

# Highlights of Extension

UConn College of Agriculture, Health and Natural Resources

2021







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## Co-creating Solutions to Critical Issues

The past two years have challenged us more than anyone could have predicted. Extension adapted our services and programs to continue serving our audiences. We are addressing critical issues related to agriculture and food, climate adaptation, enhancing health and well-being, social justice, and sustainable landscapes.

Extension is unique because the services we provide are place-based. This place-based perspective allows us to customize solutions for Connecticut residents and we offer programs in all 169 cities and towns. The broader impacts provide our communities with science-based, results driven solutions. Our educators understand the unique challenges that Connecticut faces and co-create solutions for critical issues with those communities.

Our Highlights of Extension emphasizes the regional work we do in the state. This includes the Coastline, Capital Region, Litchfield Hills, and the Quiet Corner. We share the results of our collaborative partnerships with other state agencies and organizations. Extension's geographic connection to Connecticut impacts everyone in the state, and we also share the stories of a few of our people and programs that are improving lives.

Extension continues providing transformational learning experiences to all our audiences. We adapt and collaborate to find solutions for human, environmental, and agricultural issues.

Thank you for collaborating with us, we are here to serve you.

A handwritten signature in black ink that reads "Indrajeet Chaubey".

## Strategic Initiatives

*Ensuring a vibrant and sustainable  
agricultural industry and food supply*

*Enhancing health and well-being  
locally, nationally, and globally*

*Promoting diversity, equity, and inclusion  
through anti-racist approaches*

*Advancing adaptation and resilience  
in a changing climate*

*Fostering sustainable landscapes  
across urban-rural interfaces*

We have over 100 years of experience strengthening communities in Connecticut and beyond. Programs delivered by Extension reach individuals, communities, and businesses in each of the 169 municipalities across the state.

Extension programs cover the full spectrum of topics aligned to the CAHNR strategic initiatives. Our educational specialists are ready to work with you and your community.

Visit the CAHNR website for more information on our strategic initiatives.

*"Tratare de integrar a mis comidas todos los consejos que aprendi en esta clase ya que son muy productivos gracias por compartir con nosotras todos sus conocimientos de cocina."*

*["It was very helpful and now I put it into practice, it helped me a lot to eat healthier and spend less money buying food on sale."] - EFNEP Participant*



## HEALTH & WELL-BEING



**26,875** low-income families served through community nutrition programs.

**80%** of children who participated in the pediatric-adapted liking survey (PALS) are willing to try and make the recommended healthy behavior change.

**24.4**  
**4.4**

**million in active grants**

**million: value of 156,597 volunteer hours across all programs**



*According to the Independent Sector*



## AGRICULTURE & FOOD

**300** jobs supported by CT Sea Grant through **46** aquaculture companies involved in shellfish restoration work.

**208** plant samples diagnosed at the UConn Lab.

**1,644** participants in the Solid Ground program since its inception have produced **\$1.3** million in crop value.

## MASTER GARDENERS

**1,508** class participants

**120,640** hours of learning

**35,267** hours volunteering

**102** classes



*"Climate change is challenging so many aspects of our lives. Working with Avalonia Land Conservancy on the Hoffman Evergreen Preserve is an opportunity to look forward and plan for healthy coastal forests for generations to come."*  
- Extension Educator, on developing the Stonington coastal forest management plan



## 4-H YOUTH

**13,177** participants

**1,925** volunteers



*(1 clover = 1,000 people)*

## CLIMATE RESILIENCE & ADAPTATION



**8** independent study students completed **1,008** hours on climate resilience and adaptation projects.

Developing a plan for a **198-acre** forest preserve in Stonington to improve forest health and adapt to climate change.



## SUSTAINABLE LANDSCAPES

**37,461** visitors to the Connecticut Trail Finder website where they explored over **100** trails statewide.

**58** towns have conducted Green Snow Pro training to reduce the road salt use and improve environmental water conditions.

**391** virtual attendees at the UConn Native Plants and Pollinators Conference.

*"Today's conference was a HOME RUN! Great information. Stimulating. ... Thanks for all you do to educate and minister to the green industry. I'm psyched to go out and save the world. Rejuvenated and inspired!" - Glastonbury Parks & Recreation Supervisor*







national and state awards  
and honors received by  
Extension specialists

**8,859**

hours of instruction by  
Extension specialists  
across all programs

**138**

municipalities and 23  
states and territories served  
by the CT Veterinary Medical  
Diagnostic Laboratory

**156,597**

volunteer hours across  
all program areas

**2,864**

volunteers across  
all program areas

**79,500**

viewers of Extension  
videos on YouTube

**18**

consultancies on the local,  
state, and national levels by  
Extension specialists

**149**

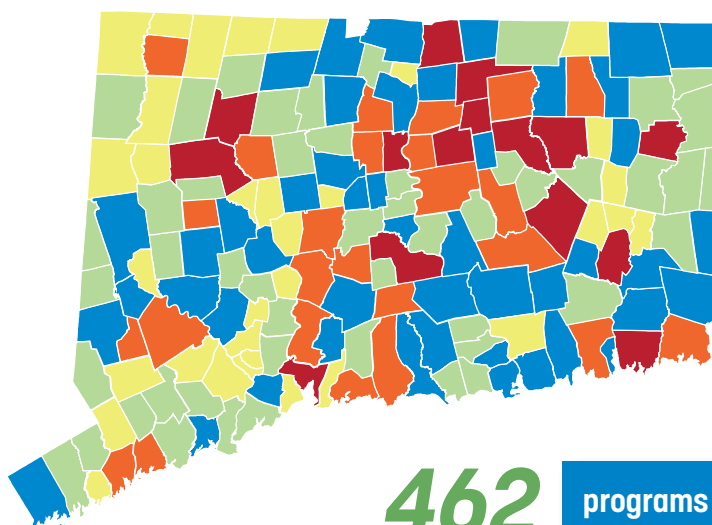
donors to UConn Extension  
programs statewide



**157,653**

citizens engaged in UConn  
Extension programs.

## ACTIVE EXTENSION PROGRAMS IN CONNECTICUT



Number of Programs

- 7-10
- 11-14
- 15-18
- 19-21
- 22-33

**462**

programs provided statewide

**733**

learning events statewide

**220**

UConn Extension publications



## JUSTICE, EQUITY, DIVERSITY, AND INCLUSION

Extension is part of the College of Agriculture, Health and Natural Resources (CAHNR), and together, we firmly believe that our institution is enriched by the diversity of our community. Our commitment to actively fostering inclusion and equity is founded on a deep respect for the experiences, challenges, and realities of individuals. It is also based on a recognition that systems and structures have historically privileged certain groups and hindered or harmed others. Efforts to address these systems are the joint responsibility of all of us at CAHNR, and we are dedicated to working together to build a welcoming, equitable community where all can thrive.

Extension is actively increasing justice, equity, diversity, and inclusion initiatives across all of our program areas. It is one of the five CAHNR strategic initiatives that all our programs align with. We are working with community members, stakeholders, and advisors to provide greater access and accessibility.



### Shellfish Habitat Restoration

By Tessa Getchis | [shellfish.uconn.edu](mailto:shellfish.uconn.edu)

The COVID-19 pandemic hit the aquaculture industry particularly hard. It was facing catastrophic sales losses that would have forced many out of business. Connecticut Sea Grant Extension helped keep industry members afloat during the pandemic by involving them in shellfish habitat restoration work. We kept people


working at a time when the shellfish marketplace collapsed and there was little if any revenue generated from sales. We have 46 companies in Connecticut that employ over 300 individuals. The economic impacts to these families and businesses would have been devastating.

Part of this effort included creating a Shellfish Restoration map. We collaborated with a group of our partners and stakeholders. Industry professionals, regulators, municipal shellfish commissions, and others can use the map. Our efforts to strengthen the industry are continuing with several new initiatives. 

### Cleanup at Sherwood Island State Park

By Michele Sorenson, Master Gardener Volunteer and Project Coordinator | [mastergardener.uconn.edu](mailto:mastergardener.uconn.edu)

Sherwood Island State Park in Westport was Connecticut's first state park. It is 238-acres of beaches, wetlands, and forest that serves as a public recreation area.

Improving Habitat for Wildlife Work & Learn is a year-round outreach project that teaches Master Gardeners, interns and the public to create, improve and maintain a natural habitat for wildlife. The group meets at Sherwood Island State Park three times per week in the growing season and once a week the remainder of the year. In the winter, we focus on removing invasive plants. Areas at the park where we work include the sand dunes, the pollinator garden, the three sister gardens and throughout the park as needed. Park Superintendent, John Guglielmoni, is fully supportive of wildlife habitat improvement using native plants. 



