

Economics of Managing Insect Pests of Cotton

Jeff Gore



Major Insect Pests

Thrips



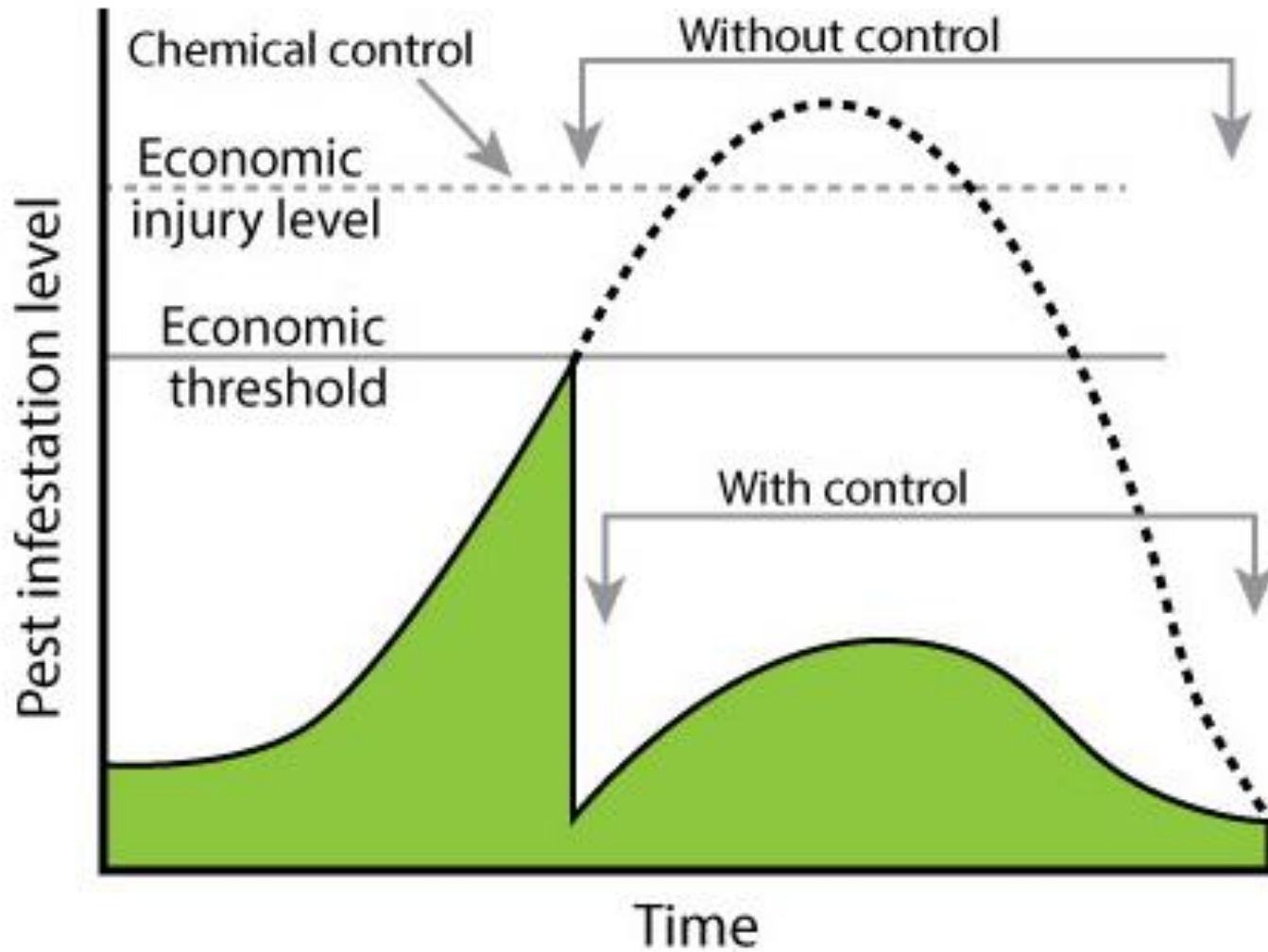
Tarnished Plant Bug



Bollworm

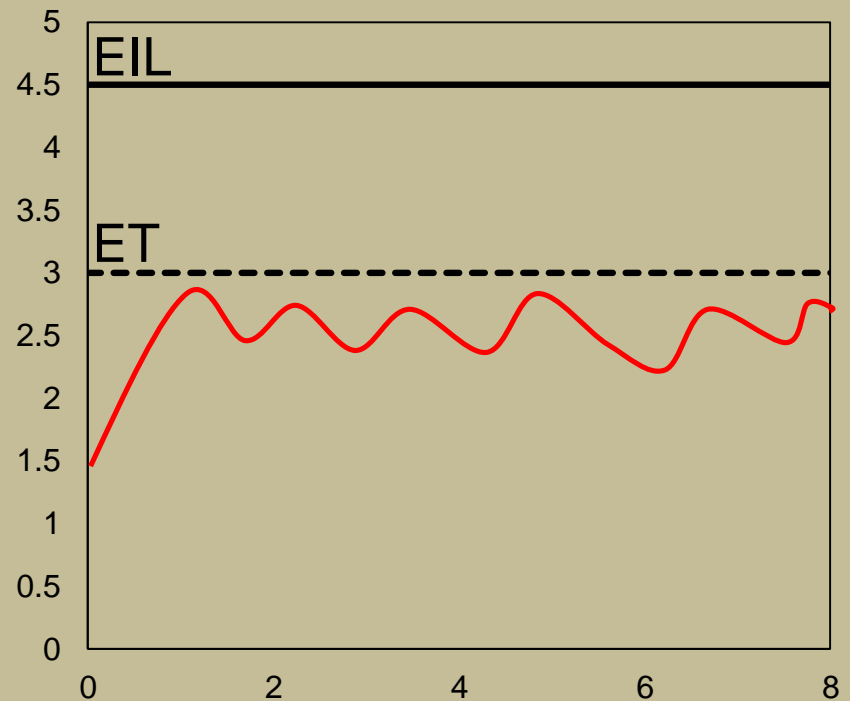


Economic Injury Levels and Thresholds



