

# STATION NEWS

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION



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STATION NEWS  
*PUTTING SCIENCE TO WORK FOR SOCIETY*

The mission of The Connecticut Agricultural Experiment Station is to develop, advance, and disseminate scientific knowledge, improve agricultural productivity and environmental quality, protect plants, and enhance human health and well-being through research for the benefit of Connecticut residents and the nation. Seeking solutions across a variety of disciplines for the benefit of urban, suburban, and rural communities, Station scientists remain committed to "Putting Science to Work for Society", a motto as relevant today as it was at our founding in 1875.



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### DEPARTMENTAL NEWS

#### ADMINISTRATION

**DR. LOUIS A. MAGNARELLI** was interviewed about boxwood blight by Steve Grant of the Hartford Courant (December 9); was interviewed about boxwood blight by Bob Miller of the Danbury News Times (December 12); was interviewed about boxwood blight by Jen Bernstein of Fox News (December 13); and was interviewed about bamboo by Phyllis Swebilus of the New Haven Register (December 19).

#### ANALYTICAL CHEMISTRY

**DR. JASON C. WHITE** participated in an FDA FERN conference call on an upcoming surveillance exercise for arsenic in fruit juices (December 1, 19); participated in the monthly Laboratory Preparedness Network meeting at the Department of Public Health in Hartford (December 5) and presented a lecture entitled "CAES Market basket Survey: Pesticide Contamination of Fresh and Dried Herbs" (15 attendees); participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (December 8); participated in a USDA FSIS FERN Hotwash call on the recent "Capacity and Capability" exercise that we took part in (December 14); hosted University of Massachusetts undergraduate student Caitlin Gardipe in the laboratory as part of a collaborative research project on pollutant uptake by plants (December 15); and participated in an Association of Public Health Laboratories (APHL) teleconference call entitled "Quality Control...But Why?" (December 15).

**DR. BRIAN EITZER** participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (December 8).

**DR. WALTER KROL** was interviewed by Vera-Lynn Kubinec, Associate Producer CBC Television, Winnipeg, Manitoba, Canada, R3B 2G1 in the WVIT 30 news studio, West Hartford, CT for a news report for CBC Canada regarding pesticide residues in organic foods (December 1); Parts of this taped interview appeared on the Canadian National CBC Television special report on the prevalence of pesticide residues in organic food (December 8); participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (December 8); was interviewed by Terry MacLeod & Marcy Markusa of CBC Winnipeg, Manitoba, Canada during their live morning radio talk show regarding the prevalence of pesticide residues in organic food. This Radio talk show was a lead in to a special report to be aired on CBC Television (December 8).

**DR. CHRISTINA ROBB** participated in an FDA FERN conference call on an upcoming surveillance exercise for arsenic in fruit juices (December 1, 19); participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (December 8); and participated in a USDA FSIS FERN Hotwash call on the recent "Capacity and Capability" exercise that we took part in (December 14).

**MR. CRAIG MUSANTE** participated in an FDA FERN conference call on an upcoming surveillance exercise for arsenic in fruit juices (December 1, 19); participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (December 8).



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## BIOCHEMISTRY AND GENETICS

**DR. DOUGLAS DINGMAN** presented a lecture on Honey Bee genetics and research to High school students in the regional Agriculture Science & Technology program (Southington High School) (December 8).

**DR. RICHARD PETERSON** has been corresponding with a Dr. Arnold Bendich of the University of Washington, Seattle concerning ideas for introducing nitrogen fixation capacity into the chloroplasts of non-legume species such as maize as a means of increasing crop yields while alleviating the need for commercial fertilizer application. Solicitation of advice was inspired by a publication in the journal *Plant Physiology* in 2009 authored by I. Zelitch, N. Schultes, and R. Peterson concerning a novel aspect of photosynthesis in maize leaves. This is an example of how research progress in one area can influence thought in other areas in unanticipated ways. (December 2011)

## ENTOMOLOGY

**DR. CHRIS MAIER** spoke about “Status of the Brown Marmorated Stink Bug and the Spotted Wing *Drosophila*” at the Annual Meeting of the Connecticut Pomological Society in Glastonbury (December 6).

**DR. CLAIRE E. RUTLEDGE** gave a talk titled “Emerald Ash Borer Update” at the NOFA Annual Winter Meeting held at the University of Connecticut in Storrs (175 attendees) (December 5); and gave a talk titled “Biosurveillance, using a Native Wasp to find Invasive Beetles” for the Department of Biology Seminar Series at Oberlin College in Oberlin, OH (30 attendees) (December 9).