Friends' Garden Team weeding and mulching one of the 20 native *Acer rubrum* and *Nyssa sylvatica* they planted along the East Beach.





UConn Extension received funding to strengthen immunization excitement in Connecticut through a grant funded project by the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA-NIFA), the Extension Foundation, and the Centers for Disease Control and Prevention (CDC). The UConn project focuses on residents in Windham, Middletown, East Hartford, Mashantucket Pequot Tribal Nation, and Groton.


## Strengthening Immunization Excitement

By Jen Cushman | [s.uconn.edu/excite](https://s.uconn.edu/excite)

The CDC provided \$9.95 million in funding to USDA-NIFA to support an innovative approach to community education and partnerships to advance adult immunization. This is the two agencies' first concentrated vaccine education effort.

NIFA is using this funding, provided in an interagency agreement, to support Land-grant Universities and the Cooperative Extension System in delivering immunization education to the communities they serve to improve vaccine confidence. Extension works with local partners, including health-care providers, to make COVID-19 and other adult vaccines more accessible for our underserved communities.

Connecticut's secondary cities continue to be underserved in statewide public health initiatives, and COVID immunization levels in Connecticut align with this trend. While our state is relatively successful in our initial immunization efforts, pockets of underserved audiences exist at the first level of vaccination.

Our goal is to strengthen excitement for immunization in the five identified secondary cities in Connecticut. We are working with stakeholders to understand the barriers, identify key community influencers, create target social and print media. The goal is to increase vaccine awareness, and willingness to obtain vaccination. 

## Fenwick Living Shoreline


By Juliana Barrett | [climate.uconn.edu](https://climate.uconn.edu)

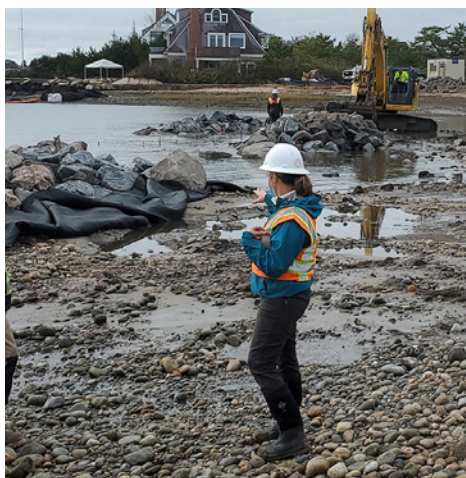
The Hepburn Preserve is a 4-acre beach, dune and brackish tidal wetland habitat owned by the Lynde Point Land Trust, located in the Borough of Fenwick in Old Saybrook. Storm events have caused serious erosion of the area when strong winds and waves hit the shoreline, compounded by shoreline changes due to nearby seawalls and groins. Several major coastal storms overtopped or breached the dunes including Tropical Storm Irene in 2011 and Superstorm Sandy in 2012. A permanent breach, compounded by sea level rise, would cause long term changes to this marsh system.

As a solution, an innovative hybrid living shoreline was proposed, designed and implemented at the site to decrease erosion of the beach/dune habitat, create marsh habitat along the shoreline, and aid in the protection

of the dune system. Living shorelines are a green infrastructure technique to aid in shoreline stabilization using native marsh vegetation. Sometimes low sills (such as rock or oyster reefs) are incorporated into living shoreline designs, hence the term, "hybrid" living shoreline. The purpose of a sill is to break and slow wave energy. Sills are placed parallel to the shoreline with the length and height dependent

on site requirements. When multiple sills are used, large enough spaces between sills is required to allow for movement of marine organisms.

This project supports the "It Takes a Village" theme. The land trust, Borough of Fenwick officials and local residents had started to meet years before this living shoreline was implemented to educate each other and to research and discuss various options. They spoke with many different groups, including Connecticut Sea Grant/UConn Extension, on how they might best proceed and what their options for a living shoreline might be. Many partners were brought together with the Connecticut River Conservancy taking the lead on a Long Island Sound Study Futures Fund grant that funded part of the implementation. 






# New Geographic Information Systems Office

By Chet Arnold | [cteco.uconn.edu](http://cteco.uconn.edu)

CT ECO interactive 3D Lidar Point Viewer map showing downtown Hartford region.

Geospatial Educator Emily Wilson was named as the UConn representative to the newly formed Geographic Information Systems Advisory Council. The Council was established by the Connecticut Legislature last session in a bill that created a state Geographic

Information Systems Office within the Office of Policy and Management, a Geographic Information Officer (GIO) to oversee the new Office, and the Council to Advise the GIO. Prior to this bill, Connecticut was one of only a handful of states without a state GIS

office. Emily has been at the forefront of explaining the many reasons that Connecticut needs to reduce redundancy, and increase efficiency with respect to the collection and coordination of mapping data. 




## 4-H Mentoring Continues Serving Youth

By Edith Valiquette | [s.uconn.edu/4-H](http://s.uconn.edu/4-H)

Youth in Waterbury continued benefiting from the 4-H Mentoring project during the pandemic. The 4-H Mentoring Project is a prevention program where youth gain knowledge, build character, and develop life skills. It is a fun learning environment that helps them become self-directing, productive members of society.

Approximately 45 youth ages nine through 14 participate annually. Mentoring is a proven strategy for helping at-risk youth achieve a better future. They are more likely to succeed with the extra support of a caring, consistent adult mentor.

The program increases their interpersonal skills and strengthens family bonds through the 12-month mentoring program. The three project components, mentoring, 4-H activities, and family nights, all contribute to positive impacts.

The 4-H Mentoring Project provides youth and their families opportunities to broaden their horizons with positive involvement in all that UConn 4-H offers. It's a win-win for both agencies we partner with, and for youth and their families. 




## CLEAR Online Training Portal

By David Dickson | [clear.uconn.edu/training](https://clear.uconn.edu/training)

The Center for Land Use Education and Research (CLEAR) is the new home to a suite of online certificate trainings. The CT Department of Energy and Environmental Protection (DEEP) offers online certificate courses for new and existing land use officials charged with protecting our environment. DEEP asked CLEAR to host them to expand reach and access.

DEEP issues a Certificate of Achievement upon successful course

completion. The courses are not limited to municipal officials. DEEP encourages participation by anyone interested in learning about land use in Connecticut—all courses are free.

Online training modules from CLEAR's Land Use Academy and Adapt CT, as well as links to training schedules for the New Farms and Farmers and the Geospatial Training programs are also available. 

### DEEP Certificate Trainings

- Aquifer Protection Program Technical Training
- Municipal Inland Wetlands Agency Comprehensive Training Program
- Hazardous Waste Management Training
- The 21st Century Resilient Business: How Managing Chemicals Can Help You Weather the Storm (in development)


## Food and Nutrition Classes at Home

By Sharon Gray | [efnep.uconn.edu](https://efnep.uconn.edu)

Hartford County's Expanded Food and Nutrition Education Program (EFNEP) provided virtual nutrition education and cooking programs to limited resource adults and youth in 2021. Programs included the Cook and Chat for adults and a summer youth program.

The Cook and Chat virtual series included sessions on cooking basics, food safety, food budgeting, and nutrition topics over three to 12 lessons. Program partners were agencies in Enfield, Plainville, New Britain, Hartford, and Bristol. Participants prepared easy, nutritious recipes from home and had a group discussion.

A virtual youth program in the summer focused on gardening, nutrition, cooking, and fitness. Human Resources Agency (HRA) in New Britain partnered with EFNEP. This was a workforce development project for youth entering ninth grade.

EFNEP Educators positively interacted with participants despite the challenges of completely virtual environments. All participants stayed engaged in the lessons and completed our evaluation surveys and dietary recalls. In many ways, the EFNEP educators learned a great deal more about a family's needs in this personal space. The pandemic created new challenges. EFNEP's efforts evolved and continues serving limited resource youth and adults. 






### 4-H Tower Gardens in Litchfield Schools

By Bill Davenport | [s.uconn.edu/4-H](https://s.uconn.edu/4-H)

UConn 4-H's first tower gardens are in seven different elementary schools in Litchfield County. Students are learning the importance of agriculture and sustainably grown food. Schools are gifted hydroponic growing systems and curriculum. Then, we support each school to help teach their students about the importance of agriculture, growing your own food sustainably,

and incorporating STEM concepts in food production. Additionally, local 4-H club members will mentor the younger learners through after school, 4-H based enrichment programs.