Problems with EIL's and ET's

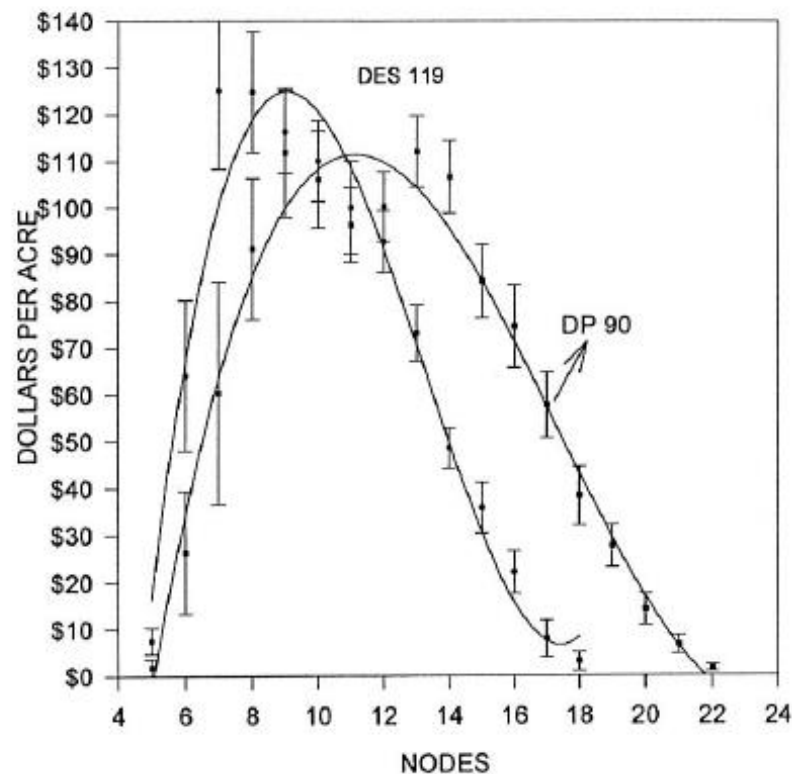
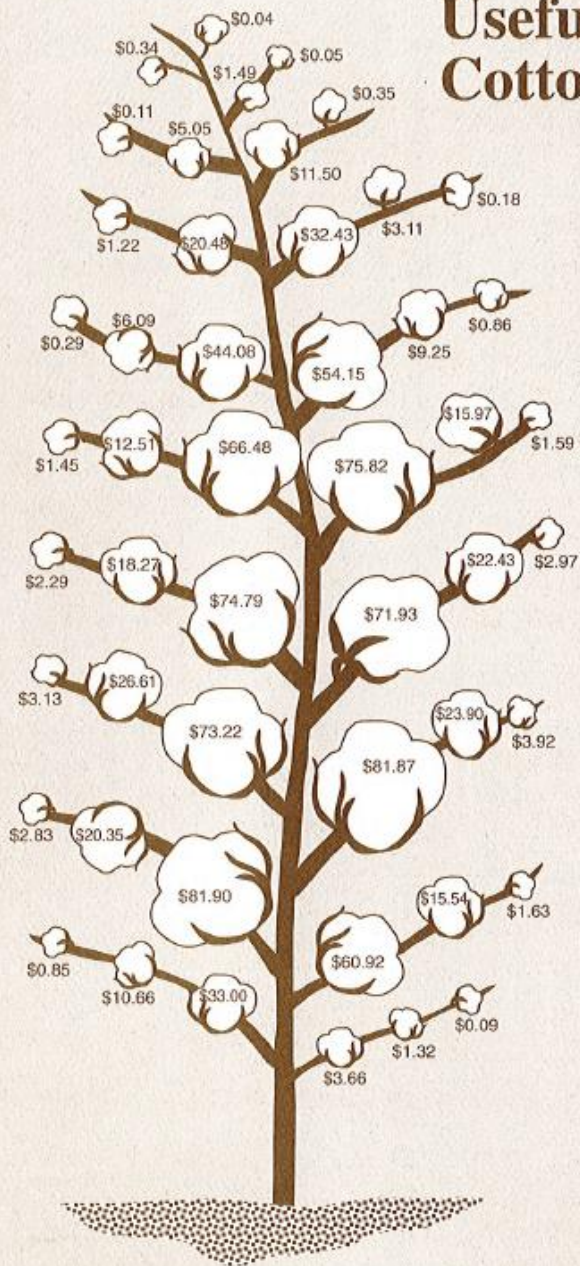
- Most are not really based on economics
- They are static
- Sub-threshold populations over time?

