

# Red sunflower seed weevils in South Dakota: 2025 efficacy results

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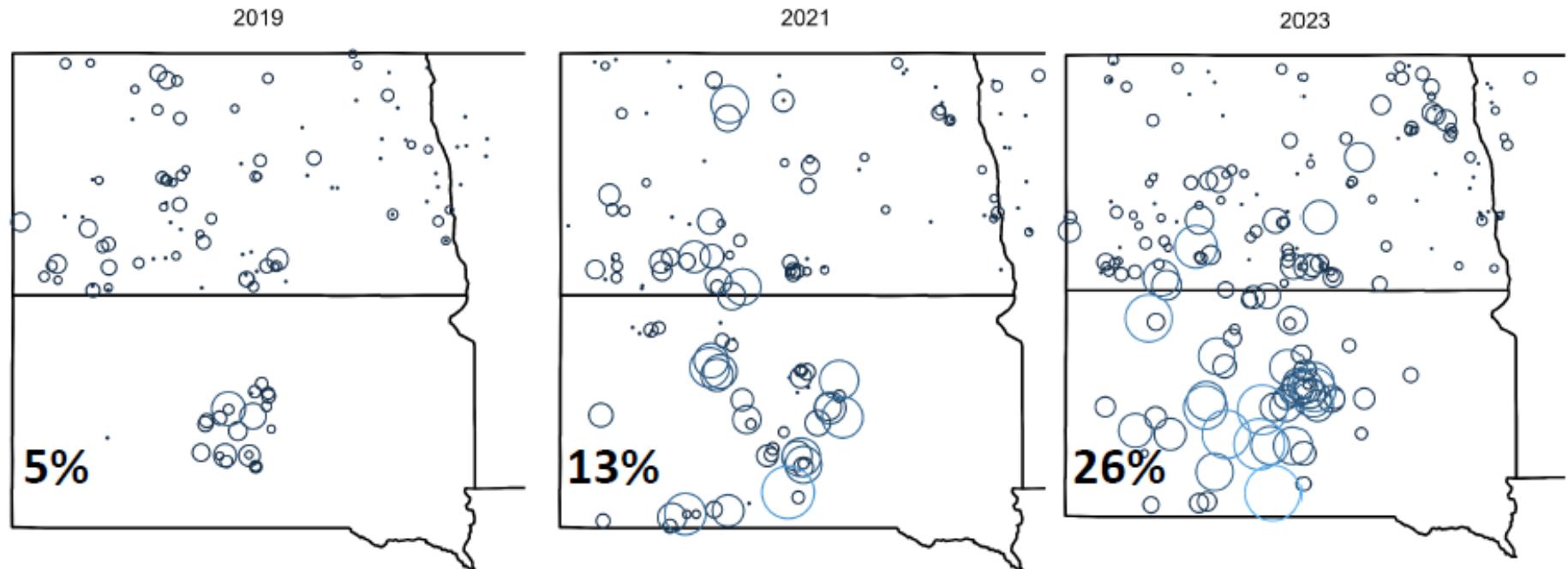
# Red sunflower seed weevils

- Satterthwait, A. F. 1946
  - RSSW attributed to the rapid decline of sunflowers in Illinois and Missouri



# Red sunflower seed weevils

- RSSW increase in 2021 (76%) and 2023 (90%)



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# The problem?

