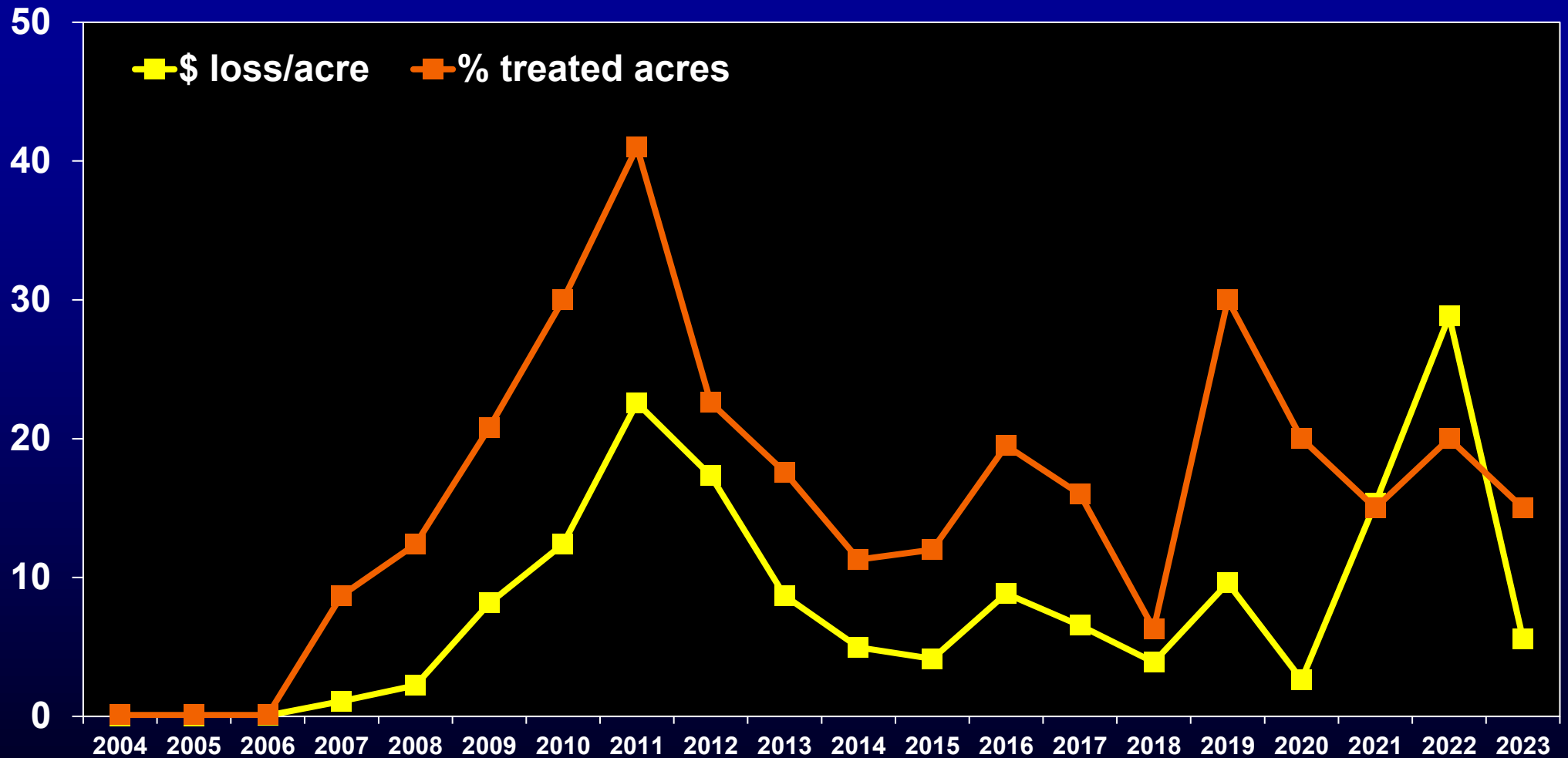




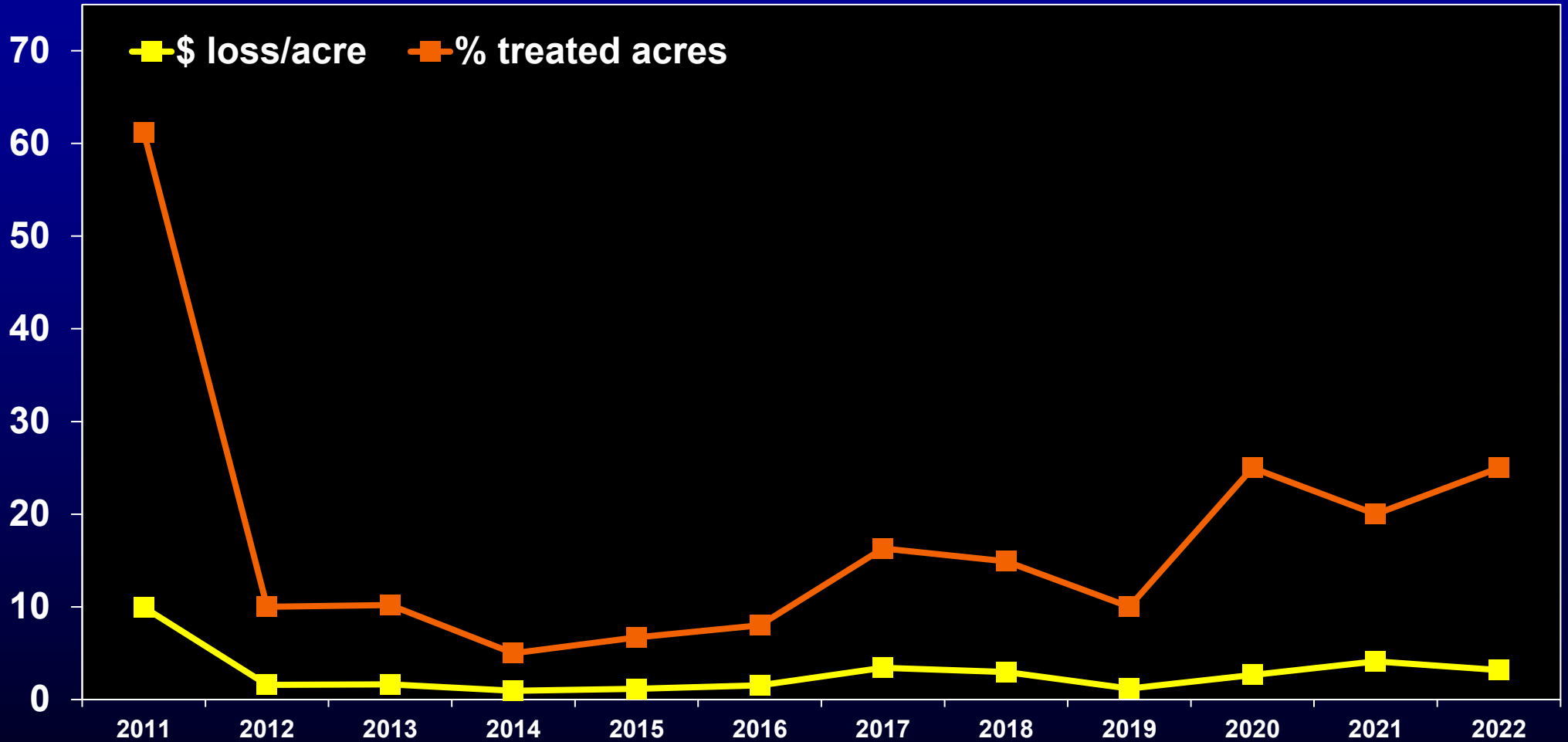
**MISSISSIPPI STATE**  
UNIVERSITY™



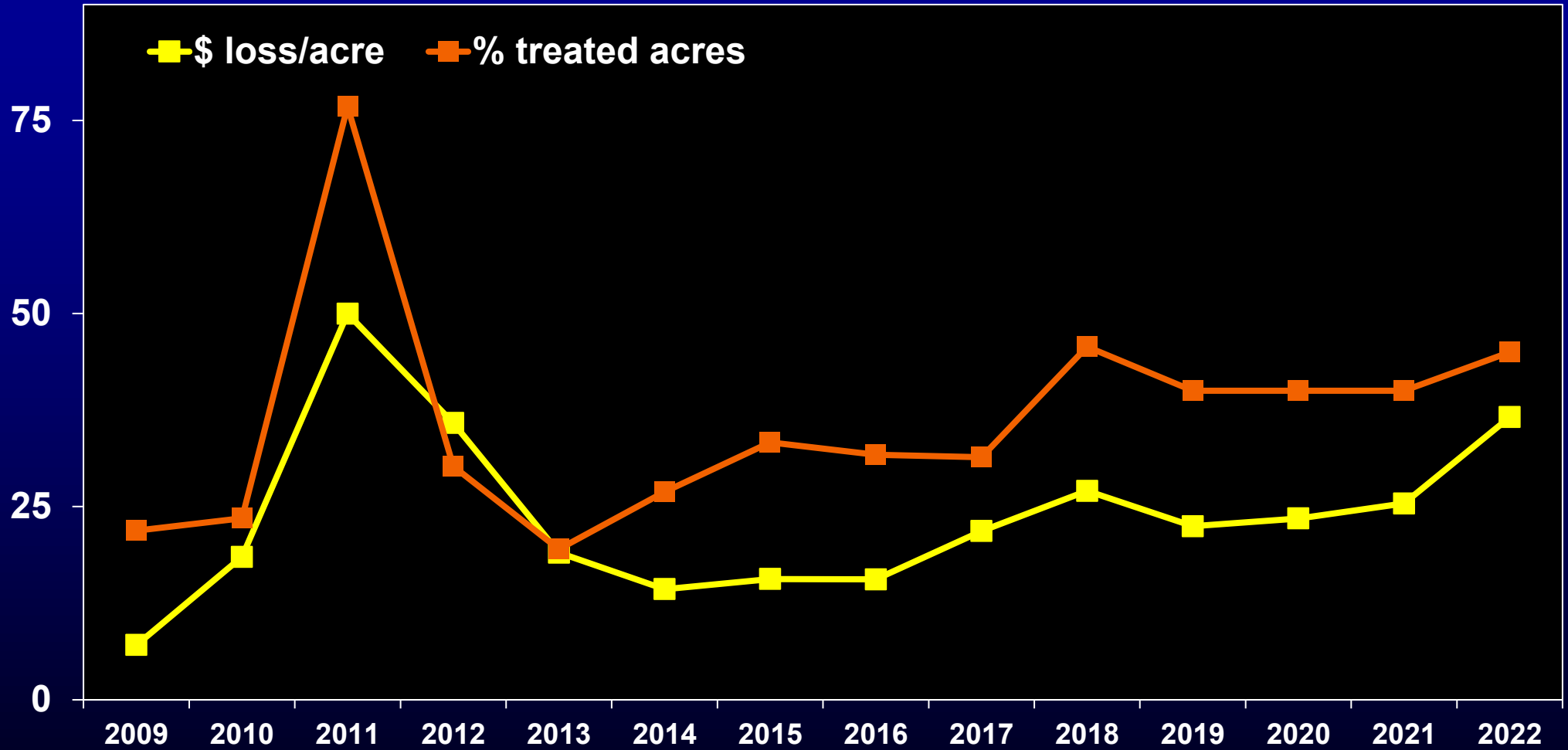
# Corn Earworm in Mississippi Soybean



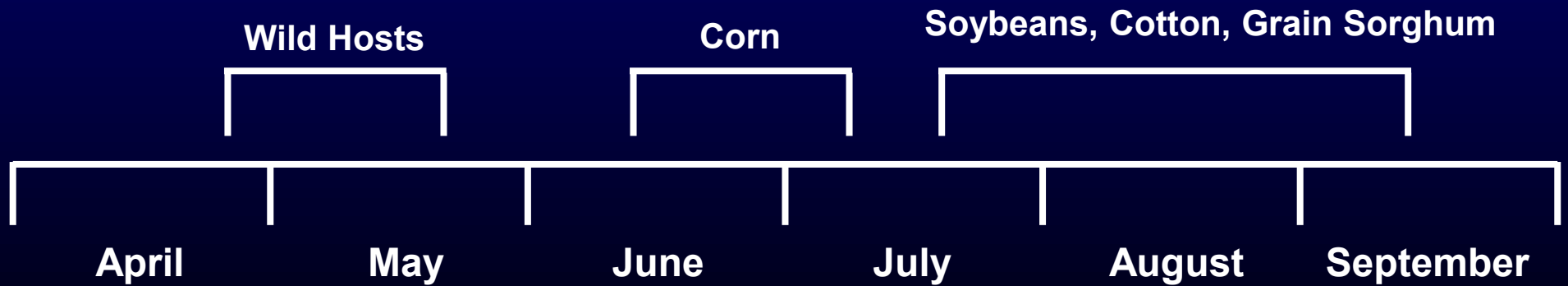
# Corn Earworm in Louisiana Soybean



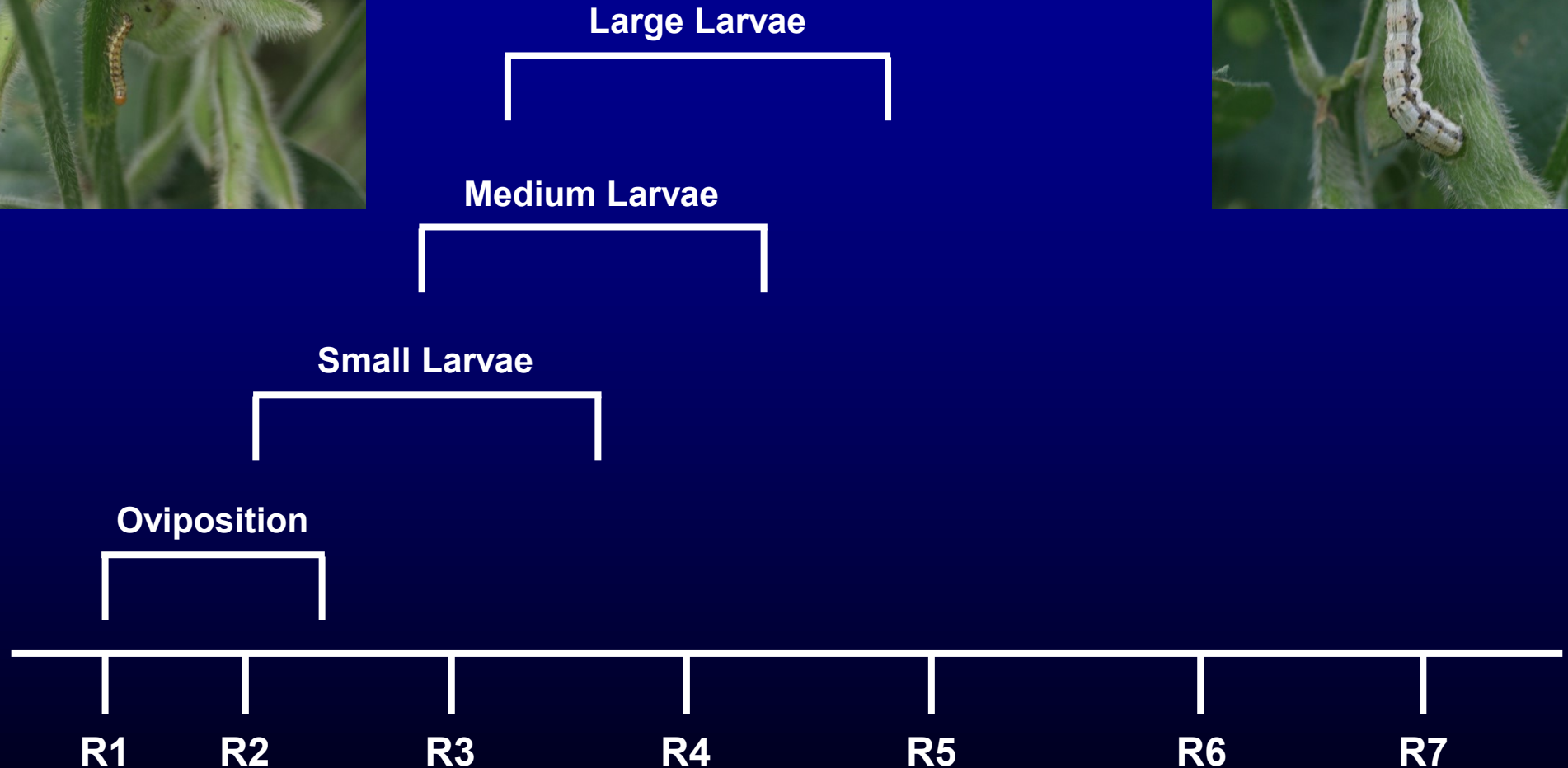
# Corn Earworm in Arkansas Soybean







# “Typical” Bollworm Development on Soybeans



# Bollworm Development on Soybeans



Large Larvae

Medium Larvae

Small Larvae

Oviposition

R1

R2

R3

R4