This is the beginning of a collaborative effort between 4-H clubs and members across the state and the elementary schools in their communities. Our goal is to start a much larger project to

help UConn 4-H members collaborate with younger community members. Teaching elementary students about the environment, agriculture, and sustainability through a hands-on-learning approach helps foster a population that understands where their food comes from, how it is grown, and how to do so sustainably. 


## The New England Greenhouse Floriculture Guide

By Leanne Pundt | [negfg.uconn.edu](https://negfg.uconn.edu)

New England greenhouse growers rely on the *New England Greenhouse Floriculture Guide* for its unbiased, detailed information. It includes insect and mite management, disease prevention and management, weed control, and plant growth regulation. The Guide is updated every two years.

Dr. Rosa Raudales and Leanne Pundt were co-editors for the 2021-2022 version. Raudales led the effort to develop an online format for the Guide. She also provided overall editing and updated the section on plant growth regulators. Pundt

edited the sections on IPM and insect biology, weeds, algae and liverworts and co-edited the section on disease management with Dr. Cheryl Smith, emeritus from the University of New Hampshire.

The New England Floriculture, Inc., sponsor of the Northeast Greenhouse Conference, in collaboration with University Cooperative Extensions from New England States is proud to introduce the free online version of the *New England Greenhouse Floriculture Guide: A Management Guide for Insects, Diseases, Weeds, and Growth Regulators*. 





## Multi-Faceted Approach to Nitrogen Management


By Chet Arnold & Rich Meinert | [s.uconn.edu/nutrientmanagement](https://s.uconn.edu/nutrientmanagement)

We have a multi-faceted approach to nitrogen management in Connecticut that addresses land use issues, agricultural production, and water quality.

Extension faculty from the Center for Land Use Education and Research (CLEAR) are working on several applied research projects in support of better nitrogen (N) management. They are collaborating with the University of Rhode Island and EPA to create an online tool, "N-Sink," to track the movement of N in coastal watersheds (Highlights, 2020). In a project funded by the Long Island Sound Study (LISS), they are using cutting-edge high resolution land cover data to explore the relationship of land use to N export for the over 4,300 small watershed basins in Connecticut. Finally, the CLEAR geospatial team is part of another LISS study, led by Dr. Ashley Helton of the

Department of Natural Resources and the Environment, that is looking at "legacy" N loadings that are derived from past land uses that are no longer apparent but that continue to export N to our waters.

Rich Meinert is working with three farms on developing accurate as applied maps for farm applications. Current as applied maps provided by GPS systems are inaccurate on smaller New England farms. Our small irregularly shaped fields require spreaders to negotiate tight turns. Current generation software does not calculate the differences in as applied rates between the inside and the outside of a turn. Preliminary measurements using equipment on one of the farms has resulted in a 30% decrease in application rate on the outside of a turn versus the inside of the turn.

Another challenge in our smaller fields is overlap. Current spreaders have a fixed operating width. They throw lime, fertilizer, or manure with a set amount of force, across a fixed width, or they spray manure, or pesticides from a single point or a set of nozzles with a certain pressure and spray pattern, like a paint sprayer. Having a fixed application width and a varying field shape inevitably results in overlap. Certain sprayers can shut off nozzles to prevent overlap, but fertilizer and manure spreaders cannot vary their discharge. This research is currently collecting data to develop a computer algorithm to show where the nutrients are actually going so that future nutrient applications can target areas of fields that need it, and avoid areas that have had excess nutrients applied previously. 








# UConn Forest Providing Educational, Environmental Benefits

By Stacey Stearns | [ctforestry.uconn.edu](http://ctforestry.uconn.edu)

The UConn Forest is vital for teaching, research, and extension work. It also provides wildlife habitat, watershed protection and popular recreational hiking trails. The Department of Natural Resources and the Environment (NRE) manages the forest.

Proactive management sustains and enhances the many benefits the forest provides. Thomas Worthley is an

Associate Extension Professor with joint appointments in Extension and NRE. He uses the forest for his undergraduate and extension education activities. Worthley also helps facilitate research projects. He and the UConn Forest crew, a group of undergraduate students, attend to day-to-day management tasks.

Forest crew members are all professionally trained on chainsaw use and safety, as well as with other woods-work equipment. They harvest wood from trees lost to damage and disease. Utilizing wood and creating durable products is a way of storing sequestered carbon from these trees. Active forest management retains the environmental benefits and promotes growth of more trees. 

## A Community of Farms in Northeastern Connecticut


By Rebecca Toms | [grownconNECTed.org](http://grownconNECTed.org)

The UConn Extension Sustainable Food Systems program launched a new brand in Northeastern Connecticut to help connect residents in the region with farms and farmers providing products directly to consumers. This new brand “Grown ConNECTed: A Community of Farms in Northeastern Connecticut” consists of a new website ([grownconNECTed.org](http://grownconNECTed.org)) with multiple resources for finding farms that fit residents needs, social media channels on Facebook and Instagram, and providing resources and trainings for farmers to enable them to connect with more customers.

The brand was chosen and created in partnership with farmers and community members in the region. The phrase and logo were chosen to indicate that there is more than just the labor that

a farmer puts into the products they produce. There is a community they are connected with that supports them through not just buying their products, but creating relationships that make every meal—for the farmer and consumer, a little richer in it’s meaning (and flavor too!).

Through the Grown ConNECTed campaign, you can find farmers markets, farms that have CSAs and Farm Stands, and also alternative locations like other retailers and restaurants that sell products from local farms.

This program was made possible through a USDA Agriculture Marketing Services grant. 





## UConn 4-H Escape Moves to the Next Level


By Marc Cournoyer | [s.uconn.edu/4-Hescape](https://s.uconn.edu/4-Hescape)



UConn 4-H introduced escape rooms in 2019 to teach concepts and content to youth in a fun and interactive manner. Then, the pandemic caused us to discover new ways of reaching young people and we started digital escapes.

The goal was to replicate the successful in-person breakout activities digitally. We designed the first digital escape room activity titled The Secret Clover Stash in the summer of 2020.

The design team wanted to develop a series of digital breakout experiences covering 4-H themed topics. Teachers use this format nationally to create fun and interactive learning opportunities. We started creating content to fill the 4-H escape room void. The 4-H Escape website now houses seven separate digital breakout activities with more added regularly.

The growth of the 4-H Escape project goes beyond UConn. We partnered with 4-H educators in Michigan, Virginia, Hawaii, and Wisconsin, among others. The greatest value is that this resource is not limited by geographic borders or space limitations. 

## Ultrasound Technology Improves Livestock Meat Quality


By Joe Emenheiser | [livestock.extension.uconn.edu](https://livestock.extension.uconn.edu)

Meat quality improvement can improve economic development for livestock producers. Ultrasound technology is used to evaluate body composition traits. This means livestock producers can check meat qualities in live animals. It leads to better livestock selection and breeding decisions.

A three-year grant project on beef and dairy crossbreeding is improving growth and carcass composition. Dairy farms are using more beef x dairy crossbreeding because of milk price volatility and decreased value of replacement dairy heifers. Beef prices and demand are also strong. Beef and dairy crossbreeding are not new, but we have not studied it

with modern genetics. Our team is looking at the effects and economics of different management practices.

We ultrasound UConn crossbred calves monthly and evaluate the effects of different nutrition protocols. Our team considers this information along with data on calf performance, carcass value, and cost of production. It informs Extension programming and recommendations for livestock producers.

*Northeast SARE funds this project. Collaborators are Drs. Sarah Reed, Kristen Govoni, and Steve Zinn from the UConn Animal Science Department and Dr. Tara Felix from Penn State University.* 



# Erica Fearn

## Transforming Agricultural Education

Learning about agriculture, science, and the natural environment is a transformative life experience for youth. Just ask Erica Fearn '86 (CAHNR). Her early years in the UConn 4-H program shaped her career, leading to her role as executive director at the 4-H Education Center at Auerfarm in Bloomfield.

Skills in agriculture, 4-H youth development, and non-profit management coalesce under Fearn's leadership and offer youth the same life transformative experiences that she enjoyed.

The grandchildren of Beatrice Fox Auerbach donated the 120-acre farm to the Connecticut 4-H Development Fund in 1976. They wanted Auerfarm to be a place that people could enjoy the same way they did as a living classroom, working farm, and outdoor recreation destination.

