Status of Insecticide Resistance: Cotton Aphid

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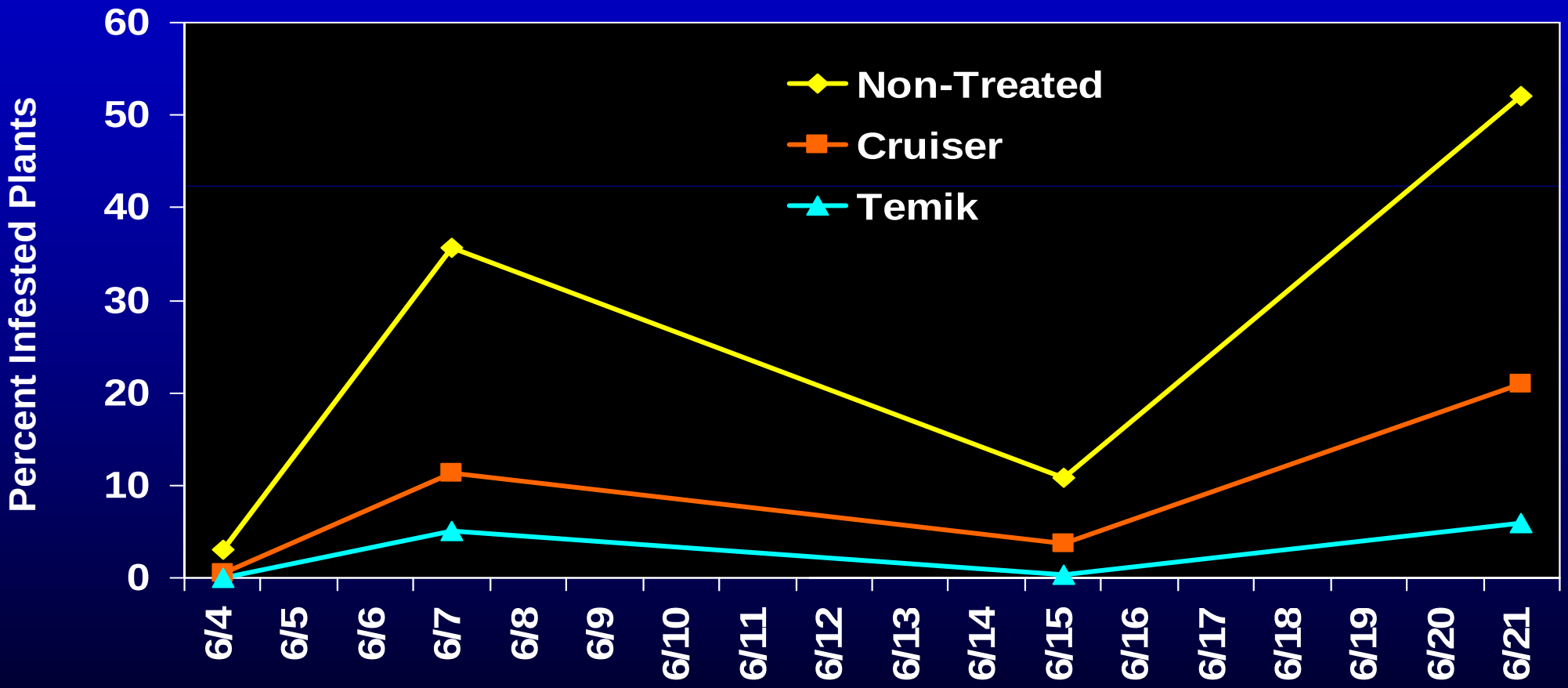
At-Planting Insecticides

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

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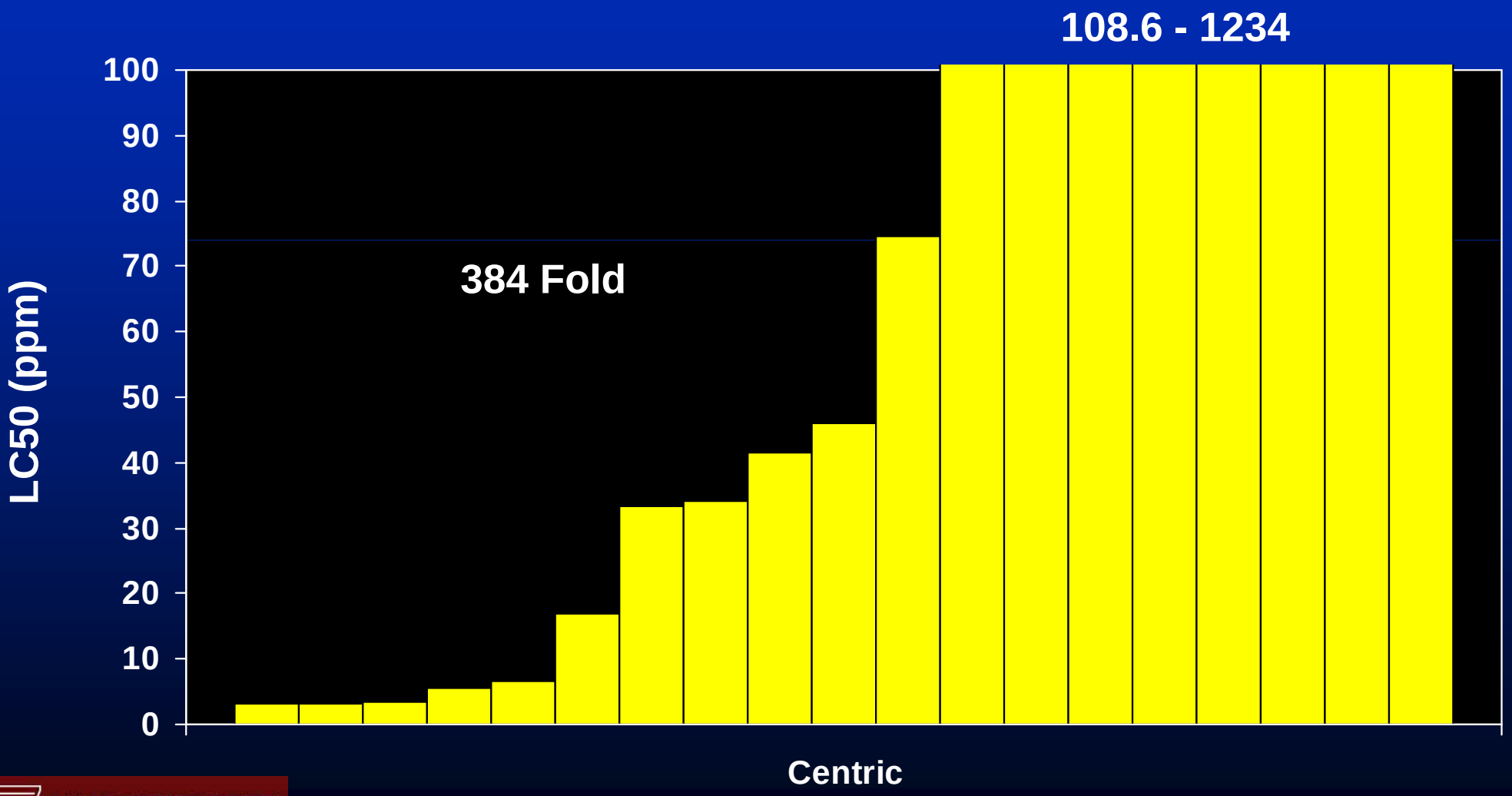
Cotton Aphid Leaf-Dip Bioassays – 2008-2010
48 HAT



