Station News

The Connecticut Agricultural Experiment Station Volume 9 Issue 3 March 2019



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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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GRANTS RECEIVED FEBRUARY 2019

DR. LINDSAY TRIPLETT AND DR. BLAIRE STEVEN were awarded \$444,399 (total award \$749,825) from the USDA-NIFA Foundational Program, Agricultural Microbiomes section for "A targeted approach defining the functional ecology and roles of protists in shaping plant and soil microbiomes". Lead PI: Dr. Lindsay Triplett, Co-PIs Dr. Daniel Gage (UConn) and Dr. Blaire Steven.

DR. LINDSAY TRIPLETT was awarded \$192,895 (total award \$453,000) from the USDA-NIFA Foundational Program, Pests and Beneficials section for "The significance of non-heritable stress tolerance in the model plant pathogen *Pseudomonas syringae*". Lead PI: Dr. Kevin Hockett, Penn State, Co-PI Dr. Lindsay Triplett.

DR. QUAN ZENG and **DR. NEIL SCHULTES** were awarded \$49,906 from the Northeastern IPM Center Partnership grant program for 'Re-evaluate the role of water in disease prediction models of fire blight'.

DR. JATINDER S AULAKH received a research grant (\$5000) for IR-4 2019 trials

DR. RICHARD COWLES was awarded two grants: \$1,000 from the Christmas Tree Promotion Board for "Enhanced establishment and growth of bare-root transplants through the use of controlled-release fertilizers", and a \$10,000 NE SARE Farmer Grant for "Honey plant intercropping on Christmas tree farms."

ADMINISTRATION

DR. THEODORE ANDREADIS presented welcoming remarks and an overview of the Experiment Station and its various research, regulatory and public service programs to representatives from the National Future Farmers of America Organization who were visiting the Station (6 attendees) (February 19); presented an overview of the history and current operation of the Experiment Station's research, regulatory and public service programs in a "Behind the Scenes Tour of CAES" for the Experiment Station Associates (12 attendees) (February 20); presented welcoming remarks to a group of Connecticut professional pest control operators in a workshop on *Fighting the Bite: Management of Ticks and Risk of Tick-Borne Disease* held at the Station sponsored by the Connecticut Environmental Council (105 attendees) (February 21); presented a talk entitled, "*Jamestown Canyon Virus Revisited: Are We Neglecting an Under Recognized Vector-Borne Disease*" at the 85th Annual Meeting of the American Mosquito Control Association held in Orlando, FL (1,000 attendees) (February 25-28).

ANALYTICAL CHEMISTRY

DR. JASON C. WHITE attended the CT Laboratory Preparedness Advisory Committee meeting at the Department of Public Health Laboratory in Rocky Hill CT and hosted Prof. Lili He of the University of Massachusetts who gave a lecture on novel methods of pathogen detection in food (February 4); spoke by ZOOM with Ms. Becky Curtis and Dr. Rebecca Klapper of the University of Wisconsin regarding collaborative experiments (I am on Becky's PhD committee) (February 5); as a Co-Promoter attended the PhD Dissertation defense of Dr. Wouter Sillen at Hasselt University in Hasselt Belgium (February 6-7); participated in a Center for Sustainable Nanotechnology All Faculty Call (February 11); participated in a ZOOM call with collaborators at the Harvard University School of Public Health to discuss ongoing experiments (February 11,

