

Red sunflower seed weevils in South Dakota: 2025 efficacy results

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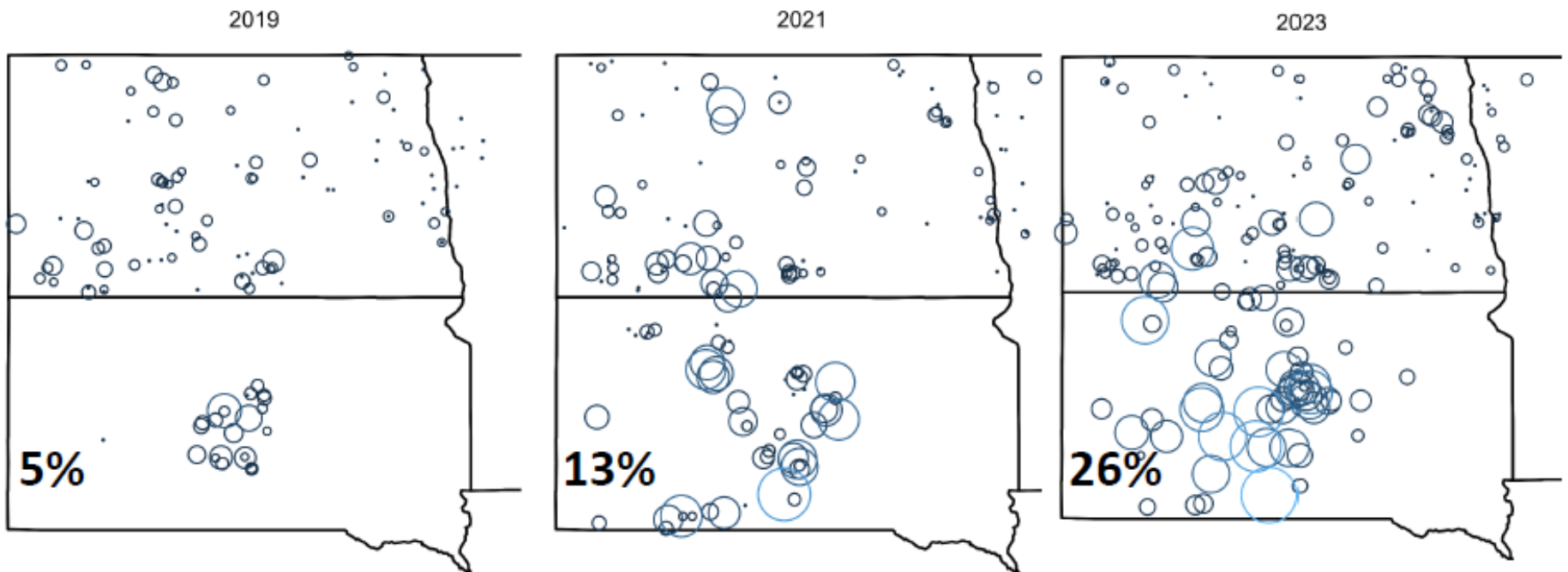
Red sunflower seed weevils

- 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%)



The problem?

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



The problem?



The problem?






