Processing Insect Pests 2023-2024

David Owens and Morgan Malone

owensd@udel.edu; mfmalone@udel.edu

302 698 7125

Bringing SCM into a Field

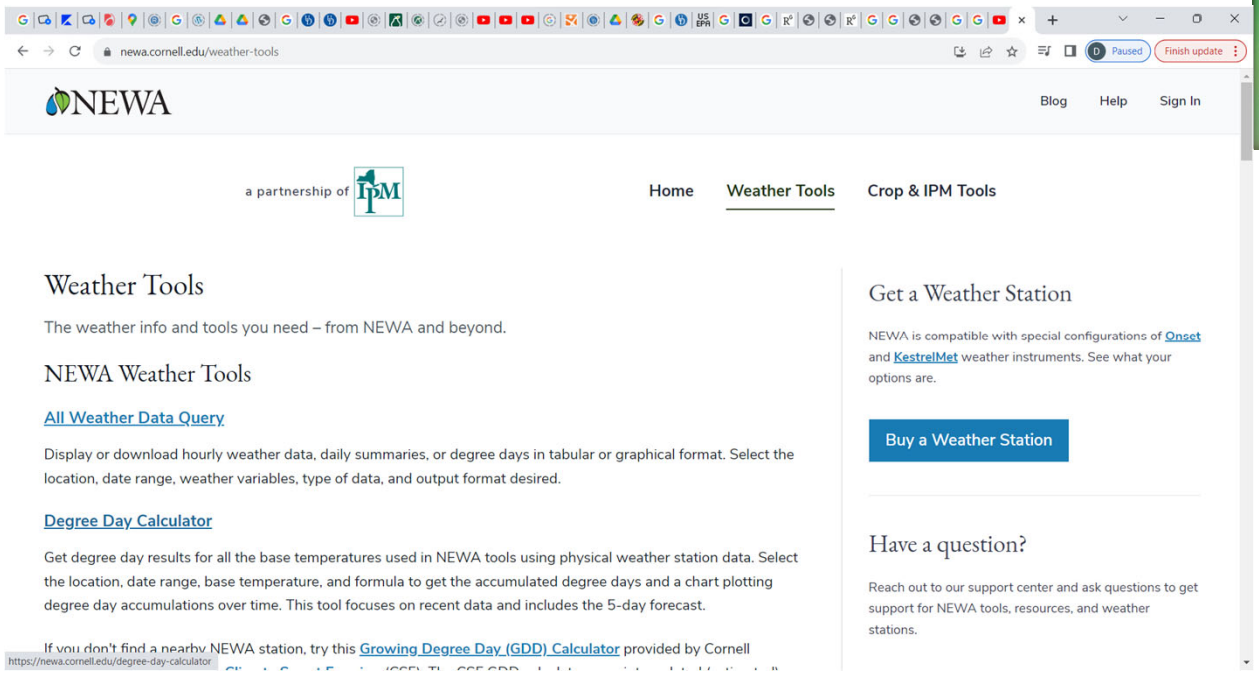
Getting Off To the Right Start

- Plant Warm
- Plant at Right Depth
- Plant at Right Time
- Plant with Protection

Plant at the Right Time

- Degree Day Models

Cartoon by Celia Muntz



Berries

Top of page

Blueberry Maggot. Optimize monitoring for blueberry maggot (*Rhagoletis mendax*) with this base 50°F BE degree day tool that predicts adult emergence and enhances your ability to use IPM to determine if insecticide treatments are needed.

Strawberry Diseases. Optimize fungicide applications for strawberry fruit rot diseases. The tool predicts the optimal timing of fungicide applications for Anthracnose and Grey Mold based on temperature and rainfall. The model can be used from bloom through harvest in Day-neutral and June-bearing plantings of strawberries.

Field Crops

Top of page

Alfalfa Weevil. Follow base 48°F degree day accumulations to track alfalfa weevil (*Hypera postica*) life stages as part of your alfalfa forage management program.

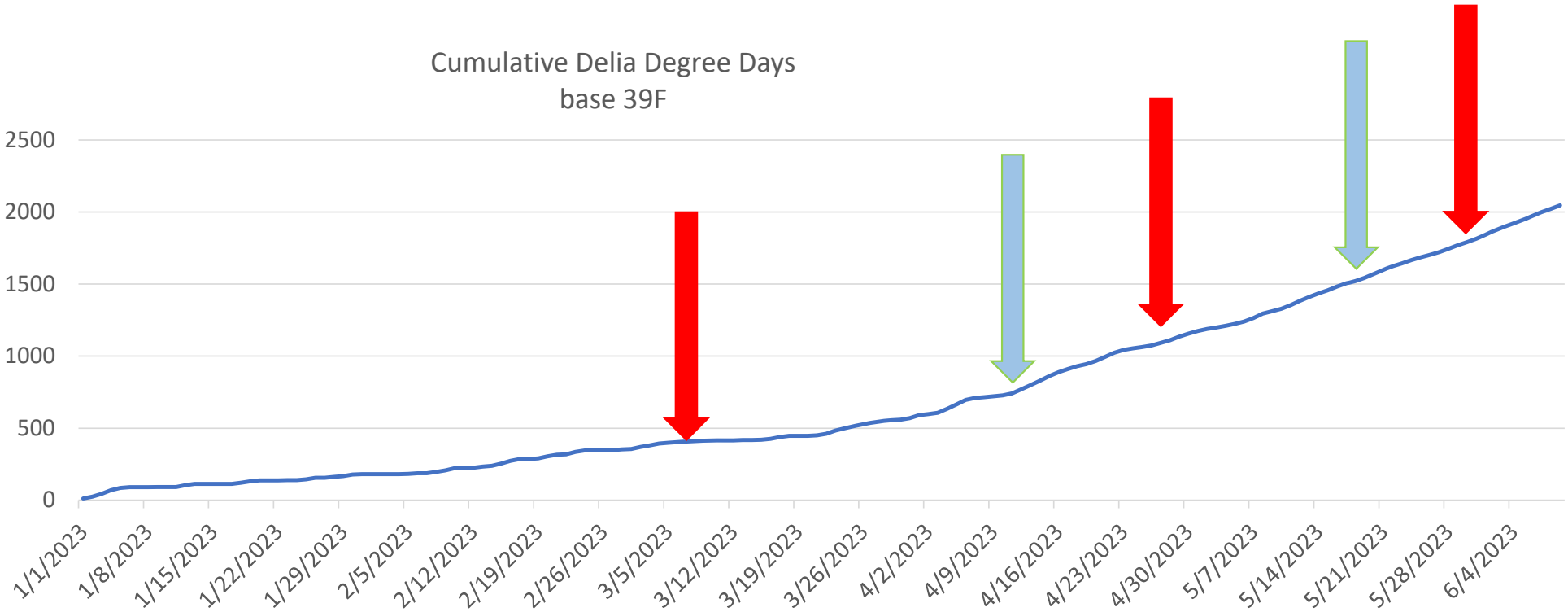
Black Cutworm. Coming 2025.

