

Carvel Research & Extension Tours

Thursday, August 14, 2025

(Rain date: Friday August 15, 2025)

University of Delaware Carvel Research & Education Center

16483 County Seat Highway, Georgetown, Delaware

2:30 p.m. – 6:00 p.m. dinner to follow

RSVP is required by August 8th to Karen Adams – adams@udel.edu or by calling 302-831-3328

2:30 p.m.—3:00 p.m. Visit with Exhibitors/Registration

3:00 p.m.—3:20 p.m.

Welcome to the Carvel Research & Education Tour

AGRONOMIC TOUR

3:20 p.m.—3:35 p.m.

Soybean Insect Research

David Owens, Extension Specialist - Agricultural Entomology

-Seedling and reproductive stage pests cause the greatest problems in soybean. In 2025, slug populations appeared to be low across the state, fields that have had a recent history of having slug problems had very few slugs. Observations on slug injury and an experiment simulating slug damage to examine impact of cotyledon damage on yield will be discussed. The most important reproductive stage pests are corn earworm and stink bug. Field surveys will be discussed, along with management recommendations for both groups of pests. The greatest insecticide use pattern however is as a prophylactic tank mix partner with a pre-planned herbicide or fungicide, sometimes in the same field. From 2021-2023, 9 cooperator fields had large strip trials placed looking at herbicide timing with this type of application and not once did an early application affect yield or later pest pressure enough to justify it. This year, three trials are looking at fungicide timing, and these will be discussed on the tour stop.

3:35 p.m.—3:55 p.m.

Variety Trials

Gunnar Isaacs, Associate Scientist - Soybean and Small Grain Variety Testing

-The University of Delaware Soybean Variety Trials evaluate maturity group III, IV, and V varieties across four locations, including both irrigated and dryland sites in Georgetown and Middletown. In 2024, 36 commercial varieties were tested in replicated plots using a randomized complete block design. Trials include both full-season and double-crop systems to reflect Delaware growing conditions. Data collected supports variety selection and informs nutrient management and agronomic recommendations for local growers.

4:00 p.m.—4:25 p.m.

Highlighting Management of Herbicide-Resistant Weeds In Field Crops

Dr. Mark VanGessel, Weed Science Specialist

Highlighting management of herbicide-resistant weeds in field crops. Rotation of multiple effective modes of action to mitigation resistance along with incorporating non-chemical strategies will be discussed. An emphasis on cover crops for weed suppression in soybeans and narrow row spacing are two local strategies that UD Weed Science is actively researching and will be shown on the tour.

4:25 p.m.—4:40 p.m.

N Cycling In Soybean With Different Termination Timings

Dr. Alex Huddell, Assistant Professor of Agroecology/Sustainable Crop Production Systems

Dylan Brown, master's student, Agroecology/Sustainable Crop Production Systems

The project is focused on tracing labeled nitrogen from cover crop residues into the soil and subsequent soybean crop to quantify exactly where the cover crop N ends up.

4:40 – 4:55

Biological and Foliar Feed Product Evaluation on Corn & Soybean

Dr. Cory Whaley, Sussex County Agricultural Extension Agent

4:55 p.m.—5:15 p.m.

Updates on Field Crops Disease Research

Dr. Alyssa Betts, Erin Wright, Phoebe Baker, Lauren Irwin, Adelaide Mullin, Sam Worthington, Jess Pancake, Chris Holton, Plant Pathology

-Multiple diseases impact the productivity and profitability of corn, soybean, and sorghum production. This stop will begin with discussion of corn diseases observed through the 2025 growing season. We will provide a review of ongoing research focused on early season Pythium root rot in corn and fungicide efficacy trials in traditional and short stature corn. Following corn, we will highlight ongoing research for management of foliar and nematode diseases in soybean. The stop will conclude with an introduction to fungicide efficacy and timing trials for management of sorghum anthracnose. During this session, participants will be positioned at plots assessing foliar fungicides in corn and will be provided with visual aids highlighting major diseases addressed.

5:15 p.m.—5:35 p.m.

Nitrogen and Sulfur corn timing

Dr. Jarrod Miller, Extension Agronomist

-Winter crops can include both small grains and cover crops. Double crop soybean following wheat has limited information on population and row spacing required to maximize yield, which typically require denser planting to achieve higher yields. Alternatively, we may consider cover crops as winter crop, where later termination and greater biomass is promoted to limit the leaching of nitrate from our soils. But how do standing cover crops interact with corn, particularly shorter stature varieties with unknown population requirements? Both of these studies will help guide future management decisions for Delaware farmers.

