



**MISSISSIPPI STATE**  
UNIVERSITY™





**Seedcorn Maggot**



**Southern Corn Rootworm**



**Wireworms**



**White Grubs**

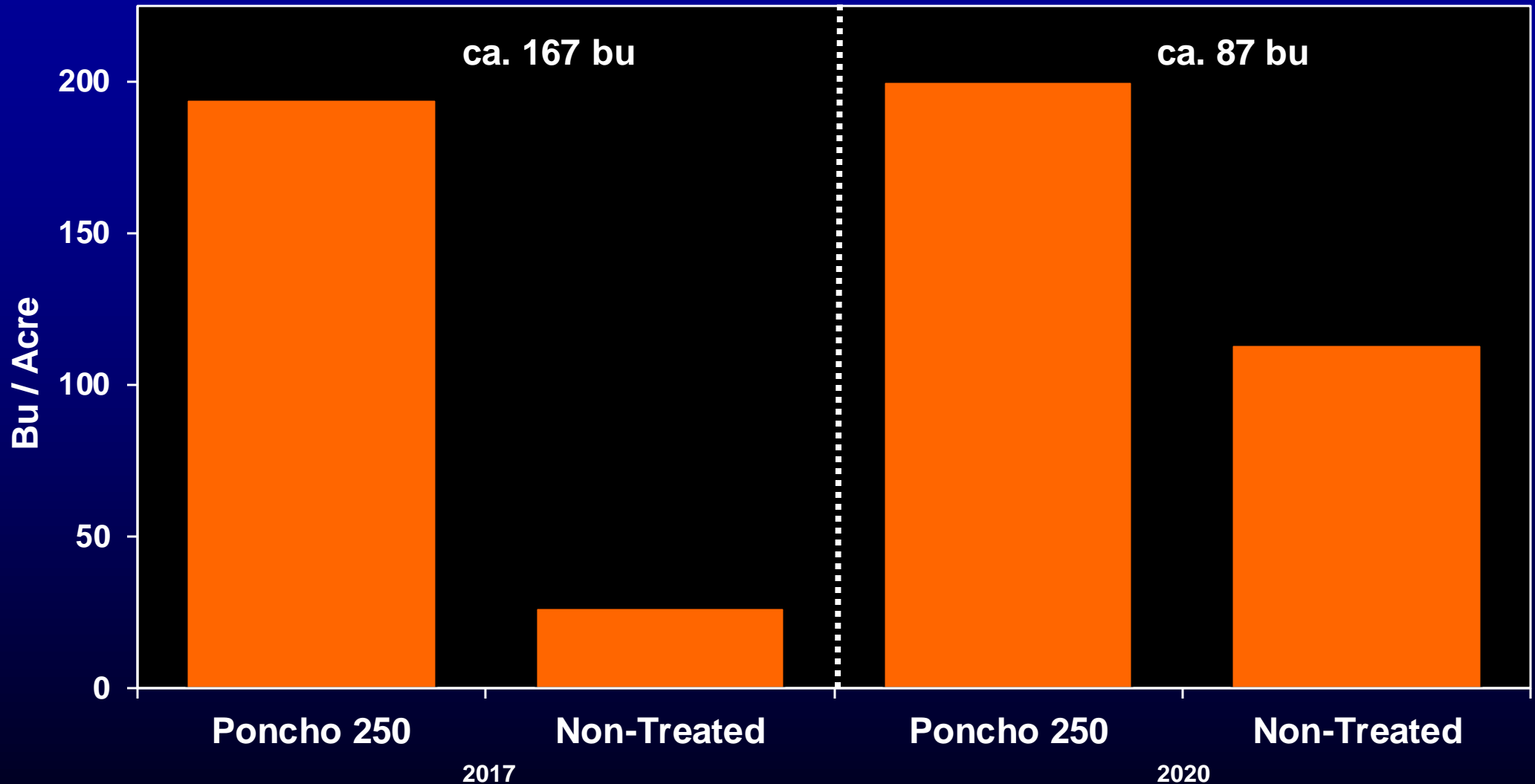






**Dead at least 3 weeks before planting**

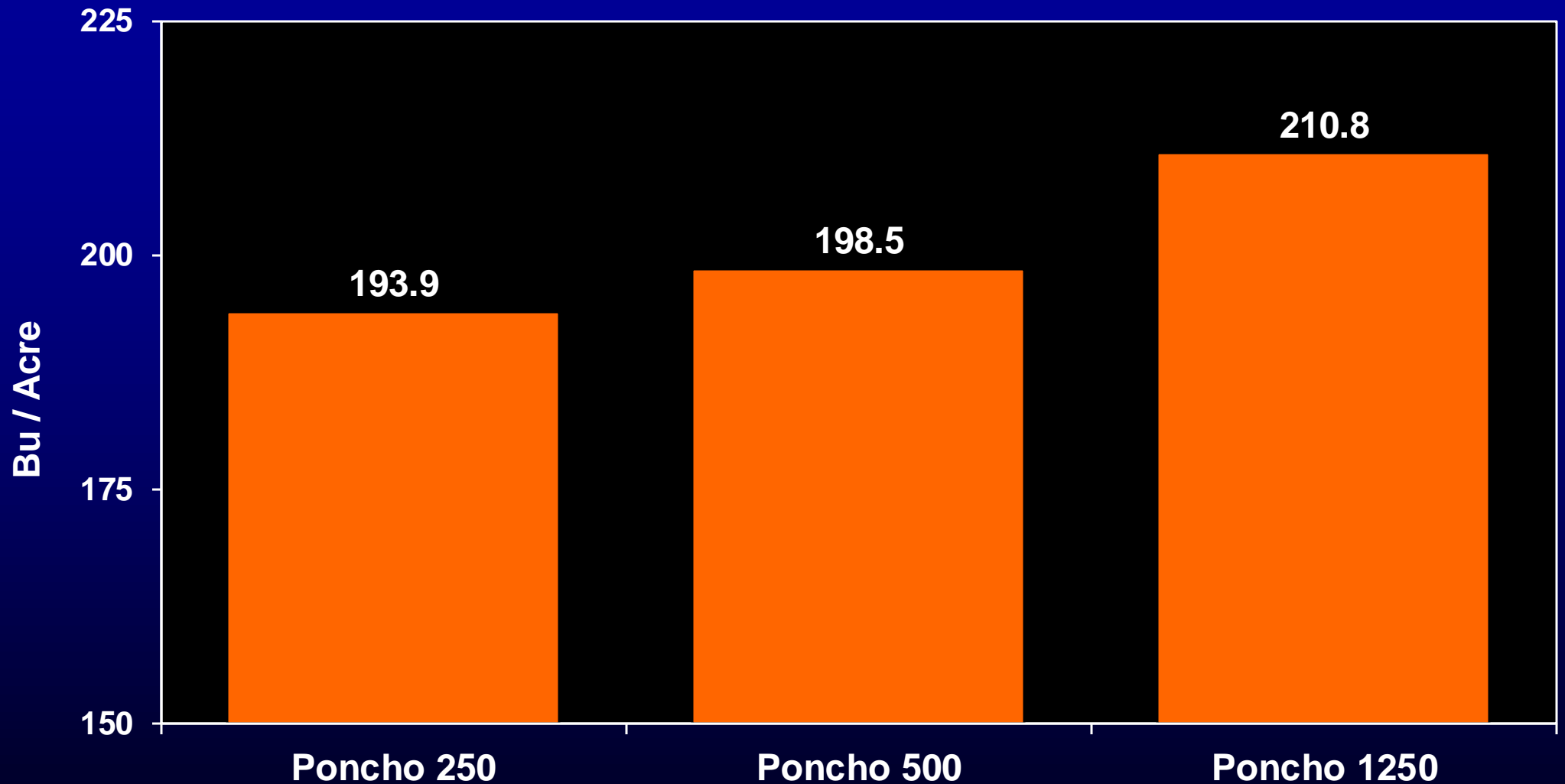
# Impact of Corn Seed Treatments on Yield