Seedcorn Maggot (**Improved predictions are coming in 2023 and 2024**). Monitor adult seedcorn maggots in the spring to avoid planting when maggots are in the soil. New York State Integrated Pest Management and the Poveda Lab at Cornell University are working to improve this model specifically for New York State field crop producers.

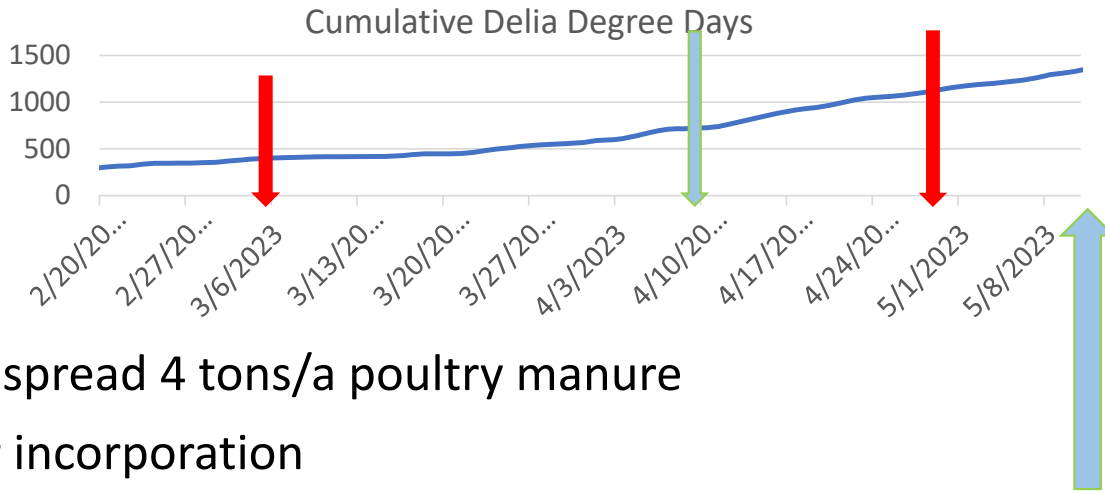
True Armyworm. Coming 2025.

Western Bean Cutworm. Track western bean cutworm adult moth flights to efficiently schedule your monitoring and management efforts. Daily base 3.3°C degree days, accumulated degree days from March 1, and current flight completion status are provided.

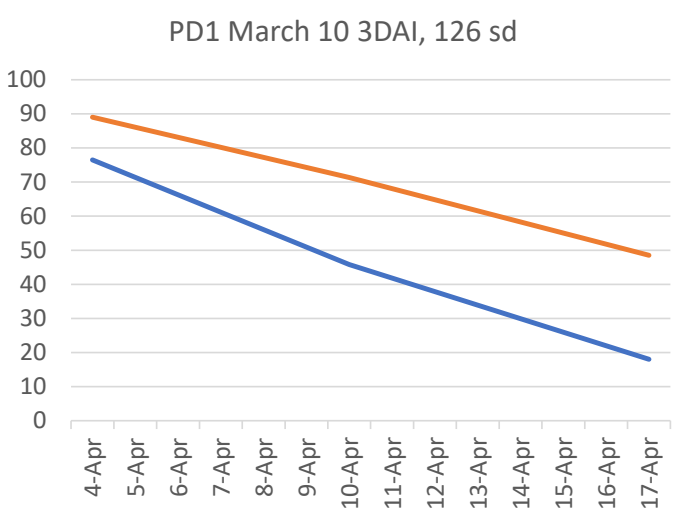
Seedcorn Maggot Degree Days

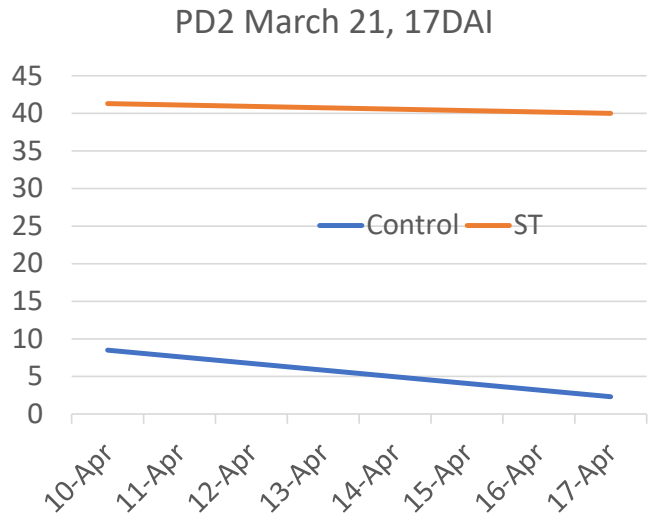


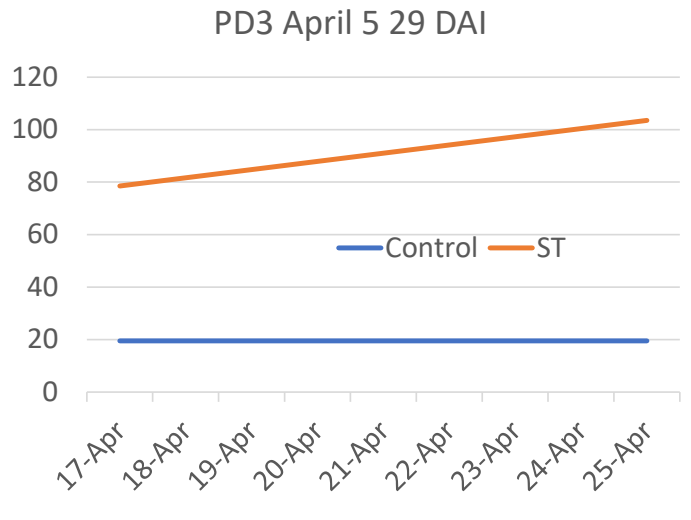
Planting Date Study 2023



- Incorporated Austrian winter peas March 7, spread 4 tons/a poultry manure
- Old Recommendation to plant 3 weeks after incorporation