R5

R6

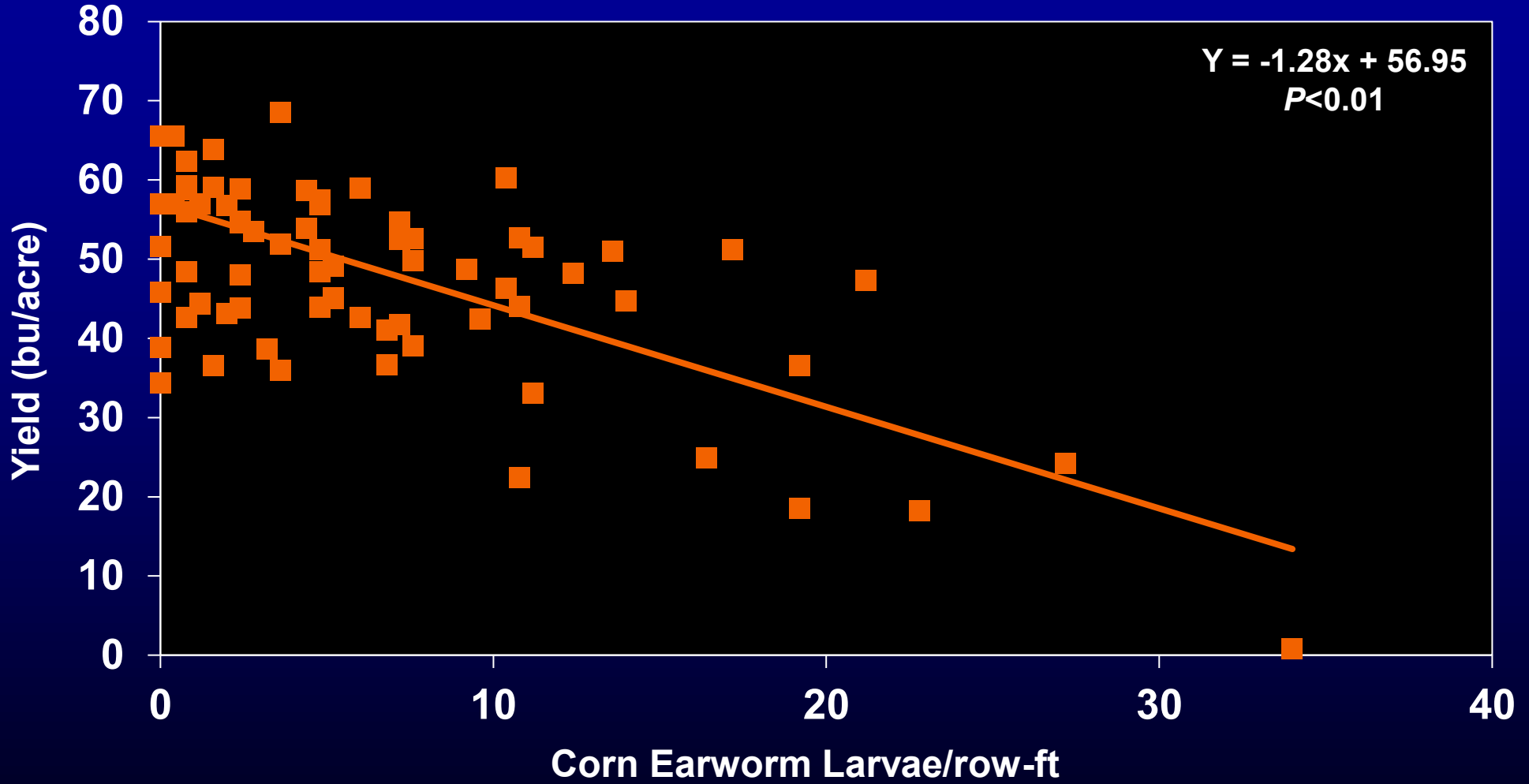
R7



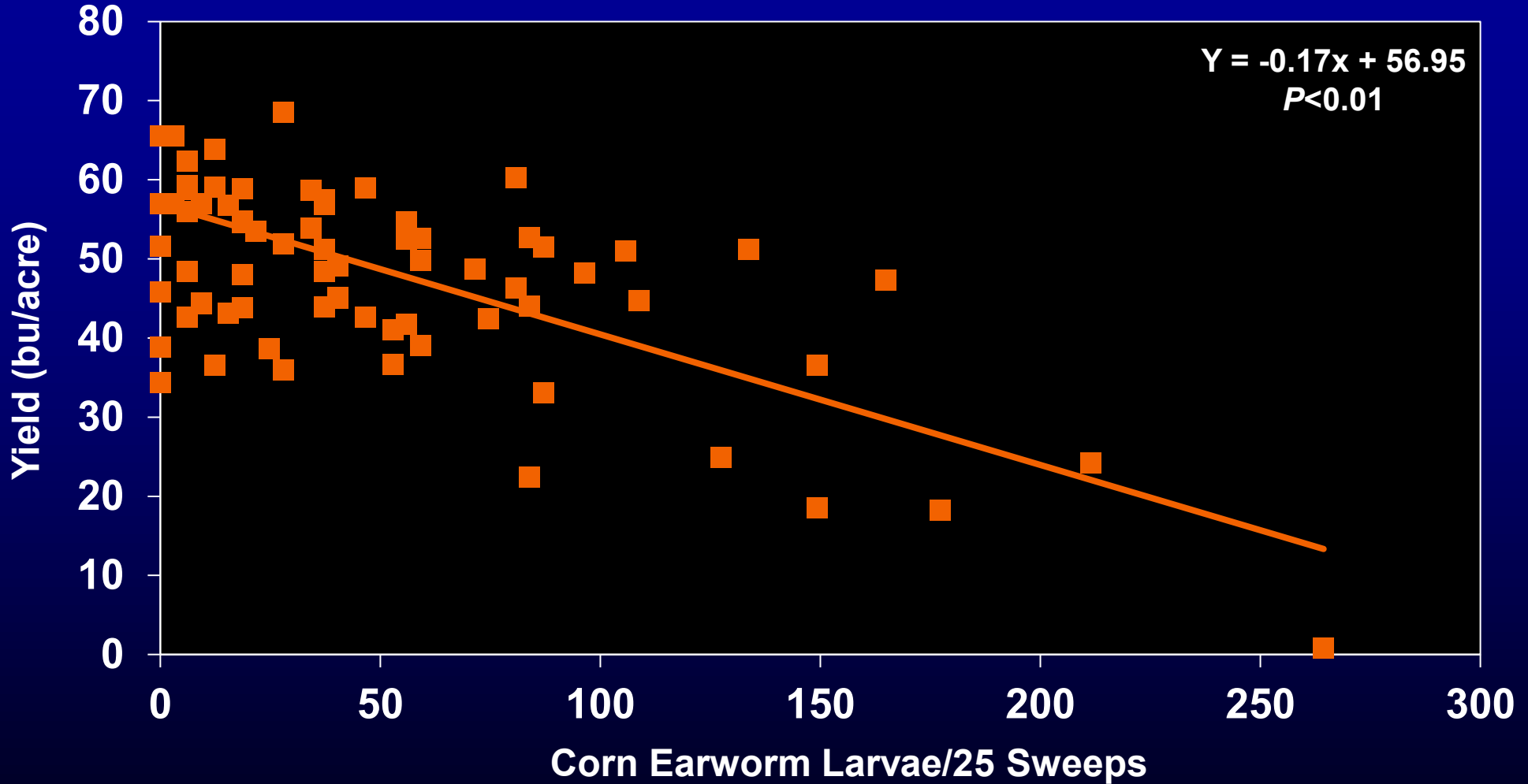




# Relationship Between Corn Earworm Larvae and Yield



# Relationship Between Corn Earworm Larvae and Yield



# Economic Injury Level (EIL)

## Corn Earworm in Soybeans, Sweep Net Sampling

---

$$P = C \div (V \times I \times D)$$

$$13.1 = \$20 / \text{acre} \div (\$9 / \text{bu} \times 0.17 \text{ bu lost} / 1 \text{ larva} / 25 \text{ sweeps})$$

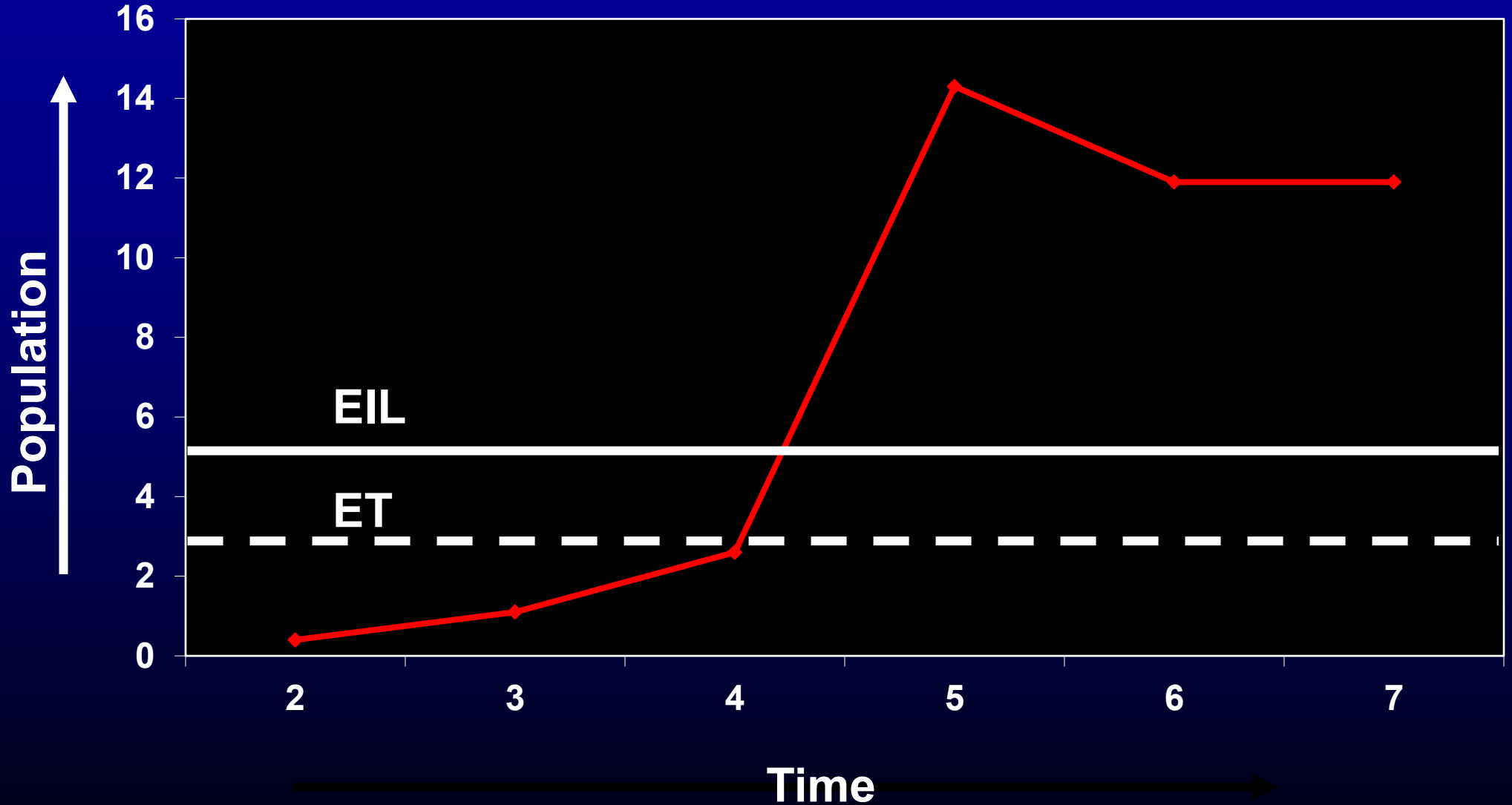
No. Larvae / 25 Sweeps

Control Costs (\$/acre)

Crop Value (\$/bu)	10	15	20	25	30
6	9.8	14.7	19.6	24.5	29.4
7	8.4	12.6	16.8	21.0	25.2
8	7.4	11.0	14.7	18.4	22.1
9	6.5	9.8	13.1	16.3	19.6
10	5.9	8.8	11.8	14.7	17.6
12	4.9	7.4	9.8	12.3	14.7



# Economic Thresholds and Sampling



# Economic Threshold for Drop Cloth Sampling

larvae/row ft

control costs + application costs (\$/acre)

Crop value (\$/bu)	12	15	17	20	22
10	0.7	0.9	1.0	1.2	1.3
11	0.6	0.8	0.9	1.1	1.2
12	0.5	0.7	0.8	1.0	1.1
13	0.5	0.7	0.8	0.9	1.0
14	0.5	0.6	0.7	0.8	0.9
15	0.5	0.6	0.7	0.8	0.9