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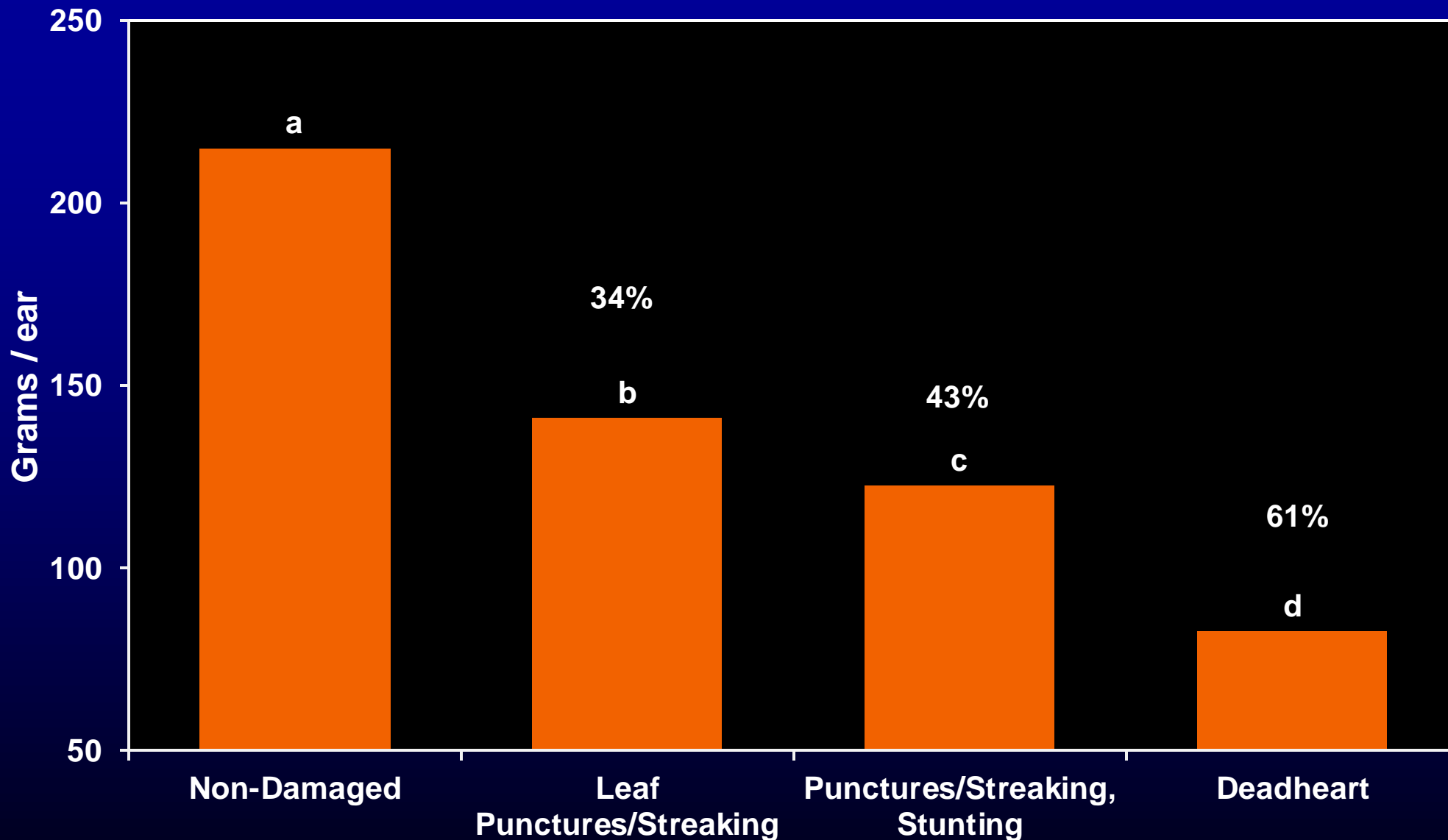






