STATION NEWS

THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION

CAES

The Connecticut Agricultural Experiment Station

Putting Science to Work for Society since 1875

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

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DEPARTMENTAL NEWS

ADMINISTRATION

DR. THEODORE ANDREADIS presented a lecture entitled, *Global Climate Change and 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 15); attended the summer field day meeting of the Connecticut Nursery and Landscape Association held at Van Wilgen's Garden Center in North Branford (July 16); attended the summer meeting of the Connecticut Tree Protective Association held in Southington (July 17); was interviewed about the first detection of West Nile virus in mosquitoes this season in East Haven and the threat of Chikungunya virus in Connecticut by Fran Schneidau, CBS Radio (July 22); was interviewed about mosquitoes and Chikungunya virus in Connecticut by Amanda Cuda, CT Post (July 23); was interviewed about the detection of West Nile virus in mosquitoes in East Haven by Steven Busemeyer, Hartford Courant (July 23); was interviewed about Plant Science Day by Ray Andrewsen WQUN AM 1220 in Hamden (July 28); and attended a Council Meeting of the Connecticut Academy of Science and Engineering held in Wethersfield (July 30).

ANALYTICAL CHEMISTRY

DR. JASON C. WHITE spoke by phone with representatives of the Bigelow Tea Company regarding our finding of pesticide residues in certain products (July 10); along with **MS. KITTY PRAPAYOTIN-RIVEROS, MS. TERRI ARSENAULT, DR. BRIAN EITZER, MR. CRAIG MUSANTE, MR. MICHAEL CAVADINI, DR. CHRISTINA ROBB, MR. JOSEPH HAWTHORNE, MR. JOHN RANCIATO, AND DR. WALTER KROL** participated in the monthly FDA FERN chemistry cooperative agreement program (cCAP) teleconference call (July 10); along with **DR. WALTER KROL** participated in the first Lobster Pesticide Study 2014 Steering Committee meeting at the DEEP Marine Fisheries headquarters in Old Lyme (15 attendees) (July 11); attended as a Committee member the Ph.D. Dissertation defense of Dr. Arnab Mukherjee at the University of Texas-El Paso (July 15-17); served as an external ad hoc reviewer for a USDA proposal being evaluated under the FY-2014 USDA-NIFA Exploratory Program (July 18); along with **MS. KITTY PRAPAYOTIN-RIVEROS, MS. TERRI ARSENAULT, DR. CHRISTINA ROBB AND DR. WALTER KROL** participated in an ISO 17025 Mentor/Mentee Conference Call with Ohio Department of Agriculture (July 24); gave a tour of Station facilities and discussed programs to Ms. Anne Horsfall-Thomas and David Thomas; Anne Horsfall is the daughter of Dr. James Horsfall, who served as CAES Director from 1948-1971 (July 28); participated in the Association of Public Health Laboratories (APHL) Data Acceptance Workgroup teleconference call (July 28), and participated in the quarterly teleconference call of the APHL Agricultural/Chemist Laboratories Working Group (July 31),

DR. BRIAN EITZER presented a poster on the analysis of pesticides in produce and teas at the European Pesticide Residue Workshop in Dublin Ireland (June 30 – July 3) (500 attendees); and presided over a symposium on the analysis of pesticides in bee related matrixes (250 attendees) at the 51st Annual North American Chemical Residue Workshop in St. Petersburg Beach, FL (July 20 -23); and during the workshop was named as the co-chair of the program committee for the 2016 workshop.

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Dr. Jason C. White and Ms. Anne Horsfall-Thomas. Dr. White gave a tour of the Station, including the Johnson-Horsfall Building, to Ms. Horsfall-Thomas, who is the daughter of Dr. James Horsfall (CAES Director from 1948-1971).

ENTOMOLOGY

DR. KIRBY C. STAFFORD III presented a seminar at the Centers for Disease Control and Prevention in Fort Collins, Colorado, on the CDC-funded integrated tick management project in Connecticut (36 attendees plus teleconference participants) (July 9); was interviewed about the expansion of the emerald ash borer in Connecticut by Ed Stannard, New Haven Register (July 16); was interviewed about the emerald ash borer by Matt McFarland, Channel 3 News (WFSB) (July 17); was interviewed about the emerald ash borer by Charles Kreutzkamp, Record Journal (July 23); was interviewed about the emerald ash borer by Steve Grant, Hartford Courant (July 23); was interviewed about the emerald ash borer by Patrick Skahill, WNPR, Connecticut Public Radio (July 25); and was interviewed about the emerald ash borer by John Charlton, FoxCT TV (July 28).