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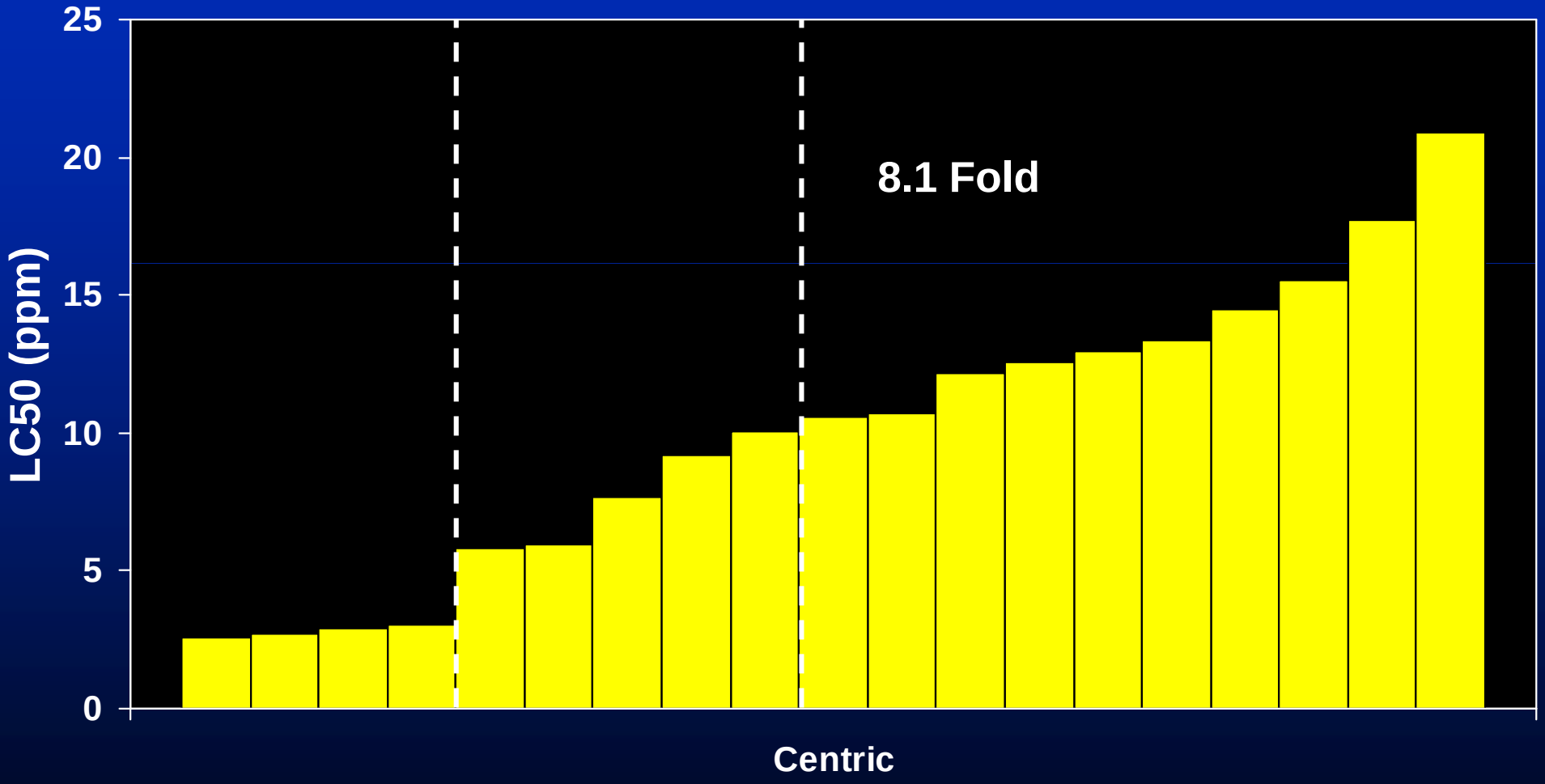
Cotton Aphid Leaf-Dip Bioassays – 2008-2010
72 HAT



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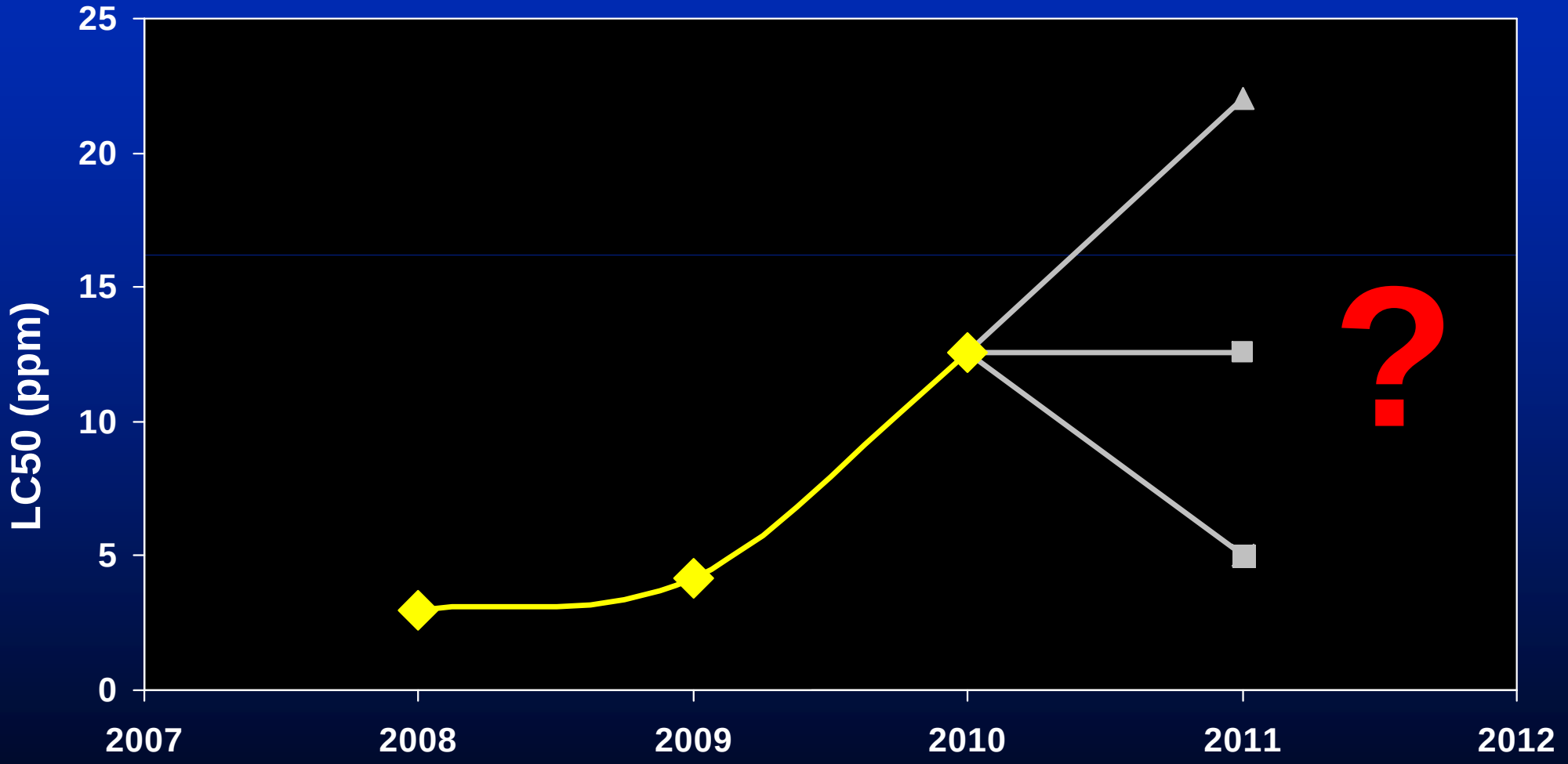
Susceptibility of Cotton Aphids from Non-Treated Fields to Thiamethoxam



