

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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Winter Images taken by: Mr. Peter Trenchard



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DEPARTMENTAL NEWS

ADMINISTRATION

DR. LOUIS A. MAGNARELLI spoke to legislators in Hartford about Experiment Station research (December 1); attended the Experiment Station Associates meeting in the Slate Board Room, spoke about Station research (December 7), and was interviewed by Stephanie Reitz of Associated Press about the brown marmorated stink bug (December 29).

ANALYTICAL CHEMISTRY

DR. JASON C. WHITE participated in the monthly Laboratory Preparedness Network meeting at the Department of Public Health in Hartford (December 6), participated with Department staff in a FERN Chemistry Cooperative Agreement (CAP) Laboratory conference call (December 9), attended the USDA NIFA Nanotechnology Program Directors meeting in Washington DC (December 9-11), participated with Department staff in a FERN Northeast Regional conference call (December 14), met with Fred Tinter of Thermo Fisher Scientific regarding the installation of our new LC-MS Exactive (December 14), and met Dermot Jones of the CT Department of Health Laboratory Certification Program who conducted an inspection of the department (December 16).



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ENTOMOLOGY

MS. KATHERINE DUGAS conducted an EAB/ALB Train-the-Trainer session in Sharon (20 attendees) (December 11).

MS. ROSE HISKES conducted a training session on forest pests, Asian longhorned beetle, and Emerald ash borer in Sharon (30 attendees) (December 7); conducted a training session on forest pests, Asian longhorned beetle, and Emerald ash borer for public works employees in Plainville (35 attendees) (December 16).

DR. CHRIS MAIER presented a display on and spoke about the “Invasive Brown Marmorated Stink Bug” at the Annual Meeting of the Connecticut Pomological Society in Glastonbury (approx. 70 attendees) (December 1); and attended the Annual Meeting of the Entomological Society of America in San Diego, CA (December 12-15).

DR. GALE E. RIDGE received confirmation from Dr. Chow-Yang Lee of the University of Malaysia that she had discovered a second temperate climate-tolerant species of human-feeding Cimicidae in North America. She suspects a species complex. *Cimex lectularius* L. (the common bed bug) and the unnamed species are very similar so the novel species was easily overlooked (December 6); the Experiment Station and the Connecticut Coalition Against Bed Bugs (CCABB) held Bed Bug Forum IV, which included talks on research, law, pesticide resistance, and heat treatment techniques, in Jones Auditorium (114 attendees) (December 7); was interviewed about the discovery of the novel species of human-feeding bed bug by Channel 3 TV (December 7); was interviewed about Bed Bug Forum IV and the new species of bed bug by Channel 8 TV (December 8); was interviewed about Bed Bug Forum IV and the new species of bed bug by The New Haven Register (December 8); spoke about her research on the entomopathogenic fungus *Metarhizium anisopliae*, which effectively kills bed bugs, as well as alerting to the discovery of the second species of human-feeding bed bug in North America, at the Annual Meeting of the Entomological Society of America held in San Diego, CA (200 attendees) (December 12-15); her discovery of the new species of bed bug was reported on the Bedbugger website (December 22); was published on the online publication of Farmington Patch about bed bug behavior (December 22); and her discovery of the new bed bug species was reported by the Science News (December 23).

DR. CLAIRE RUTLEDGE gave the talk “Emerald ash borer update” at the NOFA Landcare Update Course at UCONN in Storrs (200 attendees) (December 7).

DR. VICTORIA L. SMITH participated in the National Cooperative Agricultural Pest Survey Conference, held at the Marriott Downtown in Kansas City, MO, as the Eastern Plant Board representative to the CAPS Committee, and as a member of the planning committee (approx. 200 participants) (November 30 – December 3); and was deposed in the court case Davenport v. Milikowski, at the Office of the Attorney General, in Hartford (December 14).

DR. KIRBY C. STAFFORD III presented a display and answered questions from legislators about ticks and bed bugs at a luncheon at the Legislative Office Building sponsored by the Experiment Station Associates (December 1); with **DR. ANUJA BHARADWAJ**, presented a poster “Field trials of the natural compounds, nootkatone and garlic, for the control of blacklegged tick, *Ixodes scapularis*” at the 58th Annual Meeting of the Entomological Society of America held in San Diego, CA, December 12-15, 2010 (56 attendees) (December 14).

