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## THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

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.



# AUGUST 2012 Departmental News Administration 2 Forestry and Horticulture 4 Analytical Chemistry 2 Plant Pathology and Ecology 5 Biochemistry and Genetics 2 Valley Laboratory 6 Entomology 3 Journal Articles Approved 7





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## DEPARTMENTAL NEWS

## **ADMINISTRATION**

DR. LOUIS A. MAGNARELLI was interviewed about mosquitoes and West Nile virus by Mark Simms of CT Public Radio (July 6); was interviewed about mosquitoes and West Nile virus by Matt Dwyer of WTIC Radio (July 6); was interviewed about mosquitoes and West Nile virus by Bill Wier of the Hartford Courant (July 6); was interviewed about mosquitoes and West Nile virus by John Lucas of the Stamford Advocate (July 6); was interviewed about mosquitoes and West Nile virus by Peter Buzzeo of the Stamford Daily Voice (July 6); gave an update on Experiment Station research and other activities at the CT Nursery and Landscape Association meeting at Lockwood Farm (July 11); was interviewed about ticks and Lyme disease by Mark Simms of CT Public Radio (July 13); was interviewed about emerald ash borer by Matt Dwyer of WTIC Radio (July 20); was interviewed about emerald ash borer by Dianne Orsi of WNPR Radio (July 20); was interviewed about emerald ash borer by Bob Miller of the Danbury News Times (July 20); was interviewed about emerald ash borer by Nancy Cohen, a freelance reporter (July 20); was interviewed about emerald ash borer by the Waterbury Republican at a press conference in Prospect, CT (July 20); welcomed the National Plant Board members in Mystic, CT (July 23); was interviewed about emerald ash borer by the CT Post (July 24); provided oral testimony on the emerald ash borer to the Legislative Regulation Review Committee (July 24); was interviewed about Experiment Station research and other activities by Ray Andrewsen of WQUN Radio in Hamden (July 25); and was interviewed about mosquitoes and the West Nile virus by Bob Miller of the Danbury News Times (July 27).

## ANALYTICAL CHEMISTRY

**DR. JASON C. WHITE** met with Kristin Frank of CT DoAg (Aquaculture) and Stacey Kinney of CT DPH (Environmental Microbiology) regarding a joint grant proposal and research program on the detection of contaminants in "farmed" seaweed (July 13); participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (July 19); participated in the FDA FERN follow-up conference call on a recently completed arsenic proficiency test (July 19); and participated in a webinar sponsored by *Chemical and Engineering News* on the analysis of water samples related to hydraulic fracturing (July 26).

**DR. BRIAN EITZER** presented a talk at the 49<sup>th</sup> Annual Florida Pesticide Residue Workshop entitled "The Use of High Resolution Liquid Chromatography/High Resolution Mass Spectrometry in Screening Produce for Pesticide Residues" in St. Petersburg Beach, FL (150 attendees) (July 15-18) and participated in a FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (July 19).

**MS. KITTIPATH PRAPAYOTIN-RIVEROS** participated in a webinar on FDA/eLEXNET Interface and Reports Training (July 12); and participated in an FDA FERN Chemistry Cooperative Agreement (cCAP) Laboratory conference call (July 19).

## BIOCHEMISTRY AND GENETICS

**DR. NEIL P. SCHULTES** and Dr. Heather Miller-Coyle, a forensic plant biologist in the Forensics Department at the University of New Haven, are continuing work on identifying polymorphic markers in the genus Cannabis using molecular techniques and the newly available genomic sequences. Dr. Miller-Coyle is spending some time in the Biochemistry laboratory (May-June) and spent a week in the laboratory of colleague and collaborator, Dr. George Mourad



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in the Department of Biology, Indiana-Purdue University Ft. Wayne, IN. During the past year he served as a Thesis Advisor to and during this week sat as a Thesis Defense committee member for three Masters level students: Yvonne Gicheru defended her thesis 'Biochemical and Genetic Analysis of Arabidopsis Nucleobase Transport'; Sarah Miller defended her thesis 'Functional Characterization of Two Nucleobase Transporters in Arabidopsis using Heterologous Complementation in Yeast'; Jaclyn N. M. Nquyen defended her thesis, Heterologous Complementation in Yeast Reveals the Solute Specificity of a Nucleobase Cation Symporter-1 in Nicotiana sylvestris. In addition DRS, SCHULTES and Mourad reviewed current data and planned research activities for the following year with Master candidate students Kevin Ann Hunt, Jessica Schein and Janet Minton (July 8-14).