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Cotton Aphid Leaf-Dip Bioassays – 2008-2010
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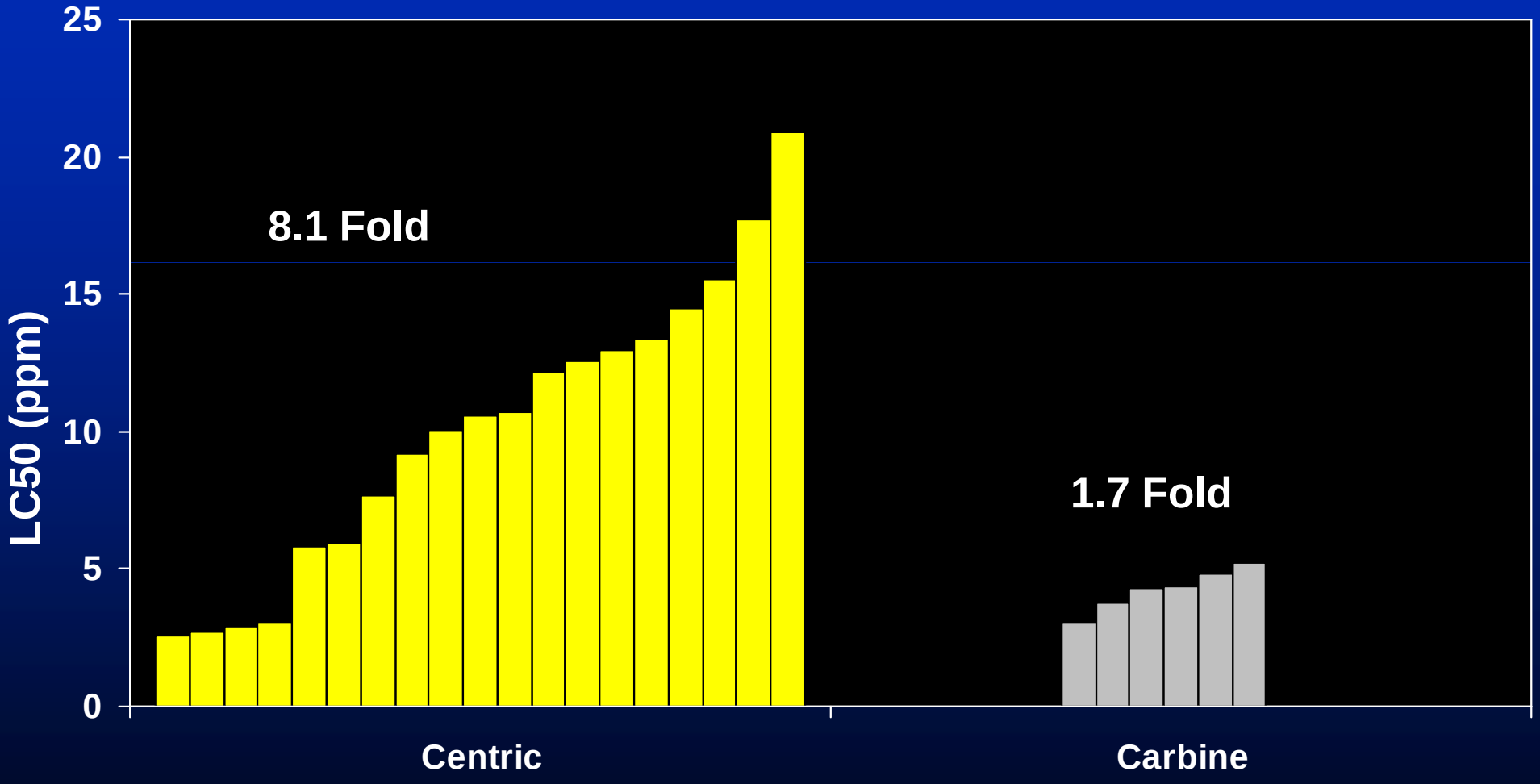

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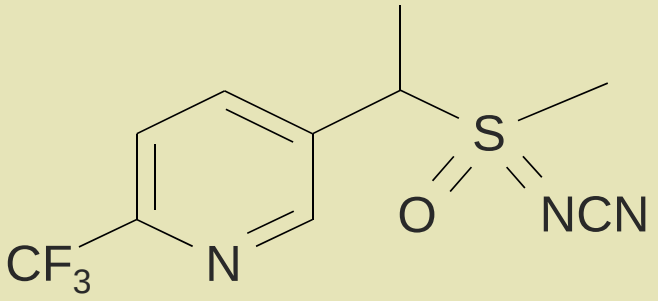
Sulfoxaflor