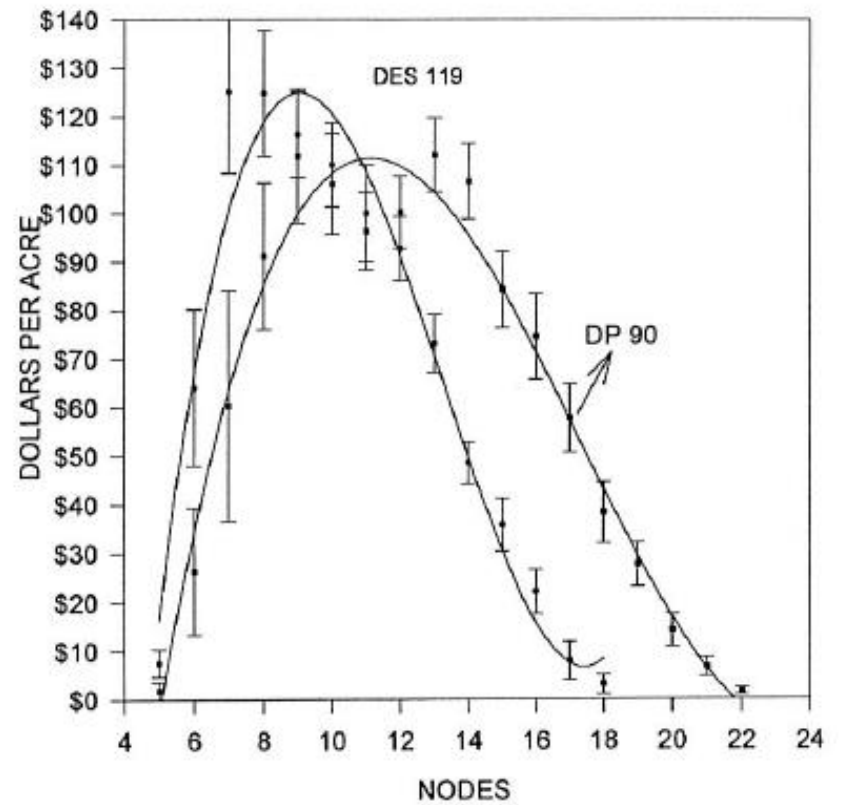
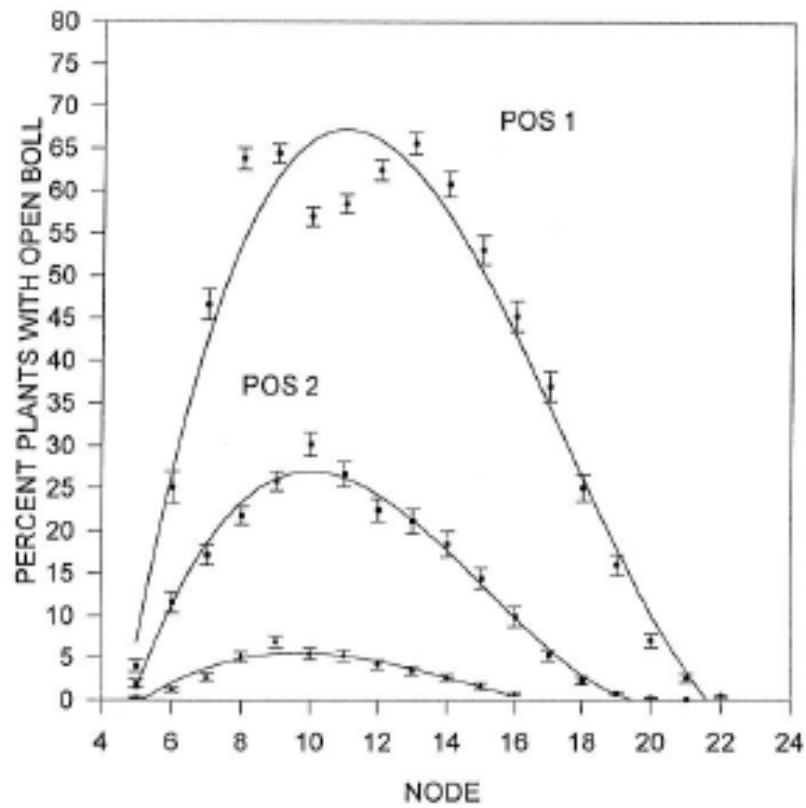


Useful Tools in Managing Cotton Production:

End of Season Plant Maps

Johnie Jenkins
and
Jack McCarty





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2018 Thrips Recommendations

1. Start with imidacloprid based seed treatment ... or an in-furrow spray of imidacloprid
2. Add supplemental seed treatment components
3. Consider supplemental foliar application of Acephate, Bidrin, Dimethoate, or Radiant if needed