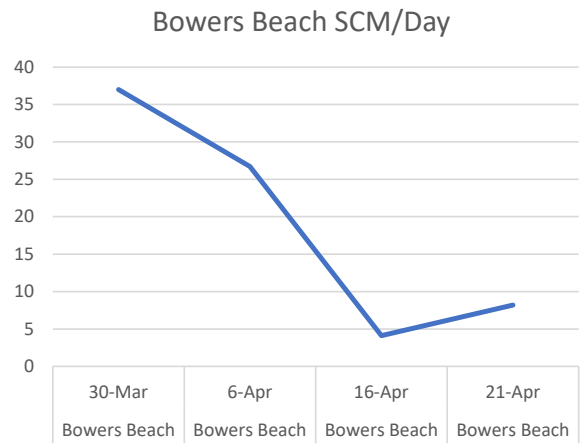


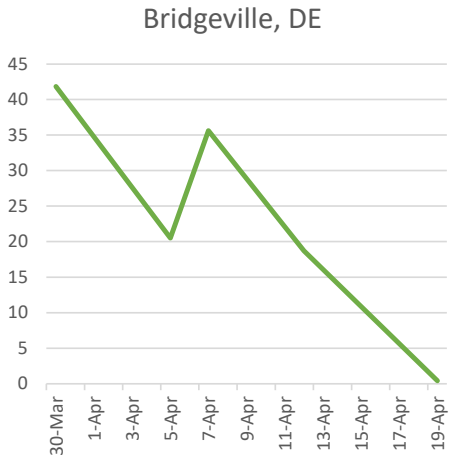


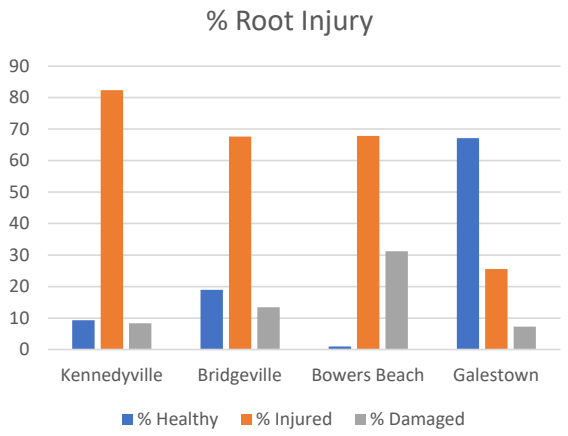


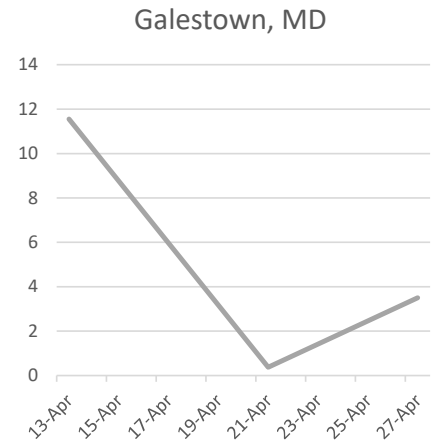
SCM 2023 Field Survey

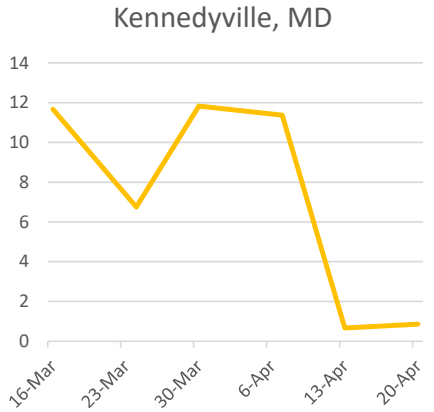
- AgBio Delia lures, replaced weekly beginning at planting
- The idea was to compare trap catch with pea root damage