## **ENTOMOLOGY**

MR. MARK H. CREIGHTON discussed urban beekeeping and honey bee health on the Colin McEnroe Show on WNPR Radio in Hartford (they have an audience of 200,000 in the tri-state area) (July 9); and assisted the New Haven Fire Department by removing honey bees in the attic of a firehouse. This story was covered by Channel 3, Fox News, and the Hartford Courant (July

MS. KATHERINE DUGAS staffed a table about Asian longhorned beetle and emerald ash borer at the CNLA Summer Meeting held at Lockwood Farm (240 attendees) (July 11); and staffed the CAES insect inquiry table at the CTPA Summer Meeting in Farmington (810 attendees) (July

DR. CLAIRE E. RUTLEDGE staffed the CAES table and answered questions about insects including emerald ash borer and Asian longhorned beetle at the Connecticut Tree Protective Association's Summer Meeting in Farmington (810 attendees) (July 19); attended the press conference announcing the emerald ash borer's presence in Connecticut and spoke with several members of the press at the Prospect Town Hall (45 attendees) (July 20); was interviewed for an article on the Wasp Watcher's program by Glen Rosenholm of the US Forest Service (July 26); and was interviewed about emerald ash borer and Cerceris fumipennis by News Channel 12 (July 31). **DR. RUTLEDGE** conducted over 15 training sessions for Wasp Watchers at sites throughout Connecticut during the last week of June and first two weeks of July. The Wasp Watchers is a volunteer group that monitors colonies of Cerceris fumipennis for exotic buprestid beetles like emerald ash borer. We had over 50 watchers in the program this summer ranging from 7 years old to retirees, covering 37 colonies.

DR. KIRBY C. STAFFORD III was interviewed about armyworms and other invasive insects by Brigitte Ruthman of the Waterbury Republican-American (July 3); participated in the joint meeting of the Northeastern Regional Association of Experiment Station Directors (NERA) and Extension Directors (NEED) (July 8-10); participated in a conference call for the Forest Pest Survey and Outreach Project (July 11); interacted with growers at the meeting of the Connecticut Nursery and Landscape Association at Lockwood Farm (July 11); participated in a conference call between the Station, USDA Animal Plant Inspection Service, US Forest Service, and the CT Department of Energy and Environmental Protection about CAES's confirmed detection of the emerald ash borer in Prospect and Naugatuck (July 19); participated in an emerald ash borer press conference in Prospect (July 20); interacted with other state regulatory officials at the National Plant Board meeting in Mystic (July 23-25); participated in Senator Richard Blumenthal's press conference on a proposed Lyme disease bill at the Experiment Station (July 27); participated in a conference call with the CT Department of Energy and Environmental Protection on the handling of wood waste or storm debris (July 31); and was interviewed about the emerald ash borer by Sara Hagen, Channel 12 News, Norwalk (July 31).

DR. KIMBERLY A. STONER was interviewed about research on pollinator decline in general and specifically on pollination of pumpkins and winter squash in Connecticut by Christina De-Franco Taylor of Connecticut Public Television at Dzen Farm in Ellington (July 17).



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## ENVIRONMENTAL SCIENCES

**DR. THEODORE ANDREADIS** presented a lecture entitled, *Impact of Global Climate Change* on Mosquito-Borne Diseases to a group of Connecticut high school science teachers as part of the NIH SEPA Peabody Fellows Program at Yale University (July 10); was interviewed about mosquitoes and West Nile virus by Jocelyn Maminta, WTNH TV8 (July 13); was interviewed about the early season detection of West Nile virus in Greenwich and Stamford by Lisa Chamoff, Stamford Advocate (July 17); was interviewed about the rapid expansion of West Nile virus into 13 towns in early July by Marc Sims, CT Public Radio; Amanda Cuda, Stamford Advocate; and Bob Miller, Danbury New Times (July 25); was interviewed about the detection of West Nile virus in mosquitoes collected in Wallingford by Russel Blair, Meriden Record Journal (July 26); was interviewed about the Mosquito Trapping and Testing Program by John Charlton, Fox 61 News (July 26); and was interviewed about the unprecedented buildup of West Nile Virus activity in southeastern Connecticut by Fran Schneidau, CBS Radio, New York (July 26).