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22); participated in the weekly all-hands ZOOM call for the Center for Sustainable Nanotechnology (February 13, 27); participated in an FDA-led WebEx call as part of the Laboratory Future Funding Model Workgroup (February 13); along with DR. BRIAN EITZER, DR. CHRISTINA ROBB, DR. WALTER KROL, MS. TERRI ARSENAULT, MR. CRAIG MUSANTE, MR. JOHN RANCI-ATO, AND MS. KITTY PRAPAYOTIN-RIVEROS participated in the monthly FDA FERN cCAP WebEx call (February 14); gave a lecture at the University of Pittsburgh School of Public Health entitled "Nanotechnology in agriculture: Assessing the balance between applications and implications" (30 attendees) (February 18-20); participated in a FDA-led planning committee call for the upcoming AFRPS annual face-to-face meeting (February 21); along with DR. WADE ELMER spoke with Dr. Christy Haynes and students of the University of Minnesota about new experiments as part of our research collaboration (February 26); along with DR. WADE ELMER hosted the bi-weekly "Nano-agriculture" ZOOM call for the Center for Sustainable Nanotechnology (February 26); participated in a "Theme O" ZOOM call for the Center for Sustainable Nanotechnology (February 26); and along with DR. WADE ELMER, DR. JOSEPH PIGNATELLO AND MR. MICHAEL LAST, hosted the monthly CAES J-1 Visa recipient meeting (February 28).

DR. NUBIA ZUVERZA-MENA has been mentoring Mona Elamin, a student at Gateway Community College aiming to complete 150 hours of internship for the Environmental Science and Toxicology Associates Degree (January 4-31).

DR. WALTER KROL & MS. TERRI ARSENAULT attended a seminar entitled "Medical Cannabis: From Pot to Molecules and Drug Development" by Dr. Hinanit Kotai, Senior Research Scientist, Institute of Plant Science ARO, Volcani Center, Israel at the UCONN College of Agriculture, Health and Natural Science (February 25).



Dr. Jason C. White lecturing at the University of Pittsburgh School of Public Health; I was hosted by the Event Coordinator for the School of Public Health Graduate Student Association, Ms. Makenzie White (my oldest daughter!).





Dr. Jason C. White and other Committee Members at a reception after Dr. Wouter Sillen (third from left) of Hasselt University in Hasselt Belgium successfully completed his PhD Dissertation Defense; I was a Co-Promoter on his committee.

ENTOMOLOGY

DR. KIRBY C. STAFFORD III presented a CAES Seminar entitled "CAES History Part 2: 109 Years of "Field Day" at Lockwood Farm" (approx. 60 attendees) (February 20); organized a workshop entitled "Fighting the Bite: Management of Ticks and Risk of Tick-Borne Disease" in cooperation with Erica Fearn, CT Environmental Council, and gave three presentations on tick biology, integrated tick management, and a review of product efficacy in controlling ticks (114 registered attendees) (February 21); spoke on ticks and tick-borne diseases to the Simsbury Garden Club in Simsbury (43 attendees) (February 25); and spoke at the 2019 Connecticut Groundskeepers Turf and Landscape Conference held in Cromwell (>100 attendees) (February 27).

MS. TIA BLEVINS completed an enforcement and regulatory compliance training program in San Antonio, TX. The National Certified Investigator/Inspector Training Basic Program was made possible by Farm Bill funding secured by the Minnesota Department of Agriculture and the National Plant Board. Training modules were presented by the Council on Licensure, Enforcement and Regulation (CLEAR), USDA APHIS PPQ and USDA APHIS IES (120 participants) (February 26-28).

MR. MARK H. CREIGHTON attended the Connecticut Beekeepers Association "Bee School" in Falls Village, CT and spoke on bee health topics with a question and answer session at the conclusion of the presentations (114 new beekeepers) (February 2) and hosted the Connecticut Beekeepers Association winter meeting at CAES (98 attendees) (February 9).

MS. KATHERINE DUGAS hosted an Entomology table activity as part of the Girl Scouts STEMagination Family Science Night held at Naugatuck Valley Community College (53 scouts and 39 scout leaders were in attendance) (February 15) and staffed the CAES booth at the CT Flower Show in Hartford. The display included general Station information and a selection of pamphlets and publications (February 22 and 24).

