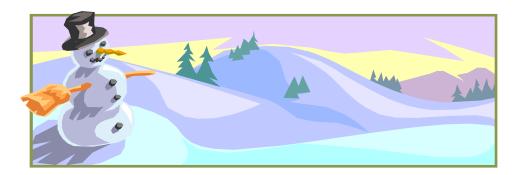
Station News A progress report for staff

and Friends of America's first Agricultural Experiment Station



Departmental News

BLUEBIRDS AT LOCKWOOD FARM AND GOUVEIA VINEYARDS SUMMER 2009

By Lisa Kaczenski



Female Eastern Bluebird Gouveia Vineyards 2009. Photo taken by L. Kaczenski.

This summer was very successful in spite of the rainy conditions. There were 17 fledglings at Lockwood Farm and 10 fledglings at Gouveia Vineyards. Two of the nests for an unknown reason were abandoned; with five eggs in one

and two in the other. Also, five hatchlings were lost because of the parasitic blowfly, Protocalliphora sialia. Blowflies are a major threat to the Bluebirds especially during rainy conditions. These flies lay their eggs in the nesting material and then the larvae make their way up to the hatchings and attach themselves to feed; ultimately killing them. It amazes me each year what these birds are up against just to survive.

In the late summer of 2005, with the help of my father, we installed 12 nest boxes that he built with lumber that was donated from a local saw mill. We also repaired the two existing nest boxes that were at the farm. In 2007 we added two nest boxes and in 2008 we added four additional nest boxes for a total of 20.

This spring, I began a second Bluebird Trail at Gouveia Vineyards in Wallingford, CT. Joe Gouveia was very gracious in allowing me to put up these nest boxes throughout his vineyard. Just this summer there were two families of Bluebirds that had a total of 10 fledglings. There were also several families of Tree Swallows.



Nesting Tree Swallows at Gouviea Vineyards. Photo taken by L. Kaczenski

Vineyards offer a perfect habitat for Bluebirds. By encouraging them to nest there, it can provide the benefit of insect control since their main diet is insects; which can lead to fewer pesticides being used. In the long run, both are beneficial for each other.

As with Lockwood Farm, I go to Gouveia's each weekend of the summer to monitor the nest boxes; and most importantly, to remove nests of the non-native House Sparrow. The House Sparrow is considered an invasive species and is not protected by Federal Law. Competition from aggressive House Sparrows that take over nest boxes and drive out nesting Bluebirds is a major threat. House Sparrows will destroy any eggs that are in an existing nest whether it is a Bluebird, Wren, etc. They will also kill the parents in the nest box and hatchlings then proceed to build their own nest on top of the destruction. Therefore, it is imperative to remove their nests to discourage them from continuing to nest. Unfortunately, predation is only one of the several threats faced by cavity nesting birds.



Nesting Bluebirds at Gouveia Vineyards 2009. Photo taken by L. Kaczenski.

The monitoring I do involves visiting each nest box at least once a week during the nesting season. At each visit I check and remove nests of the invasive House Sparrow. The data I collect includes which species are nesting, the number of nesting attempts, successes, failures, the number of young fledged, and finally what adult activity is in the immediate area. During later visits, I document each stage of the hatchlings until they have fledged. The information that is collected each week is electronically submitted to Cornell's Nest Watch program.



Lockwood Farm 2009. Photo taken by L. Kaczenski.

This year, I have been asked to present a workshop on building Bluebird nest boxes and Bluebird Trail Maintenance at the CT FCCLA Spring Leadership Conference held at

Manchester Community College. Each student had an opportunity to build their own nest box from materials donated by the CT DEP. Later in the year, I gave a presentation on the two trails that I have at Lockwood Farm and Gouveia's Vineyards at the CT Folk Festival & Green Expo.

GIRLS AND SCIENCE MENTORSHIP PROGRAM AT CAES

By Ms. Tess Foley

On November 18, 2009, six middle school-aged girls from the New Haven Public School System arrived at The Connecticut Agricultural Experiment Station (CAES) to begin their "Girls and Science Mentorship Program." The program was developed by Dr. Sharon Douglas and Ms. Tess Foley.



The CAES Research Foundation's "Girls and Science Mentorship Program" pairs six girls with six Ph.D. level female scientists, to create awareness of the professional world of scientific research and to provide support to each girl's science education at a critical point in their development.