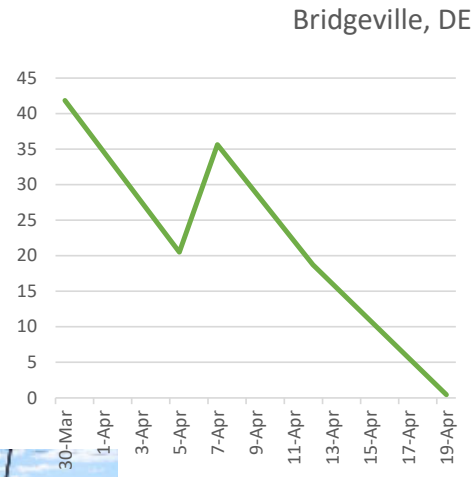


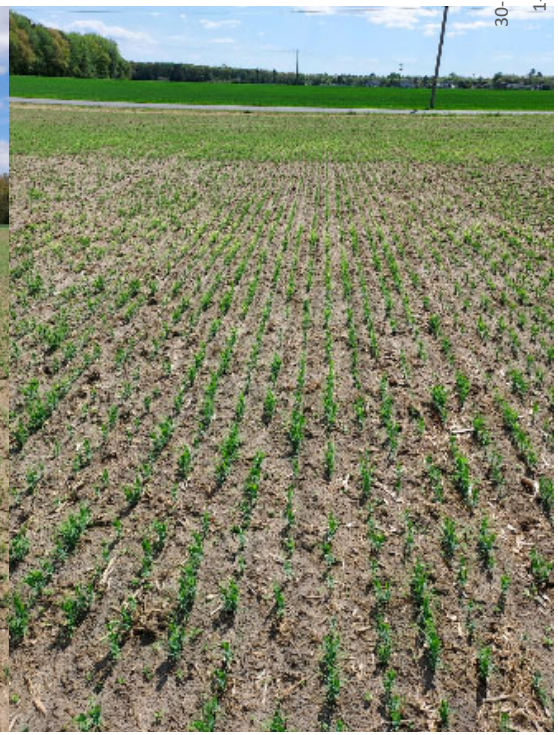






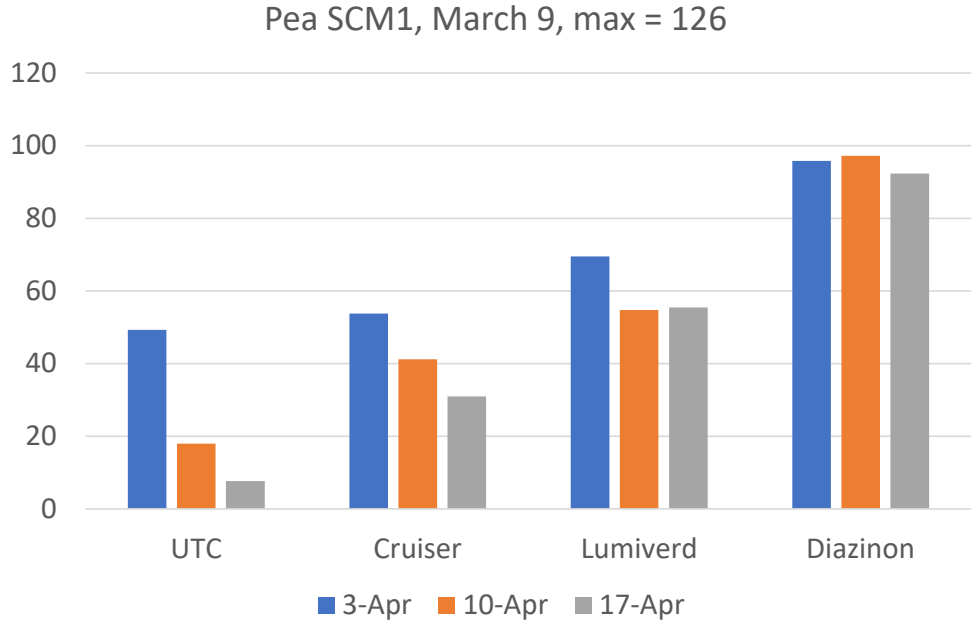
Bridgeville Peas

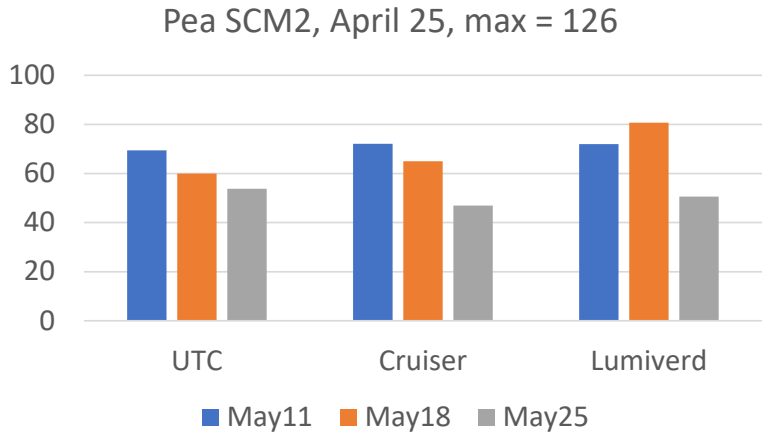




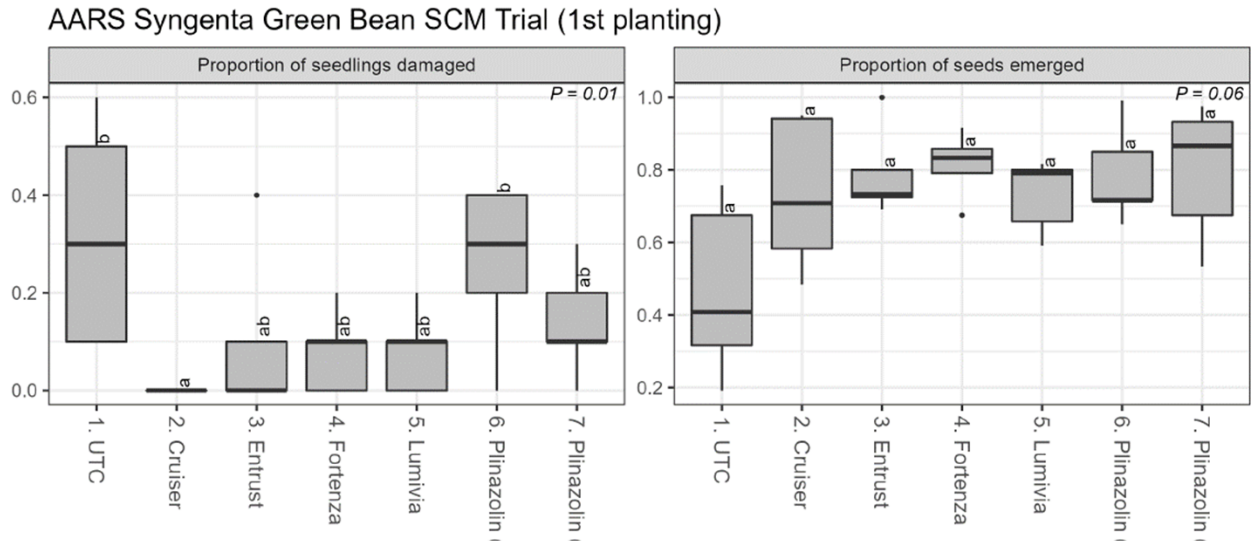
Plant With Protection: 2022 and 2023 Trials