DR. MEGAN LINSKE participated in conference call with USDA on collaborative research and potential publications for the integrated tick management study in Guilford (February 5); par-

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ticipated in a Northeast Fish and Wildlife Agencies (NEAFWA) annual conference planning call with members of CT DEEP and Delaney Meeting and Event Management group (Feb 8); discussed vector-borne and zoonotic disease ecology research and careers for the National FFA Organization's tour of the CAES (Feb 19); serving as Executive Secretary and Workshop Committee Chairperson, participated in the Northeast Section of the Wildlife Society's (NETWS) Executive Committee conference call (Feb 25); discussed award nominees and upcoming NEAFWA program with the NETWS's Award Committee (Feb 26).

DR. GALE E. RIDGE presented a CAES Seminar entitled "The Devil's Bait: Chaos of Delusory Parsitosis, Where Lives Are Ruined and Occasionally Lost" (70 attendees) (February 6).

DR. CLAIRE E. RUTLEDGE taught "Insects That Attack Trees and Shrubs" for Arboriculture 101, Connecticut Tree Protective Association, Wallingford (45 adults) (February 6); participated in the first Board Meeting of the Connecticut Tree Protective Association as Treasurer in Wallingford (12 adults) (February 19); and taught "Tree Conditions Laboratory" for Arboriculture 101, Connecticut Tree Protective Association, Wallingford (45 adults) (February 27).

DR. VICTORIA L. SMITH participated in a meeting of the Systems Approach to Nursery Certification (SANC) Working Group, held at the Airport Holiday Inn in Phoenix, AZ (approx. 100 participants) (February 11-14) and participated in the National Certified Investigator/Inspector Training, Basic program, sponsored by the Council on Licensure, Enforcement, and Regulation (CLEAR), held at the Holiday Inn Riverwalk in San Antonio, TX (approx. 120 participants) (February 25-March 1).

DR. KIMBERLY A. STONER participated in a Vegetable Grower Listening Session, organized by Shuresh Ghimire, Vegetable IPM Coordinator, UConn Cooperative Extension, at the Litchfield County Extension Center in Torrington (15 attendees) (February 7); gave a talk, entitled "Pollinator Protection Strategies" at the conference, "Fighting the Bite: Management of Ticks and the Risk of Tick-Borne Disease" in Jones Auditorium (105 attendees) (February 21); and

gave a talk entitled "Pollinator Habitats: What Can Science Tell Us?" at "OrganiConn", the winter conference of CT NOFA held at Housatonic Community College in Bridgeport (45 attendees) (February 23).

ENVIRONMENTAL SCIENCES

DR. JOSEPH PIGNATELLO participated in a grants review panel for the National Science Foundation, Directorate of Chemistry, Environmental Chemical Sciences program in Alexandria, VA (February 25-26).

DR. DOUGLAS BRACKNEY gave an invited seminar entitled "Navigating Anatomical Barriers to Infection: An Arbovirus Tale" in the Department of Pathobiology and Veterinary Sciences at the University of Connecticut, Storrs (approx. 30 attendees) (February 28).

MS. ANGELA BRANSFIELD participated in the Federal Select Agent Program webinars *eFSAP Inspections Module Training* (February 6) and *eFSAP Form 1 Amendments Training* (February 14).

MR. GREGORY BUGBEE was interviewed by the Danbury News-Times on control of Eurasian watermilfoil in Candlewood Lake by winter drawdown (February 6); with MS. SUMMER STEBBINS, led a meeting via conference call of the Connecticut River Hydrilla Task Force (approx. 10 attendees) (February 8); spoke on "Soil Testing and Invasive Aquatic Plants" to a Future Farmers of America tour group (approx. 10 attendees) (February 19); and spoke on "Soil Testing and

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Invasive Aquatic Plants" to an Experiment Station Associates tour group (approx. 15 attendees) (February 20).