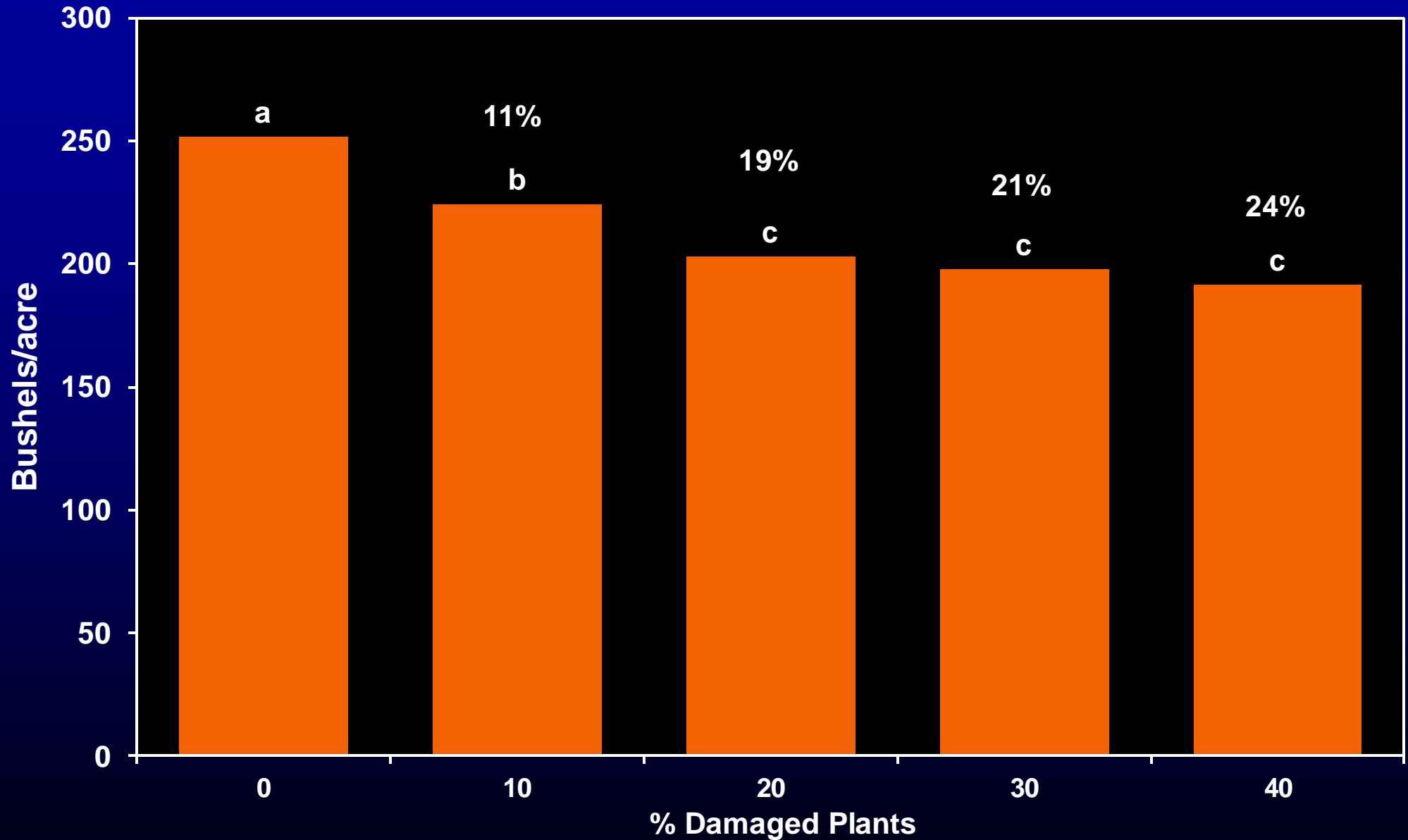


# Impact of Stink Bug Injury on Field Corn Yield





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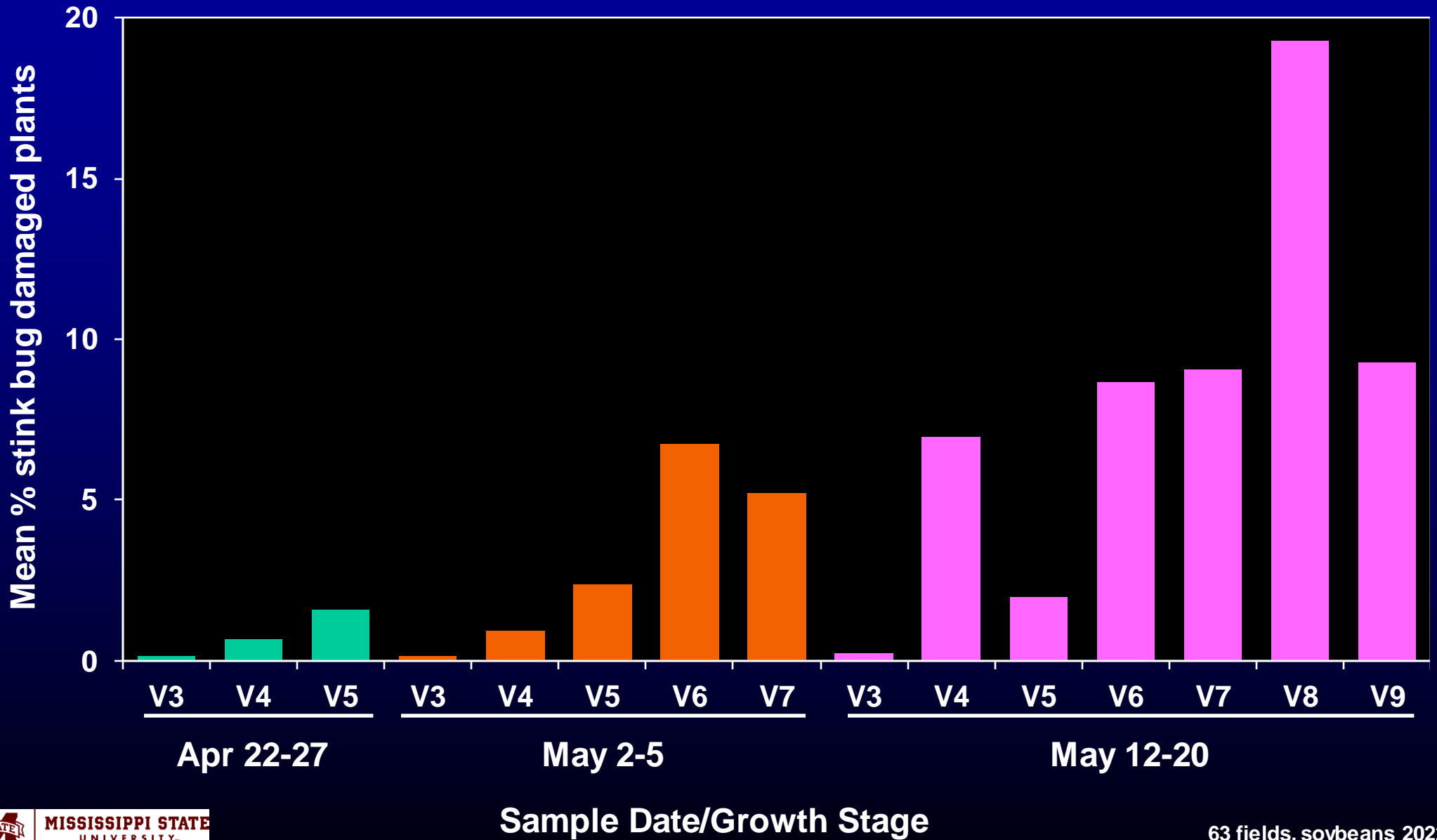