- 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

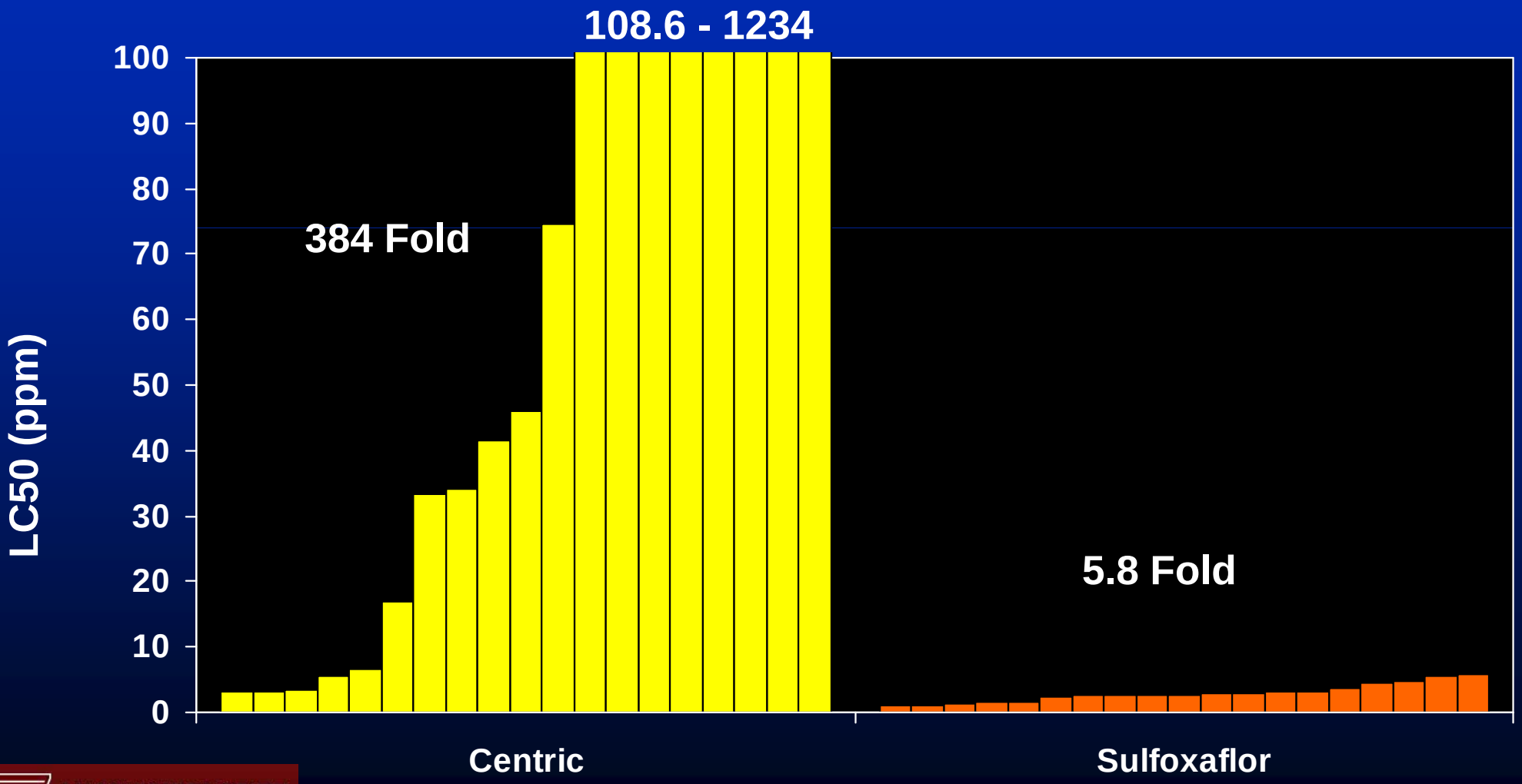
Insecticide Class: Sulfoximine

Transform WG

Rates: 0.75-1.5 oz./A



Cotton Aphid Leaf-Dip Bioassays – 2008-2010
48 HAT



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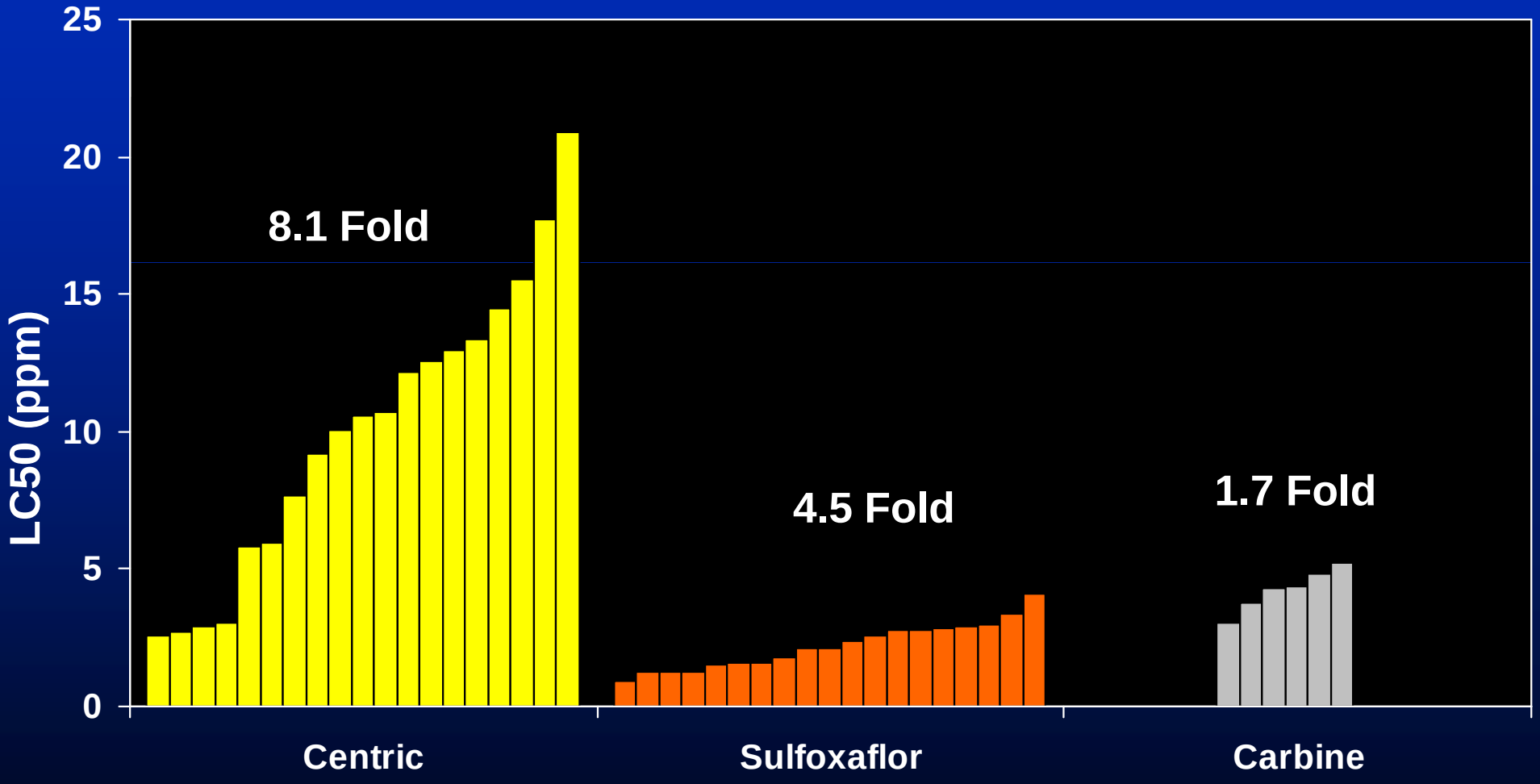
Cotton Aphid Leaf-Dip Bioassays – 2008-2010
72 HAT