DR. GOUDARZ MOLAEI participated in the Internship and Career Fair, Department of Biology, Central Connecticut State University, New Britain, and gave a short talk on mosquito and tick research projects and the Tick Testing Laboratory (70 attendees) (February 4); gave a short talk on the Tick Testing Laboratory and research on ticks and tick-borne pathogens during a "Behind the Scenes Tour of CAES" for the Experiment Station Associates (12 attendees) (February 20); and gave the invited talk, "Passive Tick Surveillance: Tracking Ticks and Tick-borne Pathogens in Connecticut" in a symposium, "Fighting the Bite, Managing of Ticks and Risk of Tick-borne Diseases," held in Jones Auditorium (110 attendees) (February 21).

MR. JOHN SHEPARD participated in a Board of Directors meeting of the Northeastern Mosquito Control Association held in Milford, MA (10 attendees) (February 1).

DR. ANDREA GLORIA-SORIA mentored a student from Amity High School, Jack Tajmajer, who won 3rd place in the CT-STEM Fair under the Environmental category with the project, "Inter-Specific Competition Between Two Invasive Mosquito Species: *Aedes aegypti* and *Aedes albopic-tus*, over Multiple Generations" (approx. 183 students total, 58 participating in the Environmental category) (February 9).

DR. BLAIRE STEVEN gave a talk entitled "Bacteria Are Everywhere, So Go Anywhere to Study Them" at Westfield State University, Westfield, MA for their scientific career development course (20 student attendees) (February 22).

FORESTRY AND HORTICULTURE

DR. JEFFREY S. WARD was elected Chair - Yankee Division, New England Society of American Foresters at the annual meeting held in Sturbridge, MA (February 15); participated in a quarterly meeting of the Connecticut Invasive Plant Council in Windsor (February 19); presented a webinar entitled "Rehabilitation of Degraded Hardwood Stands" for the University of Vermont's Managing Our Changing Forests webinar series (55 attendees) (February 21).

DR. ABIGAIL A. MAYNARD assisted teachers in greenhouse work at Hamden Hall Country Day School (2 teachers, 14 students) (February 6 & 20); discussed collaborative work with tomatoes and onions at Viauso's farm in East Haven (February 11); was interviewed by Joanie Stiers from Connecticut Grown Magazine about the Station and the New Crops Program (February 11); discussed collaborative work with tomatoes and onions at Hindinger Farm in Hamden (February 14 and 20); worked with teachers in planning Learning Garden for spring (4 teachers) (February 21 and 27).

DR. SCOTT C. WILLIAMS participated in a conference call with USDA on collaborative research and potential publications for an integrated tick management study in Guilford (February 5); participated in a conference call for the Editorial Advisory Board for The Wildlife Society's publication, The Wildlife Professional (February 7); participated in a Northeast Fish and Wildlife Agencies annual conference planning call with members of CT DEEP and Delaney Meeting and Event Management group (February 8); presented an invited lecture entitled "Use of Commercial Repellents for Averting Deer and Rabbit Damage" at the Eastern New York Fruit and Vegetable Conference in Albany, NY (February 19); presented invited lecture titled "What the Research Shows" at CAES's Management of Ticks and Tick-Borne Disease Workshop held in Jones Auditorium (February 21); serving as President-Elect, participated in the Northeast Section of the Wildlife Society's Executive Committee conference call (February 25).

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MR. JOSEPH P. BARSKY attended the Yankee Division SAF annual meeting held in Sturbridge, MA (February 15); hosted Luke O'Leary and Ambra Tennery of the National FFA Organization and Alexa DeAndrade, Milton Natusch, and Daniel Quinn of the Connecticut FFA Organization, and led a tour of CAES facilities (3 students, 2 adults) (February 19).

PLANT PATHOLOGY AND ECOLOGY

DR. WADE ELMER presented an invited lecture at the New York Botanic Gardens, New York City, on "Nanoparticles for Plant Disease Management" (15 adults) (February 8), and participated in a video conference for Cristian David Plaza Pérez's Ph.D. defense at the Federal University of Lavras, Lavras, Brazil (15 adults) (February 22).