# Economic Threshold for Sweep Net Sampling

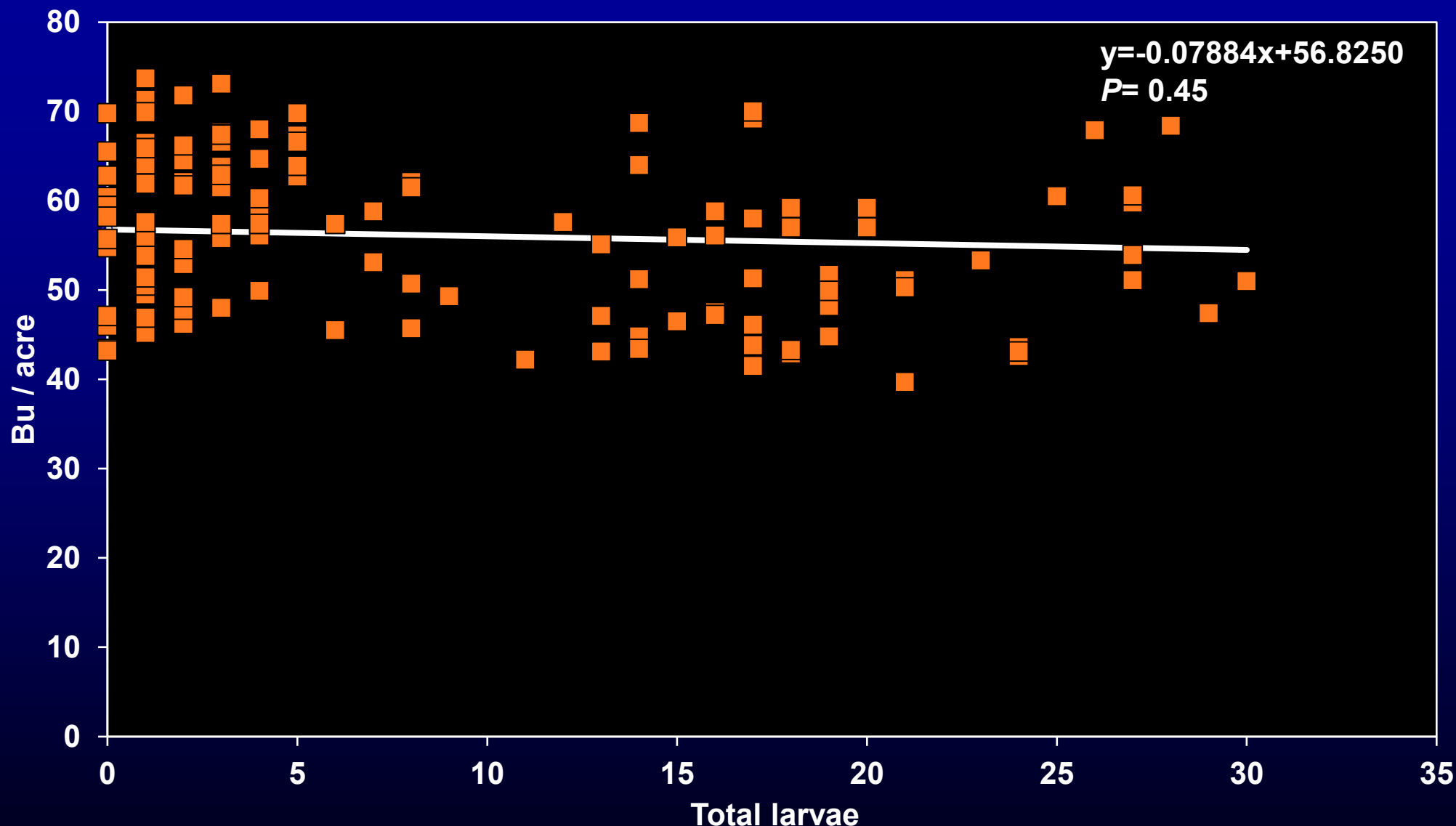
larvae/25 sweeps

control costs + application costs (\$/acre)

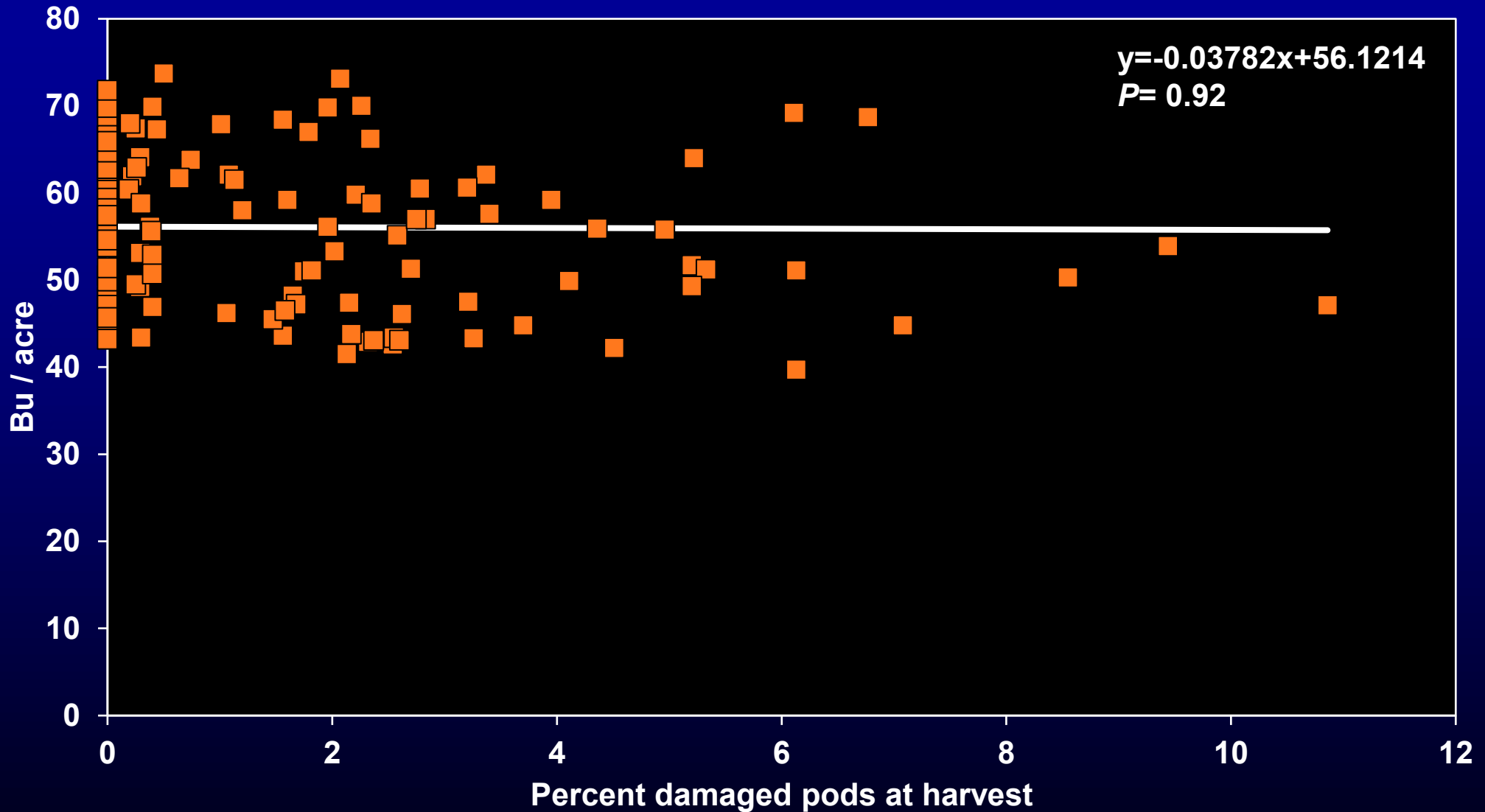
Crop value (\$/bu)	12	15	17	20	22
10	5.3	6.6	7.5	8.8	9.7
11	4.8	5.0	6.8	8.0	8.8
12	4.4	5.5	6.3	7.4	8.1
13	4.1	5.1	5.8	6.8	4.5
14	3.8	4.7	5.4	6.3	6.9
15	3.5	4.4	5.0	5.9	6.5



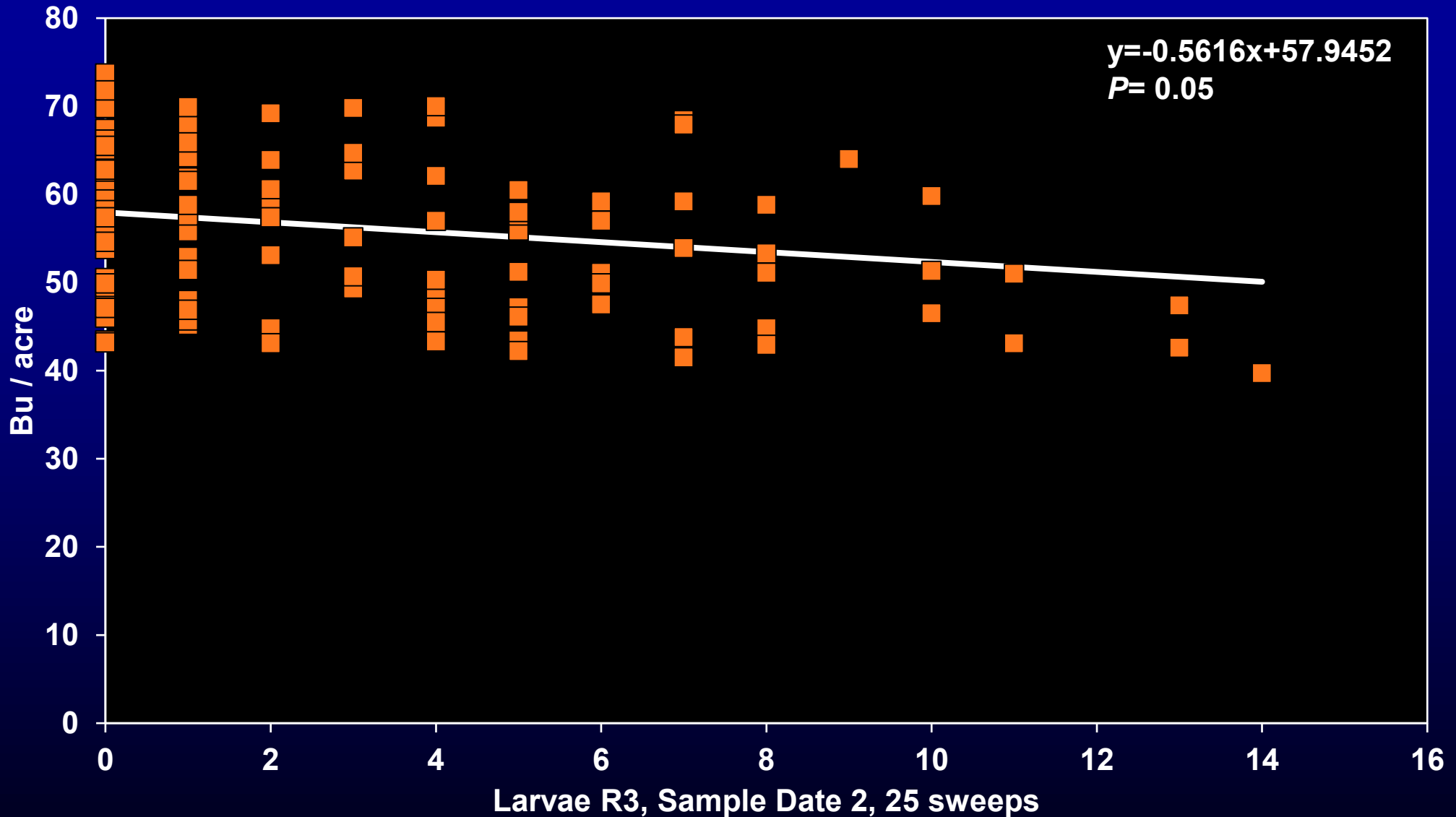
# Impact of Bollworm Infestations on Soybean Yield