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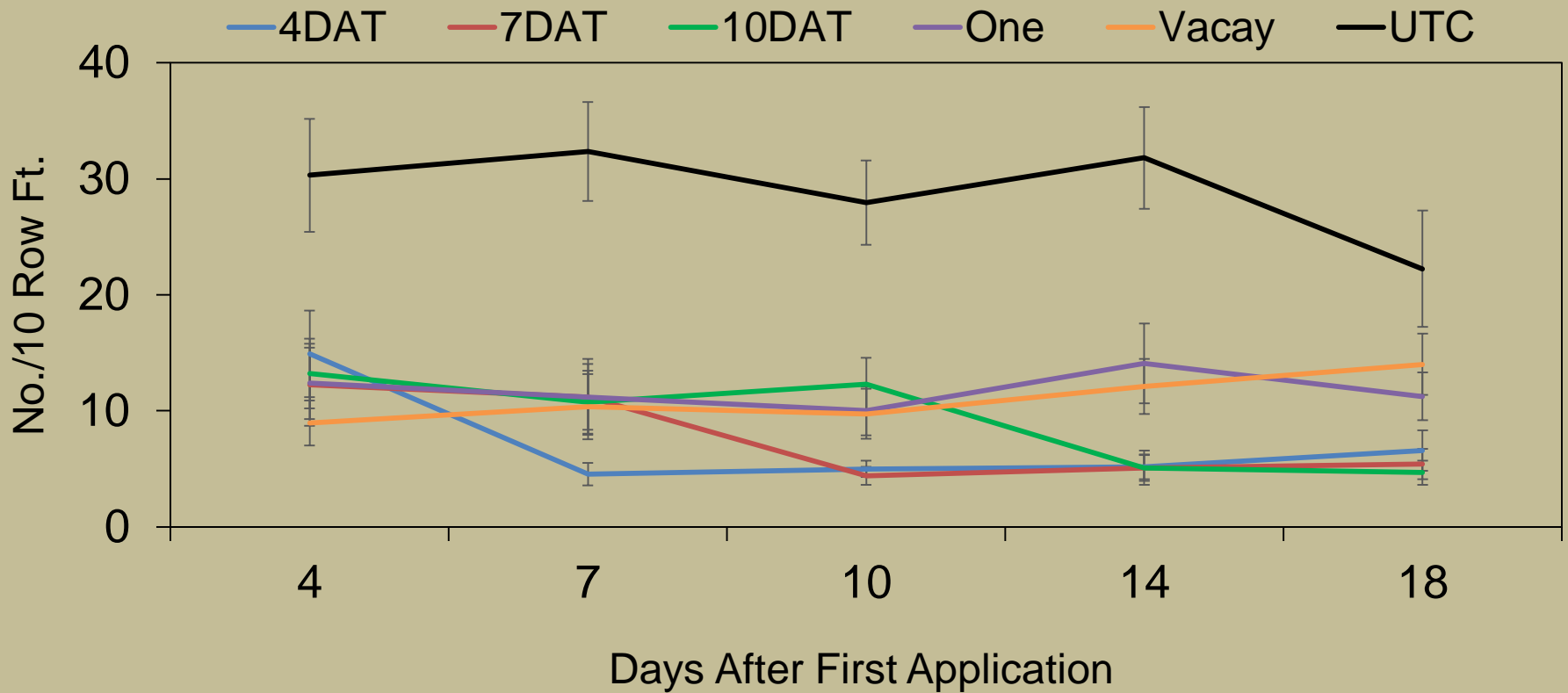
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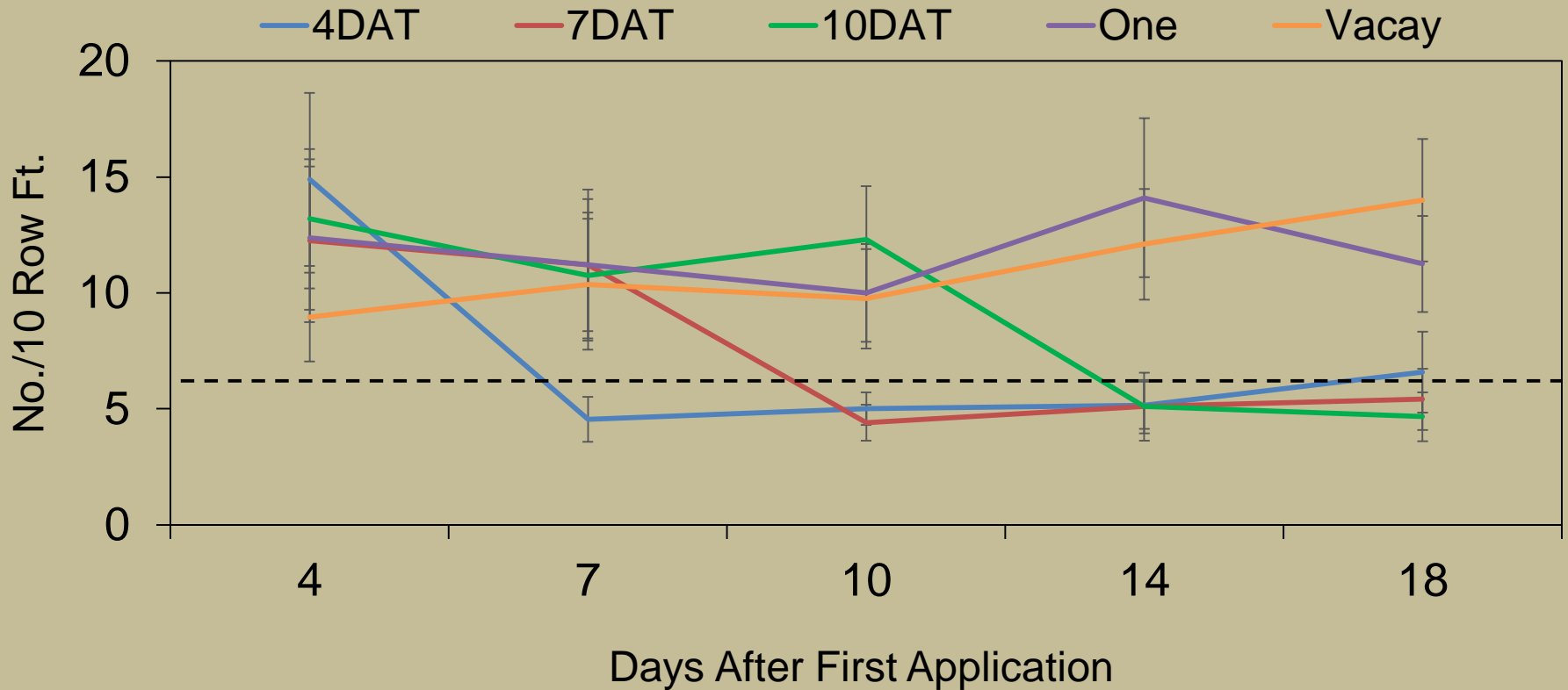