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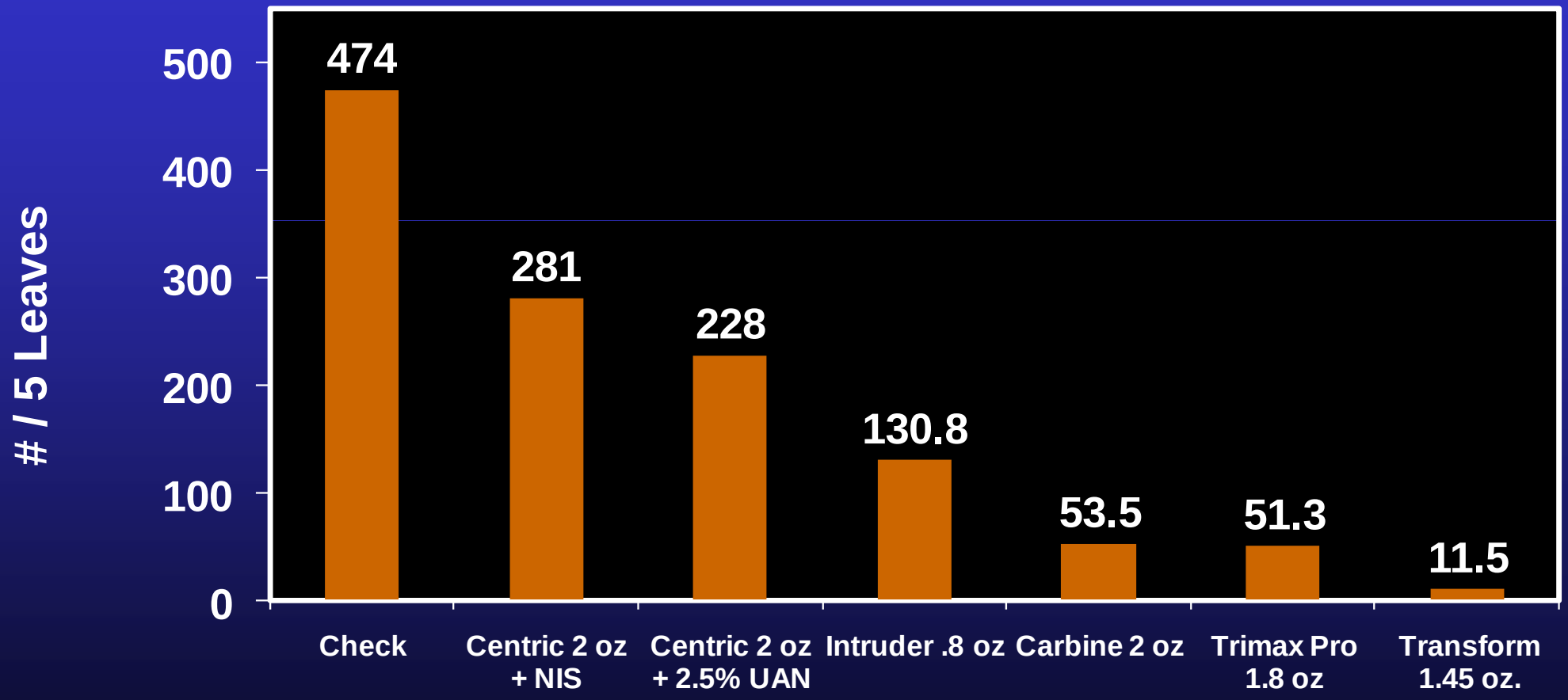
Foliar Aphid Control - 2008

Angus Catchot - Grenada, MS



Centric LC50 = 10.71 at 72h

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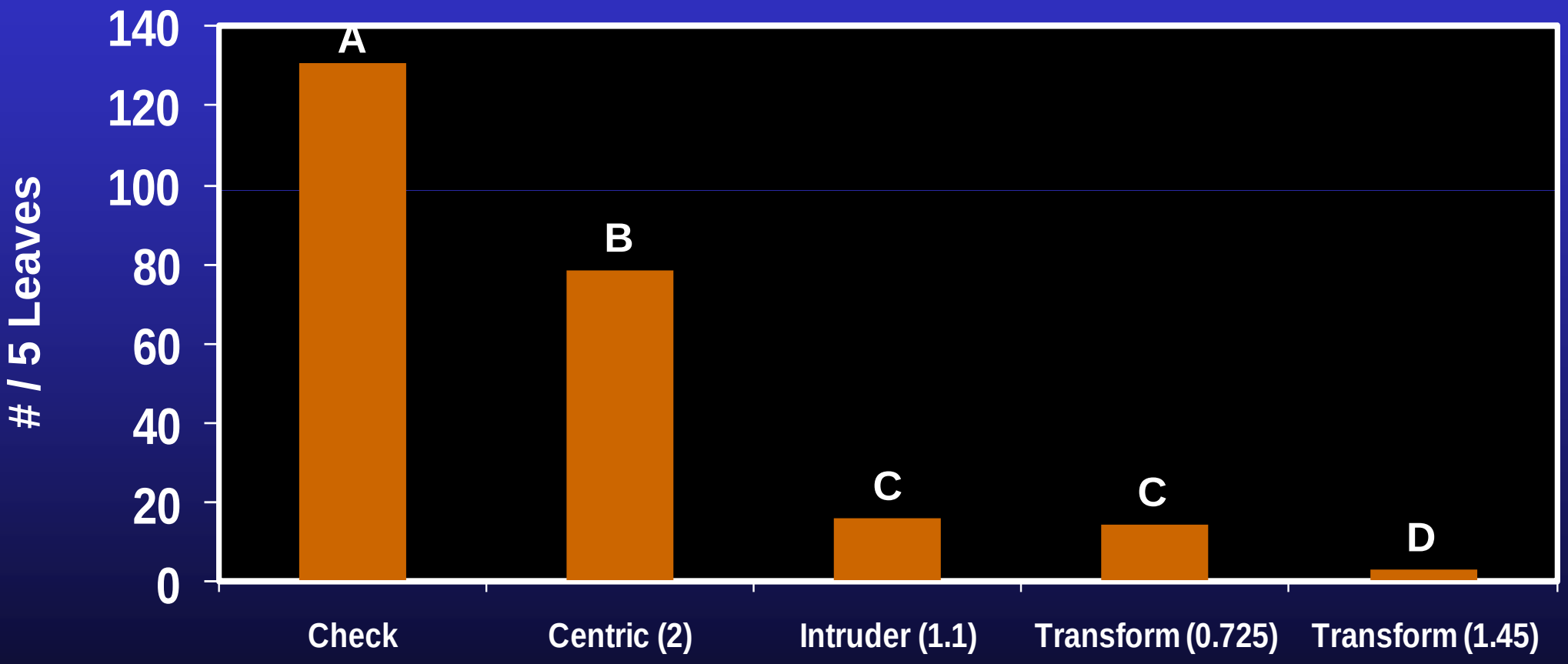
Foliar Aphid Control - 2010