The 4-H Education Center at Auerfarm inspires youth and adults to engage with agriculture, science, and the natural environment while learning and having fun. Fearn developed those same qualities while a member of the UConn 4-H program and shares that with visitors to Auerfarm.

### 4-H Grows True Leaders

Fearn's early experiences with UConn 4-H and then as an undergraduate student at UConn helped develop her leadership skills and prepare her for a career in agriculture and non-profit management.

"My time in 4-H and at UConn was huge," she says. "I got a horse and joined the local 4-H club. We lived in



a small community, but 4-H was a safe space, my friends gathered there and we hung out. All that peer pressure that exists for youth was not at the barn. I developed leadership skills and built confidence. 4-H teaches youth that you can take an animal and yourself and succeed somewhere—for example, a horse that runs to the middle of the ring during a saddle class may excel in showmanship instead."

Fearn pursued a bachelor's degree in animal science at UConn's College of Agriculture, Health and Natural

Resources after high school. Many 4-H youth pursue degrees at UConn and Fearn's time in 4-H melded with her undergraduate degree.

UConn also led Fearn to her first nonprofit job, working for a professor at the University of Helsinki, Institute of Meat Science and Technology. She traveled to Finland while in this role, and it built the foundation for her career. Fearn remained active with 4-H. She has volunteered with the UConn 4-H program for 29 years.

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**"Finally, UConn led me here to Auerfarm. This is a place where I can use all my skills and passions in one place—agriculture, 4-H youth development, and non-profit management."**

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### A Community Resource

Educational programs are a key component of the work at Auerfarm, and they annually welcome over 15,000 visitors. The farm serves as a resource for residents of Bloomfield and surrounding communities, as well as partner organizations.

"We want our local Bloomfield community engaged and we want to be an important partner for them," Fearn says. "For example, we work with the Wintonbury pre-K program, they host their school program here, and we are working with the Harris High School AgriScience program."






Educational programming continuously improves and expands to meet community needs. A new program, Auerfarm Growing Opportunities (GO), offers career development in four areas, agriculture, food service, hospitality, and facility management. The GO program expands existing relationships with district transition students, providing career skills.

### Serving the Community for Generations to Come

"We have great support from UConn Extension," Fearn says. "Jen Cushman, our county Extension educator watches out for us and gives great suggestions, provides research, and closes the gaps. Having 4-H in our name and all that encompasses means so much to me personally too, it's our job to get people involved in UConn 4-H and all it provides."

"The best part of my role at Auerfarm is there are so many rewards," Fearn says. "Every day is different. We sold eggs to a customer from Poland and I made a personal connection with her. Watching the youth thrive and grow while working with their rabbits or seeing a

child develop confidence working with their Angus steer. I've watched a donkey transform into a beautiful animal because a kid loved it."

Early introductions to agriculture, science, and the natural environment can shape the life trajectory of a young person. It did for Fearn. Now, she is ensuring youth have the same opportunities with the UConn 4-H program and the 4-H Education Center at Auerfarm. 

Article by Stacey Stearns

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[s.uconn.edu/4-H](https://s.uconn.edu/4-H)  
[auerfarm.org](https://auerfarm.org)





# Linda Tomas

## Making Magic Happen at the Connecticut Beardsley Zoo

The call of birds in the distance accompanies us while walking through the farmyard of the Connecticut's Beardsley Zoo in Bridgeport. Cattle amble up to the fence in greeting, and bison graze on a hillside in the distance. A wolf watches our progress as we move through the different habitats on the 52-acre property. 4-H youth members experience this twice per month with the Connecticut Beardsley Zoo 4-H Club. It becomes a life transformative experience that shapes their college plans and careers.

All this is possible because Linda Tomas, a UConn 4-H volunteer and Connecticut's Beardsley Zoo employee shares the magic with youth. Tomas grew up in Monroe, Connecticut; her home was next to a large field and she brought the frogs, snakes, and caterpillars home. It was only natural that she studied zoology with an animal behavior concentration at Southern Connecticut State University. Tomas interned at Connecticut's Beardsley Zoo during college, working with the animals and then returned and became a full-time employee after graduation.

Edith Valiquette, the UConn 4-H Fairfield County Educator, recruited Tomas as a volunteer in 1990 and she started the Connecticut Beardsley Zoo 4-H Club. The zoo provides support by hosting the club and having other staff members involved in the initiative.

"One of the big reasons to have zoos is it prompts kids to think about nature," says Gregg Dancho, Director of Connecticut's Beardsley Zoo. "Beardsley Zoo is a wildlife habitat for the animals that are here and those



that come in from the outside. We want it to be natural and an integral part of the community."

### Connecticut Beardsley Zoo 4-H Club

The Connecticut Beardsley Zoo 4-H Club meets on Sunday mornings twice per month from September through May. The first meeting focuses on club

business, the youth plan field trips, club activities, and public speaking events. A member of the zoo staff or another outside speaker also presents an educational topic.

The second monthly meeting is in the New England Farmyard. Members work with one of the animal areas for the year, feeding, cleaning, and providing animal enrichment. They can rotate to another animal area the following year.

"We started with a small group of youth," Tomas recalls. "They work with our Heritage livestock breeds in the New England Farmyard. Up to 20 members are in the club each year; the current group is mostly 13-16-year-olds."

The club uses national 4-H curriculum, and has public speaking, leadership, and civic engagement as focus areas. Members enhance their public speaking skills through presentations for zoo visitors. They also compete in county and state 4-H public speaking contests. Many club members have attended Citizenship Washington Focus and other national 4-H leadership programs.

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*"I have a great sense of pride listening to the youth presenting on the stage at the zoo and watching them with their animals. They have so much enthusiasm when they're working with the public," Tomas says.*

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Parents often add their youth to the waiting list before they turn seven to ensure they can take part because it takes about two years to work through the waiting list and into the program. Those that join the club remain members for an average of seven to ten years. Tomas has mentored over 150 youth in her 35 years as a UConn 4-H volunteer.

"It's rewarding to see the youth with the animals and watch them grow, earning respect from the animals," Tomas says. "I also enjoy watching them teach the younger members. Seeing what careers, they pursue after 4-H is the final reward." Many alumni have enrolled their children in the club, a true testament to the program's value.

Over the years, Tomas has taken youth on field trips to other zoos throughout the Northeast and hosted sleepovers at the zoo. Youth work with Citizen Science projects and the myriad of other

initiatives the zoo offers too. Recording and reporting rainfall was a recent opportunity.

Tomas has donated thousands of hours as a UConn 4-H volunteer, and other staff at Connecticut's Beardsley Zoo are also instrumental in the club's success. They provide support and resources during every club meeting and activity. Each new group of youth excites Tomas, and she is building a sustainable club model with her assistant leaders and the zoo staff. The experiences youth have at the zoo are magical and inspire their future, what feels like a day at the zoo is a life transformative experience shaping our future leaders. 

*Article by Stacey Stearns*

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# Green Snow Pro

## Best Practices for Salt Application

The scientific studies continue to pile up, and confirm the same thing: road salt is causing lots of problems in our streams, lakes and groundwater. The majority of salt applied is sodium chloride, also known as rock salt. In the absence of a new “miracle” deicer, salt will continue to be the most cost-effective product for the foreseeable future. Therefore, the only way to reduce the impacts will be to reduce the amount applied, while still keeping surfaces safe for travel.

Salt washes off the streets and into our soil and waterways. In the soil, it percolates down and changes the soil structure. Too much salt in the soil means plants are unable to grow. We often see dead grass along the roads or sidewalks. High salt content in the soil is often the cause of the dead grass. Salt also enters our water

systems and increases salinity levels in our water, even during the summer months. This has detrimental effects on human, animal, and environmental health.

The Green Snow Pro program started at UConn during the fall of 2018. Green Snow Pro is a voluntary salt

applicator certification program. Program staff trains municipal public works employees and private contractors. This training includes information about the science of salt, the downstream impacts of salt, how to properly apply salt given weather conditions, and how to calibrate equipment. The program is modeled after the University of New Hampshire's Green Snow Pro program.

The Connecticut Training and Technical Assistance Center (T2 Center) is the primary leader. They lead the one-day trainings as part of their Road Scholar program. The Center for Land Use Education and Research




(CLEAR) collaborates with the T2 Center on other state salt initiatives with UConn educators, regulators, and public works professionals. The class focuses on best practices for salt application and maintenance of public works facilities and equipment. Demonstrations and case studies illustrate the positive impact these strategies can have on communities and operations.