**DR. VICTORIA L. SMITH**, with **DRS. KIRBY C. STAFFORD III** and **LOUIS A. MAGNARELLI**, met with Patricia Douglass and Eric Chamberlain, USDA-APHIS-PPQ, and William Hyatt and Christopher Martin, CT Department of Energy and Environmental Protection, in Wallingford to discuss Emerald ash borer (December 28).

**DR. KIRBY C. STAFFORD III** participated in a meeting of the architects on the plans for the Jenkins-Waggoner Laboratory (December 7); with **DR. SHARON M. DOUGLAS**, participated in a meeting of the architects on the plans for the Jenkins-Waggoner Laboratory (December 19-20); and with **DRS. VICTORIA L. SMITH** and **LOUIS A. MAGNARELLI**, met with Patricia Douglass and Eric Chamberlain, USDA-APHIS-PPQ, and William Hyatt and Christopher Martin, CT Department of Energy and Environmental Protection, in Wallingford to discuss Emerald ash borer (December 28).

## ENVIRONMENTAL SCIENCES

**DR. THEODORE ANDREADIS** presented an invited talk entitled *The contribution of Culex pipiens mosquitoes to transmission and persistence of West Nile virus in North America* at the 57<sup>th</sup> Annual Meeting, Northeastern Mosquito Control Association, held in Plymouth, MA (approx. 190 meeting attendees) (December 5-7).

**MR. GREGORY BUGBEE** with Michael Cavadini taught a science class on *Soils* at the New Haven Cooperative Arts and Humanities Magnet School (December 7).

**DR. MELISSA HARDSTONE** presented an invited talk entitled *Oviposition site selection of Ochlerotatus japonicus* at the 57<sup>th</sup> Annual Meeting of the Northeastern Mosquito Control Association, held in Plymouth, MA (approx. 190 meeting attendees) (December 5-7).



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**MR. JOHN SHEPARD** presented an invited talk entitled *Arbovirus Activity in Connecticut, 2011* at the 57<sup>th</sup> Annual Meeting of the Northeastern Mosquito Control Association, held in Plymouth, MA (approx. 190 meeting attendees) (December 5-7); and was elected to a three-year term on the Board of Directors of the Northeastern Mosquito Control Association.

## FORESTRY AND HORTICULTURE

**DR. JEFFREY WARD** was interviewed about composition of the urban forest and storm damaged trees by Stephen Singer of the Associated Press (December 1); participated in a meeting of the Audubon Connecticut Science Committee in Southbury (December 2); spoke on Japanese barberry growth and control at the Invasive Shrub Control Workshop in Guilford in cooperation with Guilford Land Trust and University of Connecticut Cooperative Extension (17 attendees) (December 4); spoke on having a second language is useful professionally and personally at the World Language Career Day at Newtown High School (140 students, 10 teachers) (December 7); spoke on "History of the Connecticut Forest" at the annual meeting of the Oxford Land Trust (14 attendees) (December 8); administered practical and oral examination to arborist candidates for the Connecticut Tree Protection Examining Board (December 14); interviewed about growth and spread of yellow groove bamboo by Phyllis Swebilius of the New Haven Register (December 23); spoke on Japanese barberry growth and control at the Invasive Shrub Control Workshop in Mansfield in cooperation with University of Connecticut Cooperative Extension (18 attendees) (December 30).

**DR. ABIGAIL MAYNARD** visited and discussed the New Crops Program at Page's farm in North Branford and Hindinger's Farm in Hamden (December 2); attended the Connecticut Pomological Society's annual meeting in Glastonbury (December 6); and reported on Station activities at a quarterly meeting of the Council on Soil and Water Conservation (15 attendees) (December 7).

**DR. WILLIAM NAIL** attended a meeting of the Connecticut Pomological Society in Glastonbury (December 6); attended the New England Vegetable and Fruit Conference in Manchester, NH (December 13-15); and moderated the Viticulture I and Viticulture II sessions at the New England Vegetable and Fruit Conference in Manchester, NH (December 15).

**DR. SCOTT WILLIAMS** spoke about the relationship between blacklegged tick abundance and Japanese barberry prevalence at a CAES invasive control workshop in cooperation with the University of Connecticut Department of Extension and the Guilford Land Conservation Trust (17 attendees) (December 4); with **MR. MICHAEL R. SHORT**, met with Greg Ecsedy, President Bobbex, Inc. regarding a rabbit repellent evaluation trial (December 21); and spoke about the relationship between blacklegged tick abundance and Japanese barberry prevalence at a CAES invasive control workshop in cooperation with the University of Connecticut Department of Extension in Storrs (18 attendees) (December 30).