DR. YONGHAO LI presented "Organic Gardening" for The Green Café program at Yale University in New Haven (38 adults) (February 7); presented "Root Rots, Mildews, and Blights" in the UConn Bedding Plant Program for Greenhouse Growers held in Vernon (30 adults) (February 14); talked about the Plant Disease Information Office and Seed Testing to the Experiment Station Associates in New Haven (12 adults) (February 20); was interviewed about careers in plant science and job opportunities by Lexie Arnoldi, a high school student from The Morgan School in Clinton (February 20); presented "Plant Disease Prevention in Organic Gardens and Landscape" at the CT NOFA Winter Conference held in Bridgeport (42 adults) (February 23); presented "Native Plants, Container Gardening, and Perennial Diseases" to the East Hartford Garden Club in East Hartford (45 adults) (February 25); along with **MS. ROSE HISKES**, staffed the CAES booth at the CGKA Conference held in Cromwell (February 27); along with **MS. ROSE HISKES**, spoke about tree diseases for the CTPA Tree Conditions Class held in Wallingford (28 adults) (February 27).

DR. ROBERT MARRA presented "Accurately Accounting for Decay and Carbon Loss in Trees: A Novel Nondestructive Approach Using Tomography," to the Department of Plant Science and Landscape Architecture at the University of Connecticut in Storrs, followed by a meeting with graduate students (35 adults) (February 8).

DR. NEIL SCHULTES hosted Scott Heseltine, a senior at Cheshire High School, for a job shadow (February 1), and attended the BSL-3 training session, hosted by **MS. ANGELA BRANSFIELD**, in Jones Auditorium (February 27).

DR. LINDSAY TRIPLETT presented a class lecture entitled "Host-Pathogen Coevolution, Resistance, and Host Range" to a Yale undergraduate class EVST251: Parasites, Pests, and Pathogens (February 11) (36 students), and presented a tour of her laboratory to leadership from the FFA national organization (5 attendees) (February 19).

VALLEY LABORATORY

DR. JATINDER S. AULAKH attended the Weed Science Society of America Conference in New Orleans, LA (February 11 - 14); and presented a talk entitled "Weed Control Efficacy and Christmas Tree Tolerance to Pre and Postemergence Herbicides" (~60 attendees), and served as chair for the teaching and extension section and co-chair for the turf and ornamental section of WSSA.

DR. RICHARD COWLES presented "Neonic Alternatives?" for the New England Vegetable and Berry Growers' Association, in Hudson, MA (50 attendees) (February 9); presented a webinar on "Evaluating the Performance of Turkish and Trojan Fir (CoFirGE)," with John Frampton, Bert



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Cregg, Chal Landgren, and Gary Chastagner, (archived at: <u>Watch the Turkish and Trojan Fir</u> <u>Webinar</u>) (February 13); met with and briefly presented his efforts to rear queens to the CT Queen Breeders' Association, Cheshire (15 attendees) (February 17); and was interviewed by Jennifer Zurko of Grower Talks Magazine on the subject of the recent discovery of the box tree moth in Ontario, Canada (February 25).

MS. ROSE HISKES staffed the CAES booth at the Hartford Flower Show in Hartford (February 23); with **DR. YONGHAO LI**, staffed The Connecticut Agricultural Experiment Station booth at the Connecticut Groundskeepers Association winter conference held in Rocky Hill (February 27); and with Dr. Yonghao Li, instructed the Connecticut Tree Protective Association arborist certification students about plant diseases at the Tree Conditions Lab in Wallingford (28 attendees) (February 27).