TPB Application Interval



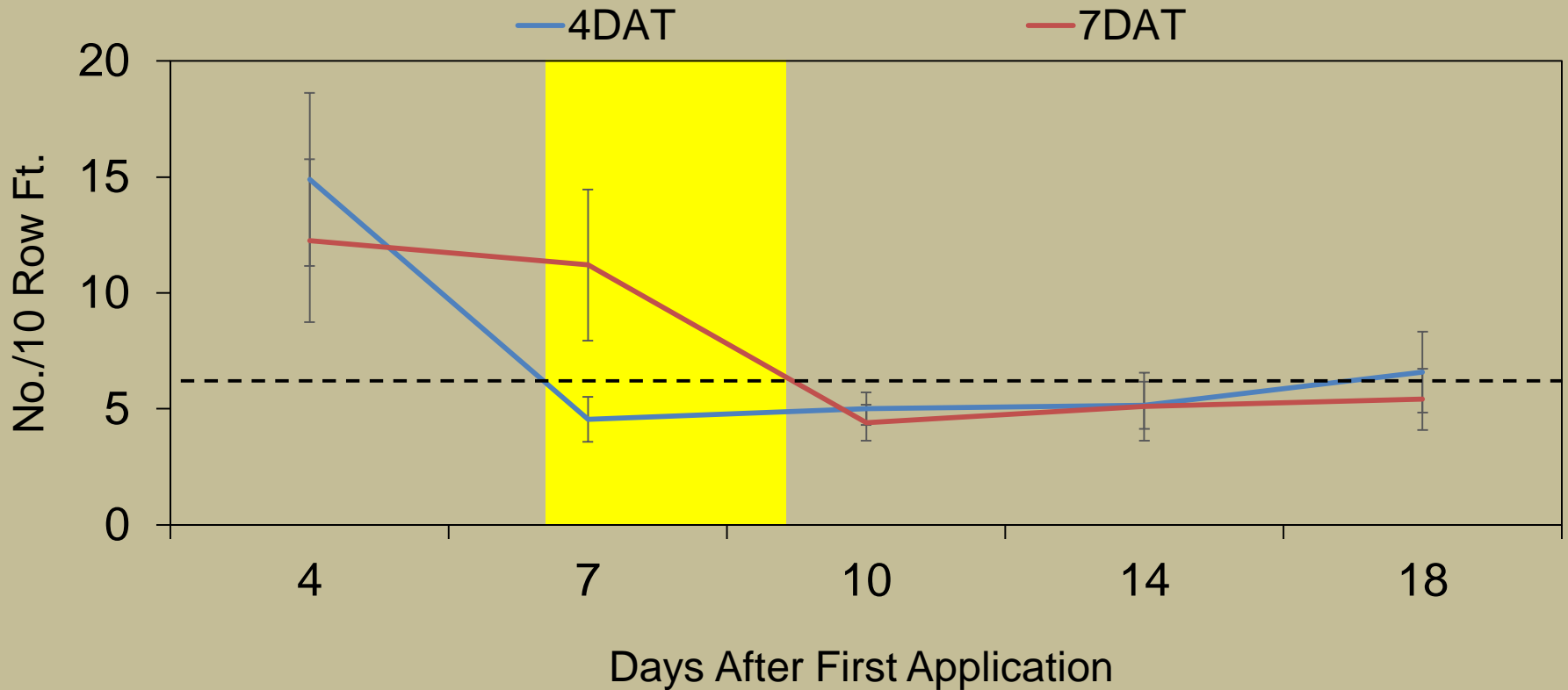
TPB Application Interval

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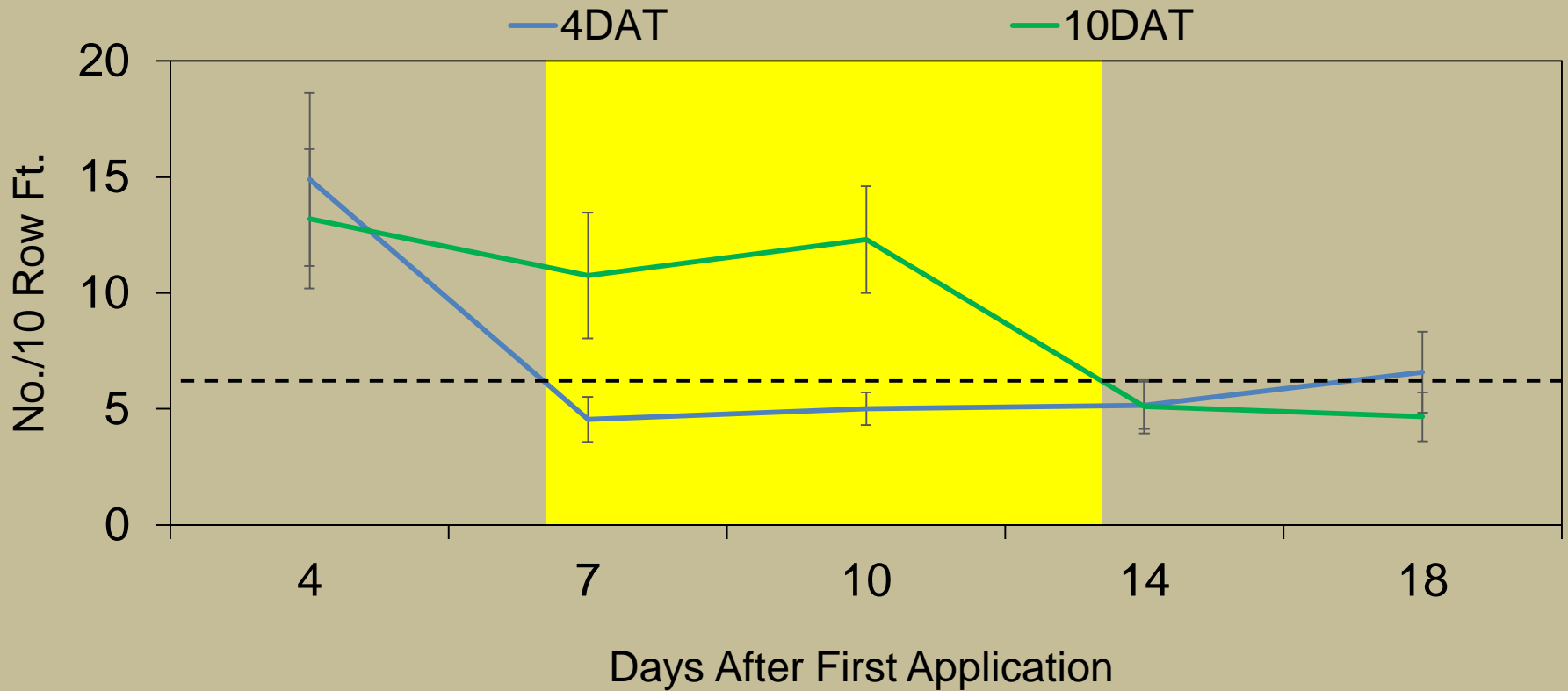
TPB Application Interval