Chlorpyrifos Update - 2025

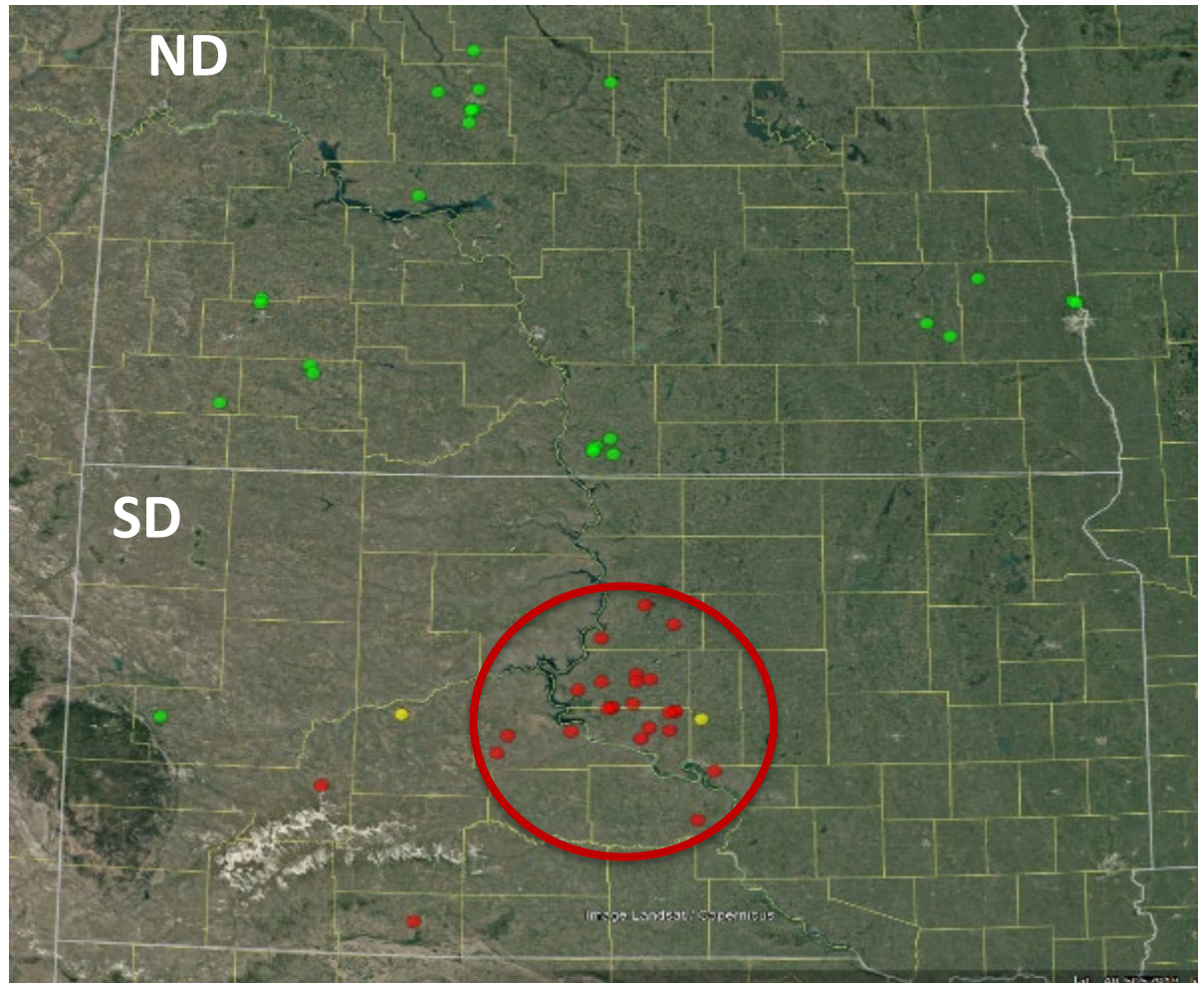
- After June 30, 2025 – only 11 uses approved
 - Alfalfa, soybean, sugarbeet, wheat (spring + winter)
 - Sunflower **NOT** included
 - EPA denied a 24c SLN label for RSSW control in SD sunflowers
 - The court order would need to be reversed in order for sunflower tolerances to be reinstated and to have 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