DR. JAMES LAMONDIA chaired the Connecticut Agricultural Information Council meeting regarding Agriculture Day at the Capitol and the Connecticut Outstanding Young Farmer Award in Windsor (February 21); and spoke about the history of tobacco production in Connecticut from the 1630s to today and tobacco research in support of production especially in regards to plant breeding for resistance and presented a talk for growers prepared by Christina Berger of the DEEP about Ferbam fungicide registration issues and Worker Protection Standard updates as a part of the Connecticut Agricultural Experiment Station's annual Tobacco Research Meeting held at the East Windsor Scout Hall (February 26).

DEPARTMENTAL RESEARCH UPDATES FEBRUARY 2019

Schachterle, J., **Zeng, Q.**, and Sundin, G.W. (2019) Three Hfq-dependent small RNAs regulate flagellar motility in the fire blight pathogen *Erwinia amylovora*. **Molecular Microbiology** <u>https://doi.org/10.1111/mmi.14232</u>

<u>Abstract</u> - *Erwinia amylovora*, the causative agent of fire blight disease of apple and pear trees, causes disease on flowers by invading natural openings at the base of the floral cup. To reach these openings, the bacteria use flagellar motility to swim from stigma tips to the hypanthium and through nectar. We have previously shown that the Hfq-dependent sRNAs ArcZ, OmrAB, and RmaA regulate swimming motility in *E. amylovora*. Here we tested these three sRNAs to determine at what regulatory level they exert their effects and to what extent they can complement each other. We found that ArcZ and OmrAB repress the flagellar master regulator *flhD* post-transcriptionally. We also found that ArcZ and RmaA positively regulate *flhD* at the transcriptional level. The role of ArcZ as an activator of flagellar motility appears to be unique to *E. amylovora* and may have recently evolved. Our results suggest that the Hfq-dependent sRNAs ArcZ, OmrAB, and RmaA play an integral role in regulation of flagellar motility by acting primarily on the master regulator, FlhD, but also through additional factors.

Stoner, K.A., **R.S. Cowles**, A. Nurse, and **B.D. Eitzer**. 2019. Tracking Pesticide Residues to a Plant Genus Using Palynology in Pollen Trapped from Honey Bees (Hymenoptera: Apidae) at Ornamental Plant Nurseries. Environmental Entomology <u>https://doi.org/10.1093/ee/nvz007</u>

<u>Abstract-</u> Worldwide studies have used the technique of pollen trapping, collecting pollen loads from returning honey bee (*Apis mellifera* L.) foragers, to evaluate the exposure of honey bees to pesticides through pollen and as a biomonitoring tool. Typically these surveys have found frequent contamination of pollen with multiple pesticides, with most of the estimated risk of acute oral toxicity to honey bees coming from insecticides. In our survey of pesticides in trapped pollen from three commercial ornamental plant nurseries in Connecticut, we found most samples within the range of acute toxicity found in a previous state pollen sur-



vey, but a few samples at one nursery with unusually high acute oral toxicity. Using visual sorting by color of the pollen pellets collected in two samples from this nursery, followed by pesticide analysis of the sorted pollen and palynology to identify the plant sources of the pollen with the greatest acute toxicity of pesticide residues, we were able to associate pollen from the plant genus *Spiraea* with extraordinarily high concentrations of thiamethoxam and clothianidin, and also with high concentrations of acephate and its metabolite methamidophos. This study is the first to trace highly toxic pollen collected by honey bees to a single plant genus. This method of tracking high toxicity pollen samples back to potential source plants could identify additional high risk combinations of pesticide application methods and timing, movement into pollen, and attractiveness to bees that would be difficult to identify through modelling each of the contributing factors.