DR. KIMBERLY A. STONER presented the talk “Pollinators in the Landscape” and served on a Question-and-Answer panel with other speakers at the NOFA Organic Land Care Annual Meeting held at UCONN in Storrs (277 attendees) (December 7).

MS. TRACY ZARRILLO visited the lab of Mr. Sam Droege of the USGS in Maryland to review her bee species determinations and further her studies in bee identification skills. She has also designed a logo for his Bee Inventory and Monitoring Lab, and will be helping him in his ongoing efforts to expand the online DiscoverLife Apoidea identification guide (December 13-16).



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ENVIRONMENTAL SCIENCES

DR. THEODORE ANDREADIS met with newly elected State Legislators in Hartford in an informal luncheon organized by the Experiment Station Associates to discuss the Experiment Station's research and surveillance programs on mosquitoes, eastern equine encephalitis and West Nile virus (December 1); presented an invited talk entitled *Evaluation of the Role of Mosquito Vectors in Transmission of Eastern Equine Encephalitis Virus* at the 56th Annual Meeting, Northeastern Mosquito Control Association, held in Hyannis, MA (December 7); and reported on the Experiment Station's research and surveillance programs on *Prevention and Control of Emerging Mosquito-Borne Diseases* to the State Appropriations Committee in Hartford as part of the Results Based Accountability Forum (December 15).

MR. GREGORY BUGBEE reported on the 2010 invasive aquatic plant survey of Candlewood Lake at a technical committee meeting at the CT DEP in Hartford (December 1); presented a seminar on *Using GIS to Control Invasive Aquatic Plants* at a workshop for wetlands commissioners at the UCONN Business School in Hartford (December 4); and with Michael Cavidini taught *Basic Soil Science* to a science class at the High School in the Community in New Haven (December 10).

DR. GOUDARZ MOLAEI presented an invited talk entitled *Discerning Blood Feeding Mosquitoes and Their Catholic Counterparts Influencing West Nile Virus Transmission in Northeastern USA* at the 56th Annual Meeting, Northeastern Mosquito Control Association, held in Hyannis, MA (December 6).

MR. JOHN SHEPARD presented an invited talk entitled *Arbovirus Activity in Connecticut, 2010* at the 56th Annual Meeting of the Northeastern Mosquito Control Association, held in Hyannis, MA (December 6).

MICHAEL THOMAS discussed the conservation status of state-listed invertebrates and funding priorities at a subcommittee meeting of Connecticut's Endangered Species Advisory Committee at the Station (November 19).

FORESTRY AND HORTICULTURE

The Department hosted a workshop on Japanese barberry control for members of Joshua's Trust and interested citizens at Preston Sanctuary in Hampton on December 21. **DR. JEFFREY WARD** spoke on the impacts of invasives on forests, **DR. SCOTT WILLIAMS** spoke on brushsaw safety and operation, **MR. MICHAEL R. SHORT** spoke on DR Field and Brush Mower safety and operation, and **MR. JOSEPH P. BARSKY** spoke on propane torch safety and operation (30 attendees).

DR. JEFFREY WARD participated in a Connecticut Urban Forest Council meeting in New Haven (December 1); visited Jasmine Wolf to discuss controlling invasive species in Coventry (December 2); administered practical and oral examination to arborist candidates for the Connecticut Tree Protection Examining Board (December 8); met with Christopher Renshaw and Morty Ortega (University of Connecticut) to discuss prescribed burning research (December 9); gave two webinars on "Crop tree release of hardwoods for improved growth and survival" in cooperation with Cornell University (120 attendees) (December 15).

DR. ABIGAIL MAYNARD attended the annual meeting of the Connecticut Pomological Society in Glastonbury (December 1); interviewed about leaf composting by Michael Camp of Ohio State University (December 2); attended a meeting of the State Technical Committee in Tolland (December 8); reported on Station activities at a quarterly meeting of the Council on Soil and Water Conservation in Windsor (15 attendees) (December 9).

DR. WILLIAM NAIL participated in a Board of Directors meeting of the American Society of Enology and Viticulture- Eastern Section in Baltimore, MD (December 8); participated in a meeting of the Connecticut Farm Wine Development Council at the Department of Agriculture in Hartford (December 9); participated in a Steering Committee meeting of the New England



Vegetable and Fruit Conference in Manchester, NH (December 13).