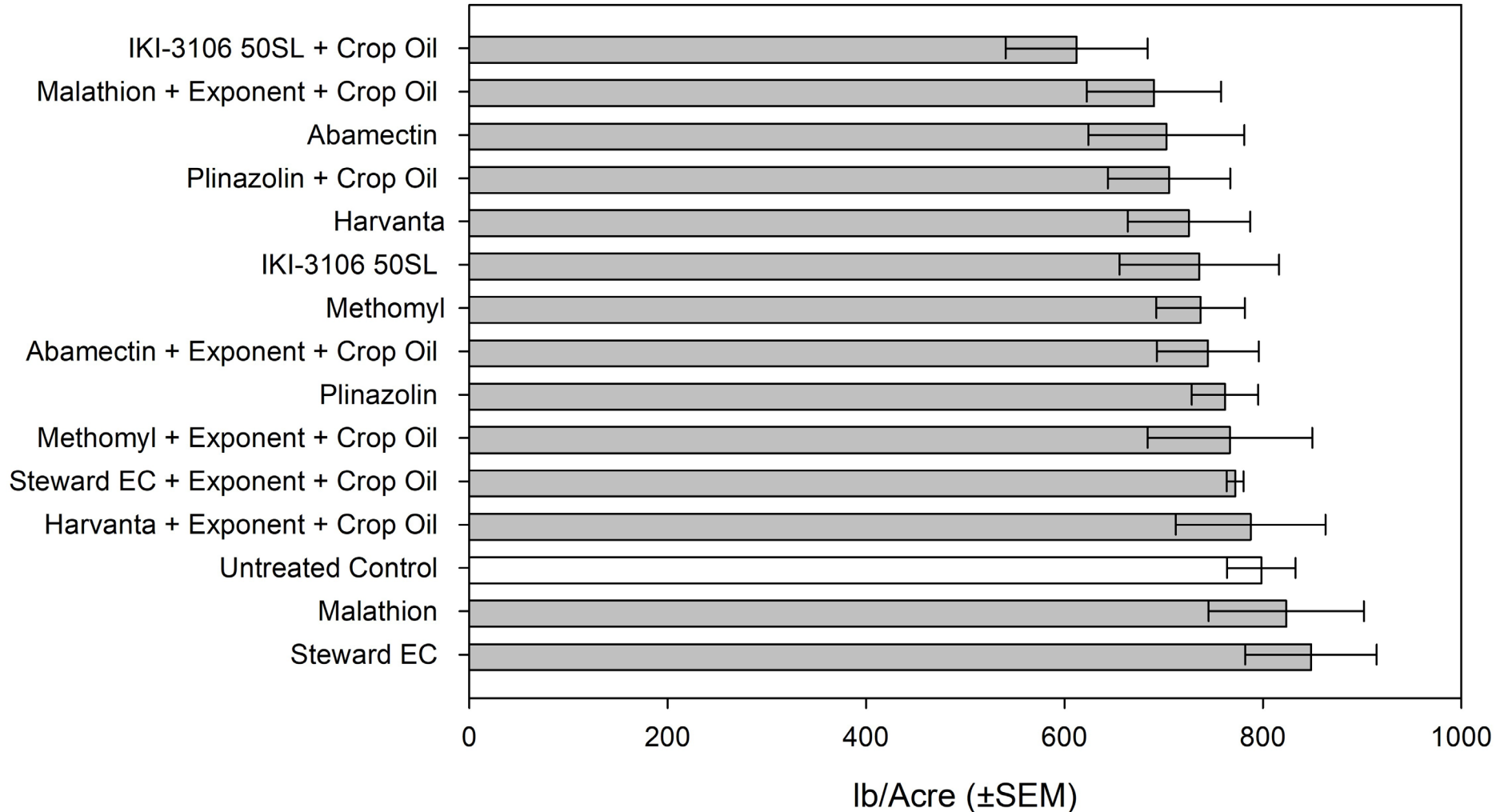


2025 Efficacy Study

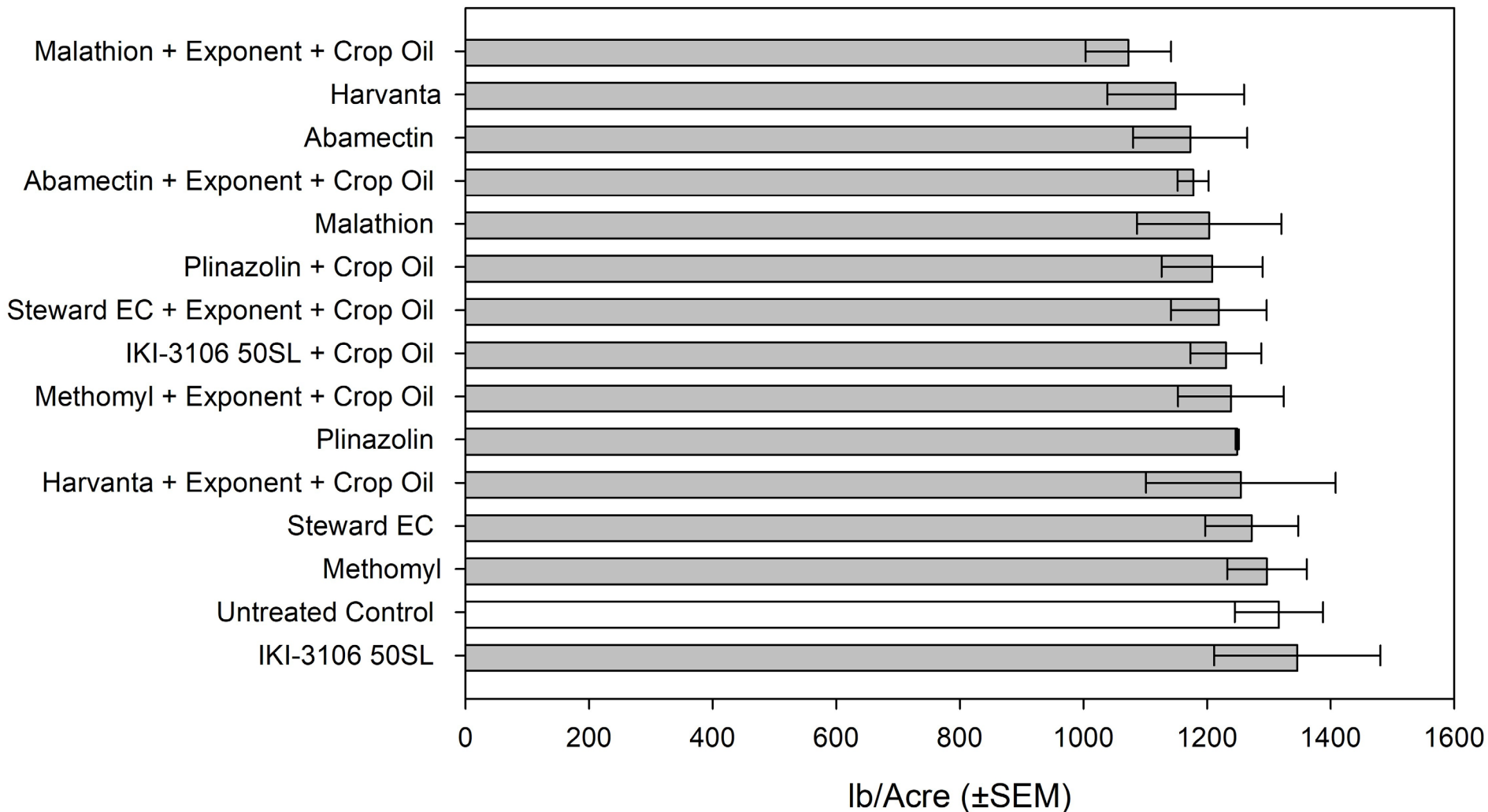
- Field located near Highmore, SD
- 15 treatments
- Plots 10x35'
- Early planted on: 3rd June
 - (Sprayed August 12th)
- Late planted on: 17th June
 - (Sprayed August 19th)