MR. MARK H. CREIGHTON was interviewed about the health and status of honeybees in Connecticut by the Meriden Record Journal for an upcoming article (July 7); had a table display on honeybees and spoke with 25 visitors, made appointments for apiary visits, and collected honeybee registration forms at Farmers Day at the Tractor Supply Store in Barkhamsted (July 12); and was interviewed on honeybee pollination activities in Connecticut for the fall season by The Day (July 25).

DR. GALE E. RIDGE was interviewed about summertime insect pests by The Day (July 16). As a response to the statewide installation of the "Give Bed Bugs the Boot" bus poster in June, there was a noticeable rise in Spanish speakers calling the insect inquiry office for help. Dr. Ridge, with **DRS. ALIA SERVIN and ROBERTO DE LA TORRE ROCHE** from Analytical Chemistry, established a Spanish interpretation service for citizens who do not speak English. This season, gypsy moth populations were higher than in previous years. Many citizens reported sighting of adults during early July.

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Female gypsy moth laying eggs in white oak tree

DR. CLAIRE E. RUTLEDGE presented a talk titled "Emerald Ash Borer in Connecticut" at the White Memorial Conservation Center in Litchfield (15 adult attendees) (July 7); presented a talk titled "An Update on Emerald Ash Borer in Connecticut" at the Connecticut Tree Preservation Association's annual summer meeting held in Farmington (80 adult attendees) (July 17); and presented a talk titled "Emerald Ash Borer in Connecticut" at the Flanders Nature Center in Woodbury (23 adult attendees) (July 30).

DR. VICTORIA L. SMITH participated in the CT Nursery and Landscape Association summer meeting held at Van Wilgens Nursery and Garden Center in North Branford (200 participants) (July 16); participated in the CT Tree Protective Association Summer Meeting, held at the Farmington Club in Farmington, with a talk titled "Thousand Cankers Disease: a Threat to Walnut" (200 participants) (July 17); participated in the annual Northeast Sustainable Agriculture Research and Education (SARE) summer tour, which included stops at Gresczyk Farms in New Hartford, Freund's Farm in East Canaan, Laurelbrook Farm in East Canaan, Laurel Ridge Farm in Litchfield, and Planters' Choice Nursery in Newtown (45 participants) (July 22); and participated in the 88th annual meeting of the National Plant Board, as a representative of the Eastern Plant Board, held at the Hilton by the Ballpark in St. Louis, MO (200 participants) (July 27-31).

ENVIRONMENTAL SCIENCES

MR. GREGORY BUGBEE participated in the State of Connecticut PA 12-155 Phosphorus Nonpoint Source Workgroup at the DEEP in Hartford (July 22); and spoke at the annual meeting of the Bashan Lake Association on CAES IAPP research on controlling variable watermilfoil (approximately 100 attendees) (July 26).

DR. PHILIP ARMSTRONG was interviewed by the CT Radio Works Program about mosquitoes and mosquito-borne diseases in Connecticut (July 10); and was interviewed by the CT Radio Works Program and WTNH news channel 8 about the recent detection of West Nile virus in Connecticut (July 22).

DR. JOSEPH PIGNATELLO was visited by Dr. Pamela Azcarate from the Laboratorio de Malezas y Herbicidas – INTA, La Pampa, Argentina to discuss mutual interests in pesticide and herbicide fate in the environment (July 3).

MR. MICHAEL THOMAS participated in the Harford Biodiversity Camp and BioQuest (20 Hartford area students) sponsored by the Center for Conservation and Biodiversity at the University of Connecticut (July 10); and co-led the North American Butterfly Association Farmington Valley butterfly count (14 attendees) (July 12).