The volunteer mentors are Dr. Sharon Douglas, Dr. Christina Robb, Dr. Anuja Bharadwaj, Dr. Clare Rutledge, Dr. Kimberly Stoner, and Dr. Gale Ridge. Additional mentoring support will be provided by Ms. Vickie Bomba-Lewandoski and Ms. Tess Foley.

This first year, this Girls and Science Mentorship is a pilot program. The program is the CAES'

contribution to promoting science and math education for local New Haven area girls. The program was designed to address the acknowledged gap between boys science and math skills and girls science and math skills. It has long been known that girls and boys track fairly evenly throughout elementary school in science and math. However, at the middle school level, girls (on average) begin to lag behind boys in science and math skills. Research indicates that if girls are offered specific support at this critical age, they will, frequently, continue to advance their science and math skills throughout the remainder of their education.

Elements of the Girls and Science Mentorship Program include having students observe and participate in "real world" science challenges in our scientific research laboratories. Each student will also be made aware of the wide variety of careers available in science. The mentorship will last 12 weeks. Students' progress will be tracked and reported back to their teachers.

On the first day of this program, Dr, Douglas hosted a group activity where girls learned about DNA and each girl made a "DNA Alias" of her own name using colored beads on a keychain. Each mentee was presented with an exciting "swag bag" of CAES items, assembled by Vickie Bomba-Lewandoski, that they will get to take home as special mementos of their mentorship at the CAES.







Please join us in a friendly welcome to our six middle school girl mentees. If you would like to offer support in any way to this program, or if you have interest in becoming a mentor in the future, please contact Dr. Sharon Douglas.

Funding for The CAES Research Foundation Middle School Girls and Science Mentorship Program is provided by The Community Foundation of Greater New Haven, The Connecticut Agricultural Experiment Station, and the New Haven Public School System.

Analytical Chemistry

DR. JASON WHITE attended the Laboratory Preparedness meeting in Hartford at the Department of Public Health (November 2); met with Bradford Robinson of the CT DEP Pesticide Program and discussed funding, as well as collaborative programs (November 6); met with Dr. Sarah Burke of the CT Biobus to discuss potential participation as a visiting scientist and instructor (November 6); and staff participated in a Food Emergency Network CAP Laboratory Conference call (November 12); spoke with Fenna Hanes of the New England Board of Higher Education about the developing on an on-line phytoremediation "challenge" course for middle and high school students (November 23); and spoke with Dr. Charles Ludwig of CytoViva, Inc. about collaborative experiments to be used as a novel spectral imaging system to track the uptake of carbon nanomaterials by plants (November 25).

DR. BRIAN EITZER presented a paper on "Determination of Pesticide Residues in Honey Bee Pollen by HPLC/MS/MS" at the Society of Environmental Toxicology and Chemistry's 30th Annual Meeting in New Orleans, LA (November 19-22).

DR. CHRISTINA ROBB was a visiting scientist with the Biobus when it visited the Wooster School in Danbury and explained her career as a scientist to six classes of students. She performed ELISA experiments and gel electrophoresis experiments with four classes of the students (November 2-3) and was a session organizer and invited speaker of the "Contaminants of Food" session at the Eastern Analytical Symposium in Somerset NJ (November 16-19).

Biochemistry and Genetics

DR. DOUGLAS DINGMAN visited Graeme Mason (Guilford, CT) for examination of a beehive that had died-off, (November 5) spoke with Muriel Banquer (New Haven, CT) regarding E. coli in chopped meat

and the overall safety of chopped meat, (November 17); and spoke with Mark Lewis (Hartford, CT) regarding AFB in his beehives (November 17).

Entomology

DR. CHRIS T. MAIER spoke about the lily leaf beetle and the viburnum leaf beetle at a meeting of the Advisory Committee of the Cooperative Agricultural Pest Survey at the Valley Laboratory in Windsor (November 12) and organized a seminar for students from Trinity College and spoke to them about alien invasive insects in Connecticut during their visit to the Station (November 17).