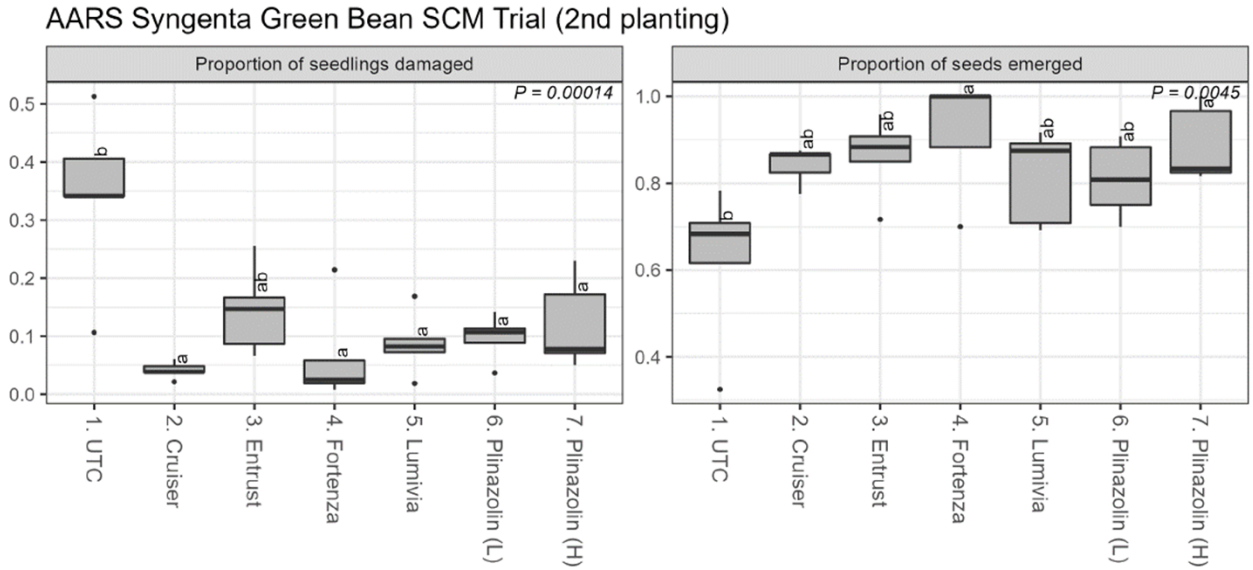
- Incorporate cover crop (2023) and poultry manure (2023 and 2022) at peak fly emergence, plant 4-7 days later
- Looking for alternatives to Cruiser
- When would Diazinon be valuable? Esp. with Melons?
- Lumiverd = spinosad





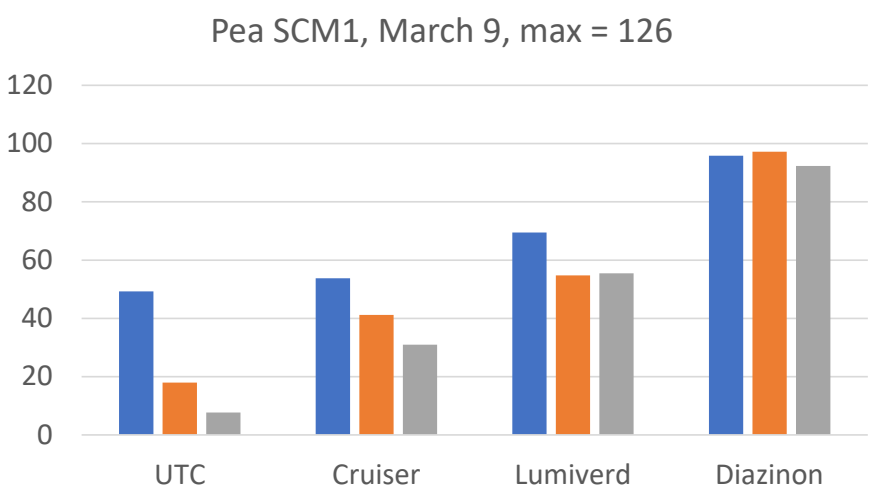
- Russel Groves, WI
- Entrust = Spinosad
- Fortenza = cyant.
- Lumivia = chlorant.



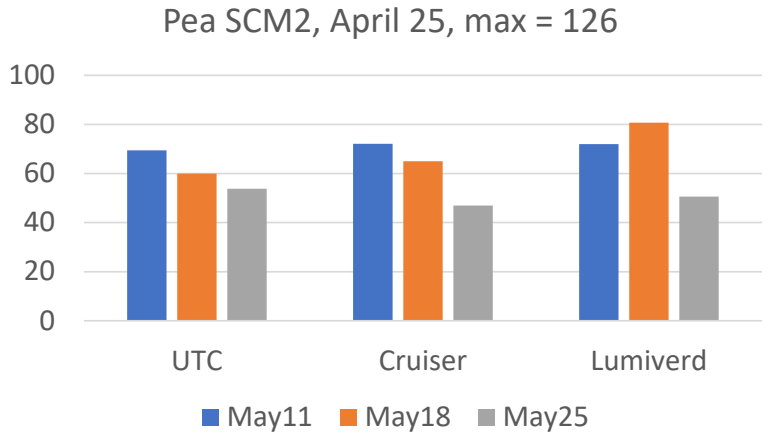


Extreme Pea Damage

- Looking for alternatives to Cruiser
- When would Diazinon be valuable? Esp. with Melons?
- Lumiverd = spinosad



Diazinon > Lumiverd >= Cruiser> UTC



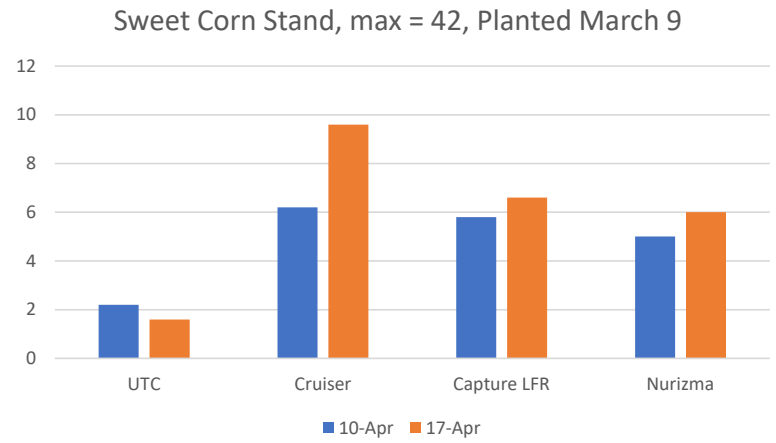
No Significant Differences

SCM Plans 2024

- Obj 1: SCM Traps to identify peak fly activity periods
  - Correlate Traps, DD, Root Damage
- Obj 2: Evaluate soil applied insecticides and seed treatments for efficacy
- Obj 3: Survey melon producers who experience SCM damage to transplants
  - When ground worked
  - When plastic laid
  - Treatment to soil or transplants?
- Obj 4: Fact sheet