Stoneville, MS



Centric LC50 = 17.71 at 72h

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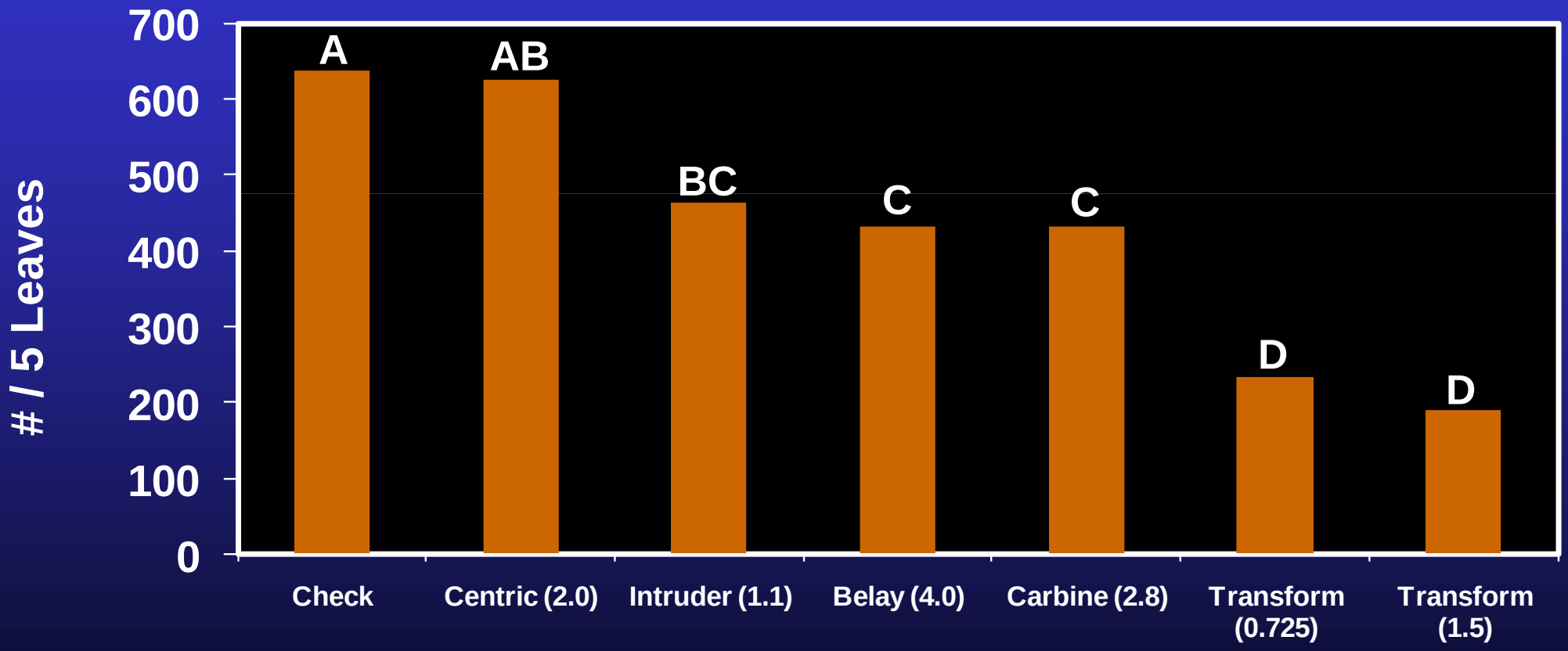
Foliar Aphid Control - 2010

Angus Catchot - Grenada, MS



Centric LC50 = 20.9 at 72h

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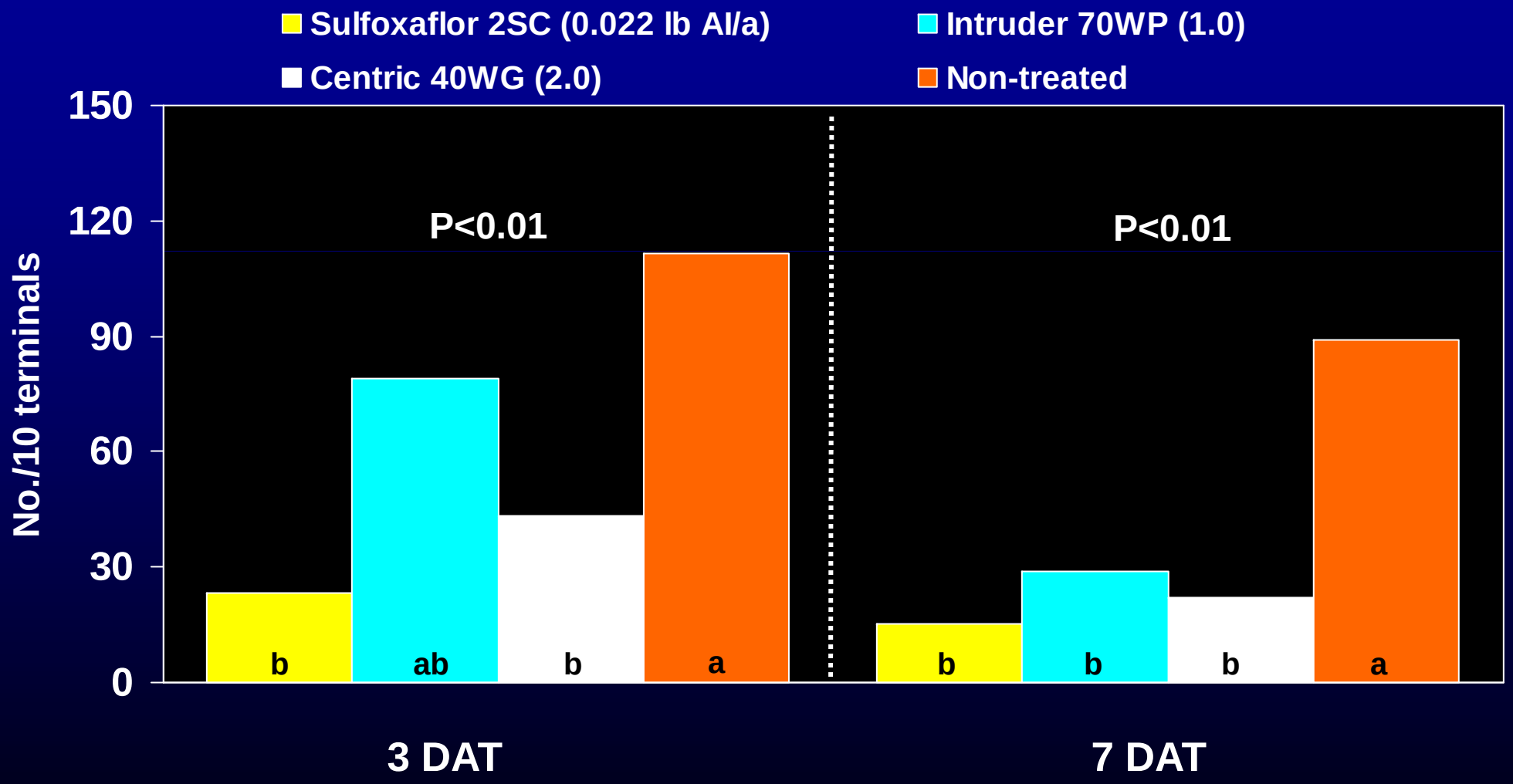
Cotton Aphid Control
Louisiana - 2008