**MR. MICHAEL R. SHORT** explained techniques of mechanically controlling Japanese barberry at the Invasive Shrub Control Workshop in Guilford in cooperation with Guilford Land Trust and University of Connecticut Cooperative Extension (17 attendees) (December 4).

## GRANT AWARDS DECEMBER 2011

**DR. JOSEPH J. PIGNATELLO** and **DR. JASON WHITE** were awarded a NIFA, USDA, AFRI competitive grant from the Nanoscale Science and Nanotechnology Program entitled: *Nanoscale Interactions between Engineered Nanomaterials and Black Carbon (Biochar) in Soil*. The project will address the interactions of selected nanomaterials with carbonaceous components of soil including biochar, an advocated soil amendment. The award is for 3 years and the recommended funding amount is \$473,805.

**DR. THEODORE ANDREADIS** received the McColgan Grant-in-Aid Award from the Northeastern Mosquito Control Association to support a new research initiative to investigate the life cycle and transmission mechanisms of a novel microsporidian parasite isolated from natural pop-



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ulations of the invasive mosquito, *Ochlerotatus japonicus* in Japan, and evaluate its potential as a biological control agent for use against *Oc. japonicus* populations in North America. \$2,000.

## PLANT PATHOLOGY AND ECOLOGY

**DR. DONALD E. AYLOR** gave a talk titled “Atmospheric Transport of Pollen and Spores” in the Atmosphere/Ocean/Climate Dynamics Seminar Series in the Geology and Geophysics Department at Yale University in New Haven (12 adult attendees) (December 15).

**DR. SHARON M. DOUGLAS** organized an evening workshop on “Winter moth” co-sponsored by the CTPA and CNLA at the CT DEEP Marine headquarters in Old Lyme (25 adult attendees) (December 1); was interviewed about boxwood blight by Jen Burnstein of FOX TV (December 6); participated in the monthly Board of Directors meeting of the CTPA at Aqua Turf in Plantsville (December 13); was interviewed about boxwood blight in Connecticut by Nancy Crevier of The Newtown Bee (December 15); was interviewed about boxwood blight in Connecticut by Penny Overton of the Waterbury Republican-American (December 15); and participated in a conference call about boxwood blight in the U.S. with plant pathologists from North Carolina and Virginia (December 22).

**DR. YONGHAO LI** attended the Annual Meeting of the CT Pomological Society in Glastonbury (December 6); and attended the Identification, Assessment and Management of Soilborne Plant Pathogens in Vegetable Production Systems Workshop in Windsor (December 7).

**DR. ROBERT E. MARRA**, as an invited speaker, presented a 30-minute seminar titled “Assessing Internal Decay in Trees Nondestructively Using Tomography” at the NOFA Organic Land Care Annual Gathering at the University of Connecticut Storrs campus (225 attendees) (December 6); attended the meeting of the Plant Science Day Committee in Jones Auditorium (December 7); as a member of the Local Arrangements Committee for the 2012 Annual Conference of the Mycological Society of America, to be held in New Haven in July of 2012, participated in a telephonic conference with members of the committee to discuss conference details, including the mycological foray (to be held at West Rock Ridge State Park), symposium topics, and the opening reception at the Peabody Museum (December 13); and delivered over 50 poinsettias donated from Drs. Gent and Elmer’s flooded floor experiment to the Columbus House, a New Haven shelter dedicated to providing services to the homeless of southern Connecticut (December 21). Dr. Marra received the following note from the development manager, Sara Warfield:

Bob, please extend our thanks to everyone at the Connecticut Agricultural Experiment Station for the gorgeous poinsettia plants you gave to the shelter. They brightened the lobby, the cafeteria, and several desktops all around Columbus House. They brought holiday cheer during a time that can be very difficult for the people here. We appreciate your thinking of us! Sincerely, Sara



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## VALLEY LABORATORY

**DR. RICHARD COWLES** spoke to farmers about "Spotted wing drosophila: Current and potential management methods" at the Connecticut Pomological Society meeting, Glastonbury (80 attendees) (December 6). This subject was the focus of an article by Sanne Kure-Jensen in "Country Folks Grower" magazine, following an interview and similar talk in Rhode Island.