T2 Center staff trained UConn's facilities staff, and there were substantial reductions in salt use in the first season alone. Green Snow Pro applicators at UConn used over 2,600 less tons of salt, corrected for the number of storms. This resulted in a savings of over \$313,000 in salt costs alone. Green Snow Pro's success highlights education's lasting environmental benefits. Already, professionals in more than 58 towns statewide have participated in the voluntary training.

We developed a guide, CT Green Snow Pro Best Practices for Municipalities that

all municipalities and employees can use. Case studies highlighting the programs success in Ellington, South Windsor, and Manchester were also created and are used in training sessions. Other resources are available on the program website.

"We learned the ways to salt roads versus bridges. It gave us a greater knowledge of salting the road, rather than just going out and thinking it's good enough," says Andrew Menard, a course participant from the Town of Manchester Highway Department. "We have mathematical equations now for how many pounds per lane mile to use and that's really helpful. We now know if the salt we're applying is doing what we think it's supposed to be doing."

Although we cannot fix our salt problem overnight, programs like this offer the best hope to tackle this very serious problem. 



*Article by Michael Dietz*

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# Collaborative Partnerships

## Creating Real-Life Solutions

The land-grant university mission includes teaching, research, and extension. We share UConn's research with residents to provide real-life solutions to challenges. UConn Extension has over 100 years of service to the state of Connecticut, and collaborates with state agencies, non-profit organizations, and municipalities to serve our communities. Each of us brings strengths to these partnerships.

"The key is that we all work in a complementary fashion," says Mike O'Neill, Senior Associate Dean for Extension and Diversity in the UConn College of Agriculture, Health and Natural Resources (CAHNR). "We augment and enhance the services our partners provide, and this offers residents solutions and services to the challenges they face."

We have partnerships in agriculture and food, climate adaptation, enhancing health and well-being, and sustainable landscapes. Many partnerships extend across strategic vision priorities, as our Extension programs do. "Extension also is identifying and dismantling structural racism and ensuring inclusivity across all program areas," O'Neill says.

### Agriculture and Food

Many organizations and agencies have a unique role to play in serving the agriculture and food audiences. Working within our mission areas and to the strength of our organization means we are better able to serve the state.

The Connecticut Department of Agriculture is one of our partners. The agency focuses on regulatory oversight of agricultural products and promotes the Connecticut Grown brand. We partner with the Connecticut Agricultural Experiment Station and implement their research findings to enhance our educational outreach.



The Department of Energy and Environmental Protection (DEEP), the Natural Resources Conservation Service, and the Farm Service Agency are a few of our other partners. Our team of Extension educators facilitates programs that leverage our own and partner expertise.

### Climate Adaptation and Resilience

We engage and educate citizens in climate adaptation; Extension programs promote resilient and well-adapted coastal Connecticut communities and economies. Climate adaptation and resilience is a strategic initiative that cuts across all Extension program areas.

Connecticut Sea Grant and the UConn Center for Land Use Education and Research (CLEAR) lead our climate adaptation initiatives. Both teams partner with Connecticut DEEP, the National Oceanic and Atmospheric Administration, the Long Island Sound Study, the National Science Foundation, and municipalities across Connecticut, among others.

DEEP is an important partner on our climate adaptation and sustainable landscapes initiatives as they are the state regulatory agency for climate and environmental issues. Extension's educational outreach helps municipalities adapt to and follow DEEP's regulations.

### Enhancing Health and Well-being

We use interdisciplinary approaches to enhance health and well-being locally, nationally, and globally. Our work strives to prevent disease in humans, animals, and the environment. We are incorporating One Health into our work, it emphasizes the intersection of human, animal,


and environmental health. Partnerships with other agencies and organizations again enhance all our health initiatives.

The Connecticut Departments of Education, Public Health, Children and Families, and Social Services are a few of our partners. These agencies are critical to the healthy lifestyle and nutrition programs Extension provides. The Connecticut Veterinary Medical Diagnostic Laboratory collaborates with our partners across multiple levels to address human and animal health.

### Sustainable Landscapes

We are developing environmentally aware citizens that participate in sustainable, healthy lifestyles. CAHNR initiatives improve our landscapes statewide at the urban-rural interface in collaboration with partners, stakeholders, and community members.

Connecticut DEEP is one of our primary partners. Sea Grant, CLEAR and our work with CAHNR's Department of Natural Resources and the Environment lead Extension's efforts that address sustainable landscapes. Other collaborators, including Eversource, help create solutions for various challenges.

Partnerships leverage the strengths of all participants and produce cohesive and collaborative relationships. Creating solutions for stakeholder needs is the top priority. Extension and our partners find solutions to the critical issues facing our state because we collaborate with each other. These real-life solutions make Connecticut a better place to live for all of us. 



*Article by Stacey Stearns*

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# Interactive Learning

## Food Labels Leaving You Lost in the Supermarket?

If you have ever found yourself in a grocery store scouring the labels trying to make the best choice but were instead left feeling like a deer in headlights and unsure of what terms like “natural,” “organic,” or “non-GMO” ingredients mean, you are not alone.

A team of researchers and extension educators from UConn’s College of Agriculture, Health, and Natural Resources GMO working group, including Extension Program Specialist Stacey Stearns, teamed up with the New Mexico State University Learning Games Lab to create an interactive activity called *Unpeeled: The Case Files of Maya McCluen* to help answer some of these questions.

“Unpeeled” is part of a project called “Navigating the Grocery Store Aisle: Understanding Food Marketing

Labels,” made possible by a grant from New Technologies in Agricultural Extension (NTAE) program and the Extension Foundation. Stearns has documented the collaborative journey of the game’s creation on the Connect Extension blog of the Extension Foundation.

Stearns explains the UConn GMO working group started a few years ago when she and other researchers and extension educators from around UConn realized there was a need collaborate and organize. The group

coalesced and began working on projects focused on educating consumers about GMOs, like *Unpeeled*, says Stearns.

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*“I’ve been talking about food marketing labels for a while and just how prevalent the ‘non-GMO’ food label is and how confused people are about it.”*

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The team used data from consumer surveys to target key areas that respondents identified as being unclear, which the game is geared toward addressing.

*Unpeeled* begins in a grocery store where detective Maya McCluen meets



a perplexed shopper named Cody who is trying to decide which orange juice to buy, but he can't easily compare them because he does not know what the "non-GMO" label means. Players progress through a series of activities as Maya digs into the case, from defining the labels, to showing that there are only 10 GMO crops on the U.S. market currently, players rack up the facts as clues.

Stearns explains that much of the label confusion stems from the fact that the regulation is puzzling or essentially non-existent. "There's not a lot of regulation and this is where it gets complicated. The organic label is regulated by USDA," says Stearns. "Organic is non-GMO. Non-GMO is certified by the Non GMO-Project where companies pay to become certified but anybody can pay to have their product certified. It's become more of a marketing thing. The 'natural' label is basically a free for all because it applies to how the food is processed and the USDA and FDA each have their own definitions. When you see the 'natural' label, it basically means nothing."


Along with the lack of clarity, confusion, and sometimes contradicting nature of labels, the topic of shame also came up and Stearns says that is one focus she feels especially strong about addressing. "People are trying so hard to be good parents and do the right thing and then you get the shaming, and that comes with 'Oh my gosh, you didn't buy your kids the

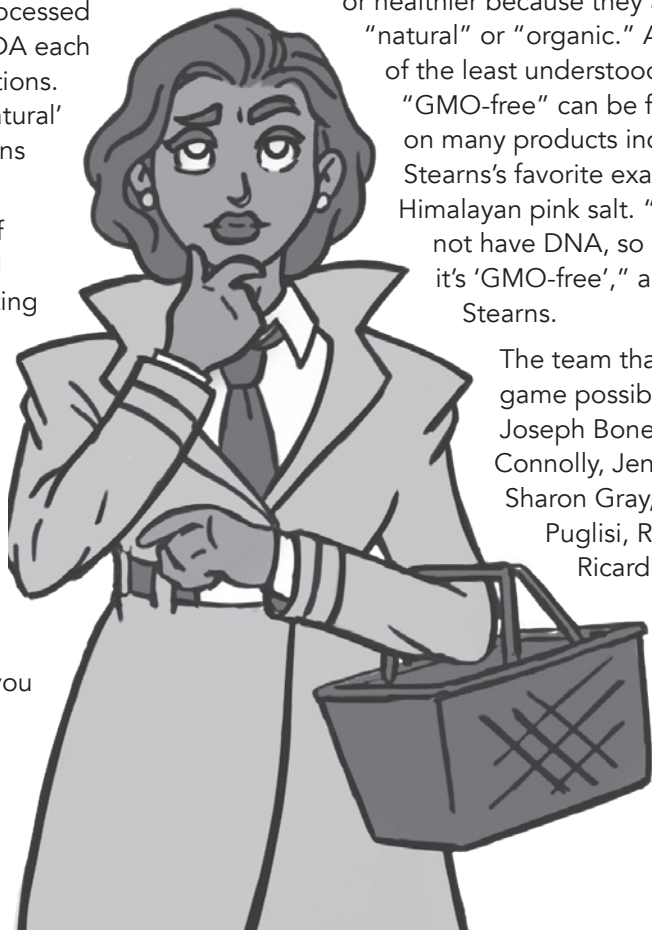
non-GMO? What kind of a bad parent are you?' Well, actually you're doing okay."