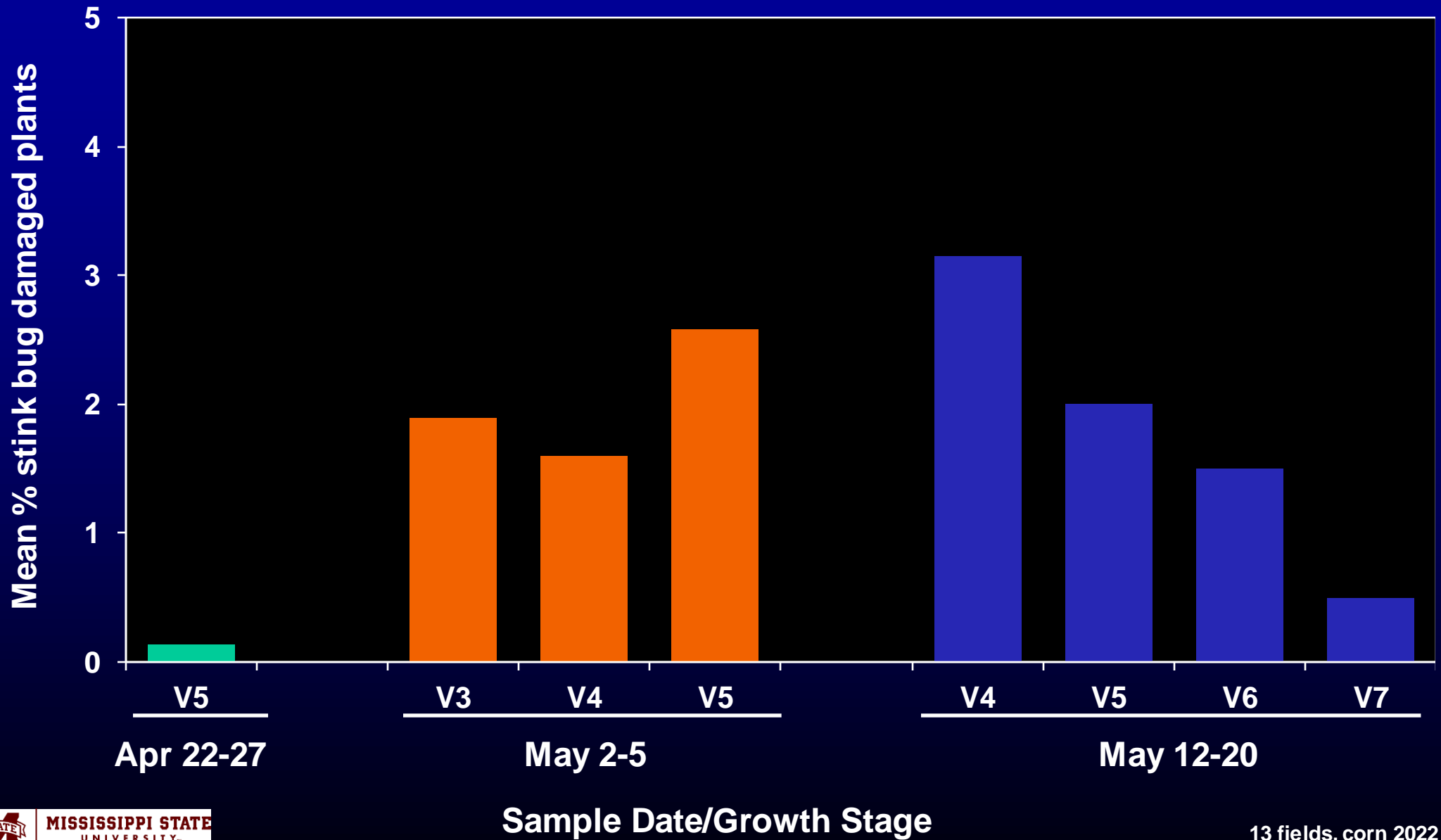
Beaver Pond



# Incidence of Stink Bug Feeding

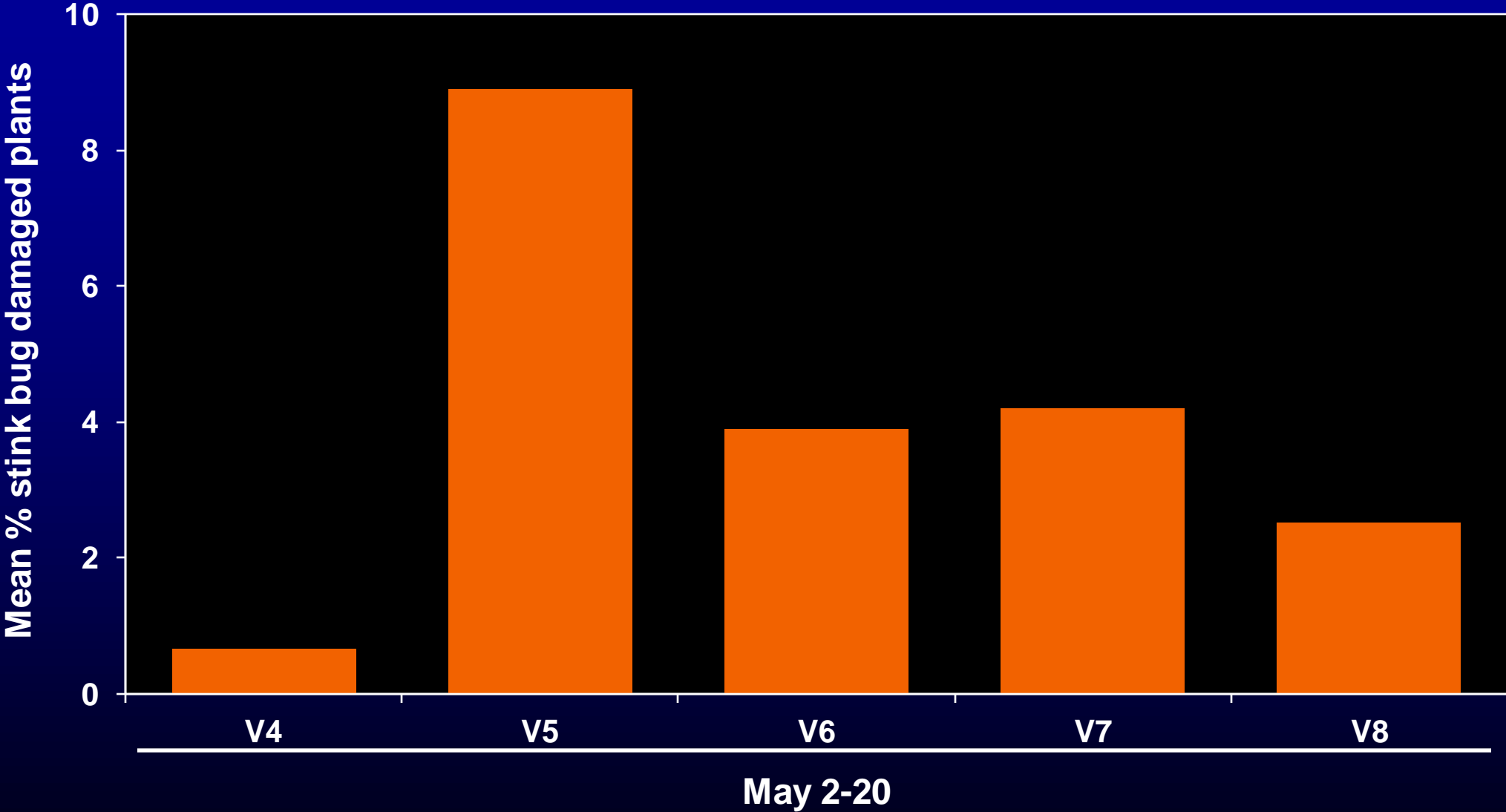


# Incidence of Stink Bug Feeding





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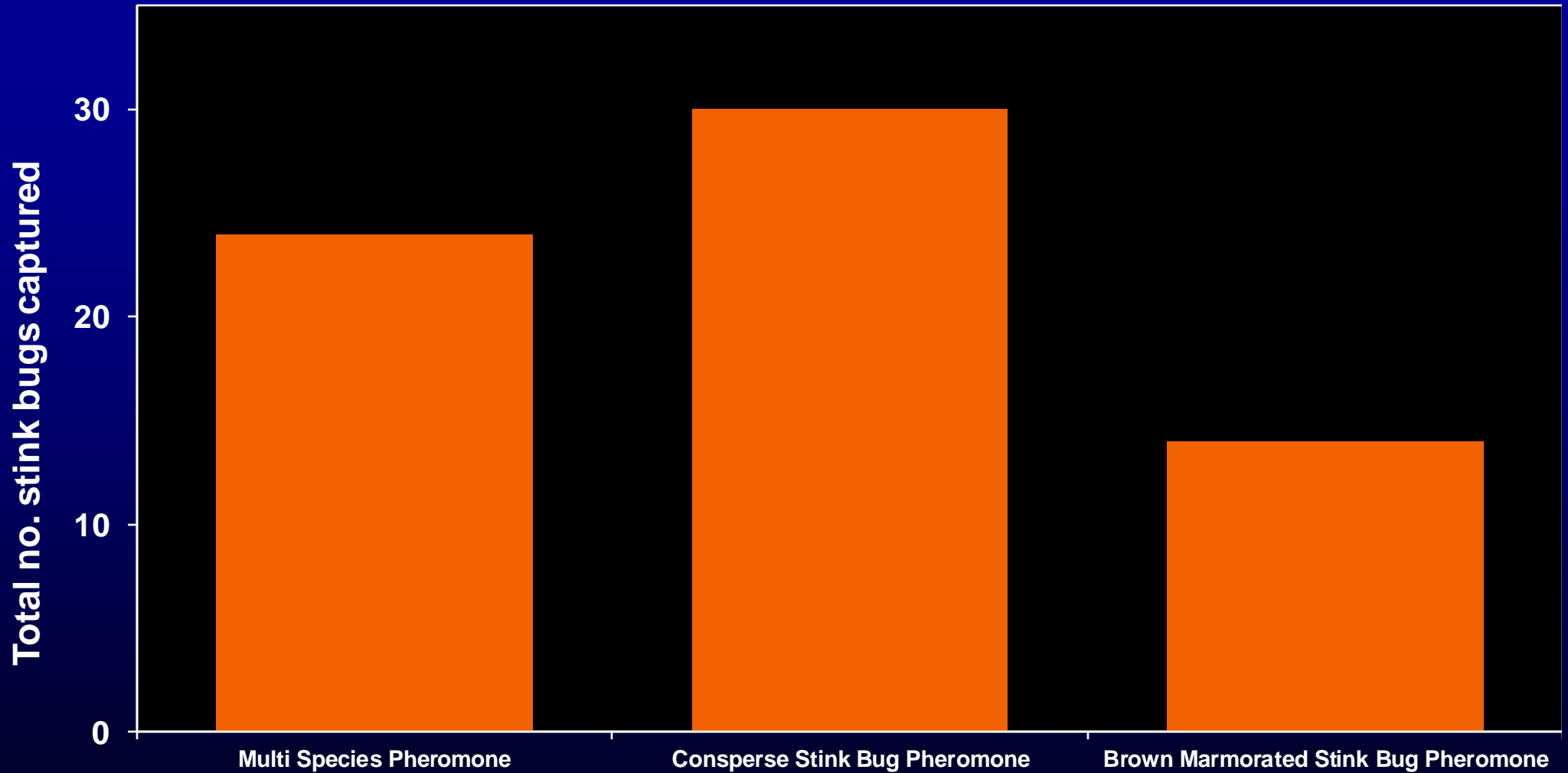