# Impact of Bollworm Infestations on Soybean Yield

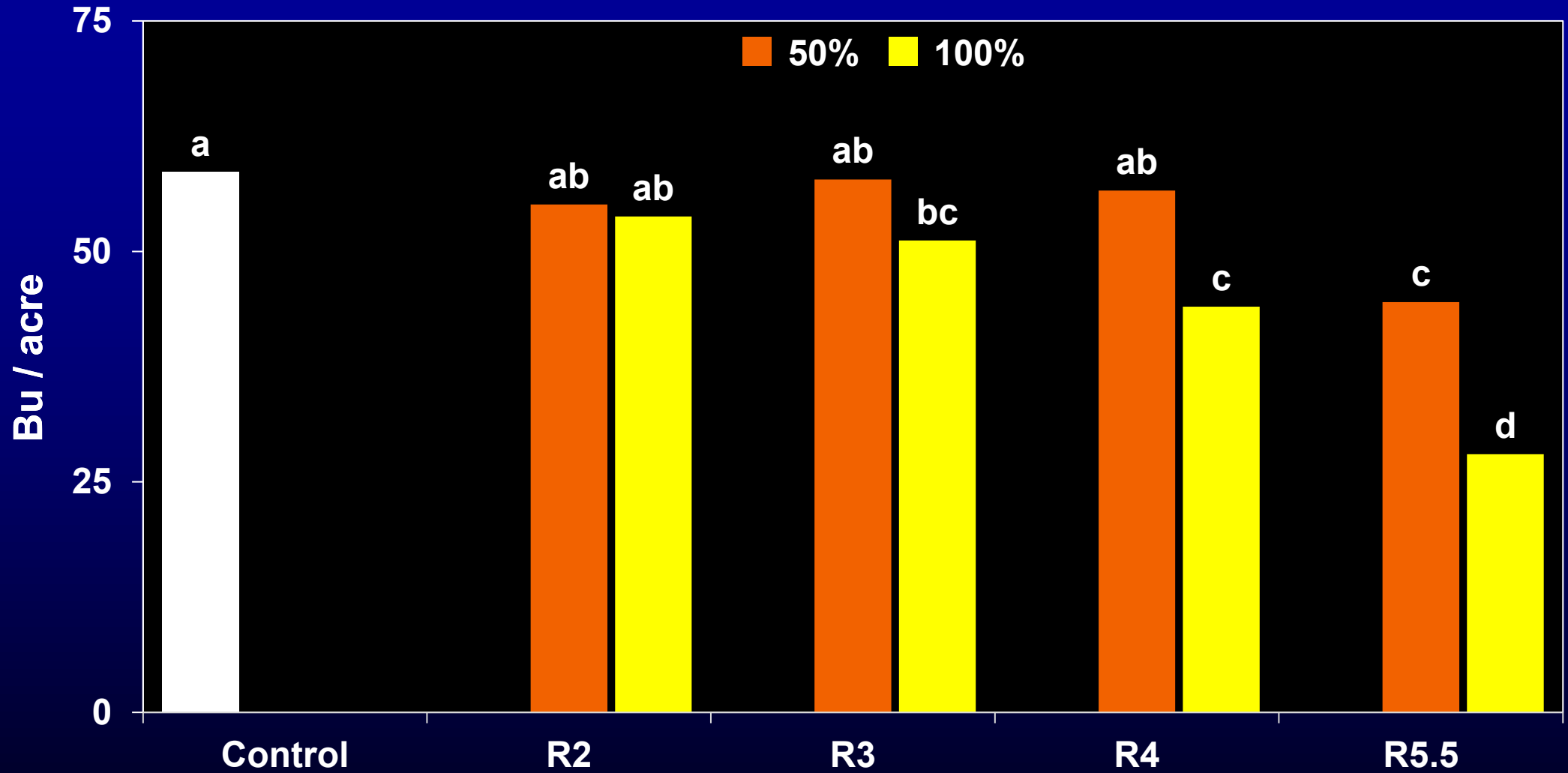


# Impact of Bollworm Infestations on Soybean Yield



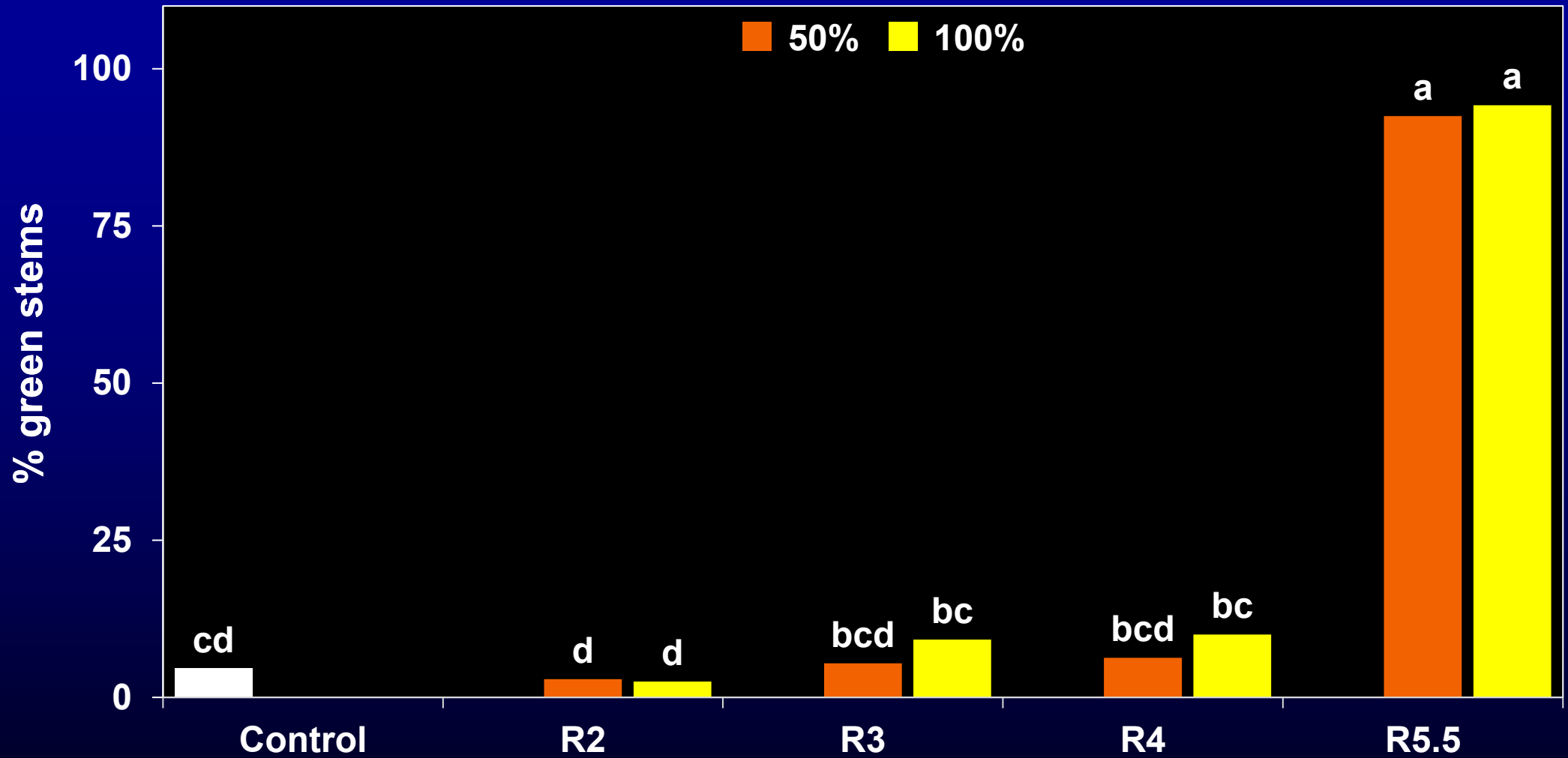


# Impact of Fruit Loss on Soybean Yield





# Impact of Fruit Loss on Soybean Maturity





# Management Tools

**Vantacor – Diamide**

**Besiege – Diamide + Pyrethroid**

**Radiant – Spinosyn**

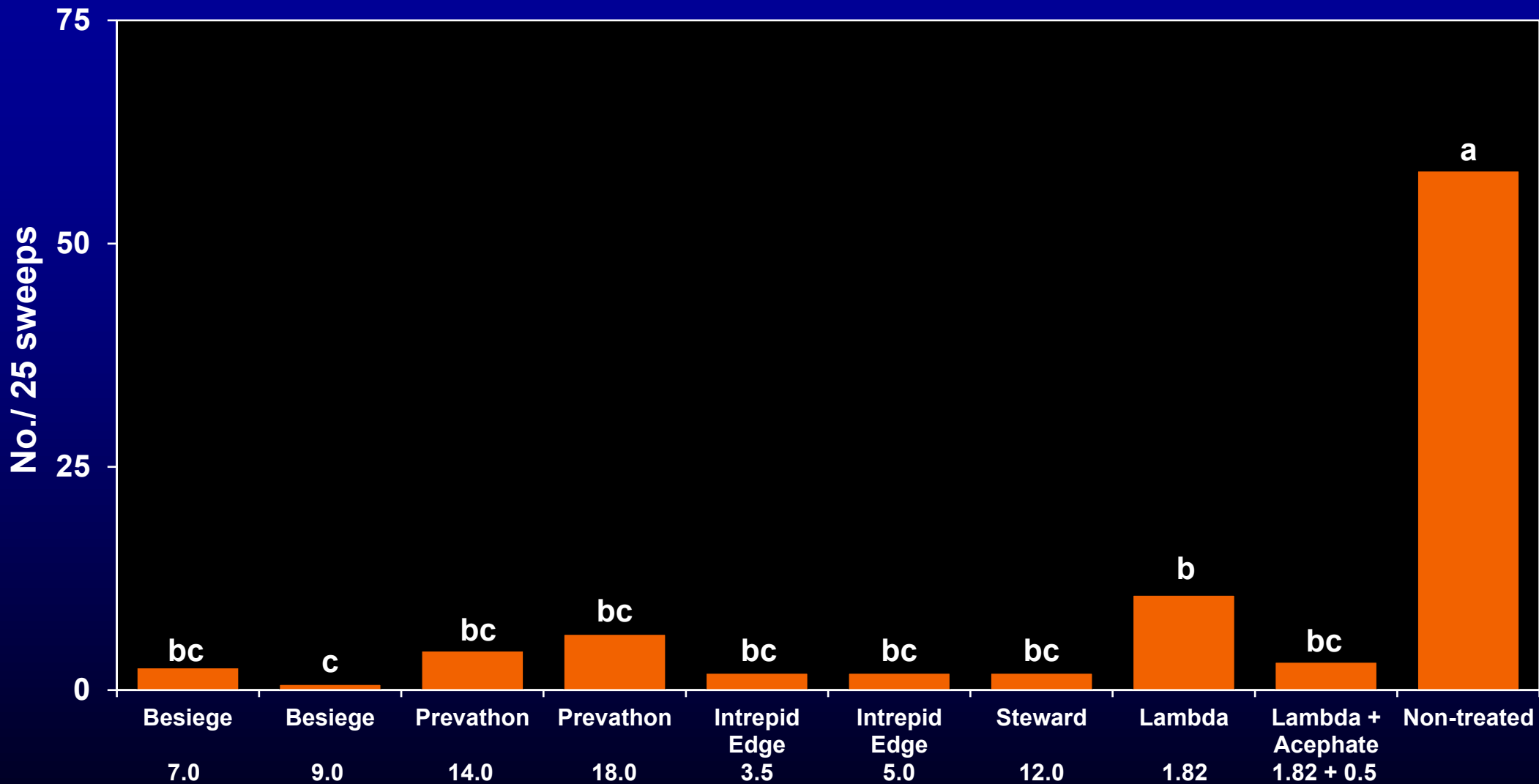
**Intrepid Edge – Radiant + Intrepid**

**Steward – Oxydiazine**

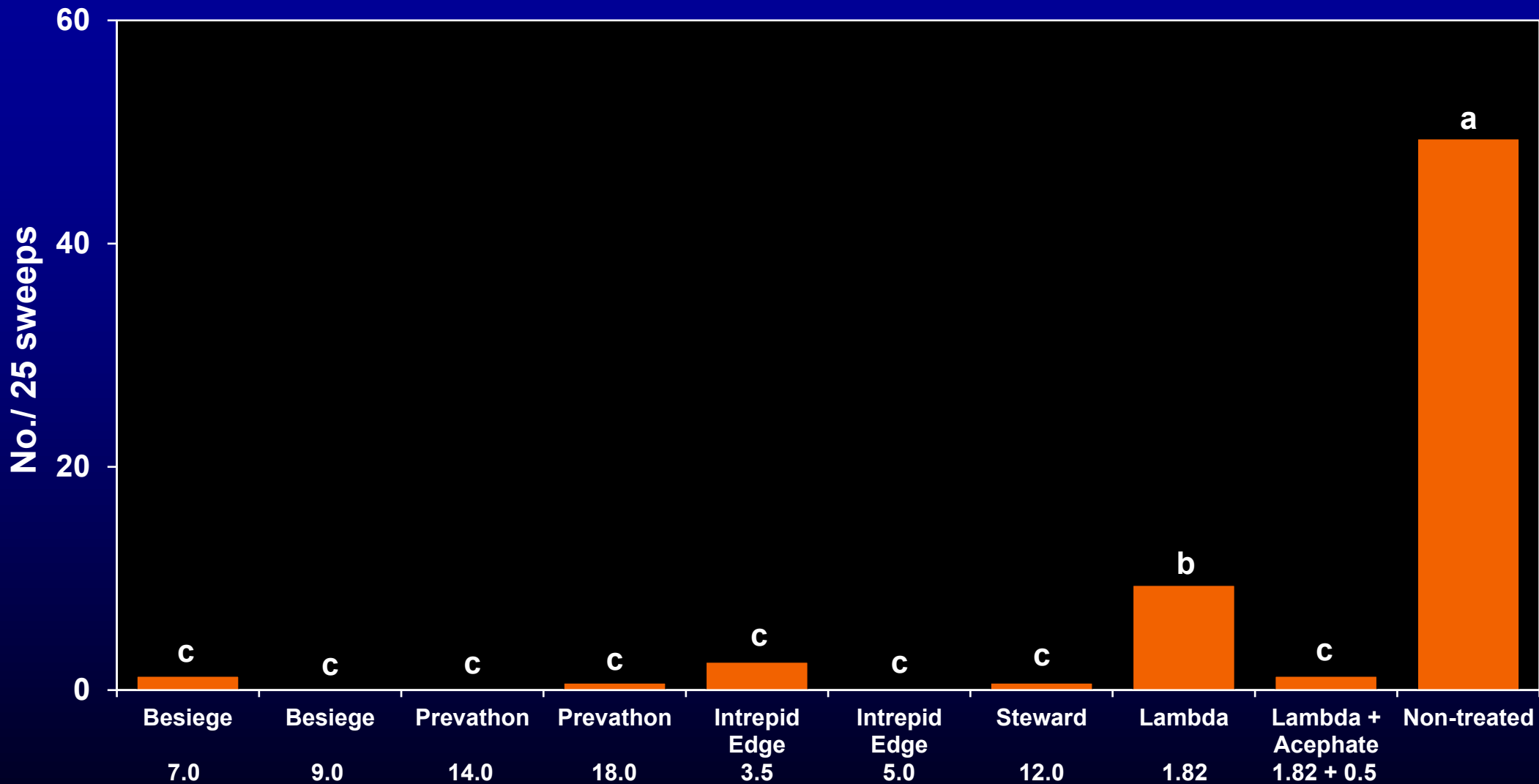
**Denim - Avermectin**

**Virus – NPV – Heligen and others**

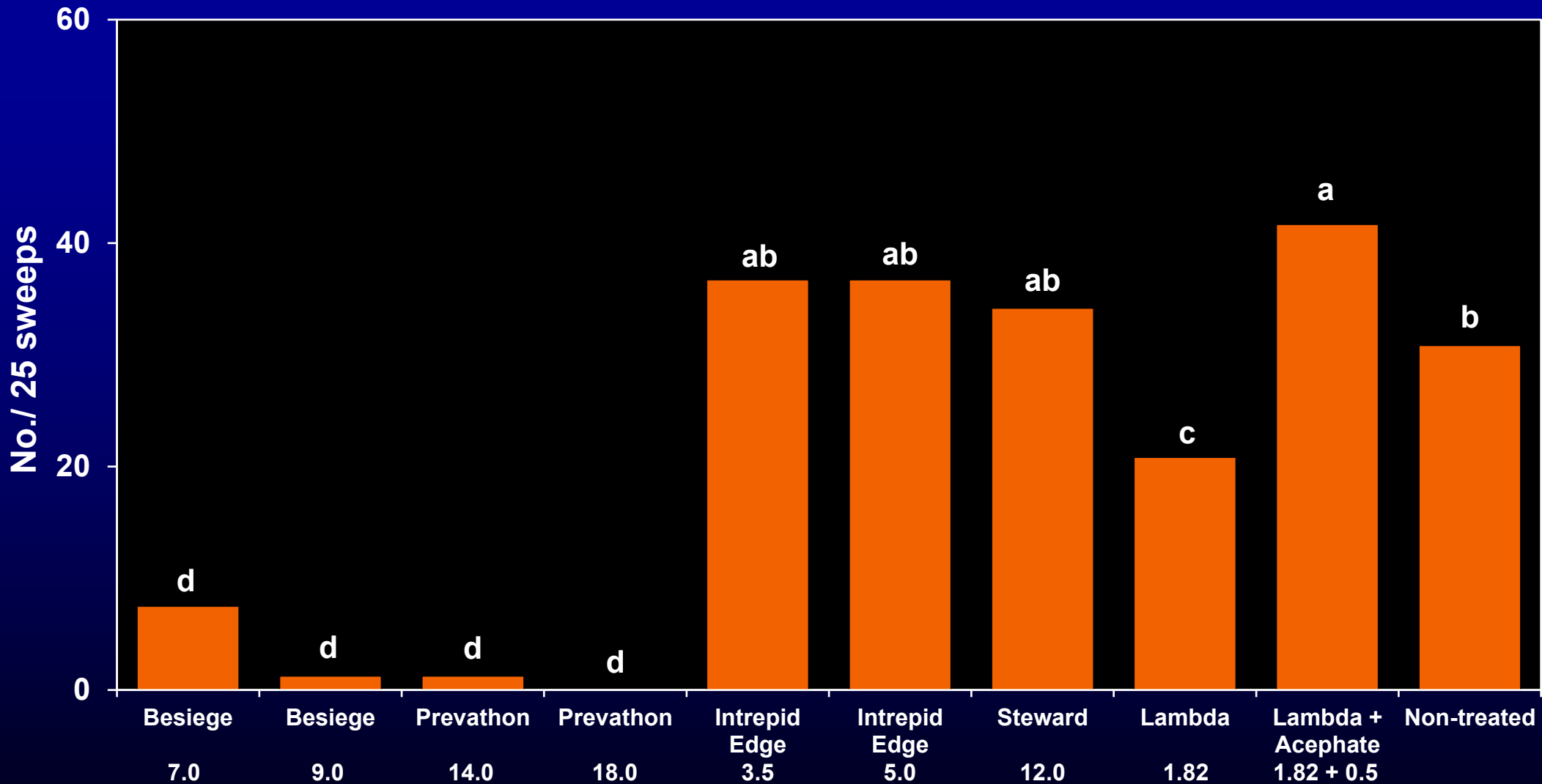
# Insecticide Performance Against Bollworm



