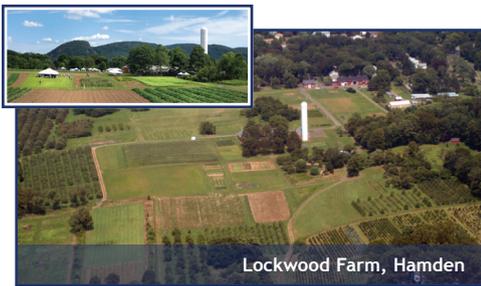


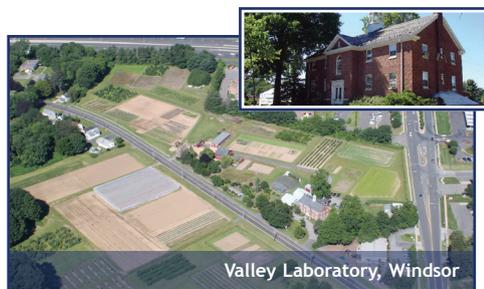
The Connecticut Agricultural Experiment Station is a state-supported scientific research institution dedicated to improving the food, health, environment, and well-being of Connecticut's residents since 1875.



Griswold Research Center, Griswold



Lockwood Farm, Hamden



Valley Laboratory, Windsor



Main Laboratories, New Haven

Visit the CAES

- Visit our website for a full list of event dates and details: <https://portal.ct.gov/caes>
- Associates Annual Meeting
- Plant Science Day
- CAES Seminar Series Videos and Podcasts
- CAES Lockwood Lectures
- Community Involvement

- Visit outdoor exhibit gardens
- Nursery growers' gardens (plants discovered by Connecticut growers) in:
  - New Haven
  - Windsor
  - Lockwood Farm in Hamden
- Nursery growers' Plant Identification Garden at the:
  - Valley Laboratory in Windsor

- Bird and Butterfly Garden at:
  - Lockwood Farm in Hamden

Research Farm

The Experiment Station's 75-acre research farm in Hamden, called Lockwood Farm, is open to the public during normal business hours. Parking is available inside the gate. Free admission.



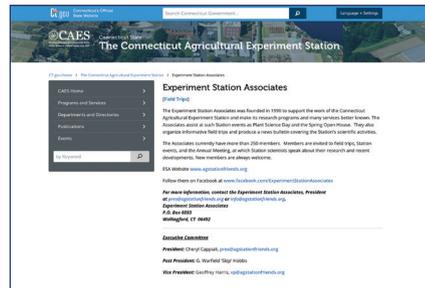
Experiment Station Associates

P.O. Box 6093, Wallingford, CT 06492

The ESA is a proactive, volunteer group of Station supporters who assist in promoting the research work carried out at the CAES. All interested persons are welcome to join. Benefits include participation in field trips to Connecticut's leading agricultural businesses and publications highlighting the latest research developments at the Station. For more information, visit the Station website and click on the Experiment Station Associates.

Printing of this leaflet was funded by the Experiment Station Associates.

Learn More About the CAES



<https://portal.ct.gov/caes>

The Experiment Station's web page is extensive, featuring information including tick submissions and testing; how to submit a soil sample, insect, or plant problem; mosquito surveillance program details and results; how to contact a scientist; factsheets, bulletins, and a comprehensive electronic library of historical and current research documents from our agency; a speakers list, and state weather data.

Social Media



Hours

Residents may call or visit the Experiment Station during normal business hours, 8:30 am-4:30 pm, Monday through Friday, except state holidays.

Telephone Numbers

New Haven area:  
Plants: (203) 974-8601  
Insects: (203) 974-8600  
Soils: (203) 974-8521  
Other Inquiries: (203) 974-8500

Hartford area:  
All inquiries: (860) 683-4977

Statewide:  
Toll-free: (877) 855-2237

Locations

- Main Laboratories (203) 974-8500  
123 Huntington St., New Haven, CT 06511-2016
- Valley Laboratory (860) 683-4977  
153 Cook Hill Road, Windsor, CT 06095-0248
- Lockwood Farm (203) 974-8618  
890 Evergreen Avenue, Hamden, CT 06518-2361
- Griswold Research Center (860) 376-0365  
190 Sheldon Road, Griswold, CT 06351-3627



CAES

The Connecticut Agricultural Experiment Station

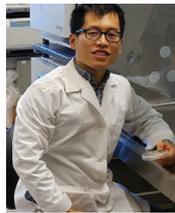
Putting Science to Work for Society since 1875

Protecting Agriculture, Public Health, and the Environment

<https://portal.ct.gov/caes>

# Agriculture

The genetics of bacterial plant pathogens are being deciphered by CAES scientists. By understanding their behavior on a molecular level, scientists may design fundamentally unique strategies to suppress them.



CAES research staff are conducting field experiments with different cultivars of hemp to determine the timeline of CBD and THC accumulation, the influence of environmental factors on plant production of these compounds, and the variation of analyte production among different individuals in a population.