MR. GREGORY BUGBEE spoke to the Southbury Garden Club on Improving Soil in the Home Garden (approx. 50 attendees) (July 13); spoke at the annual meeting of the Bashan Lake Association, in East Haddam on Control of Variable Milfoil in Bashan Lake (approx. 50 attendees) (July 28); and spoke at the special meeting of the Crystal Lake Association in Weston on Surveillance and Control of Hydrilla (approx. 25 attendees) (July 29).

DR. JOSEPH PIGNATELLO presented three talks at the Eurosoil 2012 Conference held in Bari, Italy: (1) Adsorption of Weak Organic Acid Anions to Black Carbon: Proton Exchange-Enabled Adsorption and Elevation of the pKa on the Surface; (2) Effect of Biochar Properties and Weathering on Sorption of the Swine Antibiotic Sulfamethazine in Biochar-Amended Soils; and (3) Sorption Selectivity of Neutral Organic Compounds by Soil Organic Matter Probed with Nitroxyl Paramagnetic NMR Relaxation Probes (June 30 to July 6).

**DR. CHARLES VOSSBRINCK** visited Bill Muzychko of Bill's Fig Farm in Flemington, New Jersey to obtain information on his system of growing figs in self-watering pots with good yields for potential adaption to Connecticut (July 31).

## FORESTRY AND HORTICULTURE

DR. JEFFREY WARD spoke on "Native Woody Shrubs" at the Connecticut Nursery and Landscape Association meeting at Lockwood Farms (15 attendees) (July 11); chaired the Technical Standards Committee of the CT Statewide Vegetation Management Task Force (July 12, 23); participated in the CT Statewide Vegetation Management Task Force in Middlefield (July 17); met with Glenn Dreyer, Connecticut College, to discuss the selection of short stature trees (July 18); interviewed by Erin Cox of WTNH News 8 about spotting defects in potentially hazardous trees (July 19); attended the Connecticut Tree Protective Association annual meeting in Farmington (July 19); along with J.P. BARSKY, visited Rebekah's Hill forest in Goshen to advise Hallie Metzger about forest management options (July 20); met with Mike Johnson, Summer Hill Nursery, to discuss growth and control of running bamboo (July 25); participated in a joint Connecticut Urban Forest Council and Forestry Forum conference planning meeting in New Haven (July 27); and appeared as a guest on Len & Lisa's Garden Talk radio show (WTIC 1080) to discuss tree care and running bamboo (30,000 listeners) (July 28).

**DR. MARTIN GENT** attended the Connecticut Nursery and Landscape Association meeting at Lockwood Farm (July 11); attended the American Society for Horticultural Science meeting in Miami, FL (1200 attendees) (July 31-Aug 3); presented a poster on "Rate of change of composition of lettuce in response to nitrogen depletion and resupply" (July 31); moderated a workshop on "Environmental effects on whole plant long distance transport" (August 2), and presented a talk on "Diurnal variation in water potential and xylem and phloem transport" (20 attendees) (August 2).

**DR. ABIGAIL MAYNARD** reported on Station activities at a meeting of the State Technical Committee in Tolland (33 attendees) (July 25); and appeared as a guest on Len & Lisa's Garden



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**DR. WILLIAM NAIL** participated as secretary at the pre- and post-conference Board of Directors meetings at the American Society for Enology and Viticulture- Eastern Section (ASEV-ES) annual meeting in Traverse City, MI (July 15,19); presented a poster "Training Effects on St. Croix Grapevines in Connecticut" at the ASEV-ES annual meeting (July 18); and presented the Secretary's Report to ASEV-ES members at the annual business meeting (July 18).

**DR. SCOTT WILLIAMS** spoke on the relationship between invasive plant species, black-legged ticks, and Lyme disease at the Connecticut Chapter - Society of American Foresters summer meeting in Litchfield (42 attendees) (June 13); and participated in the 26th Annual Connecticut Urban Forest Conference planning meeting, Middlefield, CT. (June 21).

**MR. JOSEPH P. BARSKY** attended the Connecticut Landscape and Nursery Association Annual Summer Meeting at Lockwood Farm, Hamden (July 11).

## PLANT PATHOLOGY AND ECOLOGY

**DR. SANDRA L. ANAGNOSTAKIS** gave a talk titled "History of chestnut research at CAES" and spoke to the group walking tour at the CNLA Summer Meeting held at Lockwood Farm (240 attendees) (July 11); met a chestnut grower from Oklahoma at Lockwood Farm for a tour (July 15); attended one day of the Annual Meeting of the Mycological Society of America at Yale University in New Haven (July 16); gave a talk on "Asian chestnut gall wasp on species and hybrids of chestnut" at the Northern Nut Growers Association meeting in Lexington, KY (200 attendees) (July 23-24); visited a chestnut grower in Henderson, Kentucky, and toured his nursery (July 25); and appeared as a guest on Len & Lisa's Garden Talk radio show (WTIC 1080) to promote Plant Science Day 2012 and answer plant questions (July 28).

