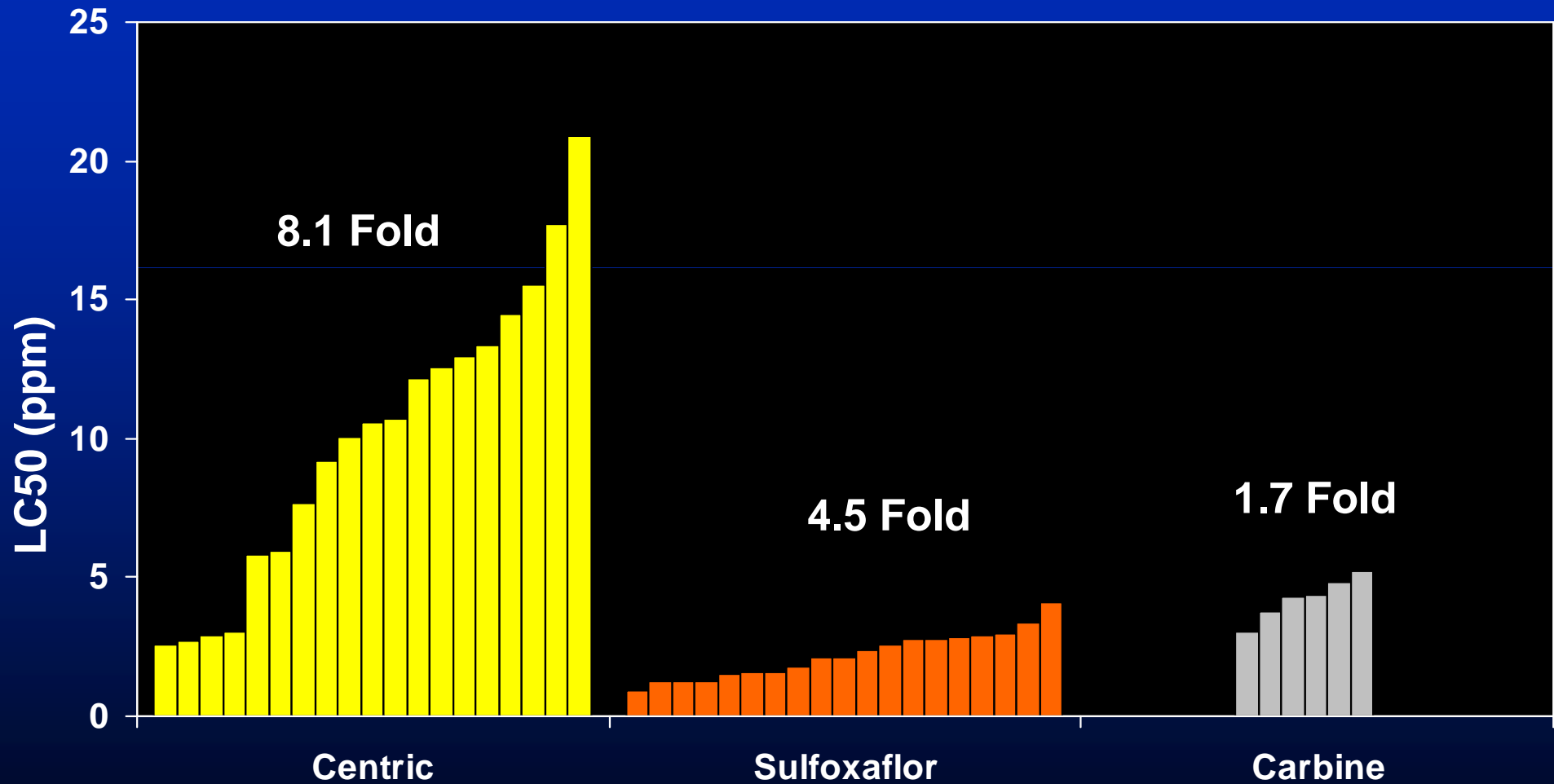
Cotton Aphid Leaf-Dip Bioassays – 2008-2010