- Field outbreaks 10-1000x over threshold
- Reported field failures



# The problem?

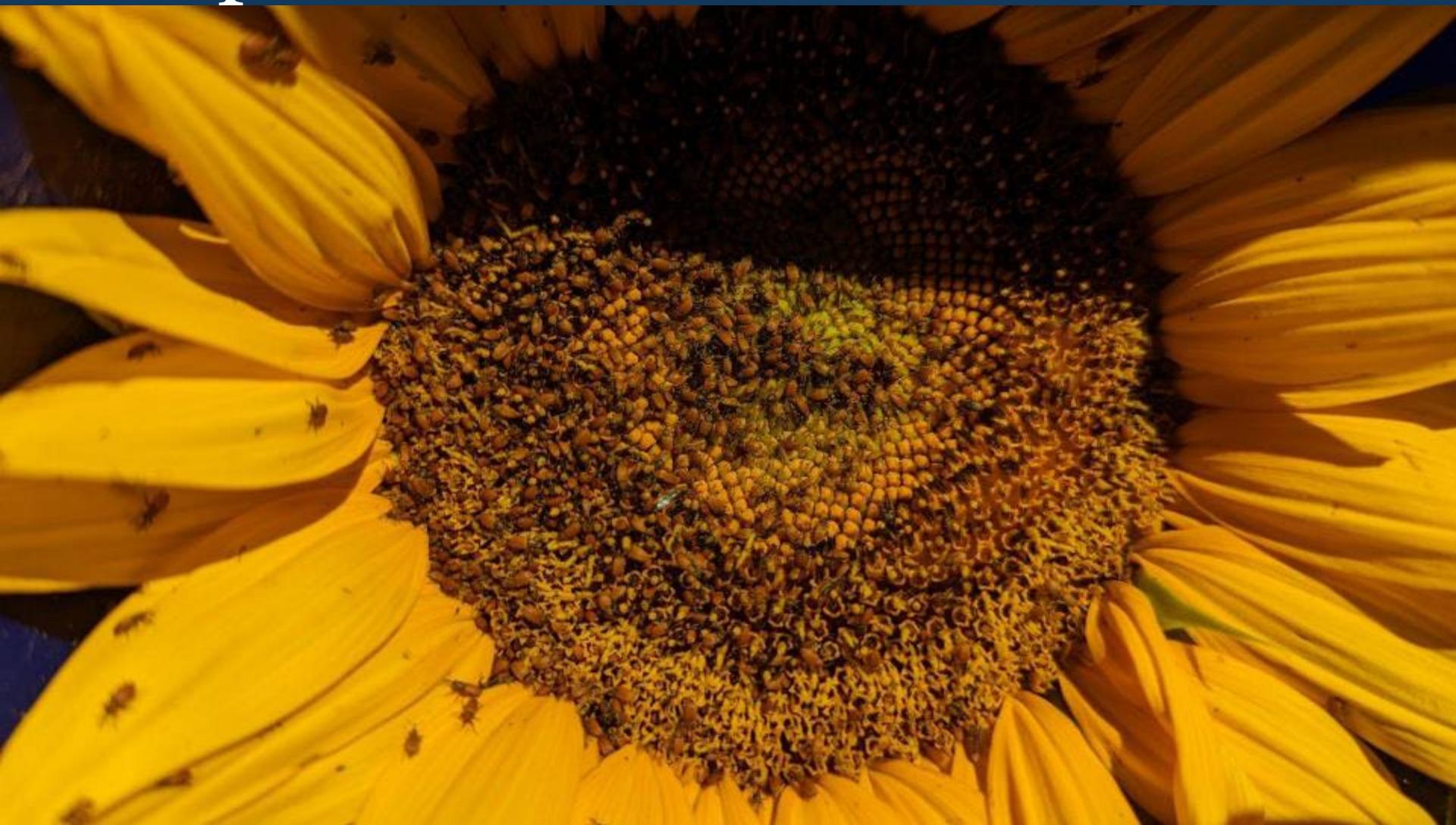


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# The problem?



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# Chlorpyrifos Update - 2025

- After June 30, 2025 – only 11 uses approved
  - Alfalfa, soybean, sugarbeet, wheat (spring + winter)
  - Sunflower **NOT** included
  - EPA denied a 24c SLN label for RSSW control in SD sunflowers
    - The court order would need to be reversed in order for sunflower tolerances to be reinstated and to have a sunflower label for chlorpyrifos.
    - EPA would consider approving a 24c for another active ingredient.
    - Source: Tom Gere, Environmental Scientist Manager, SD Department of Agriculture and Natural Resources