DR. SHARON M. DOUGLAS was interviewed about the report of a natural infection of pachysandra by boxwood blight by Bob Miller of the Danbury News Times (July 3); was interviewed about how the Connecticut tree fruit crop is doing in light of winter storms, freeze, insects, and drought by Laurie Rich Salerno of the Meriden Record Journal (July 3); was interviewed about the recent hot weather and its impact on late blight of tomato and potato and on boxwood blight by Justin Muszynski of the Bristol Press (July 6); gave a presentation "Boxwood blight update," moderated the afternoon Education Session, served on the meeting Planning Committee, and organized a booth and disease quiz for the CNLA Summer Meeting at Lockwood Farm (240 attendees) (July 11); organized and moderated Education Sessions for the CTPA Summer Meeting at the Farmington Club (810 attendees) (July 19); was interviewed about sago palm and other toxic plants regarding their toxicity to animals and children and the need to label plants as toxic by Randall Beach of the New Haven Register (July 25); gave a presentation on "Boxwood blight-Implications for trade in the U.S." at the National Plant Board's Annual Meeting in Mystic (60 attendees) (July 25); met with Ms. Lorraine Graney, diagnostician for Bartlett Tree, North Carolina, to discuss disease diagnosis and common diseases of woody ornamentals (July 26); and appeared as a guest on Len & Lisa's Garden Talk radio show (WTIC 1080) to promote Plant Science Day 2012 and answer plant questions (July 28).

**DR. WADE H. ELMER** attended the Annual Meeting of the American Mycological Society (MSA) in New Haven (July 16-19); organized and sponsored an MSA satellite meeting to discuss the taxonomy of *Fusarium* and the Hypocreales in Jones Auditorium (22 adult attendees) (July 19); and was visited by Ms. Lorraine Graney of Bartlett Tree Company in North Carolina to discuss root rots of ornamental trees (July 26).

**DR. YONGHAO LI** assisted at the CAES Booth at the CNLA Summer Field Day held at Lockwood Farm (July 11); gave a talk titled "Disease problems and their management" at the Connecticut Christmas Tree Growers Association Twilight Meeting in Windsor (30 attendees) (July 18); and assisted at the CAES Booth at the CTPA Summer Meeting in Farmington (July 19).

**DR. ROBERT E. MARRA** joined DEEP Forester Rob Rocks in visiting Winding Trails in Farmington to assess white pine concerns with naturalist Judy Witzke (July 2); met with the West Haven Tree Commission to continue the street tree inventory (July 6); spoke about



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boxwood blight research plans at the CNLA Summer Meeting held at Lockwood Farm (240 attendees) (July 11); hosted the final meeting of FESIN (Fungal Environmental Sampling and Informatics Network) in Jones Auditorium (80 attendees) (July 14); hosted the Annual Meeting of the Mycological Society of America, taking place in the Omni Hotel as well as various venues on the Yale campus (340 mycologists from universities and research institutions in the United States, Canada, as well as other countries, attended) (July 15-18); approximately 110 MSA members joined with several members of the Connecticut Valley Mycological Society in the annual myco-foray, which took place in West Rock Ridge State Park, followed by a pizza lunch at CAES in New Haven (July 15); presented a talk at the Annual Meeting of MSA entitled "Mixed Mating and Biparental Inbreeding in the Forest Pathogen, Neonectria ditissima" (approx. 100 attendees) (July 16); hosted Dr. Rytas Vilgalys, a mycologist and colleague from Duke University, along with six members of his lab (1 post-doc, 2 graduate students, 3 undergraduates) and Professor Dai Yu-cheng, a visiting mycologist from Beijing Forestry University, for field research on the species diversity of mycorrhizae associated with white pines. Soil samples and associated data were taken from two plots in Litchfield County: Gold's Pines Natural Area Preserve in Cornwall and the Nepaug State Forest in New Hartford (July 19-20).



Dr. Robert Marra (center), with Vilgalys and crew at Gold's Pines, Cornwall, in front of a 120 cm diameter of breast height (dbh) white pine.