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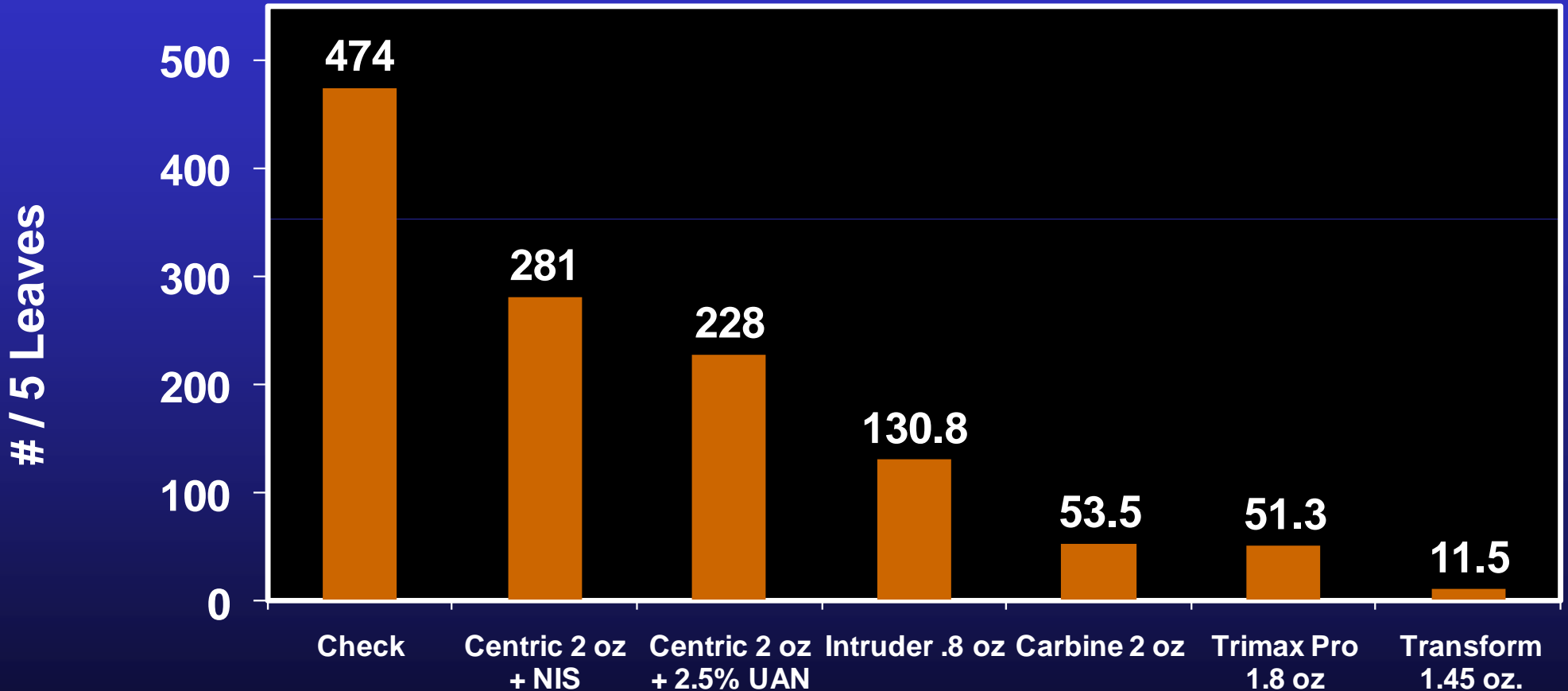
Cotton Aphid Leaf-Dip Bioassays – 2008-2010