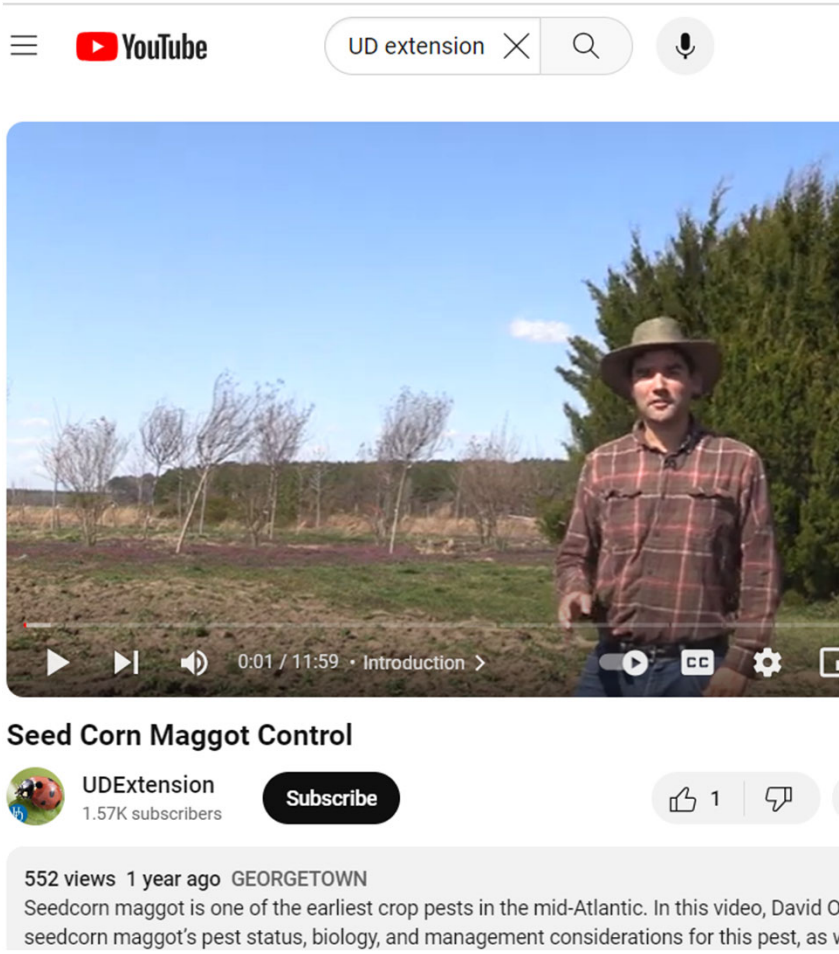
Sweet Corn: Testing In-Furrow Materials

- Multiple freeze events = unhappy sweet corn



Seedcorn Maggot

- Focus on 2023, 2024
- Extension videos:
- 2023 damage less than 2022; still visited snap bean and soybean with heavy damage; pea injury widespread but seemed to be relatively minor



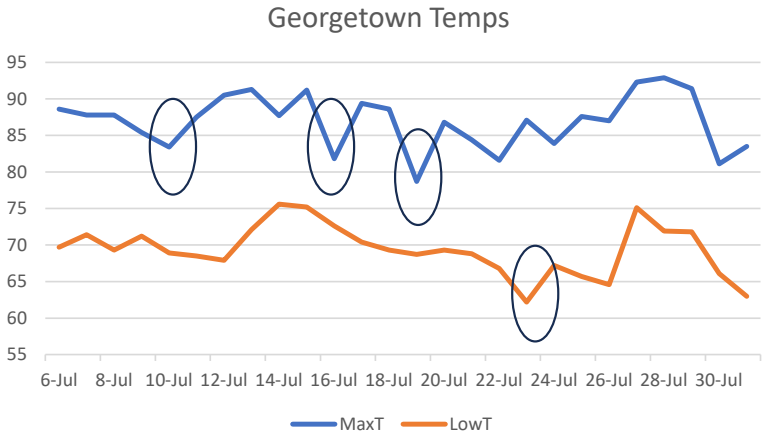
SCM Objectives 2024

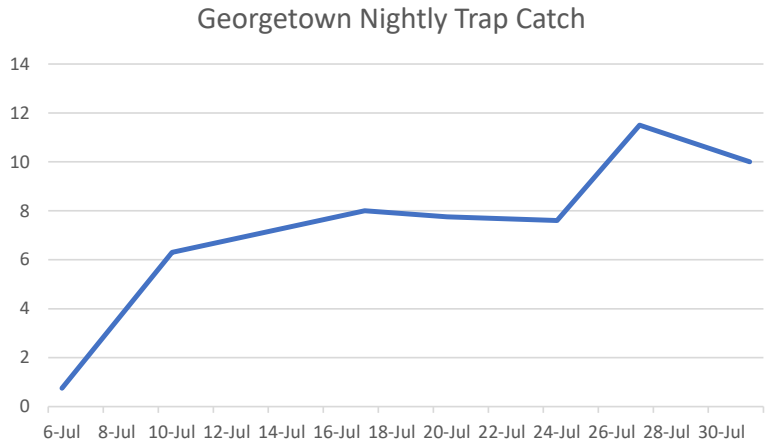
- Obj 1: SCM Traps to identify peak fly activity periods
  - Correlate Traps, DD, Root Damage
- Obj 2: Evaluate soil applied insecticides and seed treatments for efficacy
- Obj 3: Survey melon producers who experience SCM damage to transplants
  - When ground worked
  - When plastic laid
  - Treatment to soil or transplants?
- Obj 4: Fact sheet

?