DR. GALE E. RIDGE was interviewed about bed bugs during a series of interviews between November 5-19 for the Miller-McCune magazine printed out of California. She conducted a meeting of the bed bug committee at which point the committee morphed into an official entity and will be called the Connecticut Coalition Against Bed Bugs (CCABB). It will be under the leadership of the Experiment Station. Upcoming projects will be the production of an educational video for pest control operators and health departments in Connecticut, public education programs, and planning of a third bed bug forum. On November 17, the insect inquiry office was visited by Trinity College students. On November 24, Dr. Ridge identified the Spiralling Whitefly *Aleurodicus disperses* shipped into Connecticut on orchids from Hawaii, which was confirmed by the Systematic Entomology Laboratory in Washington, DC, on November 30.

DR. VICTORIA L. SMITH participated in a joint meeting of the USDA-APHIS-PPQ Executive Team and the National Plant Board Board of Directors, held at Le Maison DuPuy, New Orleans, LA, as Vice President of the Eastern Plant Board (35 participants) (November 1-4); participated in a program review of the New England Forest Pests Outreach and Survey Project, via Webinar (November 13); and participated in the CT Forest Conservation and Research Forum: Connecticut Forests in a Changing World, from Global to Local, held at the Rome Commons on the campus of the University of Connecticut, with a talk entitled "Asian longhorned beetle: A threat to our forests" (approximately 200 participants) (November 24).

DR. KIRBY C. STAFFORD III spoke on current tick research at the Ridgefield Health Department's Lyme Disease education and training symposium in Ridgefield (50 attendees) (November 6); participated in a Cooperative Agricultural Pest Survey (CAPS) committee meeting in Windsor (November 12); participated, with **DR. ANUJA BHARADWAJ**, in a conference call with Drs. Joseph Piesman and Marc Dolan, CDC, about our tick control research (November 12); participated in an informational meeting on the Girls & Science Mentorship Program in the Atrium of the Johnson-Horsfall Building (November 12); participated through a webinar in the review of the Northeast Forest Pest Outreach and Survey Project held in Durham, NH (November 13); spoke to a seminar class from Trinity College about Lyme disease (17 attendees) (November 17); and spoke about Asian longhorned beetle and Emerald ash borer at the annual meeting of the Connecticut Environmental Council in Plantsville (170 attendees) (November 24).

DR. KIMBERLY A. STONER co-organized the 4th Annual Community Farming Conference with Bill Duesing of CT NOFA, moderated the afternoon session, and made a presentation as part of a panel on how community farms are started and organized in Jones Auditorium (45 attendees) (November 1); met with Rebecca Howe of Westport on how to organize a community farm on town-owned land (November 4); coorganized the CT NOFA Organic Harvest Festival in Jones Auditorium (40 attendees) (November 7); participated in a meeting of the Girls & Science Mentorship Program in the Atrium of the Johnson-Horsfall Building (30 attendees) (November 12); consulted with Rebecca Elwood of the Natural Resource Conservation Service, Ellie Tessmer of the Southwest Conservation District, and Brenda Caldwell, Bob Giddings, and Fellis Jordan of the Friends of Boulder Knoll on a conservation plan for Boulder Knoll Farm (November 19); participated in a day-long working meeting of the Organic Land Care Committee at the Valley Laboratory in Windsor (9 attendees) (November 20); was the guest of honor as the original founder of the Organic Land Care Program at a dinner celebrating the 10th anniversary of the Organic Land Care Program at Mavi Restaurant in Bloomfield (13 attendees) (November 20); and presented a display on Experiment Station research, regulatory, and educational activities on bees at the Southern New England Bee Assembly at the Unitarian Society of New Haven in Hamden (70 attendees) (November 21).

Environmental Sciences

DR. THEODORE ANDREADIS lectured about mosquitoes and West Nile virus to 24 students from Park City Prep Charter School in Bridgeport St. Ann School in Bridgeport and provided a tour of the biosafety level 3 and electron microscope laboratories as part of the NIH/NSF sponsored Peabody Fellows Program, Yale University (18 students) (November 5); lectured about mosquitoes and West Nile virus to a class of students from Trinity College who visited the Station (November 17); and attended the 58th Annual Meeting of the American Society of Tropical Medicine and Hygiene held in Washington, DC and presented an oral presentation entitled, *Evidence for Competitive Reduction of Native Mosquitoes in the Northeastern United States by the Invasive Exotic Species* Ochlerotatus j. japonicus (*Diptera:Culicidae*) (Over 1,000 attendees) (November 18-22).