72 HAT



Foliar Aphid Control - 2008

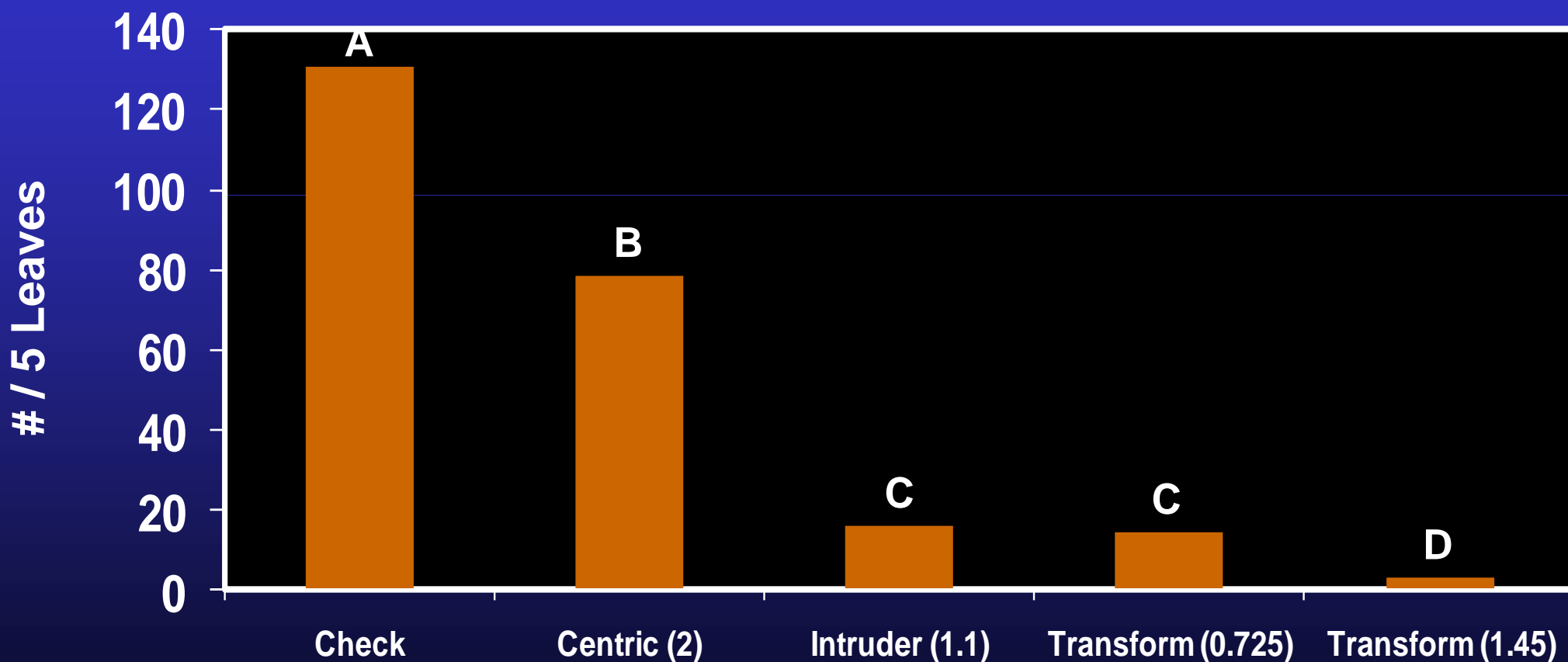
Angus Catchot - Grenada, MS



Centric LC50 = 10.71 at 72h

Foliar Aphid Control - 2010