Early Planting Yield



Late Planting Yield

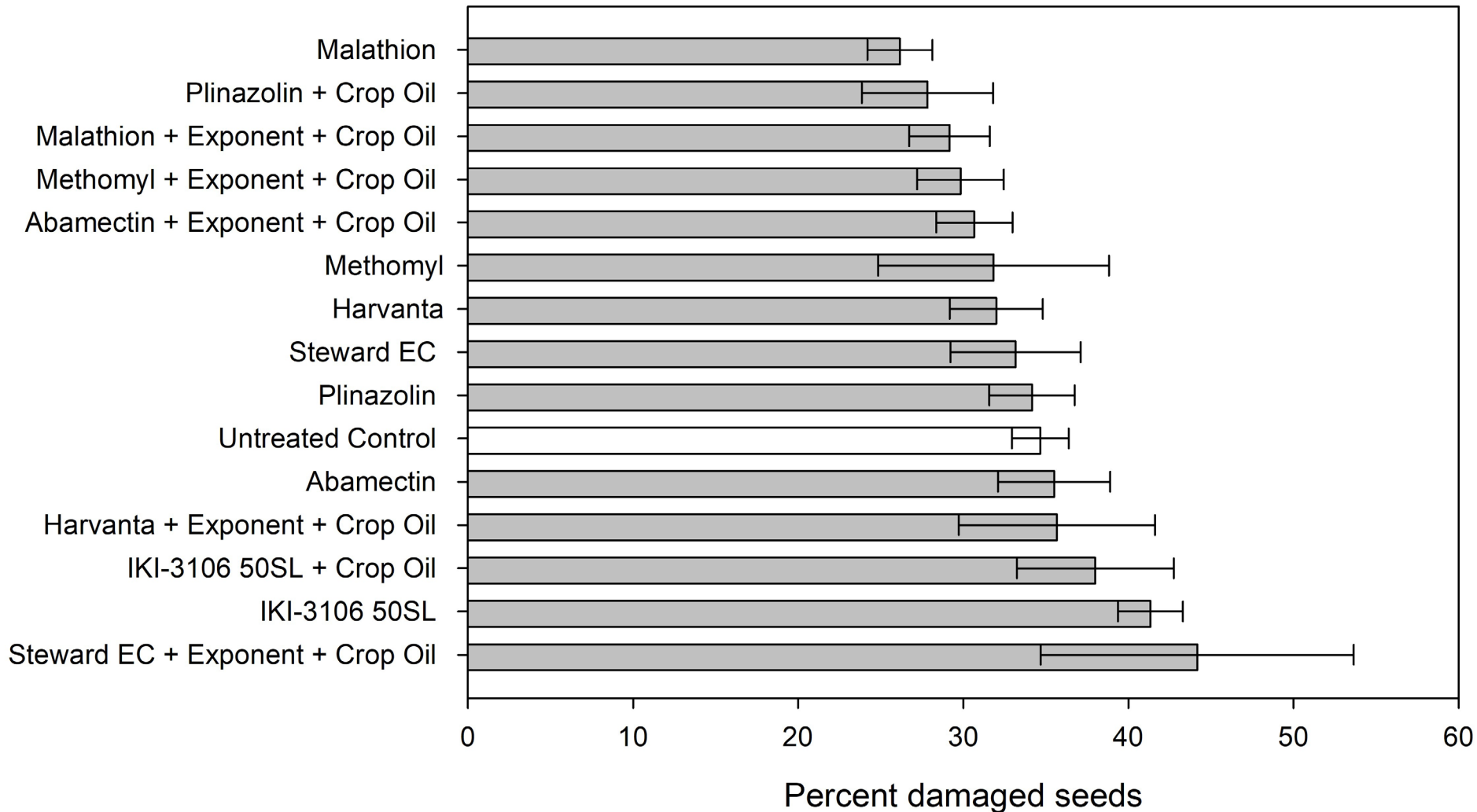


Early vs Late Planting

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



Early Planting Seed Damage



Late Planting Seed Damage



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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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

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