FORESTRY AND HORTICULTURE

DR. JEFFREY WARD met with Cindy Gaudino (Connecticut Water Company) to discuss roadside forest management in East Hampton (July 2); spoke on "Strategies for reducing deer browse damage" to the Old Ripton Garden Club in Shelton (27 attendees) (July 7); met with Mark Ashton (Yale University) in Union to discuss oak regeneration (July 11); met with Hallie Metzer, Rebekah's Hill Flora and Fauna Preservation Society, and Paul Elconin and Steve Lutterman, Weantinoge Heritage Land Trust, to discuss forest management in Goshen (July 19); attended Connecticut Nursery and Landscape Association Field Day in North Branford (July 16); spoke on "Roadside Forest Management - tree-by-tree" at the Connecticut Tree Protective Association annual summer meeting (250 attendees) (July 17); met with David Beers, Connwood, to discuss roadside forest management (July 22); participated in the USDA Forest Service Tools for Engaging Landowners Effectively workshop in Windsor (July 23); organized the New England Society of American Foresters Silviculture working group's summer workshop in Bradley, ME (35 attendees) (July 24); and participated in the USDA NRCS Wildlife subcommittee meeting in Tolland (July 29).

MR. JOSEPH P. BARSKY attended the Connecticut Tree Protective Association summer meeting in Farmington (July 17).

PLANT PATHOLOGY AND ECOLOGY

DR. SANDRA L. ANAGNOSTAKIS joined members of the Fairfield Garden Club to check their chestnut plantings (July 1)

DR. SHARON M. DOUGLAS participated in a conference call of the Boxwood Blight Working Group about research funding and the upcoming APS Boxwood Blight Symposium (14 attendees) (July 9); attended the CNLA Summer Field Day at Van Wilgen's Garden Center and answered questions about current nursery diseases (July 16); and organized and participated in the CTPA Summer Meeting at the Farmington Club and answered questions from arborists about tree diseases (745 attendees) (July 17).

DR. WADE H. ELMER attended an international conference on invasive *Spartina* at the University of Rennes in Rennes, Bretagne, France, where he gave a presentation titled *"Fusarium palustre* in *Phragmites australis* dieback in Chinese salt marshes transferred by invasive *Spartina alterniflora.*" He also spent considerable time sampling invasive and native European *Spartina* species for *Fusarium* colonists (July 4-11).

Dr. Elmer sampling Spartina anglicans on the marsh next to Mont Saint-Michel on the Normandy coast

DR. YONGHAO LI staffed the CAES booth and answered questions about tree diseases at the CTPA Summer Meeting held at the Farmington Club (745 attendees) (July 17); gave a talk titled "Phytophthora Root Rot of Christmas Trees and Their Management" at the CCTGA Twilight Meeting in Windsor (35 attendees) (July 22).

DR. ROBERT E. MARRA participated in a conference call of the Boxwood Blight Working Group about research funding and the upcoming APS Boxwood Blight Symposium (14 attendees) (July 9). Dr. Marra spent the first week of July at Great Mountain Forest, in Norfolk, wrapping up the final phase of field work for his NSF-funded project on internal decay in living trees. Dr. Marra, along with student intern Kelly Allen (UMass/Amherst), worked with GMF forest manager Jody Bronson and other GMF staff in felling 45 of the 60 trees (American beech, yellow birch, and sugar maple), on which multiple sonic and electrical-resistance tomographic cross-sectional measurements (typically three per tree) were taken in June. Cross-sections ("cookies") were taken from each felled tree, corresponding to each plane at which tomographic measurements were taken. The cookies were stored in a barn on GMF property to air-dry at ambient conditions, and will be moved to Lockwood Farm this fall for further processing and analysis.

From left to right: Jody Bronson, Robert Marra, Kelly Allen, and Wes Gomez.

Dr. Marra and GMF staff at landing where cookies were cut.

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Dr. Sandra Lee Anagnostakis

Effective 1 August 2014, Dr. Sandra Lee Anagnostakis retired after almost 48 years of service to The Connecticut Agricultural Experiment Station. Sandy joined the staff of The Connecticut Agricultural Experiment Station in 1966 as a Technician I in the Department of Genetics. In recognition of her scientific contributions, she quickly rose through the ranks to Assistant Scientist and eventually to Scientist. Over the years, Sandy has worked on a variety of problems, but has concentrated on the genetics of fungi, particularly those that cause corn smut, Dutch elm disease, and Chestnut blight.

Since 1968, Sandy has worked tirelessly toward the goal of restoring chestnut trees to a prominent place in the Connecticut forest. Throughout her tenure, she has also maintained the Station's collection of species and hybrids of chestnut, which is recognized as one of the largest and finest collections in the world. Her competence, her contagious enthusiasm, and her engaging personality have brought Sandy numerous accolades from many who share her dream of restoring the chestnut.