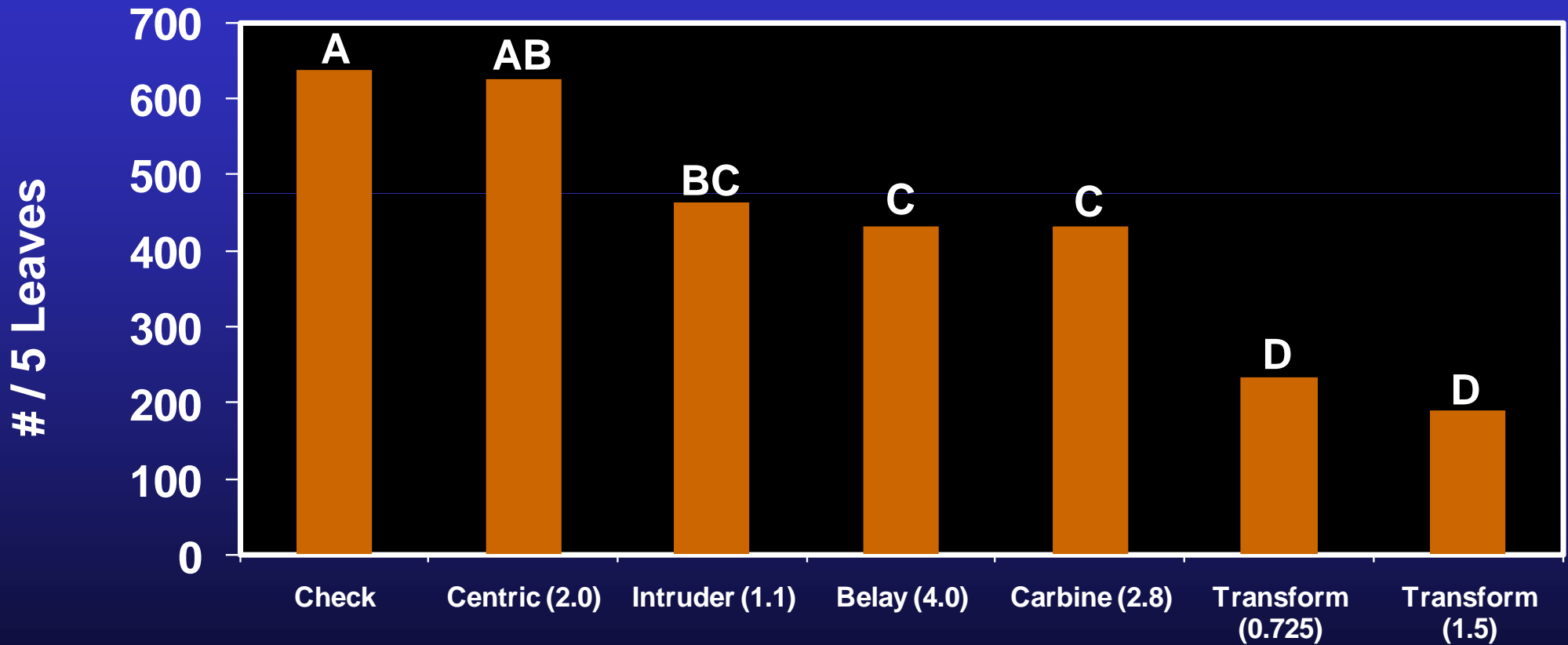
Stoneville, MS



Centric LC50 = 17.71 at 72h

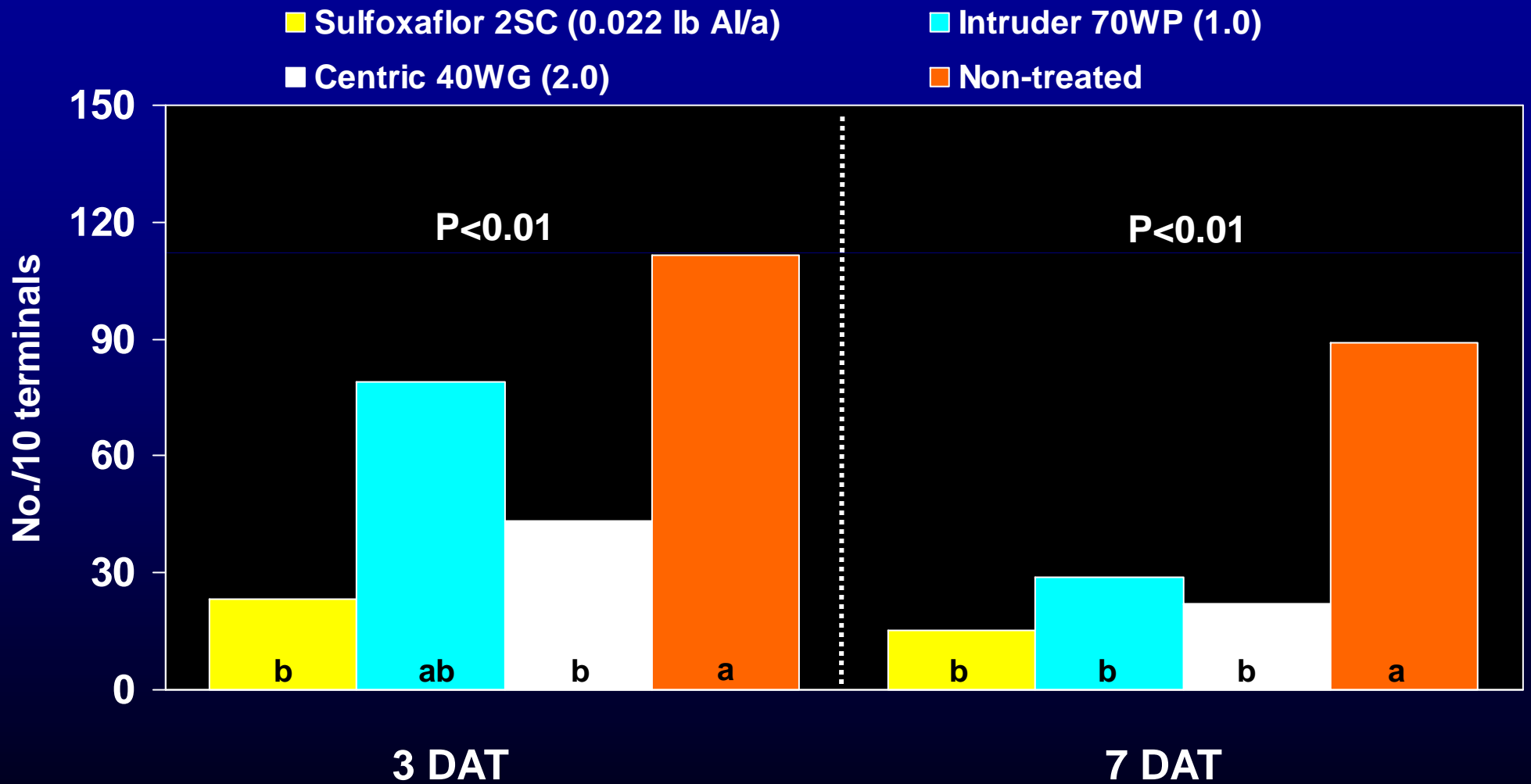
Foliar Aphid Control - 2010