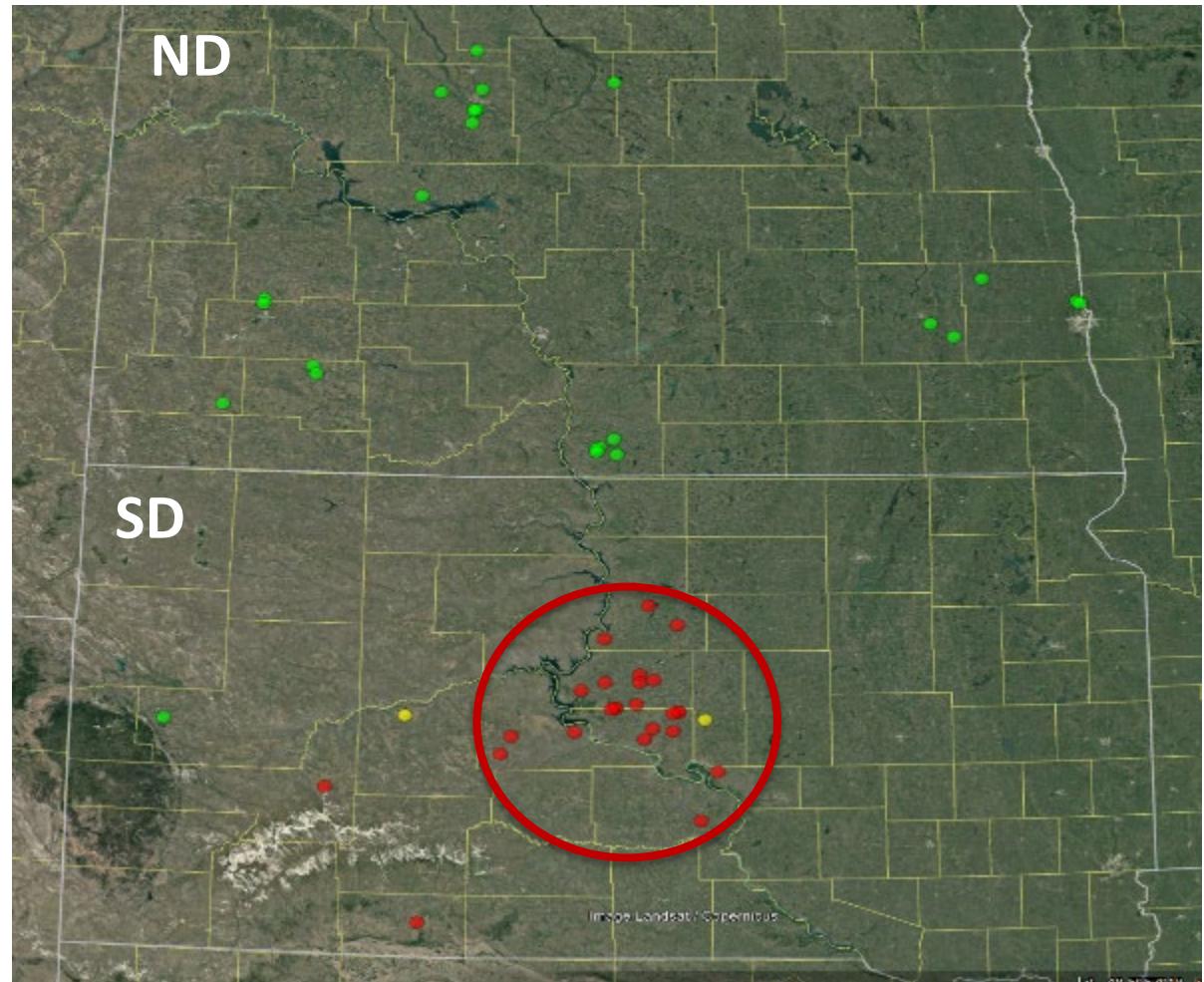
# 2024 Dose response summary

## Pyrethroid Resistance Levels:

 Susceptible RSSW

 Moderately Resistant RSSW

 Highly Resistant RSSW