Sandy energetically and ably served the international scientific community as well as the citizens of the State of Connecticut, through her dedication and commitment to science and tirelessly fulfilling the Connecticut Agricultural Experiment Station's motto of "Putting Science to Work for Society." Dr. Theodore Andreadis presented Sandy with a proclamation from the Honorable Dannel P. Malloy, Governor, State of Connecticut in recognition of her many accomplishments on the occasion of her retirement. She has been granted Emeritus status by the CAES Board of Control.

Sandy holding the proclamation from Governor Malloy

VALLEY LABORATORY

DR. CAROLE CHEAH was interviewed by Farah Duffany, Record-Journal of Meriden, (July 30) together with Donna Ellis of UCONN and Liz Young, Valley Laboratory, on biological control of mile-a-minute weed during a release of the weevils, *Rhinoncomimus latipes,* in Southington; and was interviewed by Kim Lucey of Channel 3, WFSB, on the same topic (July 31) in Southington.

DR. JAMES LAMONDIA toured the Valley Lab and a shade tobacco farm, and discussed CAES tobacco and vegetable pathology research and breeding with Greg Hannig and Bond McInnes of DuPont Crop Protection (July 2); conducted a research integrity training for staff of the Valley Laboratory (20 persons) (July 11); spoke about boxwood blight and Phytophthora on nursery crops during the CNLA summer meeting at Van Wilgen's Garden Center in North Branford, CT (75 people) (July 16); spoke to a group of teachers and students from Windsor High School about Valley Laboratory research and services (15 people) (July 23); spoke about 'Common diseases in ornamental and vegetable gardens' to the Enfield Garden Club (25 people) (July 23); discussed plant pathology research at the Valley Laboratory with Dr. Olena Castello of Dow AgroSciences (July 24); met with Bernard Cailleteau (France and European region) and Jean Marie Piquemal (Laos and Asian region) of Imperial Tobacco to tour research plots and discuss ongoing research concerning blue mold efficacy and fungicide residue on cured cigar tobacco leaves (July 29); and met with Keith Burnell of Syngenta to tour research plots and discuss plant pathology (July 30).

DR. TODD L. MERVOSH organized the meeting and presented a talk entitled "Evaluation of a new herbicide: indaziflam" at the Christmas Tree Twilight Meeting at the Valley Laboratory in Windsor (45 attendees) (July 22); volunteered as a judge and photographer at the Collegiate Weed Science Contest (65 graduate and undergraduate students from seven universities participated) and participated in a board meeting of the Northeastern Weed Science Society at Penn State University in State College, PA (July 29 and 30).

DEPARTMENTAL RESEARCH UPDATES JULY 2014

Osiguy, N.; **Eitzer, B.D.** 2014. Overwintered brood comb honey: colony exposure to pesticide residues. *J. Apic. Res.* 53(3) 413-421.

ABSTRACT: To address beekeeper concerns about pesticide residues in overwintered honey, paired samples were obtained from the extracted supers and the brood chamber of the same colony. Only eight residues were detected: coumaphos, fluvalinate, boscalid, dimethoate, atrazine, bentazon, dichlorobenzene and thymol. Honey from extracted supers was significantly less likely to contain pesticide residues than honey from brood comb. Fluvalinate was detected only in overwintered brood comb honey, and coumaphos was found at significantly higher levels in the overwintered samples from the brood comb-honey super pairs. Pesticide residues in honey, while low in comparison to other substrates in the hive, contribute to the overall pesticide exposure of honey bees, with overwintered brood comb honey contributing more than honey stored in other locations in the hive.

Deng, Y.; **White, J.C.**; Xing, B. 2014. Interactions between engineered nanomaterials and agricultural crops: Implications for food safety. J. *Zhejiang Univ.- SCIENCE A*. 15:552-572.