Angus Catchot - Grenada, MS

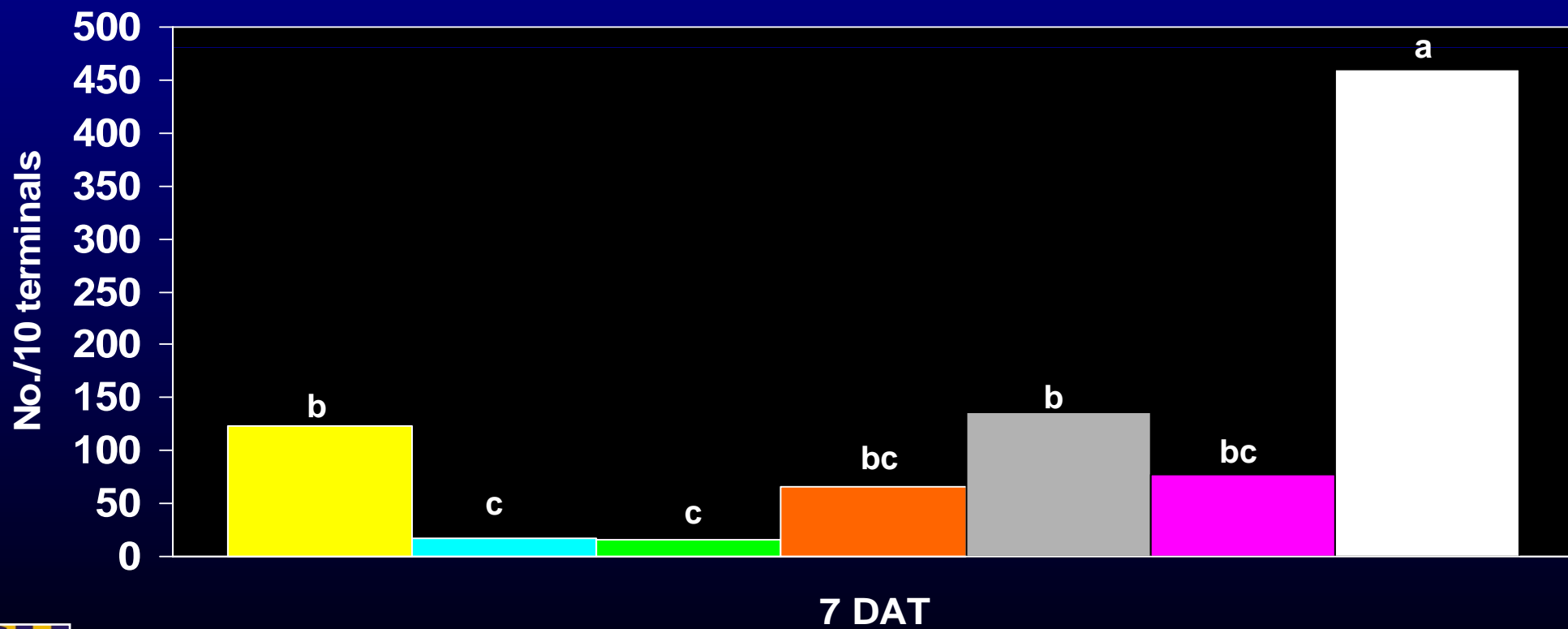


Centric LC50 = 20.9 at 72h

Cotton Aphid Control Louisiana - 2008