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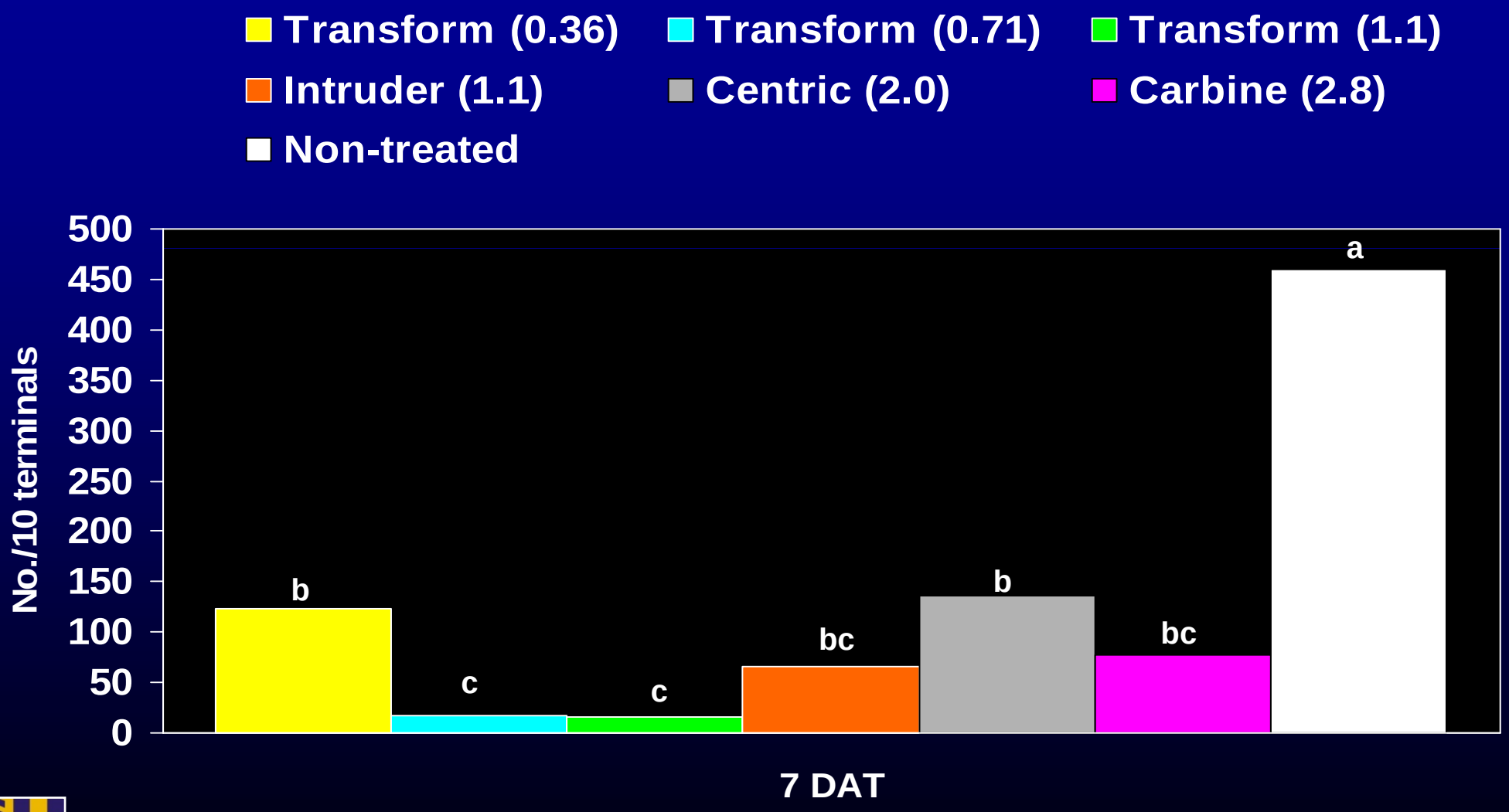
Cotton Aphid Control
Louisiana - 2009



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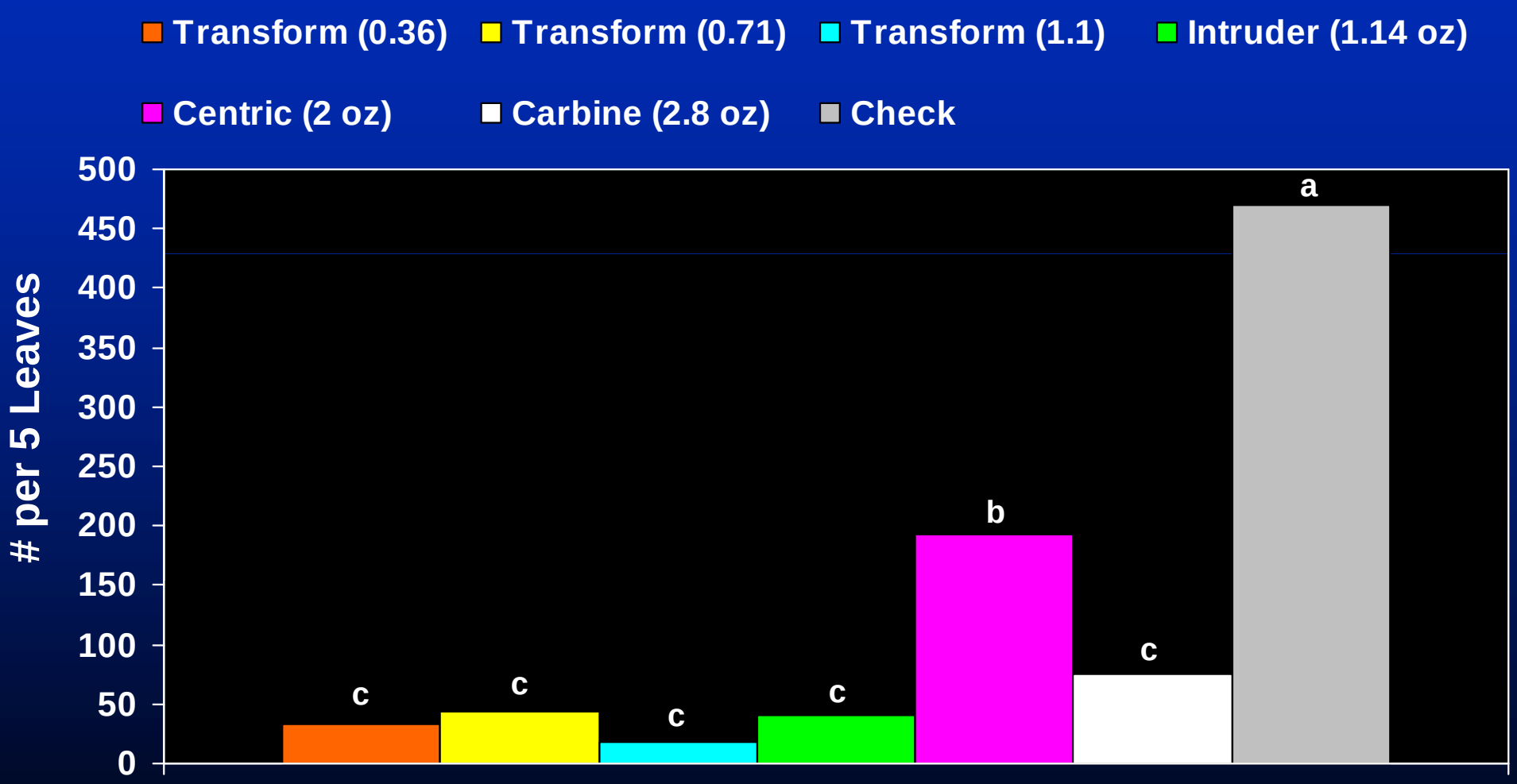
Cotton Aphid Control
Mississippi - 2009