## VALLEY LABORATORY

**DR. JOHN AHRENS** attended the Board of Directors meeting of the Connecticut Christmas Tree Growers as an official advisor and gave a report of the Tree Improvement Committee's activities and goals (July 11); and spoke at a twilight meeting at the Valley Laboratory for the Connecticut Christmas Tree Growers Association on the Tree Improvement Committee's activities in 2012 and future goals (35 attendees) (July 11).

**DR. CAROLE CHEAH** gave a presentation on biological control of hemlock woolly adelgid and mile-a-minute weed to a group of students and staff from NY city for the Christadora Summer Ecology Program at the Yale Camp, Great Mountain Forest, Norfolk (17 total attendees; 14 youth) (July 16).

**DR. RICHARD COWLES** presented "Black vine weevil" in a walking tour for the CT Nursery and Landscape Association meeting in Hamden, CT (18 attendees) (July 11). He was interviewed by Rudy Hempe, University of Rhode Island College of Natural Science Public Relations, about spotted wing drosophila (July 12).

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**DR. JAMES LAMONDIA** spoke about research on management of boxwood blight with fungicides at the CNLA Summer Meeting at Lockwood Farm (65 attendees) (July 11); and was interviewed about wrapper tobacco culture for the National Agricultural Worker Survey (July 12).

**DR. DEWEI LI** made a presentation "Four note-worthy hyphomycetes from indoor environments" at the annual meeting of Pan-American Aerobiological Association held in Merida, Mexico (35 attendees) (June 3-5). He also gave a lecture on "Airborne spores of phytopathogenic fungi" to the workshop of "Introduction to Aerobiology" in Merida, Mexico (25 attendees) (June 6); attended the annual meeting of Mycological Society of America held at Yale University (July 15-18); and presented a poster "Two new hyphomycetes *Strelitziana windsorensis* sp. nov. and *Zeloasperisporium toonae* sp. nov. from *Toona sinensis* in Connecticut, USA" with (approx. 50 attendees). He also attended the "Fungal Environmental Sampling and Informatics Network Workshop" held at CAES and Yale (July 14-15).

**DR. TODD L. MERVOSH** gave a presentation, "Weed management in the nursery" at the Connecticut Nursery and Landscape Association's Summer Field Day at Lockwood Farm (40 attendees) (July 11); and spoke about weed control in Christmas tree fields at the twilight meeting of the Connecticut Christmas Tree Growers Association at the Valley Lab (35 attendees) (July 18).

## JOURNAL ARTICLES APPROVED JULY 2012

**Andreadis, Theodore G., John J. Shepard,** and **Michael C. Thomas.** Field observations on the overwintering ecology of *Culiseta melanura* in the northeastern United States. Journal of the American Mosquito Control Association

Geiser, David M., **Wade H. Elmer**, et al. One fungus, One Name: Defining the genus *Fusarium* in a scientifically robust way that preserves longstanding use. Phytopathology (Letter to the Editor)

Kelsey, J. W. and **Jason C. White**. Effect of  $C_{60}$  Fullerenes on the accumulation of weathered p.p -DDE by plant and worm species under single and multi-species conditions. Environmental Toxicology and Chemistry

**LaMondia, James A.,** and **De-Wei Li**. First report of *Cylindrocladium pseudonaviculatum* causing leaf spot and stem blight of *Pachysandra procumbens*. Plant Disease

Li, De-Wei, Guihua Zhao, Chin Yang, Ariunaa Jalsrai, Brian Kerin. Four note-worthy hyphomycetes from indoor environments. Mycotaxon

Liu, Handeng, Guoqing Pan, Bo Luo, Tian Li, Qiong Yang, **Charles R. Vossbrinck**, Bettina A. Vossbrinck, and Zeyang Zhou. Intraspecific polymorphism of rDNA among 5 *Nosema bombycis* isolates from different geographic regions in China. Current Genetics

**Peterson, Richard B.** and **Neil P. Schultes**. LHCB7 shifts the irradiance response of non-photochemical quenching in leaves of *Arabidopsis thaliana*. Photosynthesis Research

**Stafford, Kirby C. III**. The Asian Longhorned Beetle and Emerald Ash Borer: An Increasing Threat to Connecticut's Trees. The Real Tree Line

Yan, J., Y. Chen, T. Meyer, M. Ortega, V. Posdnyakov, and **Scott Williams.** A moving-resting process with an embedded Brownian motion for animal movements. Ecological Letters

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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







Valley Laboratory, Windsor

## THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

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