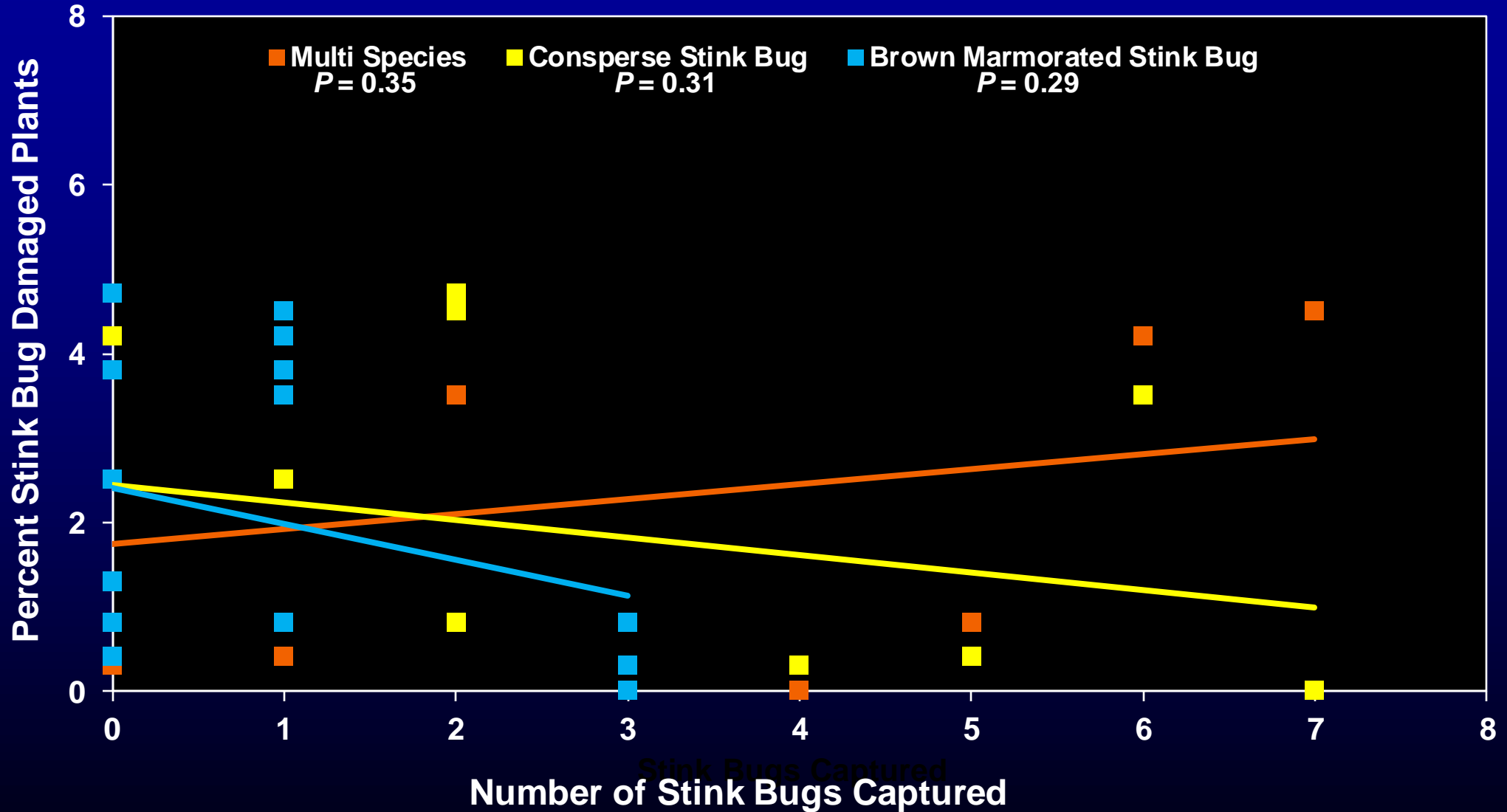




# Evaluation of Commercial Stink Bug Pheromones for Capturing Brown Stink Bug



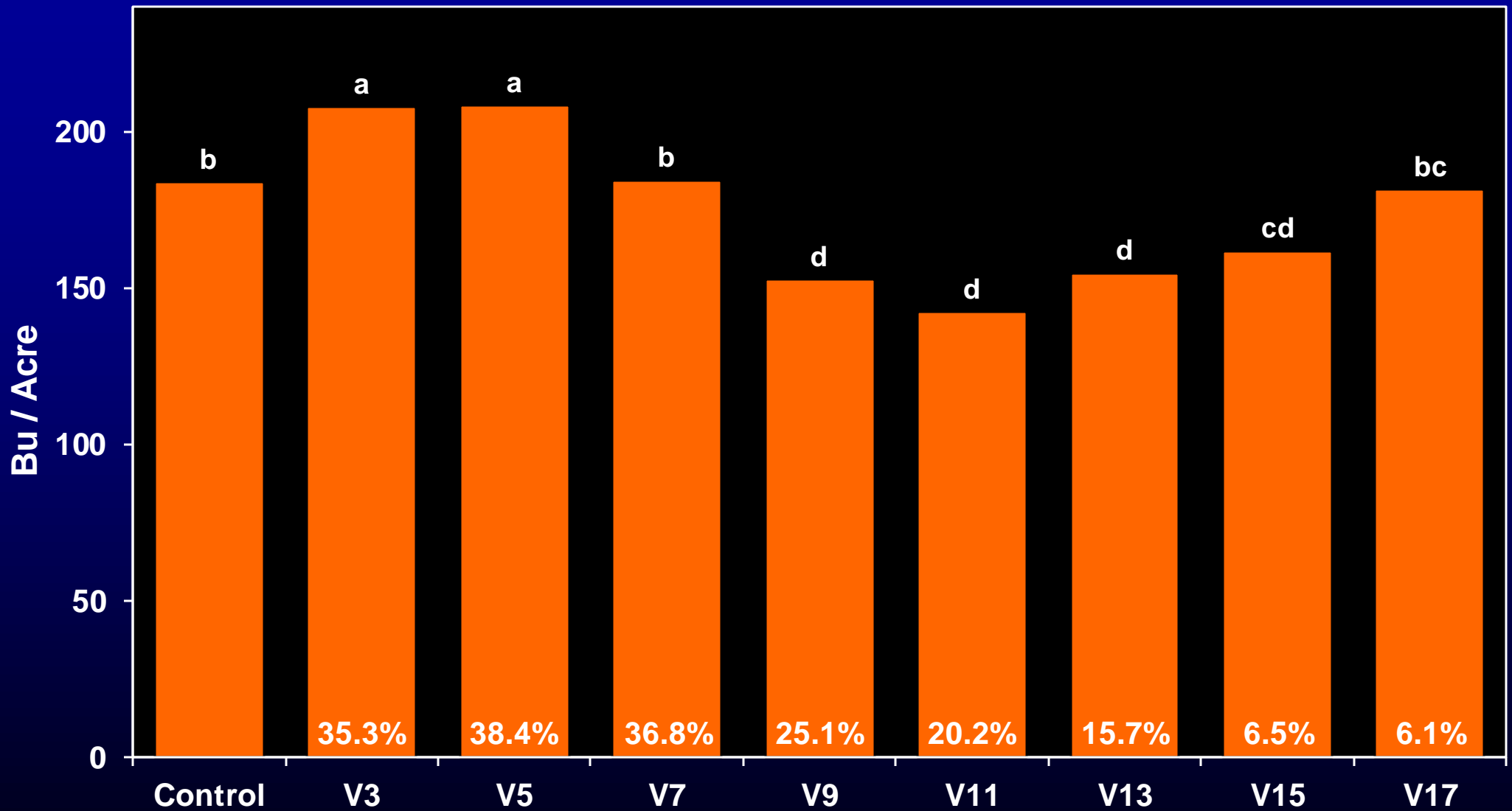
# Evaluation of Commercial Stink Bug Pheromones for Capturing Brown Stink Bug