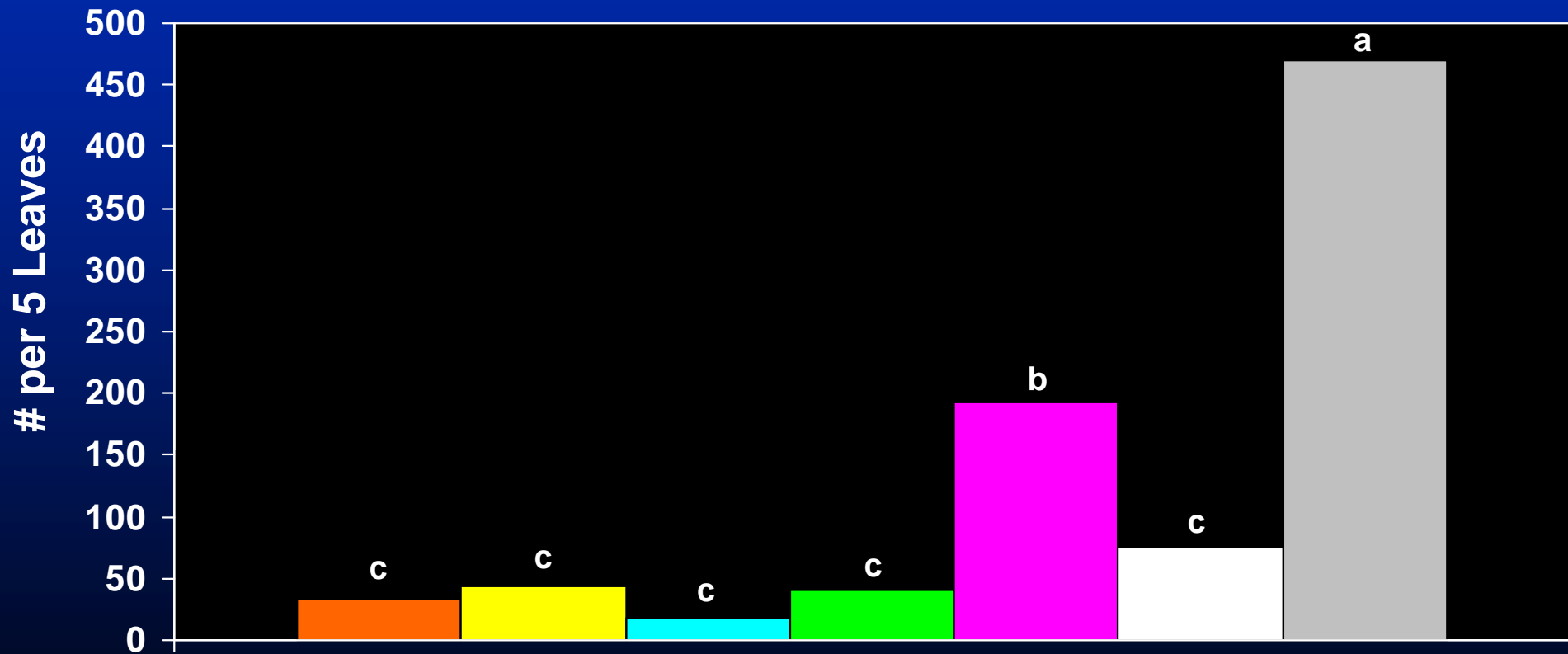


Cotton Aphid Control Louisiana - 2009

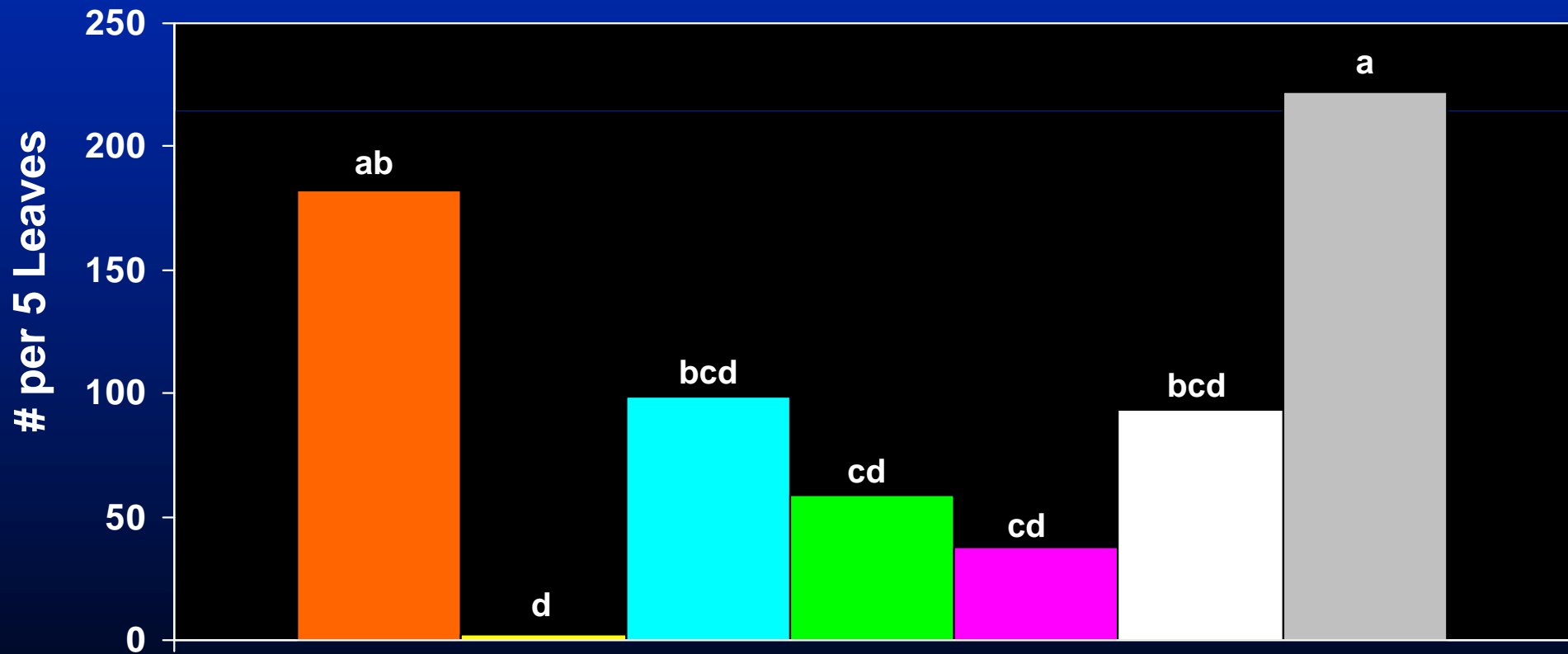
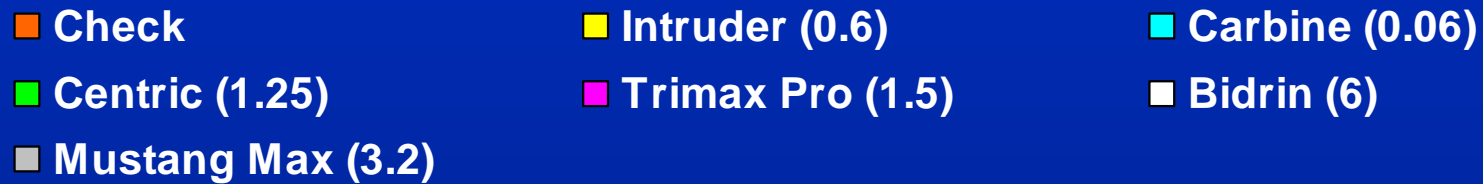


Cotton Aphid Control Mississippi - 2009

■ Transform (0.36) ■ Transform (0.71) ■ Transform (1.1) ■ Intruder (1.14 oz)
■ Centric (2 oz) ■ Carbine (2.8 oz) ■ Check