ABSTRACT: Engineered nanomaterials (ENMs) are being discharged into the environment and agricultural fields, with uncertain impact on crops. In this review, we demonstrate uptake, translocation/distribution, and generational transmission of ENMs in various crop species, together with trophic transfer of ENMs. Previous studies reveal that crops triggered adaptive processes in response to ENMs stress, including endocytosis/endosome activities, production of antioxidant enzymes, regulation of genes related to cell division/extension and membrane transport. Some agronomic traits of crops are compromised during the adaption, as photosynthesis, fruit yields, nutritional quality are negatively affected. Cultivation of crops in ENMs-contaminated environments comes along with many uncertainties in food safety and quality. In addition, the mechanisms underlying ENMs phytotoxicity and bioavailability are unclear. Given the alarming facts in literature, more efforts are needed in the area of ENMs-crop interactions, and more importantly, to unravel the consequences of ENMs getting into agricultural crops. Further investigations are both necessary and urgent, including innovations in measurement techniques for in vivo identification/characterization of ENMs, the use of mature plants and soil systems, and examination of related agronomic traits. Then, a more complete database and thorough understanding of ENMs-crop interactions will be established as the foundation to build proactive regulations and guidelines for safe use of nanomaterials, assess potential risks of ENMs into agriculture and food systems, and promote sustainable development of nanotechnology.

Nelson, R., Ciesielski, **T. Andreadis, T., Armstrong, P.** 2014. Human case of eastern equine encephalitis - Connecticut, 2013. *Connecticut Epidemiologist* 34:9-10.

ABSTRACT: In the fall of 2013, an adult resident of eastern Connecticut died of eastern equine encephalitis (EEE) virus associated illness. While EEE has been previously identified in Connecticut in animals and mosquitoes, this is the first confirmed human. The patient presented a 3 day history of fever and severe headache, and was admitted the same day with a preliminary diagnosis of meningitis. Cerebrospinal fluid was collected and tested for West Nile virus specific antibodies; the results were negative. The patient died 5 days after admission to the hospital. Postmortem examination of brain tissue revealed congestion, extensive necrosis, and multifocal glial nodules. Specimens were sent to the Centers for Disease Control and Prevention for arbovirus testing. Immunohistochemical testing and polymerase chain reaction were performed and both were positive for EEE. The patient was an otherwise healthy person. Before onset of illness the patient participated in recreational activities in area locations that may have harbored EEE infected mosquitoes. The patient could have potentially been bitten by mosquitoes during the typical 3-10 day EEE incubation period. The patient reportedly did not use insect repellent. During 2013, mosquito and veterinary surveillance confirmed the presence of EEE in 9 towns including 8 towns in eastern New London and Windham counties. Mosquitoes trapped July 10 in Voluntown, were the earliest EEE positive mosquitoes identified in CT since yearly trapping and testing began in 1997. The number of positive mosquitoes trapped in Voluntown increased

During August and September. Evidence of EEE circulating in other areas followed, with positive mosquitoes trapped in Haddam, Hampton, North Stonington and Plainfield. Also die-offs in pheasant flocks occurred in Killingly, Putnam and Sprague, and a horse stabled in Griswold died of EEE infection. Of the 58 EEE positive mosquito pools identified, 52 (90%) were *Culiseta melanura*, a species that feeds principally on birds. In Voluntown, EEE positive pools of *Ochlerotatus canadensis* were collected on August 13, 22 and 26 and EEE positive pools of *Aedes vexans* were collected on September 12 (2 pools) and October 7 in Voluntown. Both of these species feed on mammals and are considered "bridge" species for transmission to people. The numbers and types of EEE infected mosquitoes prompted the Department of Energy and Environmental Protection (DEEP) to close part of the Pachaug State Forest in Voluntown to recreational activities and two campgrounds on August 21. On August 27, the DEEP conducted ultra-low volume ground spraying to reduce the number of mosquitoes in the forest

Cao, Xiaoyan; Lattao, Charisma; **Pignatello, Joseph J**.; Mao, Jingdong;
Schmidt-Rohr, Klaus, Sorption Selectivity in Natural Organic Matter Probed with Fully Deuterium-Exchanged and Carbonyl-13C-Labeled Benzophenone and 1H–13C NMR Spectroscopy. *Environ. Sci. Technol*. 2014, 48, (15), 8645-8652.