The labels can bring up some contentious topics, but Stearns points out that the group's aim in creating the game is not to sway consumers in any way, but rather to instill knowledge.

"Interestingly enough, our working group is not aligned as 'pro-GMO'. We are all 'pro-science' and we are 'pro-people-making-informed-decisions'." Including "non-GMO," "natural," and "organic" the team found 19 common, confusing food labels but they decided to focus on these three for this first installment of Case Files with hopes of securing funding for further installments that will explore the other confounding food labels.

Based on the number of labels adorning packages at the store, one may assume that most products are potentially filled with GMOs or that certain foods are safer or healthier because they are labeled "natural" or "organic." As one of the least understood labels, "GMO-free" can be found on many products including Stearns's favorite example, Himalayan pink salt. "Salt does not have DNA, so of course it's 'GMO-free'," adds Stearns.

The team that made the game possible includes: Joseph Bonelli, Cristina Connolly, Jen Cushman, Sharon Gray, Michael Puglisi, Robert Ricard, Stacey Stearns, and Xiuchun (Cindy) Tian. 



## The "Unpeeled" Game

Unpeeled is a GMO Labeling Game developed by the University of Connecticut Extension and New Mexico State University Learning Games Lab. This fun, interactive, game will help you understand food marketing labels and learn the facts about GMO products.

## Who Produces GMO Products?

Not all GMOs are produced by corporations. Some are produced by universities to solve nutritional and environmental problems.

## Are GMOs Safe?

Research states that GMO food sources do not have any more negative effects on health than foods from non-GMO sources.

## What Crops have a GMO Version?

The only crops that have a GMO version are alfalfa, Arctic apples, canola, corn, cotton, eggplant (one variety), papaya (one variety), pineapple (one variety), potatoes, AquAdvantage salmon, soybean, squash, and sugar beets.

*Article by Elaina Hancock*

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(Above) A group of UConn PEP graduates with their certificates. (Right) Michelle Winkler, Litchfield County Master Gardener Coordinator during a hands-on session.

# Learn With Us

## Extension Increases Online Learning Options

UConn Extension started exploring online learning long before the pandemic. We started teaching online classes in 2018 and multiple programs offer online options. The Extension Master Gardener program was one of our first programs to provide online learning when they recognized their participants needed course flexibility.

The Master Gardener coordinators prepared online components for their annual certification program and launched a hybrid course in 2018. Coordinators enhance the online course each year using participant feedback.

"We hired Jean Madden-Hennessey as a part-time Educational Technology Specialist in 2017. Her role is to help us move programs online and into hybrid formats," says Bonnie Burr,

assistant director of Extension and department head.

**"We recognize that online options allow us to meet our audiences where they are, and provide programs to a greater number of people."**

Participants can engage with online learning content from their home or another location. Software organizes


the course materials by week or unit. There are three types of online classes, synchronous, asynchronous and hybrid.

Synchronous courses run in real time. They have live, online sessions with everyone working on the same schedule to meet weekly requirements. Learners in asynchronous courses move through the material at their own pace during a set time. Hybrid courses bring the best of synchronous and asynchronous course aspects together. Learners have online content to complete at their own pace. There is also a live, in-person, hands-on, classroom session. Extension has offered all three options and many of our pre-pandemic courses were hybrid.



"We found that the hybrid model worked best for Master Gardeners. It allowed them to use their in-person class time for hands-on learning," Madden-Hennessey states. "This facilitated better understanding of the course materials and led to higher course satisfaction."

Extension added more online courses and certificate programs to our suite of resources.

UConn Extension values the role that in-person and online learning offers our participants. Both will be an integral part of the educational outreach we provide in the future. 

## UConn Extension now offers the following online courses and certificate programs.

**Master Gardeners** offer a course each year beginning in January. The competitive program trains around 180 interns each year. Participants become certified Master Gardeners after completing all phases of the program. The hybrid format began in 2018 with three to four hours of online work followed by an in-person weekly class.

**Vegetable Production Certificate Course** is for new and beginning farmers with zero to three years' experience. It provides all the information needed to successfully begin vegetable production. The course is being offered for the third year beginning in January of 2022.

**People Empowering People Communities (UConn PEP) Facilitator Training** is a 15-week course that trains program facilitators. Then, they lead UConn PEP Communities courses in their agency or organization. Extension developed an online version of the course in response to the pandemic. The online version will go with future in-person courses.

**DEEP Aquifer Protection Area Training Program** is a free online course for Aquifer Protection Agencies in municipalities. It helps them meet training requirements for the Connecticut Aquifer Protection Act. The course provides an overview of requirements and guidance on how to comply.

**Coastal Certificate Program** is a joint project of Connecticut Sea Grant, the Master Gardener Program, and the Long Island Sound Study. Each year focuses on a different topic. Healthy soils and their impact on gardens, watersheds, and the environment was the 2021 topic. The program includes at least four classes and a tour. It moved online because of the pandemic.

**Ornamental and Turf Short Course** provides training for those taking the State of Connecticut Supervisory Pesticide Applicator Certification exam. The online version debuted in January 2021. It consists of eight online modules as well as supplemental learning materials.

**Let's Talk GMOs** is an online certificate that educates about genetically modified organisms (GMOs). The course explains GMO history, policy, how misinformation spreads, and communication messages. It's an asynchronous course that is continuously available.

**Improving Pasture Management for Sustainable Livestock Production** was a webinar series offered by our Tri-State SARE grant project in 2021. The series moved online because of the pandemic. Participants had positive reviews of the program, and the recordings are available.



*Article by Stacey Stearns*

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# Extension Donor Support

## Growing Statewide Programming

The work of UConn Extension serves thousands of people across Connecticut. UConn Extension educators work in all 169 cities and towns helping Connecticut residents to solve problems in their communities and provide transformational learning experiences to program participants. This couldn't be done without the financial support of generous donors, many of whom have experienced Extension programs firsthand.

Donations for Extension programs are made through the UConn Foundation which is an independent nonprofit organization that operates exclusively to promote the educational, scientific, cultural, research and recreational objectives of the University of Connecticut and UConn Health. Housed within the Foundation are funds specifically earmarked for

Extension programming that provide critical support to these programs and make it possible to develop innovative programming for Connecticut residents. Here are some examples of programs made possible by the generous contributions of UConn Extension donors.

### David E. and Nancy H. Bull CES Innovative Programming Fund

A generous gift from Nancy H. and David E. Bull provides funding to support innovative programming in Extension through a competitive application process open to personnel with a full or partial Extension appointment. Applications must explicitly identify the innovation proposed and the risks involved along with the potential to influence future program delivery. Some of the projects funded include:

UConn CAHNR GMO Team received funding to address the lack of science-based information for citizens regarding genetically modified



Photo, left: Participants in the Natural Resources Conservation Academy at the Fenton River. Photo, right: Emily Syme, a UConn 4-H alum and current undergraduate at UConn participated in national 4-H events.

organisms (GMOs). A multi-faceted educational approach provided unbiased information which included a web site, a panel discussion on the Storrs campus, development of curriculum for youth audiences, and short videos on GMO subjects.

Assistant Extension Educators Abby Beissinger and Shuresh Ghimire received funding to establish a hot water seed treatment program to combat seed-borne pathogens that cause early infections in fields. Identified in 2019 listening sessions as a top agricultural priority in Connecticut, Dr. Ghimire and Ms. Beissinger shared the hot water treatment protocols and workshop curricula and work collaboratively with other states to contribute to best practices.