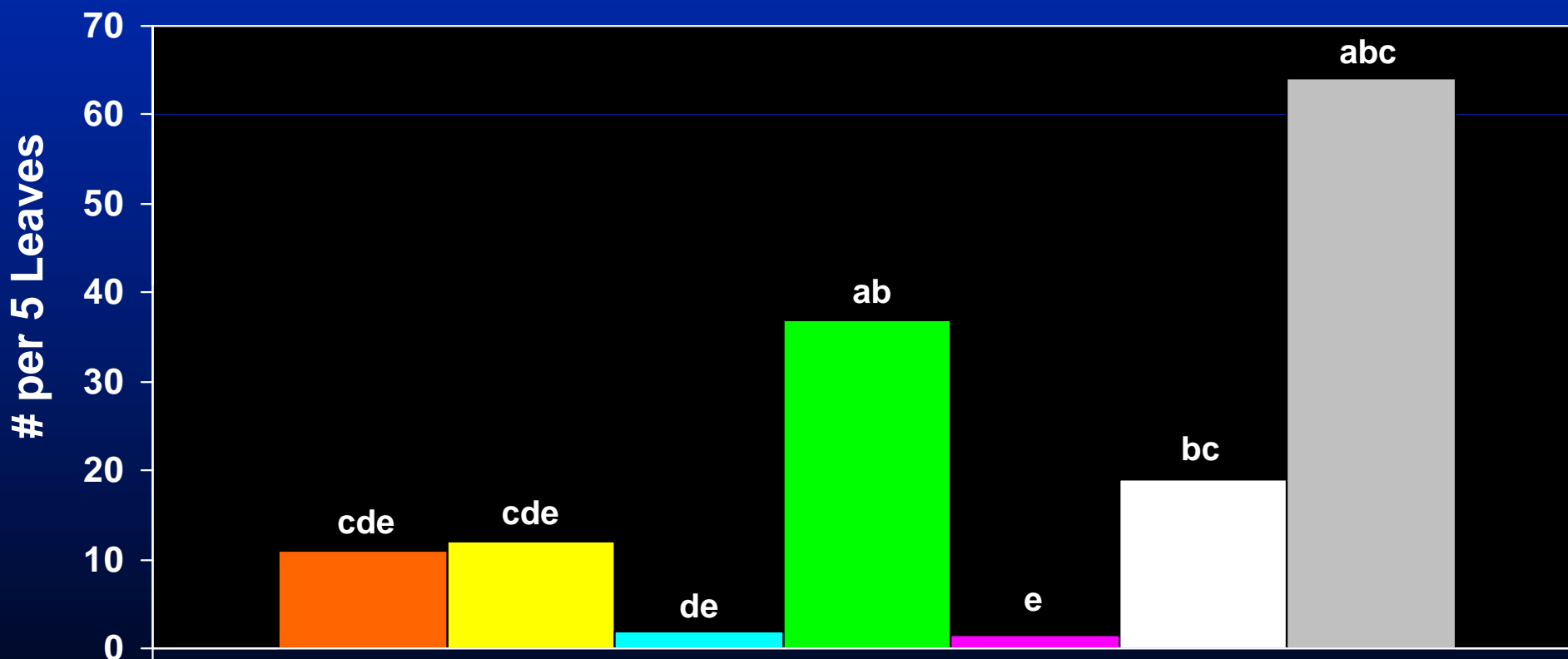


Cotton Aphid Control Arkansas - 2006



Cotton Aphid Control Tennessee - 2008

Carbine (2.02) Centric (1.5) Intruder (0.8) Trimax Pro (1.5)
Bidrin (6) Dimethoate (8) Check



Scott Stewart

What to Do Now?

- **Intruder 70WP at 0.8 to 1.1 oz/A
+ 0.5% Methylated Seed Oil (MSO)**
 - **Carbine 50WP at 1.9 to 2.8 oz/A**
 - **When spraying aphids and tarnished plant bugs:**
 - VERY Limited
 - Tank Mixes
 - **2012: Transform WG at 0.7 to 1.44 oz/A**
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Summary and Conclusions

- **Neonicotinoids are becoming less reliable for cotton aphid control.**
 - **Currently over-utilizing the neonicotinoid class.**
 - **Flonicamid has been important where control has been less than adequate.**
 - **Transform (Sulfoxaflor) will provide additional benefits for cotton aphid control.**
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Mississippi State UNIVERSITY

Jeff Gore, Delta Research and Extension Center
(662) 820-9969