The newly discovered Palmer amaranth biotype in Connecticut was found resistant to multiple herbicides, including 10-fold greater resistance to glyphosate compared with a susceptible biotype from Kansas. To achieve 90% control, the Connecticut biotype required 4204 g ae ha<sup>-1</sup> of glyphosate compared with 424 g ae ha<sup>-1</sup> of glyphosate by Kansas biotype. Furthermore, the Connecticut Palmer amaranth biotype was highly resistant to ALS-inhibitor herbicides with only 18% control with imazaquin applied at a rate 16 times more than the field use rate. The Connecticut Palmer amaranth was also cross-resistant to other ALS-inhibitor herbicides at field use rates.



## Did You Know?

The CAES Department of Analytical Chemistry is the official hemp testing laboratory for the state and has brought CBD and THC analysis under the Scope of ISO 17025 Accreditation. Over the last 2 years, the laboratory has tested over 200 grower samples, with an average turnaround time of under 48 hours.

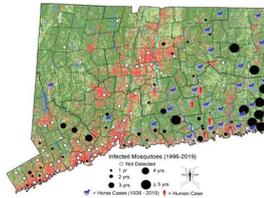
# Health



As the lone star tick expands its presence in Connecticut, CAES has detected the Asian longhorned tick, an exotic invasive species, and the Gulf Coast tick in Connecticut. The Asian

longhorned tick is considered a serious pest to livestock including cattle, horses, sheep, and goats. It can attack humans, pets, and wildlife. The Gulf Coast tick is the vector for *Rickettsia parkeri*, a spotted fever rickettsiosis.

Eastern equine encephalitis (EEE) is a rare but serious viral disease transmitted by mosquitoes. During 2019, Connecticut experienced a resurgence of EEE virus activity in eastern Connecticut that resulted in four human cases with 3 fatalities. In response to this growing threat, CAES added 16 additional mosquito trapping sites in the eastern portion of the state to provide additional targeted surveillance for this virus. Prevention of EEE and West Nile virus relies on robust surveillance and early detection of virus to inform the public and guide disease control measures as warranted.



CAES scientists, in collaboration with Yale University researchers, discovered that the COVID-19 virus can be detected in sewage and the levels detected can serve as a 3-7 day leading indicator of cases and hospitalizations. In conjunction with the Department of Public Health, monitoring programs were established in 6 municipalities across the state.



## Did You Know?

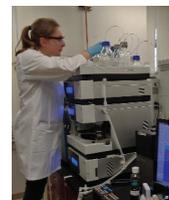
The same sewage samples that are being tested for COVID-19 levels are also being analyzed for pharmaceutical compounds such as hydroxychloroquine and triclocarban (a disinfectant) and for drugs of abuse such as opioids.

# Environment

The CAES Invasive Aquatic Plant Program (IAPP) has surveyed over 230 of Connecticut's lakes and ponds for invasive weeds, tracking their spread, determining their effects on native plants, and providing information on management strategies. The IAPP has recently found an aggressive strain of hydrilla (*Hydrilla verticillata*) in the Connecticut River from Lyme, CT to Agawam, MA. With no natural controls, it can overwhelm native ecosystems, hinder navigation, limit recreation, harm businesses, and reduce local property values. Working with stakeholders, IAPP is now investigating management options.



CAES scientists are working on high resolution mass spectrometry methods for measuring per- and poly-fluoroalkyl substances (PFAS), an emerging class of toxic environmental contaminants. Methods are being used to test soil and plant samples from areas contaminated with firefighting foam, as well as survey animal feeds that may be contaminated. Data from these projects will lead to increased understanding of the fate of PFAS released to the environment.



CAES scientists, along with collaborators in the NSF Center for Sustainable Nanotechnology, have shown that custom synthesized copper phosphate and copper oxide nanosheets can be applied as a foliar amendment to control a fungal root pathogen of soybean, suppressing the disease at concentrations of copper that are 10 times less than that of conventional copper fungicides.



## Did You Know?

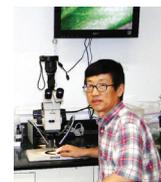
CAES scientists are conducting investigations on the toxicity and remediation of emerging contaminants such as microplastics, nanomaterials, and PFAS, including how the presence of one pollutant affects the behavior of a second pollutant.

# Public Service



CAES seeks to safeguard agriculture and forests through surveys to detect infestation, through

monitoring of the health and vitality of the forests, and through inspection and registration of commodities and producers to assure quality. Surveys are conducted for a number of exotic pests and diseases that may threaten the health and productivity of CT agriculture, and we address new pest finds on an emergency basis. The newest is the spotted lanternfly, a pest of grapes, maples, hops, and many other plant species.



The Plant Disease Information Office responds to over 4,000 inquiries a year from homeowners, growers, and professionals at no cost. The PDIO also is a member of the National Plant Diagnostic Network. Staff provides outreach through presentations, seminars, and workshops for the general public.

The Insect Information Office has been serving citizens of Connecticut through expertise in identification, research, and public education for over 130 years. The multi-language office serves private citizens and a broad array of medical, agricultural, pest management, and business and government organizations. The work of this office helps protect public health, agriculture, urban dwellings, and businesses in Connecticut by identifying common pests and other arthropods, monitoring for exotic pests, presenting non-chemical management options for nuisance arthropods, and supporting conservation of natural habitats and species.



## Did You Know?

The CAES has a bi-weekly seminar series and a bi-monthly podcast series; all past and current episodes are available for download on our website through the CAES YouTube page (<https://www.youtube.com/user/CTAGEXPSTATION>).