ABSTRACT: Specific functional-group or domain interactions of fully deuterium-exchanged, carbonyl-^{13}C-labeled benzophenone and different types of natural organic matter (NOM) were investigated through two-dimensional ^{1}H–^{13}C heteronuclear correlation NMR spectroscopy. The sorbents included Beulah-Zap lignite, type II kerogen (IL-6), Pahokee peat, Amherst humic acid, and a polystyrene-poly(vinylmethyl ether) (PS-PVME) blend. PS-PVME consists of PS and PVME chains that are mixed on a scale of <5 nm. The NOM sorbents all consist predominantly of a mixed aromatic–alkyl or aromatic–O-alkyl matrix that is homogeneous on the 3 nm scale, as evidenced by fast equilibration of aromatic and alkyl ^{1}H magnetization. In addition, Beulah lignite and IL-6 kerogen exhibit small fractions of distinct polymethylene $(CH_2)_n$ domains, and Pahokee peat contains significant fractions of polar and nonpolar alkyl domains. Benzophenone-(^{13}C═O)-d_{10} shows proximity to both aromatic rings and alkyl segments in all samples but preferentially interacts with aromatic rings in PS-PVME and Beulah lignite, possibly due to π–π electron donor–acceptor interactions. The data for IL-6 kerogen are also compatible with preferential location of benzophenone near the alkyl-substituted edges of aromatic rings, while in Pahokee peat, clear signatures of benzophenone affinity to both aromatic-rich and nonpolar alkyl domains have been detected. Amherst humic acid shows evidence of some affinity to polar alkyl segments but which is weaker than that to aromatic rings. Our results indicate that specific interactions of the sorbate and the presence of domains in the sorbent influence the magnitude and selectivity of sorption.

Li, H., X. Zhang, R. Zheng, X. Li, **W. H**. **Elmer,** L. M. Wolfe, and B. Li. 2014. Indirect effects of non-native *Spartina alterniflora* and its fungal pathogen (*Fusarium palustre*) on native salt-marsh plants in China. *Journal of Ecology* (doi: 10.1111/1365-2745.12285/)

ABSTRACT: Pathogens can affect their hosts and change community composition and structure. Pathogens may be key determinants of biological invasions. However, few empirical studies exist examining how non-native plants drive their invasions through indirect effects involved with pathogens. Here, indirect effects refer to how one species alters the effect that another species has on a third. *Fusarium palustre* was associated with the dieback of *Spartina alterniflora* in its native North American salt marshes. Native plant *Phragmites australis* was also found to die back in the Dongtan wetland of the Chinese Yangtze River estuary invaded by non-native *Spartina alterniflora*. This phenomenon suggests that *Spartina* might not escape from its pathogen when being introduced from its native North America, and has indirectly caused the dieback of *Phragmites* in China. To investigate the indirect effect of *Spartina* involving *Fusarium*, we sampled plants and soils in dieback patches to isolate the pathogen. Next, we used an artificial inoculation study to determine the virulence of *Fusarium* to both *Phragmites* and *Spartina*. Finally, the spatial distribution of *Fusarium* was studied through examining its incidence in salt marshes along the east coast of China. The endophytic fungus *F. palustre* was found to be closely associated with *Phragmites* dieback in the Dongtan wetland and it is likely that it was transported by non-native *Spartina* from their native North American salt marshes to the Chinese salt marshes. The spillover of *F. palustre* from non-native *Spartina* to native *Phragmites* might subsequently facilitate *Spartina* invasion.

JOURNAL ARTICLES APPROVED JULY 2014

Clavet, C., M. Requintina, E. Hampton, **Richard S. Cowles**, F. J. Byrne, and S. R. Alm. Clothianidin and imidacloprid residues in *Poa annua* (L.) and their effects on *Listronotus maculicollis* (Coleoptera: Curculionidae). *Journal of Economic Entomology*

Douglas, Sharon M. Late blight of tomato and potato in Connecticut. *CAES Fact Sheet* (June 2014 rev.)

Hawthorne, Joseph R., Roberto de la Torre-Roche, B. Xing, L. Newman, X. Ma, S. Majumdar, J. Gardea-Torresley, **Jason C. White**. Trophic transfer of nanoparticle and bulk cerium oxide from soil through a terrestrial food chain. *Environmental Science and Technology*

Krol, Walter J., Brian D. Eitzer, Terri Arsenault, Jason C. White, and E. Sloan. Pesticide residues in produce sold in Connecticut in 2012 and 2013. *Station Bulletin*

Ward, Jeffrey S. "Stormwise" roadside forest management. *CT Woodlands*

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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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Station News was prepared and edited by Dr. Theodore G. Andreadis and Mrs. Vickie Bomba-Lewandoski.