DR. PHILIP ARMSTRONG attended the 58th Annual Meeting of the American Society of Tropical Medicine and Hygiene held in Washington, DC and gave a poster presentation entitled *Infection Patterns and Genetic Diversity of Cache Valley Virus among Mosquitoes Collected in Connecticut* (Over 1,000 attendees) (November 18-22)

MR. GREOGRY BUGBEE presented findings of the 2009 CAES Candlewood Lake invasive aquatic plant survey at a meeting of the Candlewood Lake Technician Committee in New Milford (10 attendees) (November 3); Interviewed by John Burgeson of the Connecticut Post on "Using Leaves in the Home Garden." (November 5); and spoke to members of the West Lake Association on "Managing Nuisance Aquatic Vegetation" at the Guilford police station (30 attendees) (November 19).

DR. GOUDARZ MOLAEI attended the 58th Annual Meeting of the American Society of Tropical Medicine and Hygiene held in Washington, DC and presented an oral presentation entitled, *Epidemiology of West Nile Virus in Southern California: The Role of Culex quinquefasciatus and HouseFinches* (Over 1,000 attendees) (November 18-22).

DR. JOSEPH PIGNATELLO received a *Fellow* award from the Soil Science Society of America (November 1); attended the Annual Meetings of the ASA-CSSA-SSSA held in Pittsburgh, PA and gave an oral presentation entitled, *Impact of Biochar Amendment on the Bioavailability of Agriculturally Important Chemicals in Soil* (November 1-5); and presented an invited seminar entitled, *Interactions of Anthropogenic Organic Compounds with Environmental Black Carbon* to the Chemistry Department, University of Toronto, Canada (November 13).

MR. JOHN SHEPARD spoke to 24 students from Park City Prep Charter School in Bridgeport and provided hands on activities about mosquito biology and arbovirus surveillance as part of the NIH/NSF Peabody Fellows Program, Yale University (24 students) (November 5).

Forestry and Horticulture

DR. JEFFREY WARD spoke on "Dispersal of exotic species by white-tailed deer in Connecticut" at the Connecticut Forest Ecology Mini-Symposium at Highstead Arboretum in Redding (62 attendees) (November 12); participated in the Connecticut Urban Forest Council meeting in Middlefield (November 18); interviewed about the effect of climate change on oaks by Christina Woodside of Connecticut Woodlands (November 18); interviewed about environmental impacts of live vs. artificial Christmas trees by Bill Weir of the Hartford Courant (November 23); and spoke on "Connecticut Highlands Ecosystem Health Project" at the 5th Annual Connecticut Forest Conservation and Research Forum in Storrs (70 attendees) (November 24).

DR. MARTIN GENT gave a talk on "A dynamic model to couple carbon and nitrogen metabolism with transport in whole plants" at the American Society of Agronomy annual meeting in Pittsburgh, PA (50 attendees) (November 2-5); met Dean Wiegers of Hanna instruments at Lockwood Farm to discuss results of a chlorine sterilization unit on loan for the last 9 months (November 16); and gave hydroponic spinach and tomato plants to the Sound School greenhouse for use in an open house and demonstration (November 24).

DR. ABIGAIL MAYNARD reported on Station activities at a quarterly meeting of the Council on Soil and Water Conservation (18 attendees) (November 5); attended a meeting of the Solid Waste Advisory Committee at DEP (November 10); discussed globe artichoke culture with Ed Bozzi of Ellsworth Farm in Sharon (November 12); interviewed by Mary Jasch of Dig It magazine about butternut squash (November 16); discussed quince culture with Gordan Drazen of Drazen's Orchards in Cheshire (November 17).

DR. WILLIAM NAIL attended the annual meeting of NE-1020: Multistate Evaluation of Winegrape Cultivars and Clones in Wooster, OH (November 3-5); was elected Secretary to the Board of NE-1020 (Nov. 4) (November 4); and participated in a stakeholder meeting for potential SCRI and NERA projects "Addressing Research and Extension Needs of the Emerging Cold-Climate Wine Industry in the Northeast and Upper Midwest" in Burlington, VT (42 attendees) (November 12-13).