Sweetest Insect Pest: Corn Earworm

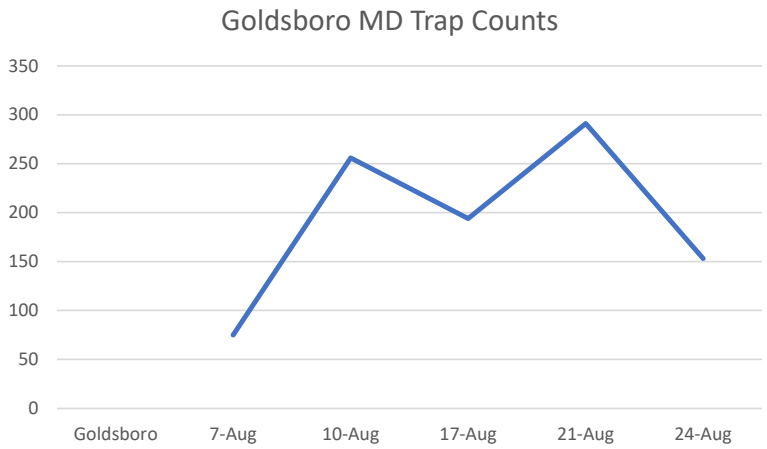
- 2023: some sites with high pressure early, multiple sites with very low pressure or with cooler weather





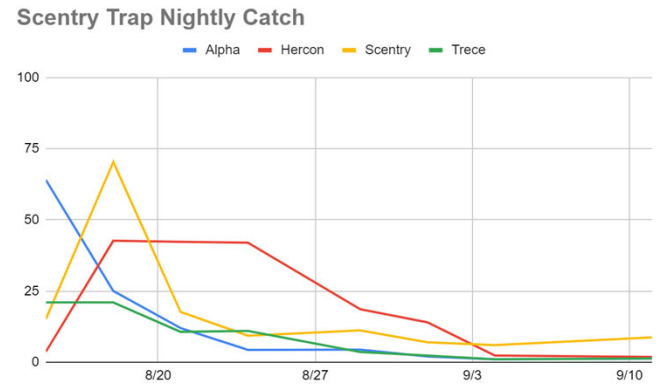
Some Sites with Extremely High Pressure

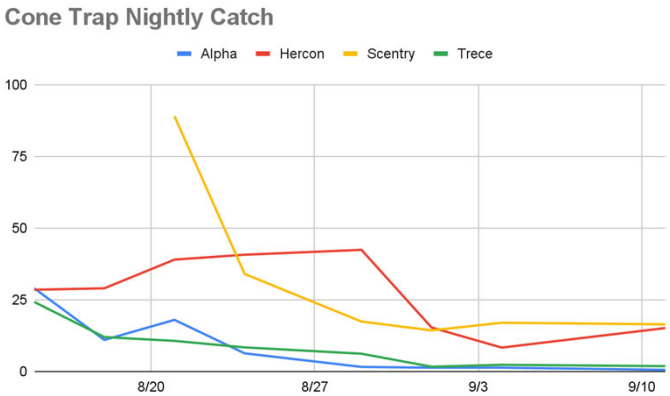
- Site next to blooming lima bean



Not to be outdone…700+ moths in 2 nights by Helene Doughty, VA's new Northampton Ag Agent