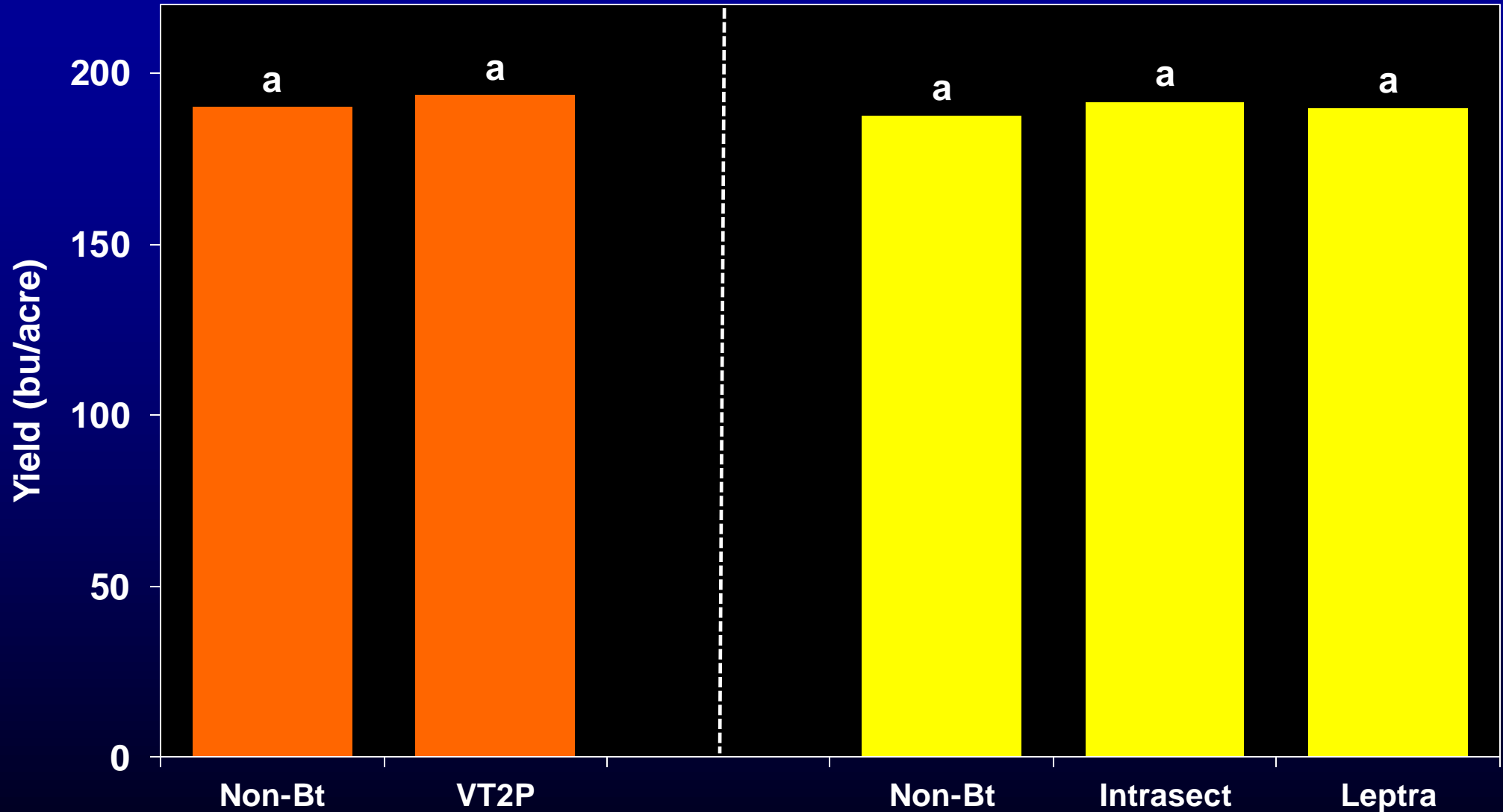
# Impact of Defoliation on Yield





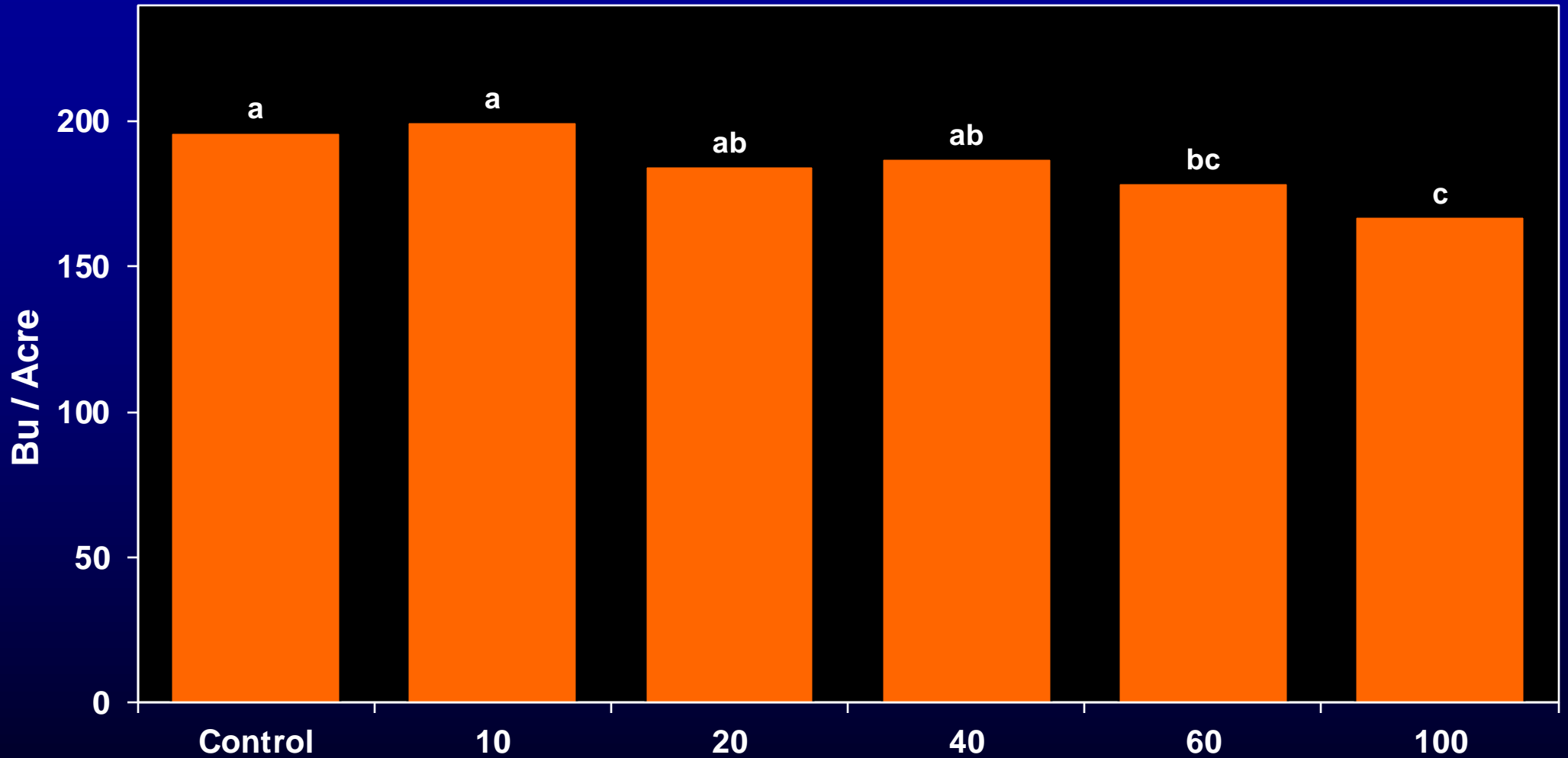


# Bt Corn Technologies and Yield





# Impact of Kernel Damage on Yield



# Corn Borers





# Corn Borers



Southwestern corn borer

Sugarcane borer

European corn borer

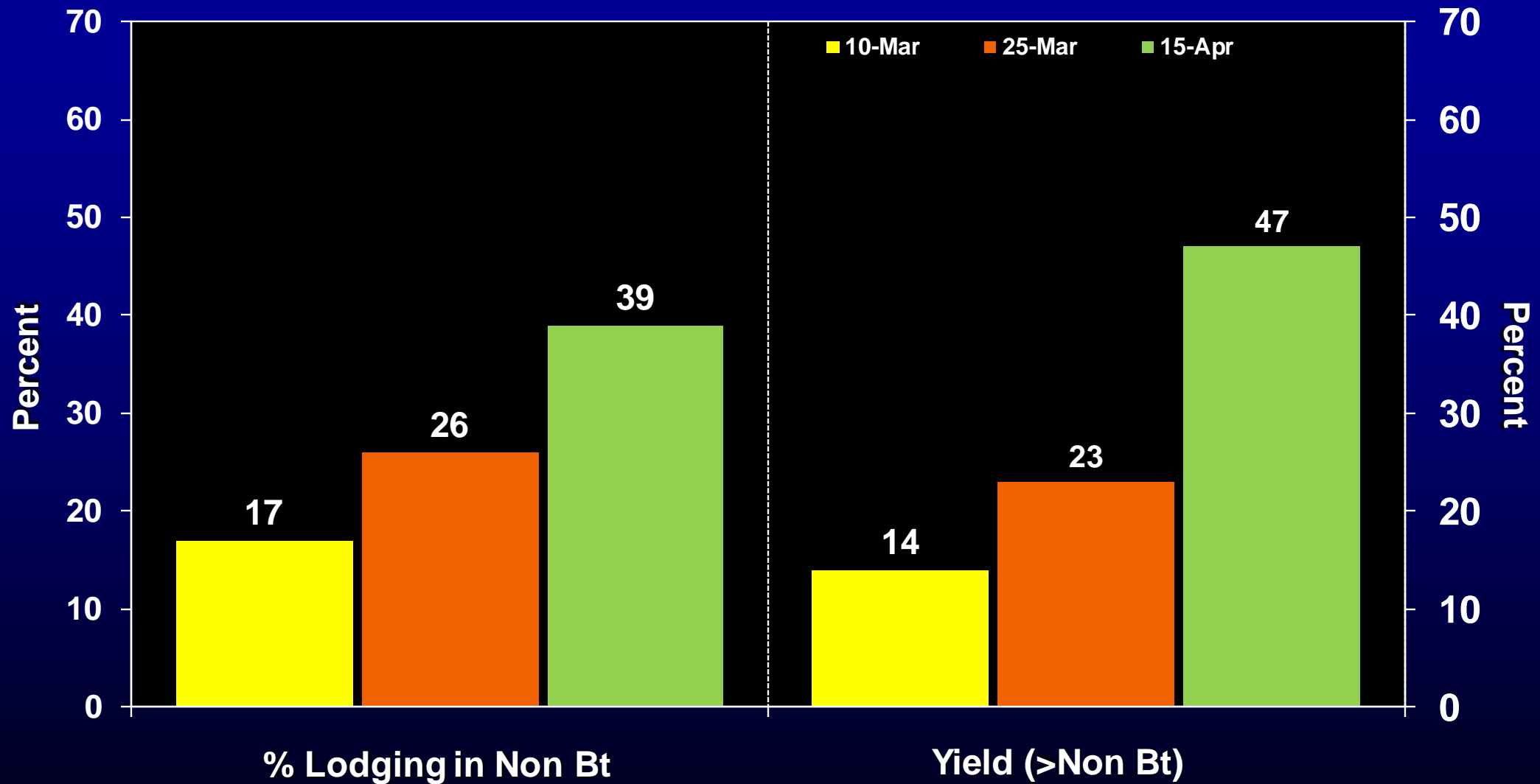








# Impact of Corn Borers on Yield



# Southwestern Corn Borer Eggs





# MS SWCB Recommendation

V1	V2	V <sub>nth</sub>	VT	R1	R2	R3	R4	R5	R6
1 Leaf	2 Leaf	Nth Leaf	Tassel	Silk	Blister	Milk	Dough	Dent	Black Layer
<p>Treat 7-10 days after moth traps average <u>50</u> per trap on a <u>7 day catch</u> from V1-V<sub>nth</sub> or when plants average <u>5 %</u> corn borer egg masses or larval infestations per plant.</p>				<p>Treat 7-10 days after moth traps average <u>100</u> per trap on a <u>7 day catch</u> from R1-R3 or when plants average <u>10 %</u> corn borer egg masses or larval infestations per plant.</p>			<p><b>Do Not Treat</b></p>		





# What Constitutes an Infestation?

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**1 live weevil and 5 other injurious insects or**

**2 live weevils or**

**10 injurious insects**

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**Rice Weevil**  
*Sitophilus oryzae* (L.)



**Maize Weevil**  
*Sitophilus zeamais* Motschulsky



**Lesser Grain Borer**  
*Rhyzopertha dominica* (F.)



# Other Insect Pests

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Granary Weevil - *Sitophilus granarius* ( L.)