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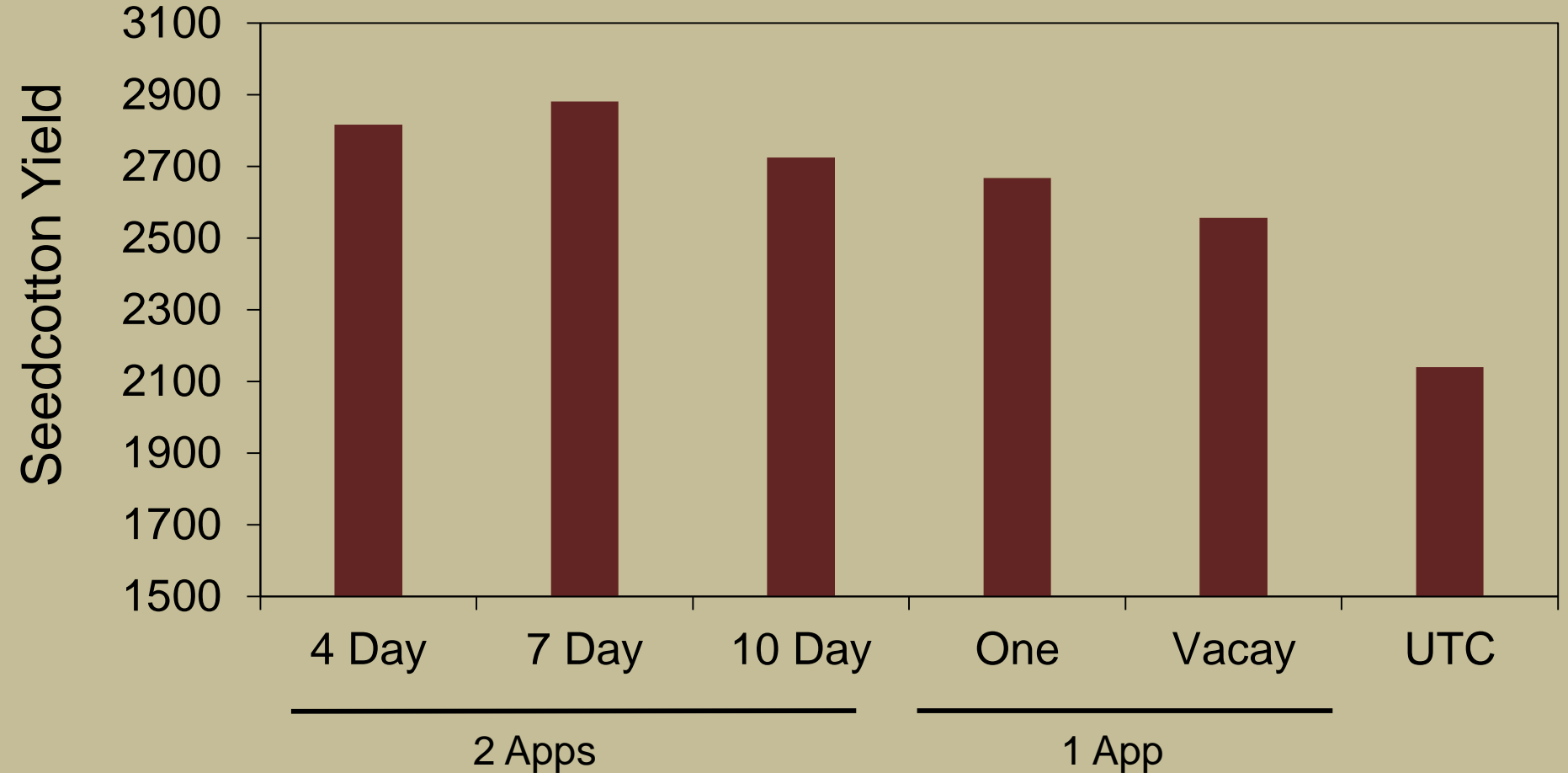


TPB Application Interval

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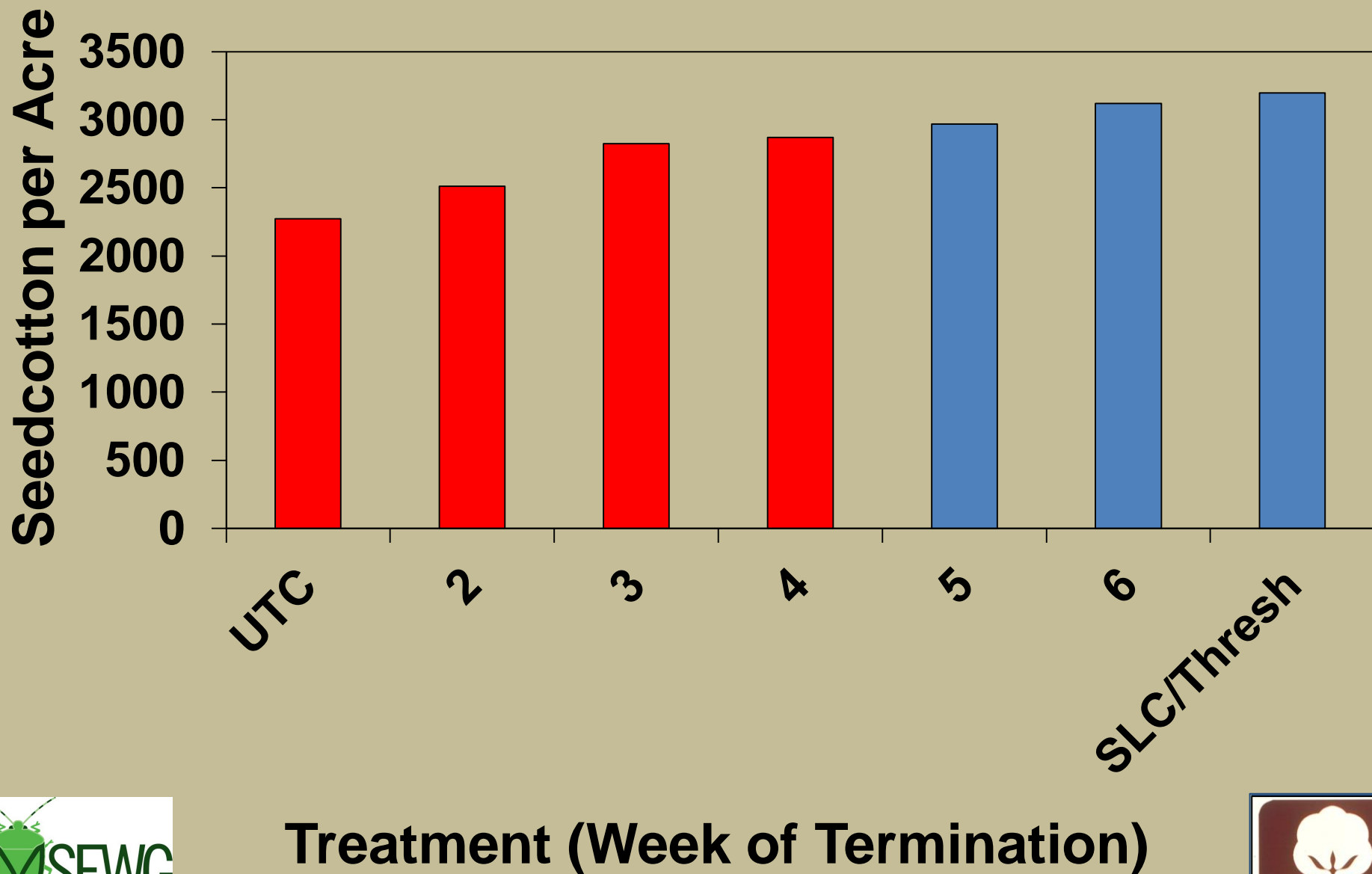