**DR. JAMES A. LAMONDIA** and colleagues George Abawi of Cornell-Geneva and Beth Gugino of Penn State University conducted a day-long SARE-funded workshop on the identification, assessment and management of soilborne plant pathogens in vegetable systems held at the Valley Laboratory (22 people) (December 7); examined candidates for the Connecticut arborist license and participated in the quarterly meeting of the Connecticut Tree Protection Examining Board in New Haven (December 14); and participated in a conference call with scientists and regulators from North Carolina, Virginia and Connecticut concerning boxwood blight (December 22).

A full-day Workshop on "**Identification, Assessment and Management of Soilborne Plant Pathogens in Vegetable Production Systems**" was conducted at the Valley Laboratory on December 7, 2011 for 22 growers, county extension educators, regional specialists, crop consultants, IPM practitioners and other agricultural service providers from Connecticut Rhode Island and Massachusetts. This SARE-funded workshop was presented by Drs. Beth Gugino of Penn State University, George Abawi of Cornell-Geneva and **Jim LaMondia** of the Valley Laboratory and designed to train participants in the identification, assessment and management of soilborne pathogens and to provide resources that can be used on-farm and in various outreach activities.



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## JOURNAL ARTICLES APPROVED DECEMBER 2011

**Cowles, Richard S.** Root dips help transplant establishment. *American Christmas Tree Journal*.

**Douglas, Sharon M.** Boxwood blight – A new disease for Connecticut and the U.S. CAES Fact Sheet.

**Eitzer, Brian D. and Kimberly A. Stoner.** Pesticide residues in pollen collected by foraging honey bees in Connecticut. ACS Website – Symposium Summary – Assessing Exposure of Pollinators to Systemic Pesticides. ACS Meeting, March 25, 2010

**Gent, J. F., J. M. Kezik, M E. Hill, E. Tsai, De-Wei Li, and B. P. Leaderer.** Association of childhood asthma morbidity with specific sensitization and exposure to allergens in household fungi and dust. *Environmental Health Perspectives*.

**Krol, Walter J., Brian D. Eitzer, Terri Arsenault, J. Fontana, S. Kinney, and Jason C. White.** Pesticide residues in produce sold in Connecticut in 2010 with concurrent surveillance for microbial contamination. *Station Bulletin*.

**Krol, Walter J., Brian D. Eitzer, Terri Arsenault, MaryJane Incorvia Mattina, Jason C. White.** Significant Improvements in Pesticide Residue Analysis in Food Using the QuEChERS Method. *LC/GC North America*

**LaMondia, James A.** Is *Peronospora tabacina* becoming less sensitive to dimethomorph fungicide? Proceedings of the 45<sup>th</sup> Tobacco Workers' Conference, 2012 (Abstract)

Landa, P., R. Vankova, J. Androlova, J. Hodek, P. Marsik, H. Storchova, **Jason C. White**, and T. Verek. Nanoparticle-specific changes in *Arabidopsis thaliana* gene expression after exposure to ZnO, TiO<sub>2</sub>, and Fullerene soot. *ACS Nano*

**Molaei, Goudarz, S. Huang, and Theodore G. Andreadis.** Blood-feeding patterns of the *Culex pipiens* complex mosquitoes in the USA. *Journal of the American Mosquito Control Association*.

Morningstar, R. J., G. L. Hamer, T. L. Goldberg, S. Huang, **Theodore G. Andreadis**, and E. D. Walker. Diversity of *Wolbachia pipiens* strain wPip in a genetically admixture, above-ground *Culex pipiens* (diptera: Culicidae) population: association with form molestus ancestry and host selection patterns. *Journal of Medical Entomology*

**Pignatello, Joseph J.** Dynamic Interactions of Natural Organic Matter and Organic Compounds. *Journal of Soils and Sediments*

Tavalire, H. F., **Gregory E. Bugbee**, E. A. LaRue, and R. A. Thum. Hybridization and the evolution of invasiveness: Introduced hybrids are more invasive than introduced parental lineages of variable-leaf watermilfoil. *Evolutionary Applications*

Wang, Z, N. Li, J. Zhao, **Jason C. White**, and B. Xing. "CuO nanoparticle interaction with human epithelial cells: Cellular uptake, export, and genotoxicity. *ACS Nano*

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*Putting Science to work  
for Society.*



Entrance to The Connecticut Agricultural Experiment Station in New Haven on Huntington Street



Main Laboratories, New Haven



Lockwood Farm, Hamden



Griswold Research Center, Griswold



Valley Laboratory, Windsor

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