Photo: Barberry control workshop held at Preston Sanctuary in Hampton on December 21.



PLANT PATHOLOGY AND ECOLOGY

DR. SANDRA L. ANAGNOSTAKIS was interviewed by Barb Feldman for an article about growing nut trees for Hobby Farms magazine (December 1).

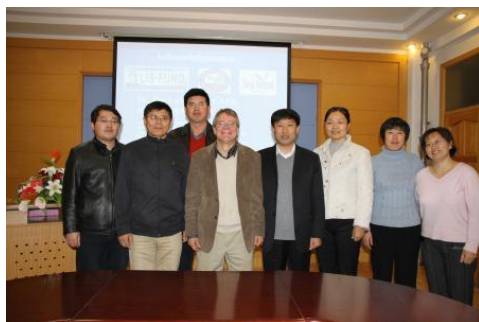
DR. SHARON M. DOUGLAS attended the Annual Meeting of the Connecticut Pomological Society and answered questions about diseases of tree fruit at The Gallery in Glastonbury (December 1); participated in a planning meeting for the 2011 CTPA Annual Meeting of the CTPA Board of Directors at CAES (December 6); was interviewed about Christmas trees and the challenges growers face with Phytophthora root rot by Devin Powell, science reporter for Inside Science News Service (December 7); assisted the CT Tree Protective Examining Board with administering the oral exam for candidates for the CT arborist license (December 8); participated in a conference call of the Board of Directors of the APS Foundation (December 13); participated in the monthly meeting of the CTPA Board of Directors at the Aqua Turf Club in Plantsville (December 14); participated in a special planning meeting for the 2011 CTPA Annual Meeting at CAES (December 21).

DR. WADE H. ELMER presented a workshop lecture on "Earthworms and soil health" to the UCONN Fairfield County's Master Gardener Program in Bethel (12 adult attendees) (December 7); was an invited scientist to Dalian Nationalities University in Dalian, China, and gave the following presentations: "Integrated strategies to suppress Fusarium disease of ornamentals" to the Freshman Biotechnology class (75 adult attendees) (December 12); "Role of Fusarium in Sudden Vegetation Dieback in Atlantic salt marshes" to the Department of Life Sciences (15 adult attendees) (December 13); "Epidemiology and management of Fusarium crown and root rot of asparagus" to the Laboratory students of Dr. Lu Grozhong (7 adult attendees) (December 14); "Role of Fusarium in Sudden Vegetation Dieback in Atlantic salt marshes" to the Environmental freshman class at the College of Life Science, Liaoning Normal University (27 adult attendees) (December 14); "Earthworms and soil health" to the Laboratory students of Dr. Lu Grozhong (7 adult attendees) (December 15); "Epidemiology and management of Fusarium crown and root rot of asparagus" to the Laboratory students of Dr. Wei Hu (8 adult attendees) (December 16); "Integrated strategies to suppress Fusarium disease of ornamentals" to the Liaoning Entry-Exit Inspection and Quarantine Bureau in Dalian, China (8 adult attendees) (December 16); and "Role of Fusarium in Sudden Vegetation Dieback in Atlantic salt marshes" to the Department of Crop Protection at China Agricultural University in Beijing, China (17 adult attendees) (December 21).



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Wade with faculty at Dalian Nationalities University



Wade in orchid greenhouse in China



Wade and Hui Zhao looking for *Fusarium* on orchid debris



Wade at the Great Wall

DR. YONGHAO LI attended the Annual Meeting of Connecticut Pomological Society at The Gallery in Glastonbury (December 1).

VALLEY LABORATORY

DR. JAMES LAMONDIA examined candidates for the Connecticut arborist license and participated in the quarterly meeting of the Connecticut Tree Protection Examining Board in New Haven (December 8).