Impact of TPB Application Interval on Cotton Yields



Impact of Spray Termination on Cotton Yield

Mean All Locations and Years



Major Insect Pests

Thrips



Tarnished Plant Bug

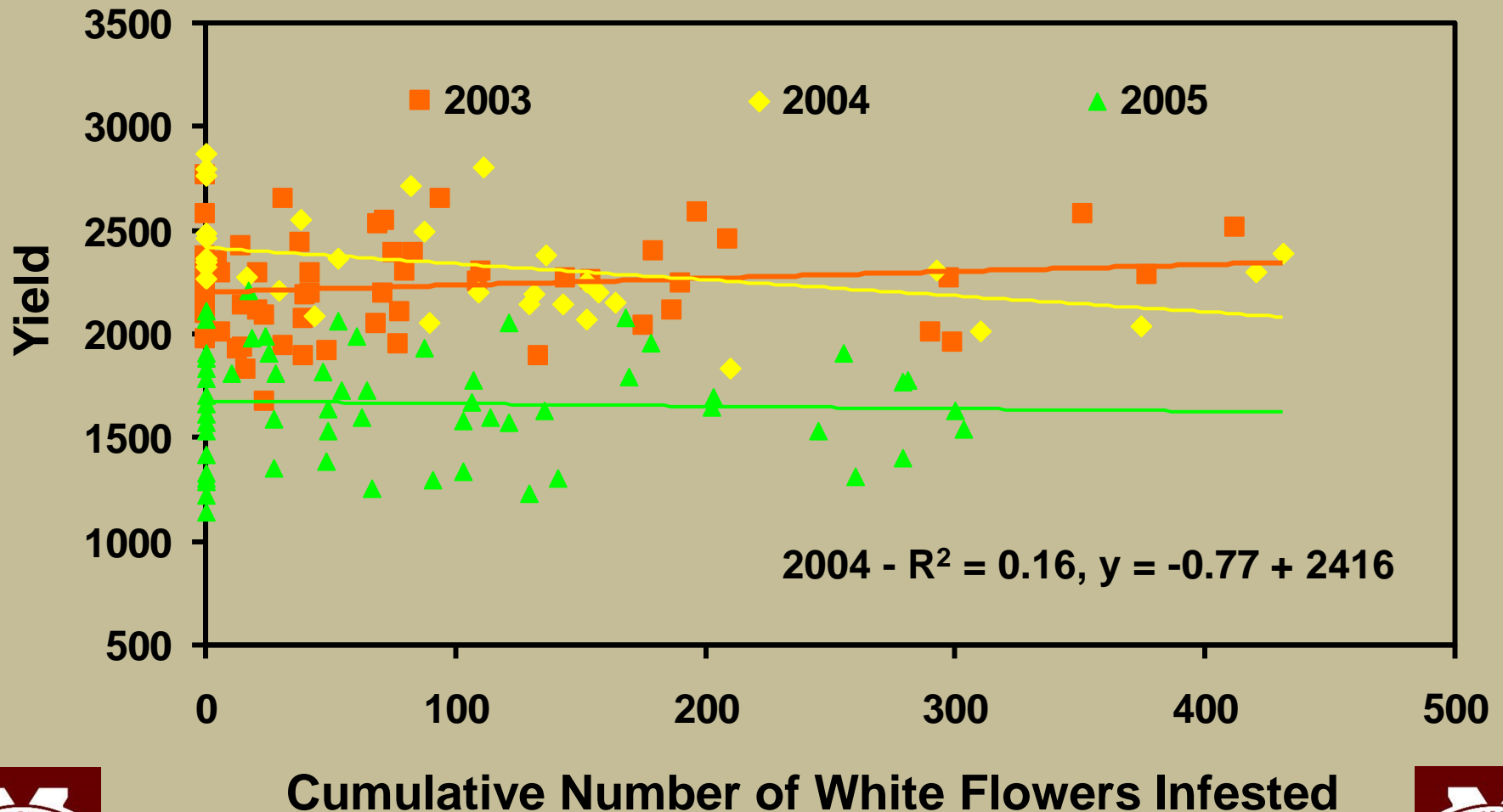


Bollworm



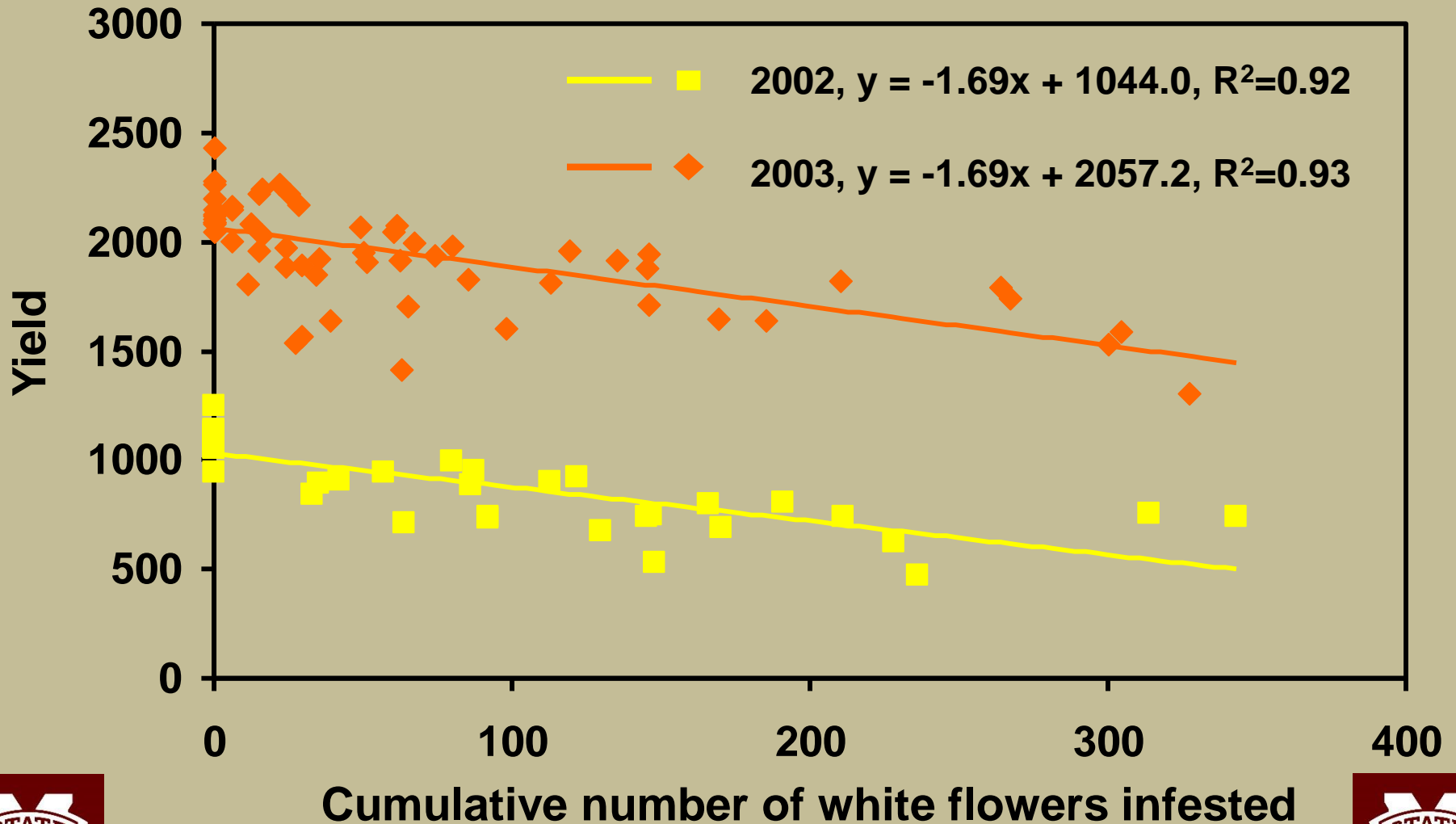
Number of White Flowers Infested and Yield

Bollgard II – 2003 - 2005



Number of White Flowers Infested and Yield

Non-Bt – 2002 and 2003



2018 Preliminary Variety Yields

- Best 2-Gene minus
Best 3-Gene
= **109 lbs**

- $0.70 \times 109 = \mathbf{\$76.30}$

- 2 Apps ~ **\$40-50**

DP 1646 B2XF	1223*
NG 3729 B2XF	1131
DG 3526 B2XF	1119
ST 5471GLTP	1114
DP 1845 B3XF	1109
PHY 430 W3FE	1107
PHY 320 W3FE	1090
DP 1835 B3XF	1085