Flat Grain Beetle - *Cryptolestes pusillus* (Schönherr)

Rusty Grain Beetle - *Cryptolestes ferrugineus* (Stephens)

Sawtoothed Grain Beetle - *Oryzaephilus surinamensis* (L.)

Merchant Grain Beetle - *Oryzaephilus mercator* (Fauvel)

Red Flour Beetle - *Tribolium castaneum* (Herbst)

Confused Flour Beetle - *Tribolium confusum* Jacquelin du Val

Yellow Mealworm - *Tenebrio molitor* L.

Dark Mealworm - *Tenebrio obscurus* F.

Foreign Grain Beetle - *Ahasverus advena* (Waltl)

Hairy Fungus Beetle - *Typhaea stercorea* (L.)

Indian Meal Moth - *Plodia interpunctella* (Hübner)

Angoumois Grain Moth - *Sitotroga cerealella* (Olivier)

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# Sanitation / Cleaning

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Get rid of **ALL** old grain and grain residue from inside and around storage bins

Grain bin Maintenance – fix holes and cracks

Get rid of debris and weeds around storage bins

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# Grain Distribution and Aeration

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Evenly spread grain to improve aeration efficiency

Reduce grain moisture and temperature as quickly as possible

**<50°F (10°C)**

Monitor grain moisture, temperature, and for insect infestations

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# How intensive does my stored grain insect management need to be?