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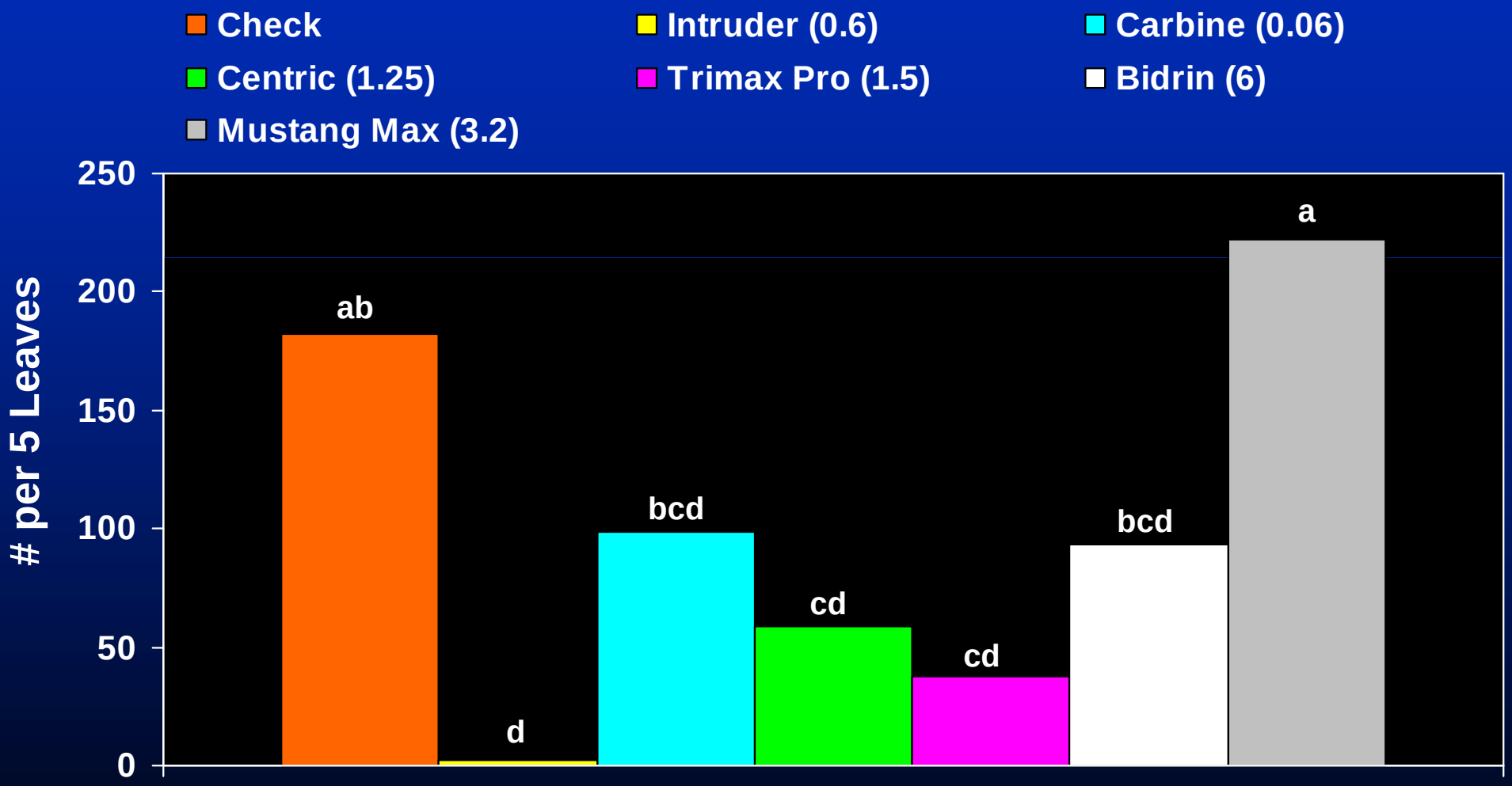
Angus Catchot

Cotton Aphid Control

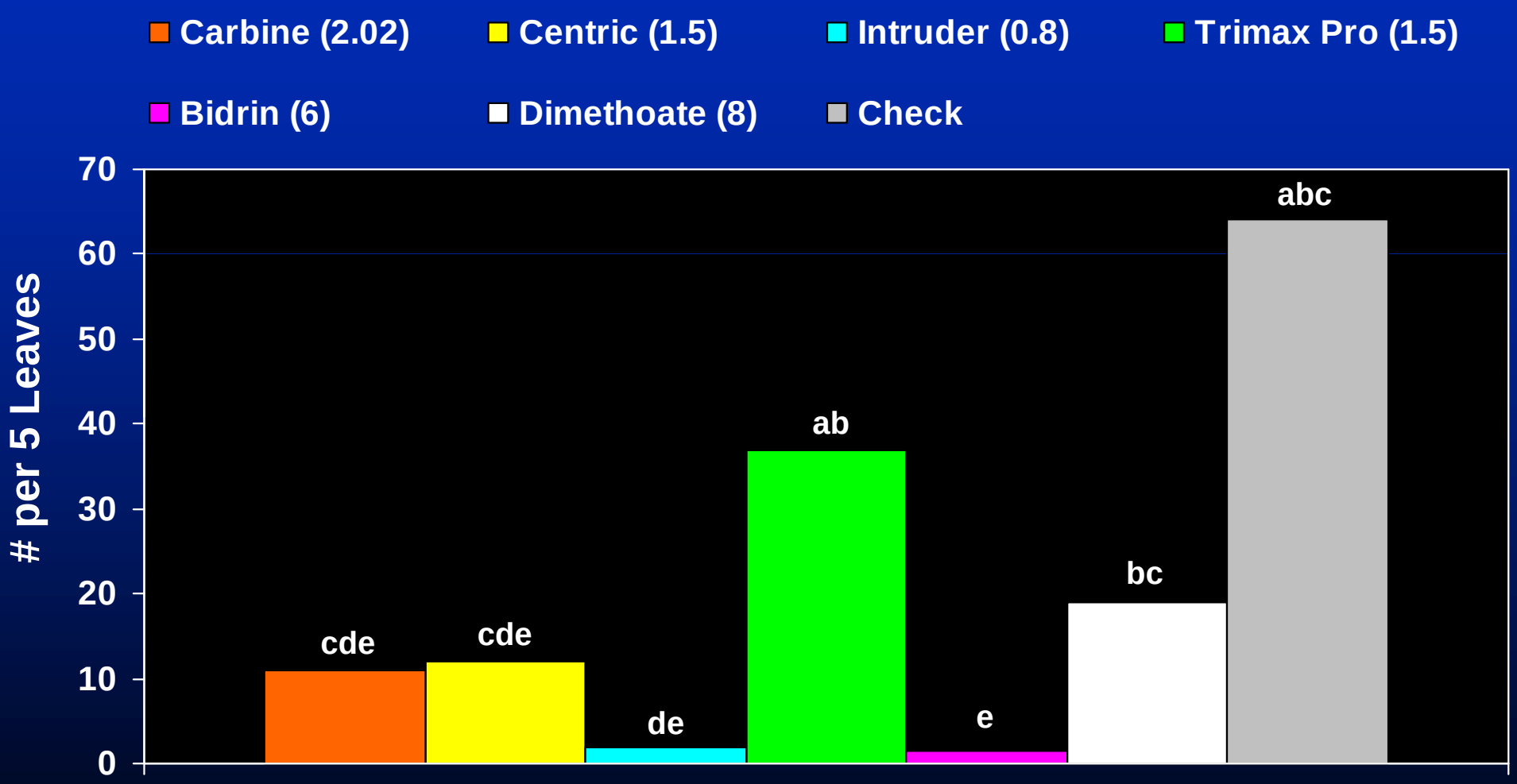
Arkansas - 2006



Gus Lorenz

Cotton Aphid Control

Tennessee - 2008



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**

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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