PHY 480 W3FE	1034
ST 5122GLT	1023

Ranking Them

**Tarnished
Plant Bug**

>

Thrips

>

Bollworm



The Budget Buster

Tarn
Plan



lworm



Thresholds

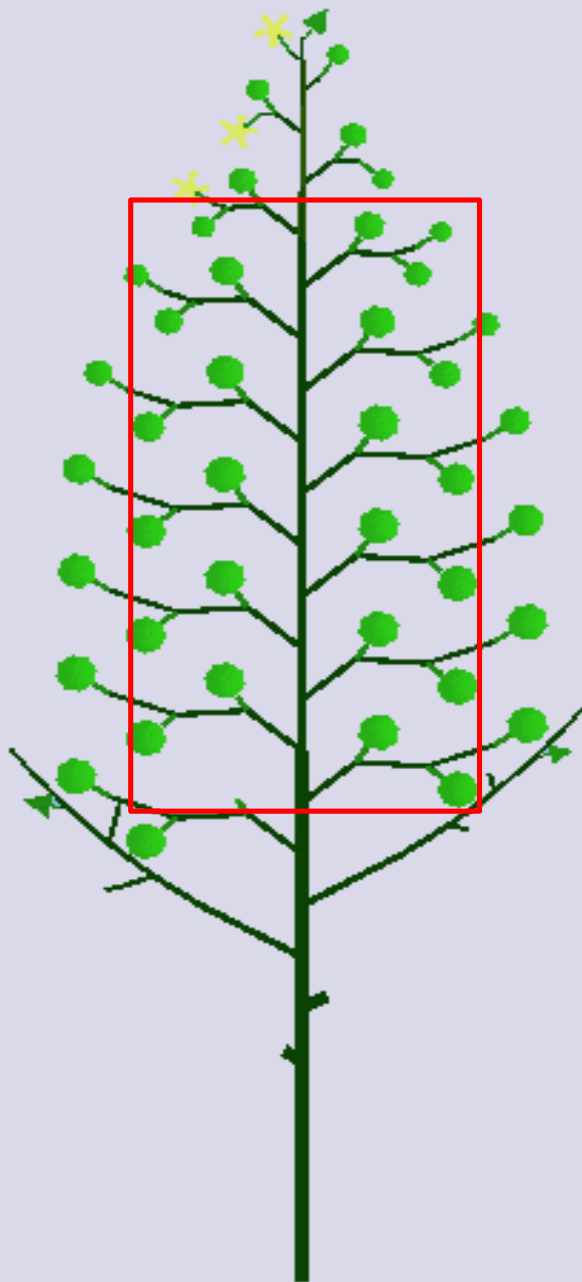
- Tarnished Plant Bug – 3/5 Row Ft, etc.
- Thrips – 1 per plant with immatures present
- Bollworm – 20% Eggs, etc.

Thresholds

- Tarnished Plant Bug – 3/5 Row Ft, etc.
- Thrips – 1 per plant with immatures present
- Bollworm – 20% Eggs, etc.
- Spider Mites – Treatment is essential when 40-50% of plants are infested and populations are increasing.

Independent Consultants





1st and 2nd position sites on fruiting nodes 2-14 produced 95% of the yield/money



Potential Impact of Insects on Yield Loss