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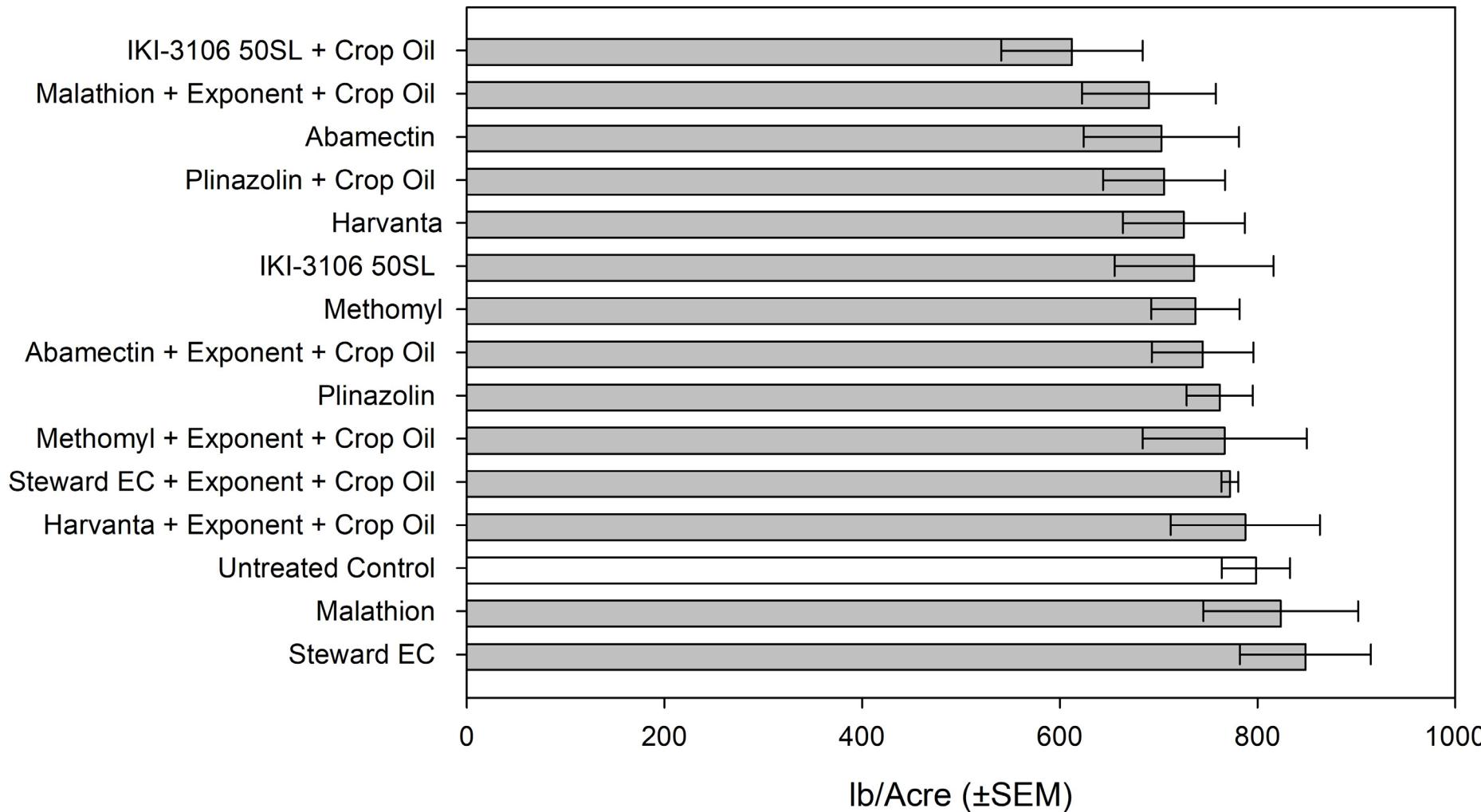
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# 2025 Efficacy Study