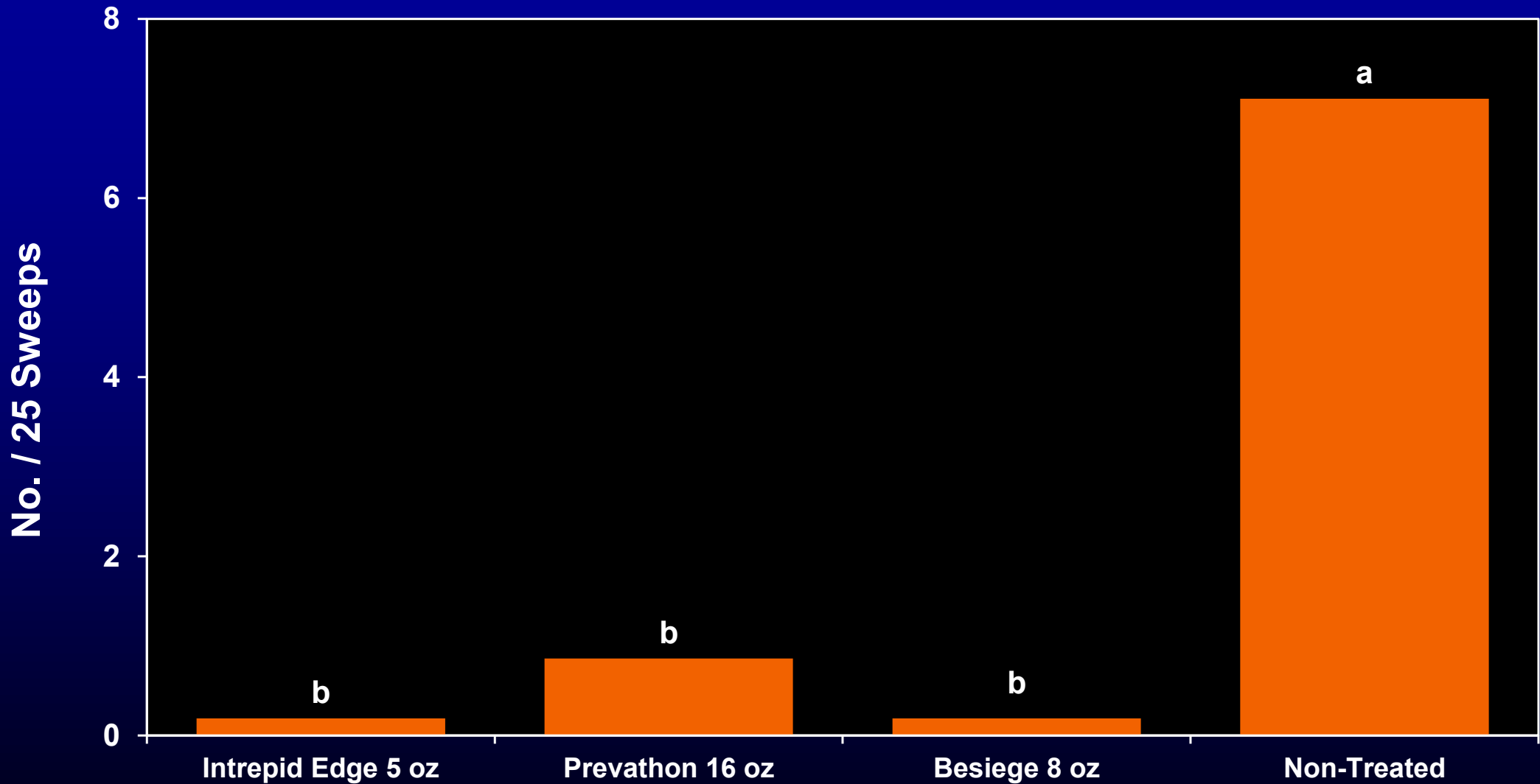
# Insecticide Performance Against Bollworm