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JOURNAL ARTICLES APPROVED DECEMBER 2010

- Anagnostakis, Sandra L.** Chestnut Restoration for Connecticut. CAES Fact Sheet.
- Armstrong, Philip M., Theodore G. Andreadis, Shannon Finan, John J. Shepard, Michael C. Thomas, and John F. Anderson.** Detection of infectious virus from field-collected mosquitoes by vero cell culture assay. *Journal of Visualized Experiments – Immunology and Infection*
- Bugbee, Gregory J., Martha E. Balfour.** Invasive aquatic plants: Lakes Candlewood, Lillinonah, and Zoar – Monitoring Report 2009. CAES Bulletin – Electronic Only
- Eichelmann, O., **Richard B. Peterson**, A. Laisk. The rate of nitrite reduction in leaves as indicated by O₂ and CO₂ exchange during photosynthesis. *Journal of Experimental Botany*.
- Hawthorne, J., **Craig Musante**, S. Sinha, **Jason C. White.** Accumulation and phytotoxicity of engineered nanoparticles to *Curcubita pepo*. *International Journal of Phytoremediation*
- June-Wells, Mark, Robert Capers and Gregory Bugbee.** Water chemistry preferences of five non-native species in lakes of Connecticut, USA: Using the community assembly hypothesis to predict non-native species invasion. *Journal of Applied Ecology*
- Kilpatrick, H. J., A. M. LaBonte, and **Kirby C. Stafford, III.** Effects of Hunting on Deer Density, Tick Abundance, and Human Cases of Lyme Disease in a Residential Community. *Wildlife Society Bulletin*
- Li, De-Wei**, Jingyuan Chen and Yixum Wang. *Rhexodenticula zhengii* sp. Nov. from fallen leaves of *Sycopsis sinensis* Oliver
- Maier, Chris T.** First State Records of Flower Flies (Diptera: Syrphidae): *Copestylum vittatum* Thompson in Connecticut and *Mixogaster johnsoni* Hull in Rhode Island. *Proc. Entomol. Soc. Wash*
- Mervosh, Todd L., Carole A. Cheah**, and Donna R. Ellis. Biological Control Program for Mile-a-minute Vine in Connecticut. *Proceedings of the Northeastern Weed Science Society*, Vol. 65 (2011) (abstract)
- Mervosh, Todd L., Jeffrey S. Ward**, and **J. P. Barsky.** Management Options for Japanese Stiltgrass: Research in a Connecticut Woodland. *Connecticut Invasive Plant Working Group Symposium*, 2010 (abstract)
- Mervosh, Todd L.** Use of Preemergence Herbicides in Christmas Tree Fields. *Great Lakes Christmas Tree Journal*
- Peterson, Richard B., Neil P. Schultes.** 2010. LHCB7 enhances the capacity for nonphotochemical quenching in leaves of *A. thaliana*. *Planta*
- Pignatello, Joseph J.** Adsorption of Organic Compounds by Black Carbon from Aqueous Solution. Chapter for “Molecular Environmental Soil Science at Critical Zone Interfaces”, Jianming Xu, Editor, published by Springer.
- Rutledge, Claire E., W. Hellman, C. Teerling**, and M. Fierke. Two Novel Prey families for the Buprestid-hunting *Cerceris fumipennis* Say (Hymenoptera: Crabronidae). *The Coleopterists Bulletin*
- Smith, Hugh A., John L. Capinera**, and Charles M. MacVean. Reduciendo el Uso de Pesticidas en Arveja China de Guatemala Exportada a Estados Unidos de America. *The Connecticut Agricultural Experiment Station Website*



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Smith, Hugh A., John L. Capinera, and Charles M. MacVean. Reducing Pesticide Use on Guatemalan Snow Peas Exported to the United States. The Connecticut Agricultural Experiment Station Website

Thum, R. A., M. P. Zuellig, R. L. Johnson, M. L. Moody, and **Charles R. Vossbrinck**. Molecular markers reconstruct the invasion history of variable leaf watermilfoil (*Myriophyllum heterophyllum*) and distinguish it from closely related species. Biological Invasions

Wang, L., **Richard B. Peterson**, J. Brutnell. Regulatory networks underlying C4 photosynthetic differentiation. New Phytologist

GRANT AWARDS DECEMBER 2010

DR. MELISSA HARDSTONE received the McColgan Grant-in-Aid Award from the Northeastern Mosquito Control Association to support research on the *Biological Factors Contributing to the Invasion Biology of Ochlerotatus japonicus in the Northeastern United States* (December 6, \$1,000).

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*Putting Science to work
for Society.*



[WWW.CT.GOV/CAES](http://www.ct.gov/caes)



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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Did you know that The Connecticut Agricultural Experiment Station will be 136 years old in 2011?