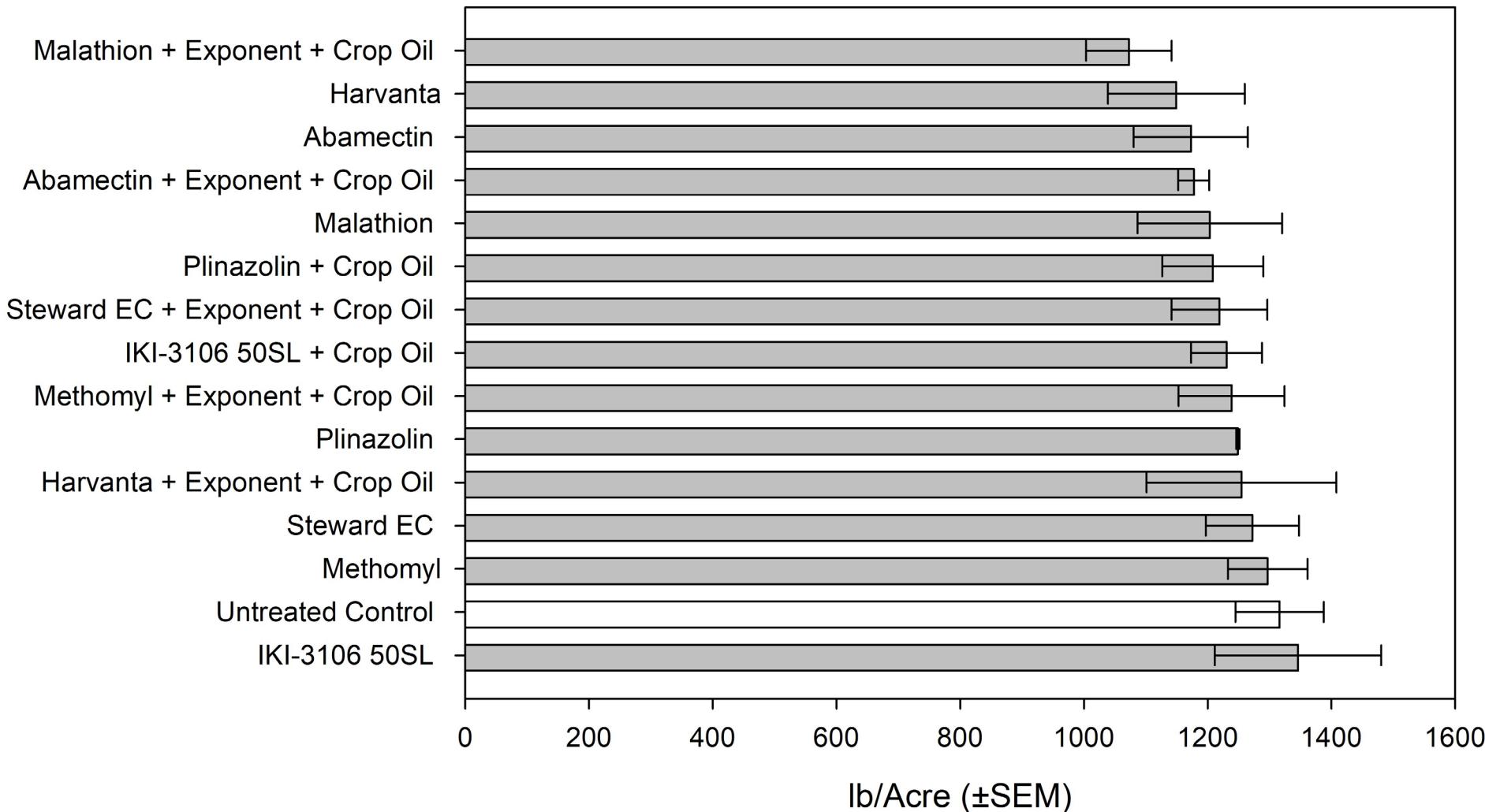
- Field located near Highmore, SD
- 15 treatments
- Plots 10x35'
- Early planted on: 3<sup>rd</sup> June
  - (Sprayed August 12<sup>th</sup>)
- Late planted on: 17<sup>th</sup> June
  - (Sprayed August 19<sup>th</sup>)