UConn Natural Resources Conservation Academy program leaders received funding to address equity and inclusion within community conservation practices. NRCA implemented a series of participatory processes to co-design local conservation projects with multiple community stakeholders in the metro-Hartford area. The goal of this project is to allow communities to meaningfully contribute to the development of conservation that is most in demand within their community.


## Master Gardener Fund

UConn Extension's Master Gardener Program began in 1978 instructing participants in science-based horticulture practices and garden management, after which students apply their knowledge by engaging in community education, including lectures, educational displays, demonstrations, and plant clinics, as well as various outreach projects throughout

Connecticut. Donations to the Master Gardener Fund within the UConn Foundation are critical to the ongoing training and community outreach that they provide. Donations contribute to salaries of the Master Gardener coordinators housed in each of the local Extension Centers in Connecticut. Donations literally keep the program going and also allow for increased accessibility and flexibility in learning modalities which combines online learning with traditional classroom instruction.

## 4-H Centennial Fund

The 4-H Centennial Fund was created in 2002 in celebration of the 100th anniversary of the national 4-H program. Donations to the fund ensure that participants in the UConn 4-H program have the opportunity to participate in unique and exciting state, regional and national 4-H events. Many 4-H alumni remember their experience at Citizenship Washington Focus or National 4-H Congress. These trips provide important leadership and civic engagement experiences that youth don't get elsewhere. A delegation of youth once again attended the 2021 National 4-H Congress and plans are underway for the 2022 Citizenship Washington Focus.

Donations to UConn Extension through the UConn Foundation have made it possible to reach more people with unique and innovative programming that solves problems in communities and enriches the lives of Connecticut families. Donors can rest assured that their contributions matter and significantly impact the lives of Connecticut residents. 



Article by Nancy Wilhelm

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# Umekia Taylor

## Merging Fitness and Nutrition to Create Healthy Lifestyles

Umekia “Mickey” Taylor ’83 (CAHNR) merges fitness and nutrition to help people create healthy lifestyles. She is a community nutrition extension educator and the supervisor for Extension’s Expanded Food and Nutrition Education Program (EFNEP) in New Haven County. “UConn Extension’s nutrition outreach education is valuable because we meet people where they are. Then, we bring them to whatever level they want to go to,” Taylor says. “We’re here to serve the people of Connecticut and bring value to their lives.”

Growing up in Meriden, she always had an interest in food and experimented with recipes in her family’s kitchen. She wanted a health-related career that included food and education. Taylor found a brochure in her high school guidance department about the Allied Health Sciences dietetics program at UConn. She had not heard about it this career, but it intrigued her.

Seniors in UConn’s dietetics program complete different practicums. Taylor gravitated towards the community nutrition practicum. She went on to earn her master of science degree in human performance from Southern Connecticut State University. “I wanted to incorporate fitness as a thread in my career,” she says. “Fitness is practical choices too. Parking farther away from your destination and walking makes a significant difference. Speed walking while running errands, all these small actions add up.”

Her first role was the nutritionist with the Women, Infants, and Children



(WIC) program in New Haven. Taylor is bilingual and immersed in the Spanish language as she worked with the program participants. She began her career with UConn Extension in 1993.

“In working with EFNEP, there’s a lot of linkages we make with other fields in the College of Agriculture, Health and Natural Resources and throughout UConn,” Taylor says. “I had close relationships with the UConn 4-H

program through Wanda Little, who is a retired UConn 4-H educator and was my mentor. I’ve kept that model in my programming.”

Taylor works with collaborative teams at UConn. One of these is the People Active on Trails for Health and Sustainability (PATHS) team. The team uses trails and exercise to improve health outcomes in residents statewide. Extension educators are not islands, and she emphasizes the benefits of different expertise.

The rewards of being an Extension educator are when participants are engaged and learning—that is when you can make an impact. Taylor and the EFNEP team work with people over time. They start slight changes with them that have positive impacts on their health.

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“Nutrition involves balance and variety is important,” she says. “You don’t need to go to one extreme or another. We all have cravings, and it is okay to have a treat occasionally, and then get back to healthy eating. A diet should be a well-balanced approach and fun.”

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New discoveries and recommendations challenge nutrition and health educators. All science-based educators face this same challenge. This causes mistrust or negative public






perceptions. Taylor follows the research and educates her audiences as the science changes. She addresses those misconceptions because people are looking for accurate information.

Taylor's recent focus is on social media, online education, and training community leaders. "I love the model where we work with teens and then they teach nutrition education in their communities," she says. Taylor had a USDA-AFRI grant to build this model and is pursuing another grant for further work in the field. Other 4-H and nutrition programs replicated her project.

The past few years have also highlighted the racial inequities that still exist. Taylor participated in UConn's Anti-Black Racism Course. She connected to the topics and

concepts as an African American woman whose parents are from South Carolina. Taylor found the course enlightening, and timely in the wake of violence, hate crimes and injustice against black and brown people. She continues engaging in topical discussions with the Extension Anti-Racism Learning Group.

Taylor's community nutrition and fitness programs improve the lives of Connecticut residents. Her work is representative of the land-grant mission as she engages audiences with UConn's research and teaching. Taylor brings enthusiasm and creativity to community nutrition and established models that are enhancing the lives of residents across the nation. 

*Article by Stacey Stearns*

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# Ana Legrand

## Creating Sustainable Landscapes Through the Interactions of Plants and Insects

Ana Legrand built her career around helping people understand the benefits that insects provide. Legrand is an entomologist and UConn Extension educator in the Department of Plant Science and Landscape Architecture. Entomology is the study of insects, and it plays a vital role in our environment and landscapes.

"My interest in entomology started when I was young," Legrand says. "I worked with an agricultural ecology professor in college, and she focused on insects for her research. I saw that it was a good path to follow because I was also interested in agriculture."

Legrand started working on the project as an undergraduate. Then, she took a class on entomology that showed the formalities and that it could become a profession. "Part of my educational experience was working in the laboratory. I found that collaborating with the graduate students and professors was fun," Legrand recalls. "I went on to pursue research in graduate school at the University of Maryland because you're always learning something and that's exciting. Teaching is also exciting because you are sharing that new information."

At UConn, Legrand's research and extension program focuses on plant and insect interactions in vegetable crops. Her work uses insects to enhance biological controls and looks at plant traits that impact insect pests. Legrand's lab team is investigating plants that attract pests away from



crops. Their goal is to trap insects on crops in the early stages before any damage to the food being grown.

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*"It's rewarding to find something that wasn't documented before, even if it's a small thing," she says. "I also enjoy seeing the diversity of insects. It might seem like a quiet agricultural field, but it's really complex with a lot of activity out there."*

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She enjoys getting students and growers excited about insects. Watching undergraduates complete research and pursue entomology in graduate school is also rewarding. "I want everyone to know that insects are a diverse group of animals," Legrand says. "We face many challenges from pest problems—including health issues. But we also need to appreciate the beneficial insects and make them better allies in what we're doing. Obviously, there is pollination. But beneficial insects also help with waste management, pest control, and in other areas."


Remote sensing for early detection of pest damage is one of her new research projects in agriculture and entomology. Legrand and Bivek Bhusal, her graduate student, are partnering with researchers in the Department of Natural Resources and the Environment. They are using drones to identify insect damage to plants. Analyzing the way the light bounces back from the plant surface helps them find tissue damage and then look for patterns. There is a lot of data, and it has many other applications for agriculture production, specifically in vegetable crops.

Extension educators at several Northeast states are collaborating on a brassica project. The results of their research will enhance agricultural operations. Maussi Arrunategui, another of Legrand's graduate students, is working on the project





with her. Brassica crops include broccoli, cauliflower, cabbage, and turnips. Her research avenues continue expanding and innovating beyond these projects. She is also securing more grant funding to sustain her research and extension initiatives.

"Extension work is valuable, and we want to keep people informed of the latest IPM developments," Legrand concludes. "There are so many new pest challenges and there are new options available for management of traditional pests. The local environment is important too, our research is more applicable to what people are facing here in Connecticut." 

*Article by Stacey Stearns*

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[s.uconn.edu/IPM](https://s.uconn.edu/IPM)







## You have questions.

Connecticut is a small, diverse state with urban and rural spaces. We understand that because we live and work here. Extension specialists are here to help you, your family, and your community.

We have answers to your questions ranging from livestock to farm business and regulations; climate resilience to finding community training opportunities; gardening to wildlife management; fitness to nutrition; and more.



## Connect with one of our professionals today.

We are ready to answer your questions.