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**It depends on:**

**Past history of insect issues.**

**How long do you plan to hold grain / when do you plan to move it out of bin.**

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# Empty Bin and Proximity

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malathion

**β-cyfluthrin**: Tempo SC Ultra

**deltamethrin**: DeltaDust, Centynal, Suspend SC, D-Fense SC

(s)-methoprene: Diacon-D IGR, Diacon IGR

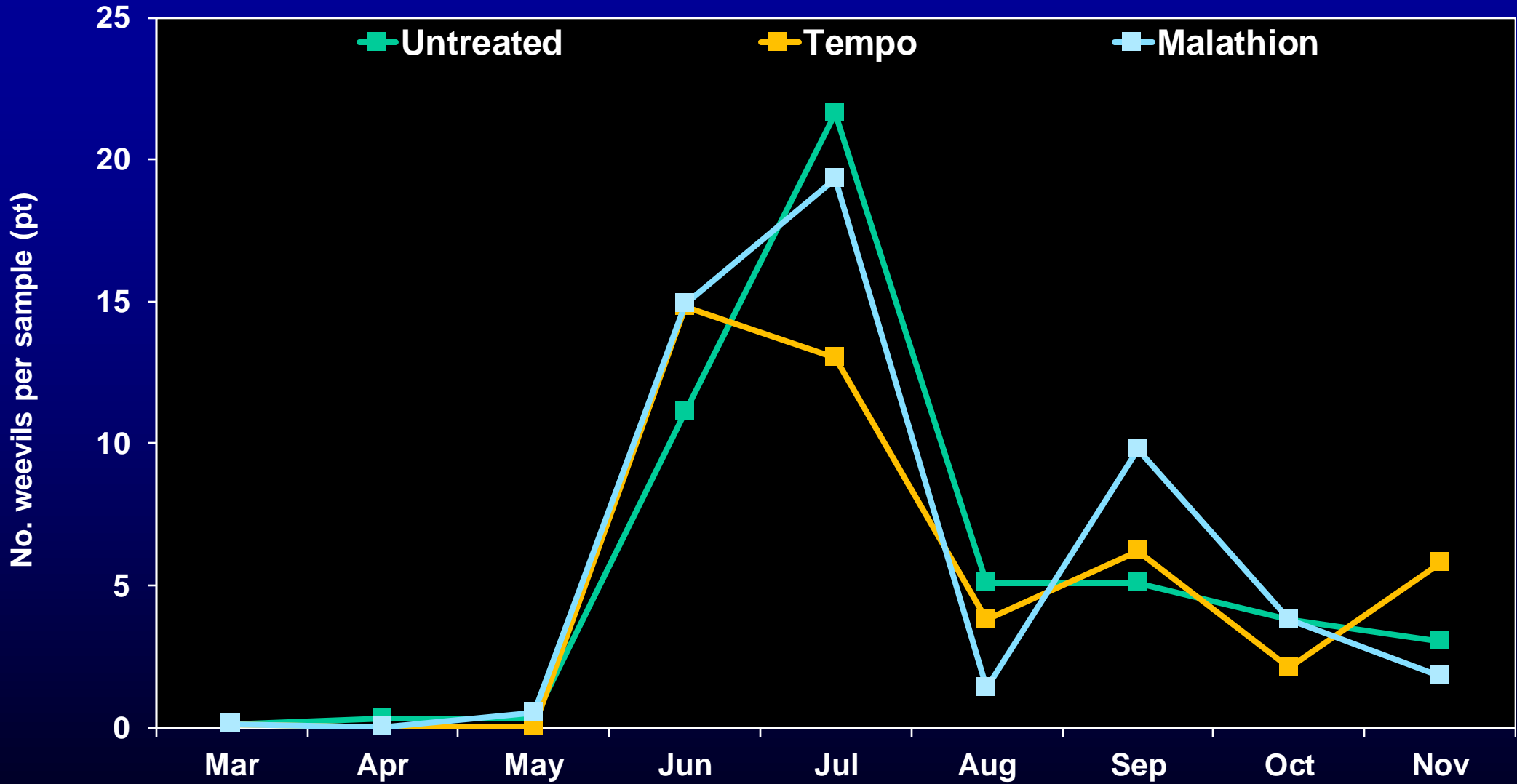
(s)-methoprene plus **deltamethrin**: Diacon IGR Plus

pyriproxyfen: Nyguard IGR

diatomaceous earth: Insecto, Dryacide 100, Protect-IT

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# Performance of Empty Bin Insect Management Tools





# Grain Protectant Options - Corn

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**pirimiphos-methyl: Actellic**

**spinosad: Sensat**

**deltamethrin: Centynal, Suspend SC, D-Fense SC**

**(s)-methoprene plus deltamethrin: Diacon IGR Plus**

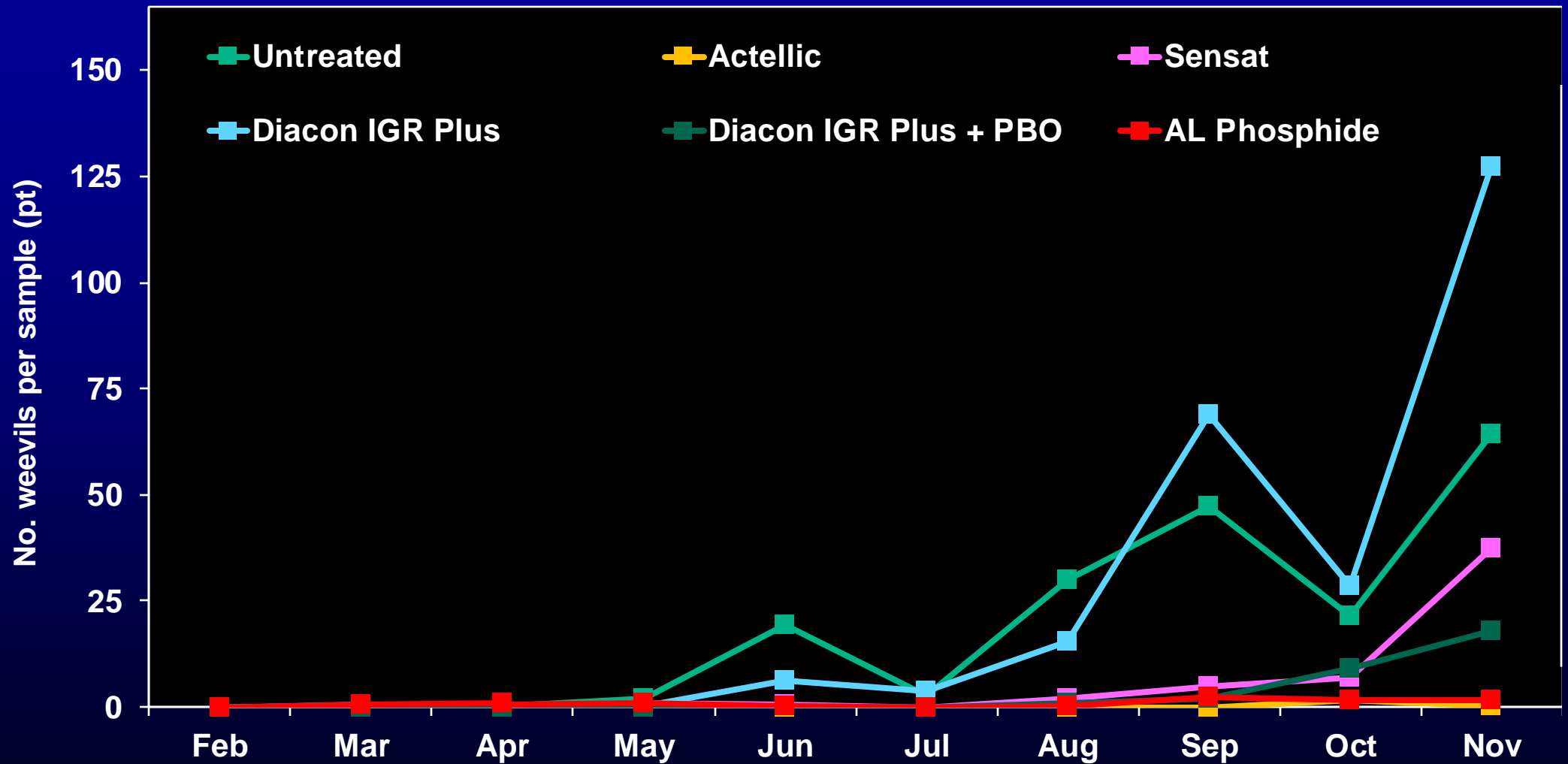
**(s)-methoprene plus deltamethrin plus PBO: Gravista**

**(s)-methoprene: Diacon-D IGR, Diacon IGR**

**diatomaceous earth: Insecto, Dryacide 100, Protect-IT**

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# Grain Protectant Performance





# Aluminum Phosphide

















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