# Early Planting Yield



# Late Planting Yield

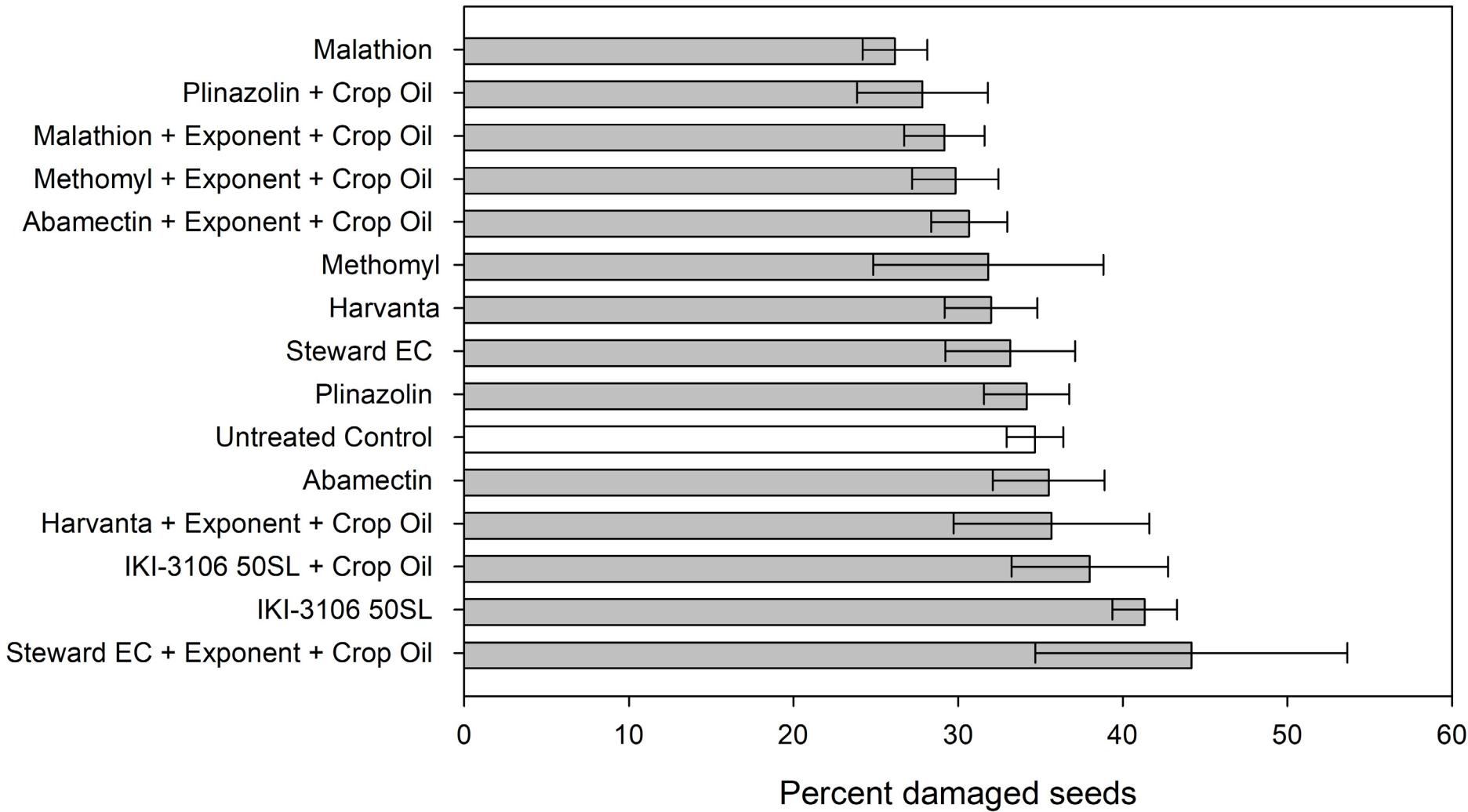


# Early vs Late Planting

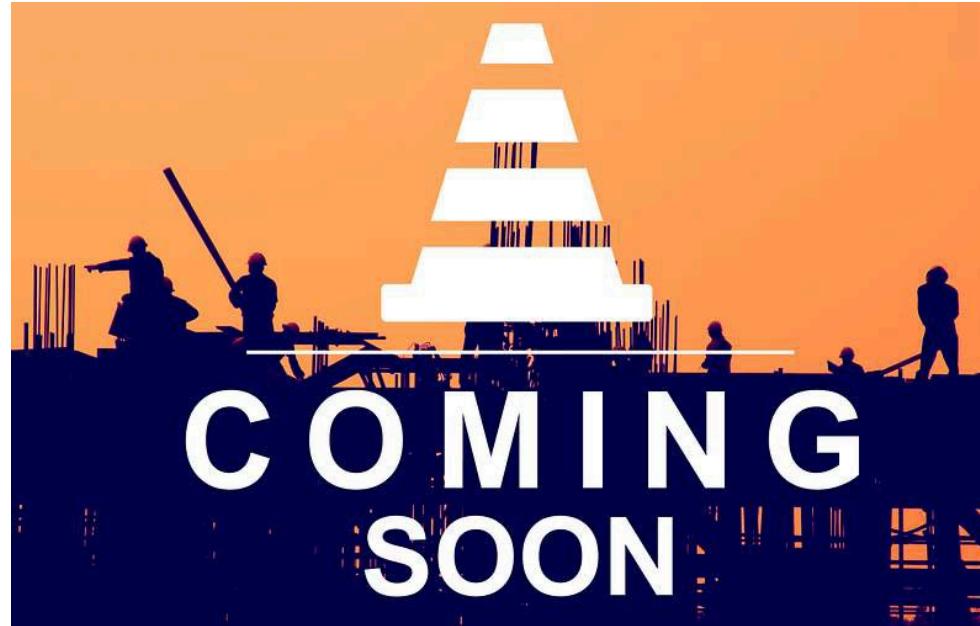
- 748 lb/acre vs 1227 lb/acre
  - 479 lb/acre difference
  - $P<0.0001$



# Early Planting Seed Damage



# Late Planting Seed Damage



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# Conclusions

- For SD: Insecticides don't look effective
- Planting date still looks good
- Future work:
  - Management: Biologicals, antifeedants, and deterrents
  - Figure out flight distance (hopefully 2026)
  - In progress: evaluation of hydrocarbon content between resistant vs. susceptible populations



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mail:

U.S. Department of Agriculture  
Office of the Assistant Secretary for Civil Rights  
1400 Independence Avenue, SW  
Washington, D.C. 20250-9410; or  
email: [program.intake@usda.gov](mailto:program.intake@usda.gov)

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