- Submit a question online: [s.uconn.edu/AskExtension](https://s.uconn.edu/AskExtension)
- Q & A Video Gallery: [s.uconn.edu/AskExtensionVideos](https://s.uconn.edu/AskExtensionVideos)
- Email us: [extension@uconn.edu](mailto:extension@uconn.edu)
- Extension Specialists Directory: [s.uconn.edu/Specialists](https://s.uconn.edu/Specialists)
- Call us: **860-486-9228**  
(we will direct you to the right specialist).




## What are considerations for plant selection when designing a sustainable landscape?

*Answered by Vickie Wallace | [s.uconn.edu/UConnNativePlantGuide](https://s.uconn.edu/UConnNativePlantGuide)*

Proper plant selection is the most important step in designing a sustainable landscape.

- “Right plant, right place” is the fundamental principle for the environmentally sound management of landscapes. Select plants for aesthetic value, and also because they are adapted to the existing soil conditions, available water, microclimate, and space available.
- Choose biologically diverse plants to tolerate reduced irrigation (once established), fertilizer, and soil amendment inputs.
- Establishing strong, healthy, vigorous plantings is crucial for pest management in sustainable landscapes. A vigorous, healthy, unstressed plant can usually survive, avoid, or outcompete many potential disease, insect, and weed pests without further intervention.


- Native plants are best adapted to the local soils and site conditions. Incorporating native plants helps to restore local ecosystems that support a wide variety of indigenous and beneficial insect, bird, and animal species. Over time, as these native plants become established, they can increase biodiversity and contribute to a reduction in expense and time spent on maintenance.
- A healthy and diverse landscape supports naturally occurring beneficial insects. Native predators and parasitoids will help control harmful pests when provided the opportunity and necessary habitat for their survival. Many practices that support pollinators also support pest-controlling insects. 

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## How should I store and handle cheese?

*Answered by Dennis D'Amico | [foodsafety.uconn.edu](https://foodsafety.uconn.edu)*

It is best to store all cheeses in their original unopened package in the refrigerator no higher than 40 degrees Fahrenheit. Be sure to wash your hands and any utensils before handling and try to avoid touching cheese you plan to put back in the refrigerator. It is best to keep cheeses in their original package, especially sliced or shredded cheese. Don't put your hand directly into the bag, either pour shreds out or use a clean utensil to remove slices or shreds. Tightly wrap or seal the cheese

(or the original packaging) before putting it back in the refrigerator. You can also place the wrapped cheese in an airtight container if you have one. You can take cheese out of the refrigerator to come to room temperature before you plan on eating it but don't leave it out for too long as the texture will change and fats may seep out as oil on the outside. Place any leftover cheese back in the refrigerator as soon as you're done. 




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## What can I do to stay safe during a hurricane?

*Answered by Faye Griffiths-Smith | [s.uconn.edu/hurricane](https://s.uconn.edu/hurricane)*

Hurricanes cause high winds and flooding, and it's important to know the signs for either situation and take proper precautions. The signs of extreme winds include seeing and hearing wind gusts, trees swaying, sheets of rain or snow, and thunder and lightning. You should seek shelter inside, avoid being outside, avoid down wires, and stay away from trees and potential falling limbs when you identify high winds.

Roadways and walkways can become flooded during a hurricane. Extreme rain and swift moving water cause life threatening situations including being stranded, swept away and drowning. Pay attention to weather service alerts well in advance of a hurricane. Follow evacuation routes or move to higher ground. Never drive or walk-through flooded areas, standing water, or swift moving water.

Proper preparation, identification of hurricanes, and appropriate action can reduce the impact of disasters and emergencies. 



# Extension Internships

## Offering Experiential Learning and Expanding Our Impact

We had 17 students intern with Extension in the summer of 2021 and work 2,679 hours with Extension programs. A few of our students shared their experiences.



### Khadija Shaikh

Connecticut Trail Census Intern, New Haven and Middlesex Counties  
| Hometown: Charlotte, NC

Shaikh is passionate about social justice issues related to climate change. As a BIPOC woman, she is committed to showing that anyone can be an environmentalist and that environmental issues often take a disproportionate toll on communities of color.

### Candelaria Alday

Nutrition Education, Fairfield County Intern | Hometown: Bethel, CT

"I have always been passionate about helping others improve their lifestyle with exercise and nutrition. After taking introductory nutrition courses freshman and sophomore year, it developed my passion for nutrition even further. I was ready to get field experience to see if I could envision myself doing this as a career. This opportunity has really shown me what is beyond the doors of nutrition, and it has been amazing to witness how involved dietetic professionals are and how nutrition programs are integrated all within my own community."



### Colleen Brady

UConn 4-H Windham County Intern | Hometown: Ancramdale, NY

"Pursuing a STEM-related field myself, I was very interested in this internship opportunity in order to expose more kids to the exciting fields of science, technology, engineering, and math. STEM often seems daunting to younger kids, especially young girls, and this internship seemed like a great way to impact the younger generation to make them understand that anyone can get involved in STEM and show them how much fun it can be."





## Monique Mazaika

UConn 4-H New Haven County Intern | Hometown: Livermore, CA

"I was interested in this opportunity because it aligns with my interest in community nutrition, which allows me to practice skills that I have been learning in the Dietetics Coordinated Program and that I will use after graduation. Additionally, it is an amazing opportunity to network and grow as a future nutrition educator."

## Megan Davenport

UConn 4-H Hartford County Intern | Hometown: Woodbury, CT

"I developed a passion for agricultural advocacy and leadership development early on and knew I wanted my career to reflect this interest. This internship allows me to learn how to teach various age groups of students as well as students from various backgrounds and levels of experience in agriculture. Overall, the ability to connect and work with 4-H students while also providing a nurturing and resourceful environment for them to grow and thrive as young agricultural and community leaders was a perfect career opportunity for a future teacher like me."



## Marlena Takes

One Health Intern, Storrs Campus/Windham County  
| Hometown: Tolland, CT

Takes is helping develop a website to disseminate One Health information to the community. This information includes guidance on interacting with animals and food safety. She says this internship has helped her learn and practice how to make scientific information accessible to the general public. She looked to models like the CDC's website for inspiration about how to present key One Health information.

## Sara Tomis

UConn 4-H New London County Intern | Hometown: Preston, CT

Through her internship experiences, Tomis is crafting education materials for children as young as four years-old to adult professionals and consumers. Each demographic comes with their own needs and challenges for a communicator.







## Statewide Offices

Extension, with its headquarters on the Storrs campus, has offices throughout the state to better serve our communities.

### **UConn Storrs Campus**

[extension@uconn.edu](mailto:extension@uconn.edu)  
[cahnr.uconn.edu/extension](http://cahnr.uconn.edu/extension)  
860-486-3581

### **Soil Nutrient Analysis Lab**

[soiltest@uconn.edu](mailto:soiltest@uconn.edu)  
[soiltest.uconn.edu](http://soiltest.uconn.edu)  
860-486-4274

### **Home & Garden Education Center**

[ladybug@uconn.edu](mailto:ladybug@uconn.edu)  
[s.uconn.edu/homegarden](http://s.uconn.edu/homegarden)  
1-877-486-6271

### **Plant Diagnostic Lab**

[plant.lab.uconn.edu](http://plant.lab.uconn.edu)  
860-486-6271

### **UConn State 4-H Office**

[s.uconn.edu/4-H](http://s.uconn.edu/4-H)  
1-888-FOURHCT

### **4-H Education Center at Auerfarm**

[auerfarm.org](http://auerfarm.org)  
860-242-7144

### **Connecticut Sea Grant**

[seagrants.uconn.edu](http://seagrants.uconn.edu)  
860-405-9127

### **Fairfield County**

[fairfield@uconn.edu](mailto:fairfield@uconn.edu)  
203-207-8440

### **Hartford County**

[hartford@uconn.edu](mailto:hartford@uconn.edu)  
860-409-9050

### **Litchfield County**

[litchfield@uconn.edu](mailto:litchfield@uconn.edu)  
860-626-6240

### **Middlesex County**

[middlesex@uconn.edu](mailto:middlesex@uconn.edu)  
860-345-4511

### **New Haven County**

[newhaven@uconn.edu](mailto:newhaven@uconn.edu)  
203-407-3161

### **New London County**

[newlondon@uconn.edu](mailto:newlondon@uconn.edu)  
860-887-1608

### **Tolland County**

[tolland@uconn.edu](mailto:tolland@uconn.edu)  
860-875-3331

### **Windham County**

[windham@uconn.edu](mailto:windham@uconn.edu)  
860-774-9600