5:35 p.m.—5:45 p.m.

Double crop soybean population vs row spacing

Dr. Jarrod Miller, Extension Agronomist

Updates to double crop soybean population and row spacing will maximize yield potential in a shortened growing season

6:00 p.m.

DINNER/VISIT WITH EXHIBITORS

FRUIT & VEGETABLE TOUR

3:20 p.m.—3:25 p.m.

Amaranth Genetics Research

Mary Matovolwa, Graduate Student, Fruit & Vegetable Crops

Potential of *Amaranthus cruentus* as an alternative vegetable and grain crop.

3:30 p.m.—3:50 p.m.

Snap, Lima and Shelly Beans Research

Dr. Emmalea Ernest, Extension Fruit and Vegetable Specialist

Ekat Hampton, Graduate Student, Fruit & Vegetable Crops

variety trials, genetics research, new crop potential of shelly beans

3:55 p.m.—4:10 p.m.

Management of Phytophthora Fruit Rot and Anthracnose in Watermelon

Dr. Alyssa Betts, Shiv Singla, Adelaide Mullin, Plant Pathology

-Diseases are a major challenge to successful cucurbit production. This stop will introduce research projects focused on management of Phytophthora Fruit Rot and Anthracnose in watermelon. Projects include survey work to understand species of *Colletotrichum* present in the region, efficacy screening of fungicide and biological products, and implementation of biofumigant mustard crops or injections. At this stop participants will view Phytophthora watermelon trials and supplemental samples highlighting ongoing vegetable disease research.

4:15 p.m.—4:25 p.m.

Biochar Research

Lyndsie Mikkelsen, Extension Agent, Fruit & Vegetable Crops

-Potato and cauliflower trials with biochar field. Evaluation of adding Biochar as a soil amendment to improve moisture holding capacity, nutrient management, improve quality and yield of produce.

4:30 p.m.—5:00 p.m.

Herbicide Selection to Maximize Crop Safety of Vegetables

Dr. Mark VanGessel, Weed Science Specialist

-Herbicide selection to maximize crop safety of vegetables

A series of studies are underway examining the potential carryover of corn/soybean herbicides to vegetables. The goal of the studies is to shorten the replant interval from soybean/corn herbicides that will allow a more robust herbicide selection to improve overall weed control.

A second series examining relative crop safety from herbicides will be discussed. The crops include sweet corn, snap bean, peas, and muskmelon. The goal is to provide guidance on

herbicide selection, particularly for crops planted under early-season conditions when risk of herbicide injury is enhanced.

5:05 p.m.—5:25 p.m.

Watermelon, Cucumber, Pepper and Lettuce trials

Dr. Emmalea Ernest, Extension Fruit and Vegetable Specialist

5:25 p.m. – 5:40 p.m.

Sweet Corn

Dr. David Owens, Extension Specialist – Agricultural Entomology

-In collaboration with multiple states through a USDA SCRI project led by University of Maryland and with funding from Delaware Department of Agriculture, we are monitoring corn earworm populations, testing new pheromone lures, monitoring for Vip3Aa resistance, monitoring insecticide resistance, and conducting insecticide spray trials. Sweet corn spray trials on station include another iteration of a rain trial conducted in 2023 testing how irrigation shortly after an insecticide application impacts performance, how individual pyrethroid performance varies by active ingredient, examining other insecticides for potential efficacy, and testing pyrethroid spinosyn tank mixes. Spray trial work will also be put into context with 2023-2024 trials.

5:40 p.m.—6:00 p.m.

FABA Bean Research, Produce Safety Research

Dr. Emmalea Ernest, Extension Fruit and Vegetable Specialist

samples of varieties from variety trials, info about faba bean research, Dr. Tan's lima bean products, produce food safety research

6:00 p.m.

DINNER/VISIT WITH EXHIBITORS

POULTRY

3:30 p.m. Visit with vendors

4:00 p.m. Necropsy Demonstration

4:30 p.m. Building a Compost Pile and Trouble Shooting

4:50 p.m. Poultry Research Update

5:10 p.m. Minimizing Risk - Maintaining the Line of Separation

5:30 p.m. Poultry Farm Safety

5:40 p.m. Chicken Production Trivia

6:00 p.m. Dinner in the Grove