DR. SCOTT WILLIAMS along with **MR. MICHEAL SHORT**, hosted a forestry and natural resources tool identification demonstration table at the Connecticut FFA Fall Forestry Career Development Event at the University of Connecticut, Storrs (30 students from 19 Vo-Ag schools) (November 6); gave two invited lectures entitled "Japanese Barberry, A Public Health Concern?" and "Overabundant White-Tailed Deer as Seed Dispersal Agents" at the Annual Meeting of the Grafton Land Trust in Grafton, MA (55 attendees) (November 6); and spoke to a Trinity College class about the relationship between Japanese barberry, blacklegged ticks, and Lyme disease threat (20 students) (November 17).

MR. MICHEAL SHORT prepared the General Knowledge Exam and the Forest Disorders Exam for the Connecticut FFA Fall Forestry Career Development Event at the University of Connecticut, Storrs (30 students from 19 Vo-Ag schools) (November 6).

MR. JOSEPH P. BARSKY administered a tree identification exam to students participating in the Connecticut FFA Fall Forestry Career Development Event at the University of Connecticut, Storrs (30 students from 19 Vo-Ag schools) (November 6) and served as host of a Forest Forum Roundtable at the 5th Annual Forest Conservation and Research Forum at the University of Connecticut, Storrs (November 24).

Plant Pathology and Ecology

DR. SANDRA L. ANAGNOSTAKIS met with and discussed a chestnut planting project with the Norwalk Tree Warden, the Open Space Commissioner, and members of the Fairfield Garden Club in Southport (6 adult attendees) (November 5) and gave a presentation and met with the Board of Directors of the Greentree Foundation and the staff about the chestnut project on their property, and presented a proposal for a chestnut arboretum with seven species to be planted along a walking trail in Manhasset, Long Island (15 adult attendees) (November 20).

DR. SHARON M. DOUGLAS gave a talk entitled "Tomatoes in greenhouses and high tunnels—Disease identification and management" at the 2009 Greenhouse and High Tunnel Tomato Conference in Sturbridge, MA (189 adult and 2 youth attendees) (November 3); was interviewed about Sudden Oak Death and its status in Connecticut by Ed Stannard of the New Haven Register (November 5); participated in the CAPS meeting at the Valley Laboratory and discussed chrysanthemum white rust and Ramorum blight (12 adult attendees) (November 12); organized and participated in the CAES Girls & Science information meeting held in the atrium of the Johnson-Horsfall building (18 adult and 12 youth attendees) (November 12); and gave presentations on the CAES Girls & Science and web grants to the directors of the Experiment Station's Research Foundation (8 adult attendees) (November 19).

DR. WADE H. ELMER gave a talk entitled "Influence of biochar and earthworms on asparagus growth, Fusarium crown and root rot, and mycorrhizae colonization" at the 12th International Asparagus Symposium in Lima, Peru (147 adult attendees) (October 28 – November 1); participated in the post 12th International Asparagus Symposium tour to southern regions of Peru near Ica to visit commercial asparagus operations (November 1-2); and presented the seminar "Strategies to suppress Fusarium crown and root rot of asparagus" to the staff of the Instituto de Investigaciones Agropecuarias (INIA)-Quilamapuin in Chillán, Chile (18 adult attendees) (November 12).

MS. MARY K. INMAN spoke on "Care and propagation of houseplants" to residents of Maple Woods at Hamden in Hamden (14 adult attendees) (November 19).

DR. ROBERT E. MARRA gave a talk entitled "Molecular diagnostics in plant pathology: Can we keep the Sudden Oak Death pathogen, *Phytophthora ramorum*, out of northeastern forests?" at Albertus Magnus College (4 professors and 20 undergraduates attended) (November 5).



LCpl Alex Thiel, USMC (son of **PETER THIEL** in Plant Pathology and Ecology) was deployed to Iraq on October 1, 2009 and is now serving near the Syrian border. He is due back to the U.S. no later than April 2010.

Valley Laboratory

DR. CAROLE CHEAH gave an update on CT's biological control program for mile-a-minute invasive weed at the CAPS meeting in Windsor (15 attendees) (November 12) and gave a presentation on biological control of mile-a-minute at the general meeting of the CT Invasive Plant Working Group (55 attendees) (November 17).

DR. RICHARD COWLES discussed "Prospects for integrated management of armored scales in Christmas trees," to the Executive Committee of the Northeast Regional IPM Project, which was visiting the Don Dzen farm in South Windsor (20 attendees) (November 4).