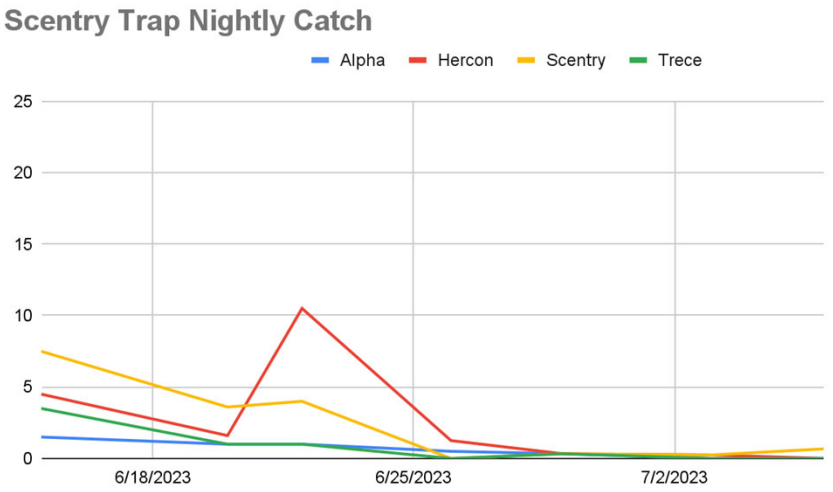
Trapping Comparison

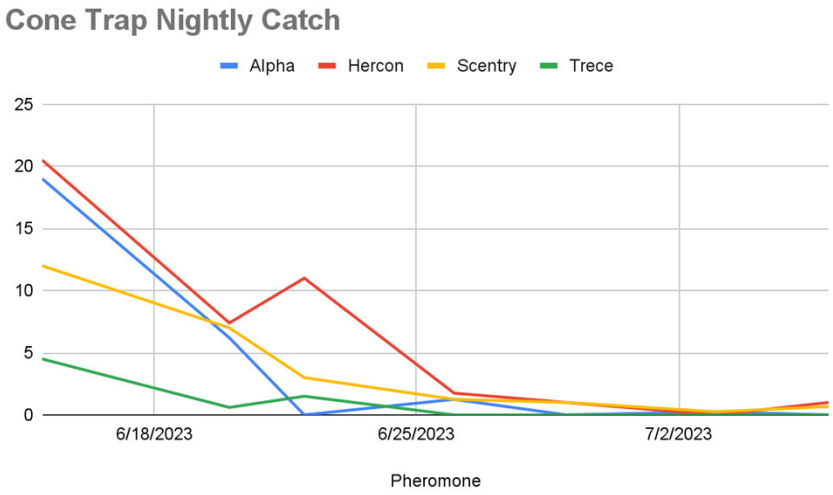




Trapping Comparison

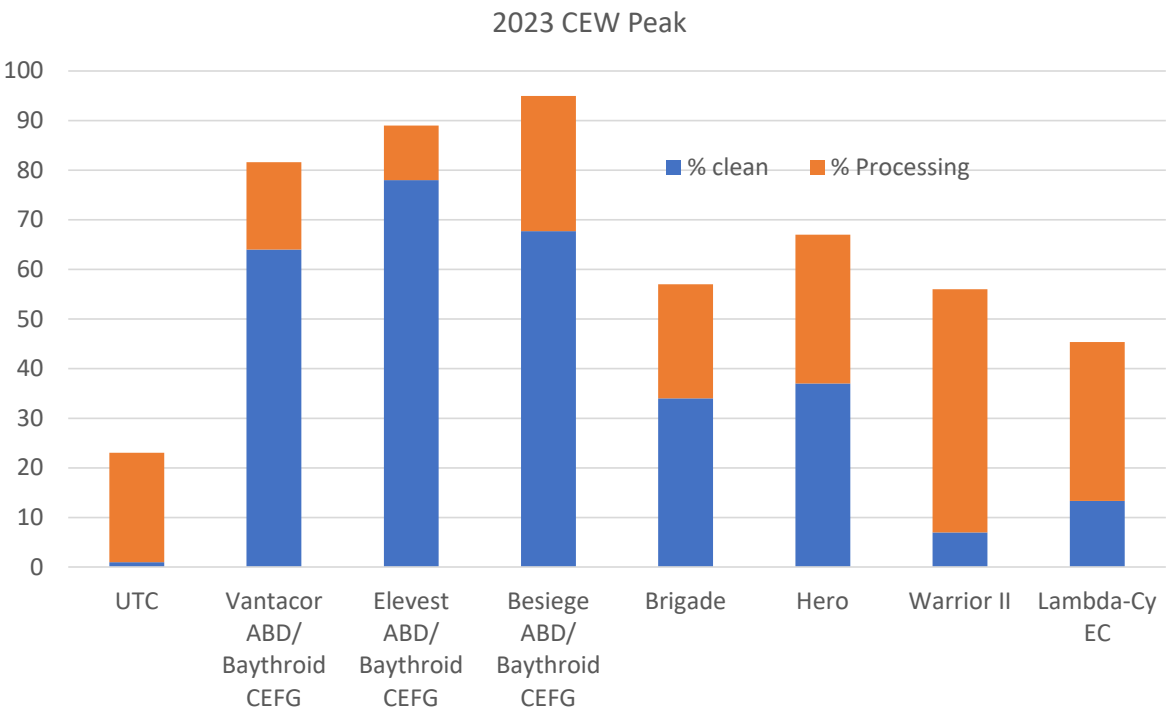
- Generally, wire cone traps more efficient, especially with low populations
- Scentry traps affordable, but more difficult to deploy and maintain
- Hercon and Scentry lures seem to be more reliable – based omultiple trapping locations (Brian Nault lead)





Recommended Spray Program

- Unless Fall Armyworm present, wait until first silk to begin treating
- Besiege or Elevest alternated with a pyrethroid mix
- Do not rely on pyrethroids or Lannate alone
- Vantacor / Coragen eVo – pollinator and beneficial friendly, sometimes does well alone, sometimes lets things slip



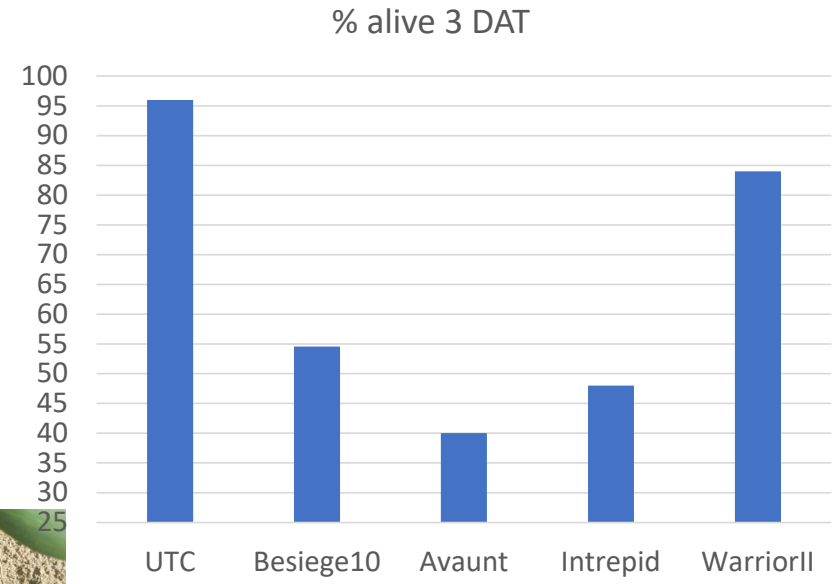
Exciting Times Ahead

- Specialty Crop Research Initiative grant, UMD lead
- Objectives:
  - monitor resistance to Bt and foliar
  - Pheromone lure and longevity
  - Trap placement
  - Dynamic threshold recommendations and forecast
  - Cost/benefit returns for spray programs

What To Do About FAW?

- Threshold is 15-30-15% infested plants
- Confirm it is FAW AND still present.

Not FAW. Diabrotica beetle feeding with rectangular, threadlike or grainy frass



Larvae already left. Whorl leaves pushing out without feeding

Young larvae/ windowpaning on husk leaves before or just at silking

Final Notes

- Coragen eVo
- Shenzi

- Insect Trapping Survey and Corn Earworm Fact Sheet

Acknowledgements

- Gary Calloway, Vincent Farms; Justin Prystajko, Tom Godfrey
- Trapping location partners – SCM and CEW
- USDA NIFA CPPM EIP 2021-70006-35651
- 2023 Crew: **Morgan Malone,** Calista Turman, Irene Ernest, Danielle Watkins, Jase Hudson, Richard Monaco
- Agrochemical Industry
- IR-4
- USDA-NIFA CPPM EIP
- DDA- Specialty Crop Block Grant
- Sussex County