# Insecticide Performance Against Bollworm



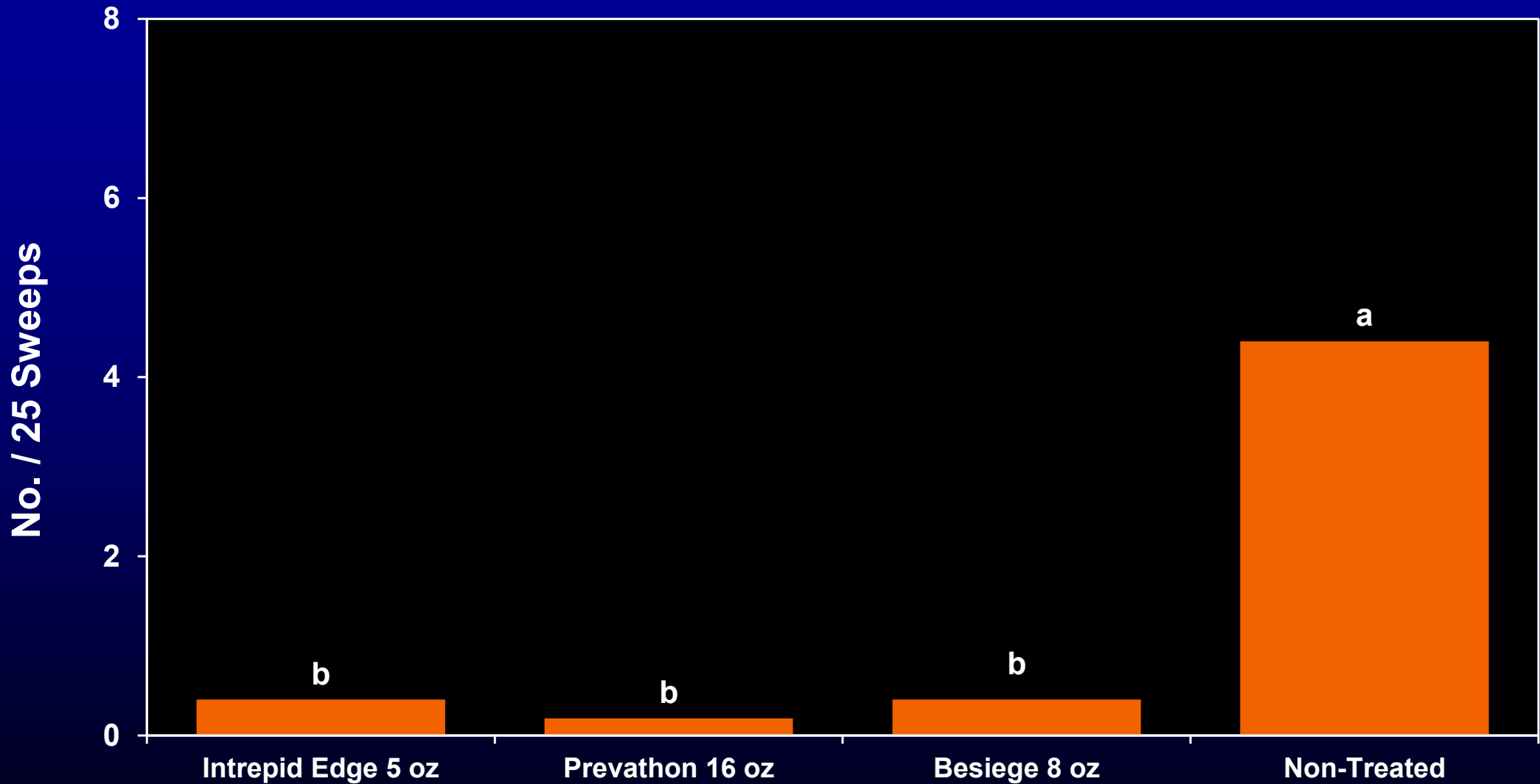
# Bollworm Management



3 DAT

Cook 2020

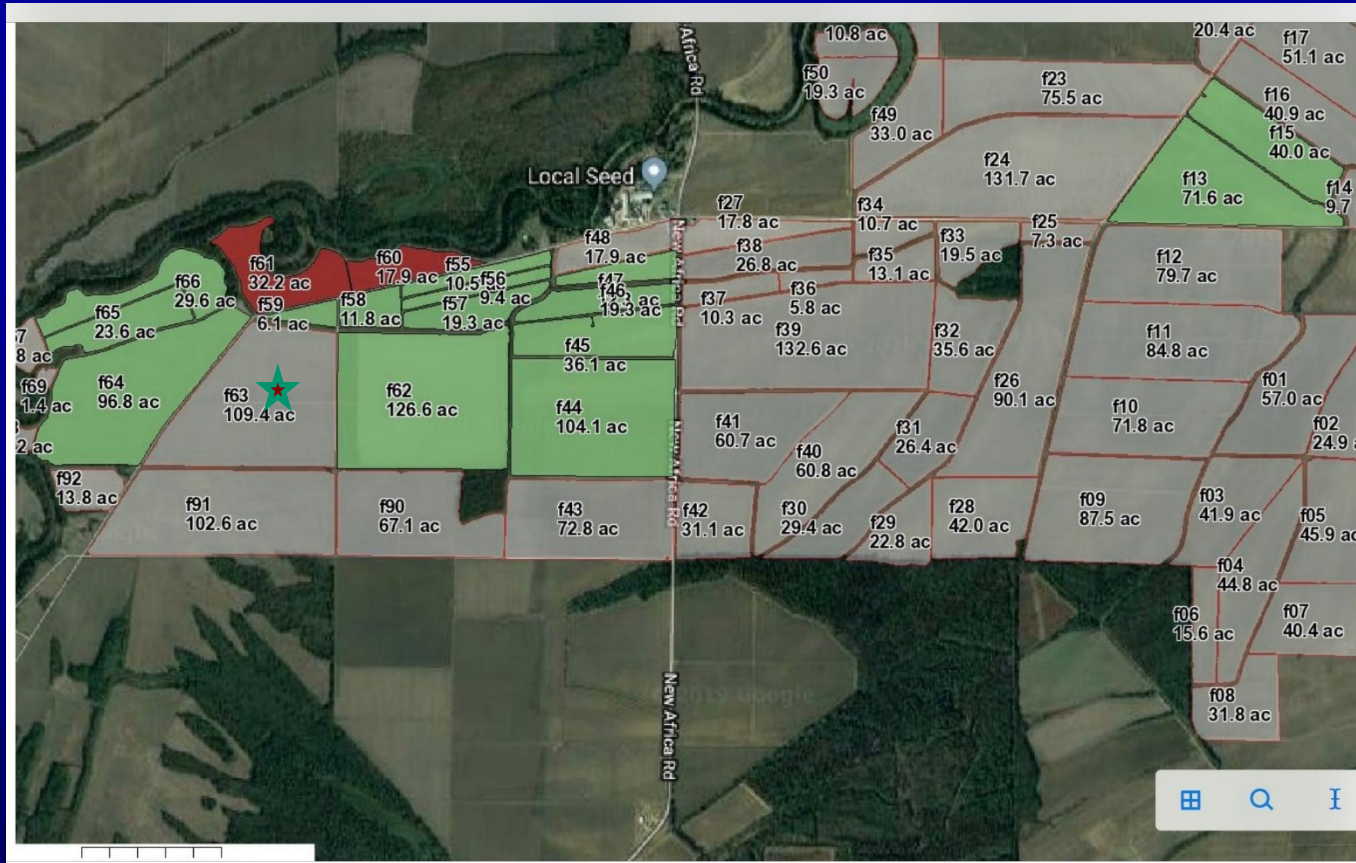
# Bollworm Management



6 DAT

Cook 2020



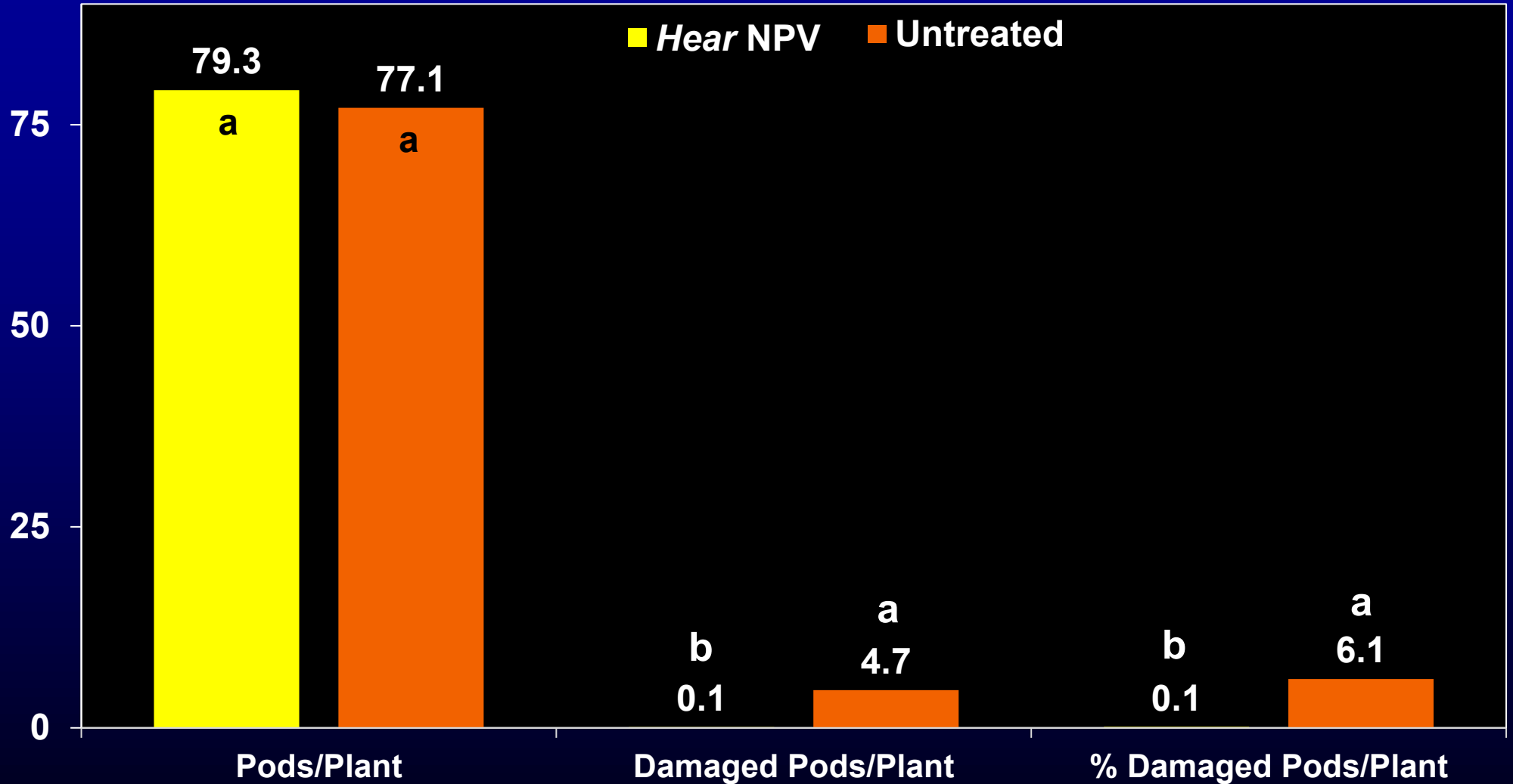


**-8/1/19= 1-3/25 Sweeps (Sprayed 1.5 oz)**

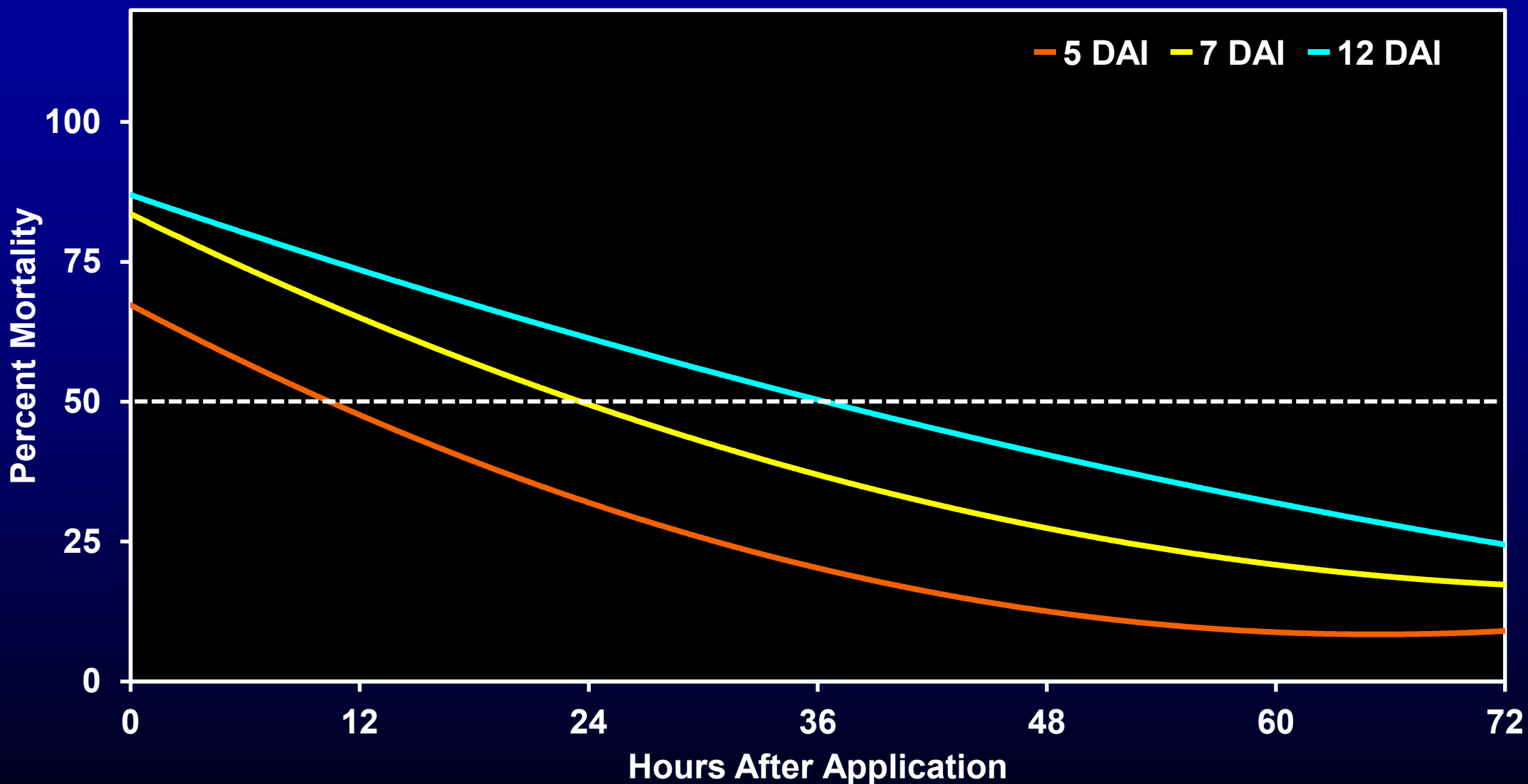
**-8/9/19= Treated 3/25 sweeps all small, UT 4/25 sweeps half large**

**-8/15/19= Treated 0-1/25 sweeps all small, UT 4/25 sweeps all large and damage noticed**

# Hear NPV CEW Soybean



# Hear NPV CEW Soybean Leaf Rinsate Residual



# Hear NPV CEW Soybean Leaf Feeding Residual