DR. JAMES A. LAMONDIA met with Mr. Henry Jansen of Option Energy Technologies, a Biodiesel company in Bridgeport, CT to discuss research on and production of biodiesel feedstock crops in New England (November 4); together with Farm Manager **MR. JAMES PRESTE**, met with UConn graduate student Kevin Charles and advisor Dr. Julia Kuzovkina to discuss research to be conducted at the Valley Laboratory (November 10); and conducted a day-long train-the-trainer NE-SARE Professional Development Program Workshop on 'Diagnosis, Visual Assessment and Management of Plant-Parasitic Nematodes of Vegetables and Small Fruit in the Northeast' in Portland NY (2 talks to 12 persons) (November 18).

DR. TODD L. MERVOSH spoke about mile-a-minute vine and other invasive plants in a presentation at General Electric headquarters in Fairfield (20 attendees) (November 4); participated in meetings (general, steering committee, and symposium planning) for the Connecticut Invasive Plant Working Group at the Valley Laboratory (November 17); and presented an update on invasive plants at the annual meeting of the Connecticut Environmental Council in Southington (170 attendees) (November 24).

Journal Articles Approved November 2009

- D. Ramoutar, **Richard S. Cowles**, E. Requinina, Jr., and S. R. Alm. Synergism between demethylation inhibitor fungicides or gibberellin inhibitor plant growth regulators and bifenthrin in a pyrethroid resistant population of *Listronotus maculicollis* (Coleoptera: Curculionidae). Journal of Economic Entomology
- H. Y. Yun, A. M. Minnis, L. J. Dixon, L. A. Castlebury, and **Sharon M. Douglas**. First report of *Uromyces acuminatus* on *Honckenya peploides*, the endangered seabeach sandwort. Plant Disease
- **Elmer, Wade H.** Influence of biochar on earthworms on mycorrhizal colonization, plant growth, and Fusarium crown and root rot of asparagus. Acta Horticulturae
- **Gent, Martin P. N.** Changes with season of nutrients in salad greens grown in high tunnels. Proceedings, New England Vegetable and Fruit Growers Meeting, December 2009, Manchester, NH
- **Gent, Martin P. N.** Recycling used nutrient solution for greenhouse tomato. Proceedings, New England Vegetable and Fruit Growers Meeting, December 2009, Manchester, NH
- **Li, De-Wei**. *Stachybotrys thaxterum* sp. nov. and a new combination for *S. cannae* in Periconiella. Mycologia
- **Magnarelli, Louis** A., **Scott C. Williams**, and E. Fikrig. Seasonal Prevalence of Serum antibodies to Whole Cell and Recombinant Antigens of *Borrelia burgdorferi* and *Anaplasma phagocytophilum* in White-tailed Deer in Connecticut. Journal of Wildlife Diseases
- **Musante, Craig and MaryJane Incorvia Mattina**. Analysis of Fertilizer Products Sold in Connecticut 2008. CAES Technical Report
- Nail, William R. Winegrape Cultivar Trials in Connecticut. Proceedings of the New England Vegetable and Fruit Conference 2009
- Nail, William R. Vine Training and Pruning for New England. Proceedings of the New England Vegetable and Fruit Conference 2009
- **Smith, Hugh, Richard Cowles, and Rose Hiskes.** Insectos Escama que son plagas en arboles y ornamentals en el estado de Connecticut. CAES Fact Sheet
- **Stafford, Kirby C. and Rose T. Hiskes.** Asian Longhorned Beetle Awareness. CT Weekly Agricultural Report
- Vossbrinck, Charles R., Jason C. White, Gregory J. Bugbee, K. Prapayotin-Riveros, M. D. Marko, R. A. Thum, and E. LaRue. Isolation of microsatellite markers for the watermilfoil weevil *Euhrychiopsis lecontei*. Molecular Ecology Resources
- **Ward, Jeffrey S.** Stand and Individual Tree Growth After Crop Tree Management in Southern New England. USDA Forest Service General Technical Bulletin Central Hardwood Forest Conference
- Williams, Scott C., A. J. DeNicola, and S. R. Patten. Using digital aerial sketch mapper for censusing white-tailed deer. Journal of Wildlife Management

Articles of Interest November 2009



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