JOURNAL ARTICLES APPROVED FEBRUARY 2019

Allan-Perkins, Elisha, K. Maurer, and James A. LaMondia. Guidelines for Integrated Pest Management for Hops in Connecticut. CAES Fact Sheet

Barsky, Joseph P. Vegetation Control Using Directed Heat Treatments. CAES Fact Sheet

Bindraban, P. S., F. A. Franklin, Jason C. White, et al. The Great Food Transformation Demands Fertilizer Transformation to Safeguard Human and Planetary Health. *The Lancet*

Li, Yonghao. Seed Germination and Purity Analysis 2018. CAES Technical Bulletin

Rutledge, Claire E. and Melody A. Keena. Mating Behavior and Reproductive Biology of Emerald Ash Borer and Two of Its Native Congeners, the Two-Lined Chestnut Borer and the Bronze Birch Borer. *Journal of Economic Entomology*

Wang, Q. H., K. Fan, **De-Wei Li**, C. M. Han, Y. Y. Qu, Y. K. Qi, and X. Q. Wu. Identification, Virulence and Fungicide Sensitivity of *Colletotrichum gloeosporioides* s. s. Responsible for Walnut Anthracnose Disease in China. *Plant Disease*

ARTICLES OF INTEREST FEBURARY 2019

Tobacco Research Meeting

One hundred and ten people attended the Connecticut Agricultural Experiment Station's annual Tobacco Research Meeting held at the East Windsor Scout Hall on February 26, 2019. Dr. Jim LaMondia welcomed growers and spoke about recent developments at the Experiment Station. The meeting addressed a wide variety of issues of concern to growers. Joe Bonelli (UConn Cooperative Extension) and Colleen Kisselburgh (Arthur Carroll Insurance) discussed risk management in tobacco and the tobacco insurance program. Jim LaMondia spoke about the history of tobacco production in Connecticut from the 1630s to today and tobacco research in support of production especially in regards to plant breeding for resistance. Thomas Rathier, participating in his 40th tobacco research meeting, spoke about carbon and nitrogen in well drained tobacco soils. Christina Berger of the DEEP prepared a talk for growers that was delivered by Jim LaMondia about Ferbam fungicide registration issues and Worker Protection Standard updates. Martha Dorsey of the Farm Services Administration provided updates on FSA services to growers. Brianna Dunlap and members of the Tobacco Museum Board spoke about upcoming changes at the museum and the need for grower input and support. Mrs. Andrew Urbanowicz, Dave Arnold and Paul Polek presented an update on the Connecticut-Massachusetts Tobacco Growers Association. Jane Canepa-Morrison, Jim Preste and Michelle Salvas assisted with much of the behind the scenes work for the meeting. The meeting qualified for pesticide applicator re-certification credit in Connecticut and Massachusetts and 60 persons received credit.

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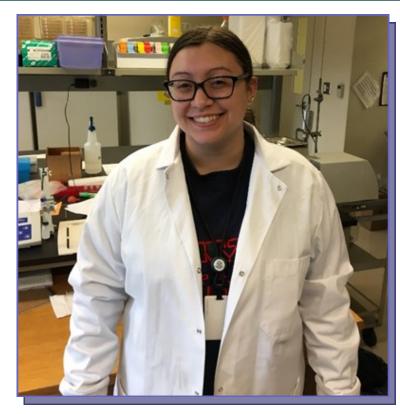
DR. QUAN ZENG and his wife Dr. Lindsay Keazer celebrated the arrival of their son, Shan Douglas Zeng, who was born on February 21st 2019.



The Chinese New year Luncheon was held in Jones Auditorium on February 5^{th.}

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NEW STAFF, STUDENTS, AND VOLUNTEERS FEBRUARY 2019



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Ms. Britney Caso of the University of New Haven is doing an internship within the Departments of Analytical Chemistry and of Plant Pathology and Ecology. Britney is assisting on experiments rated to the use of nanomaterials to suppress disease in various crop species.

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The Connecticut Agricultural Experiment Station

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Main Laboratories, New Haven



Griswold Research Center, Griswold



Lockwood Farm, Hamden



Valley Laboratory, Windsor

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Station News was prepared and edited by Dr. Theodore G. Andreadis, Ms. Vickie Bomba-Lewandoski, Ms. Sandra Carney, and Ms. Brandi Marks.