

Cornell Cooperative Extension Harvest New York



An innovative Cornell Cooperative Extension team that focuses on development projects in the Farm and Food Industries of rural and urban New York.

Quarterly Highlights Q2 2023



Harvest NY played an integral role in the production of the New York State *Cannabis sativa* L. Production Manual. See page 2 for details.

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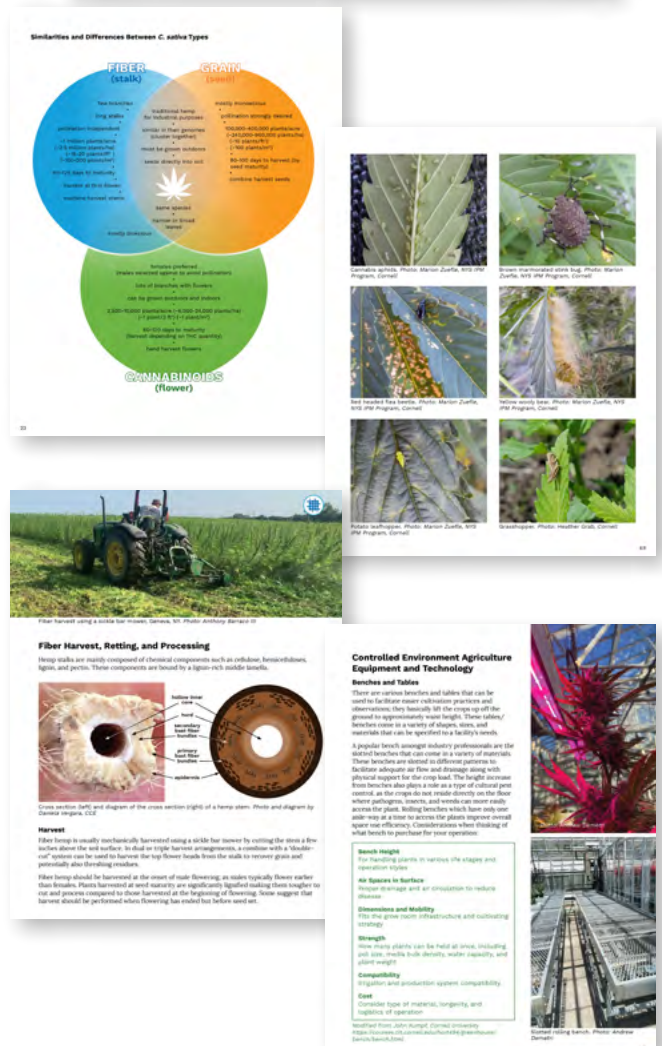
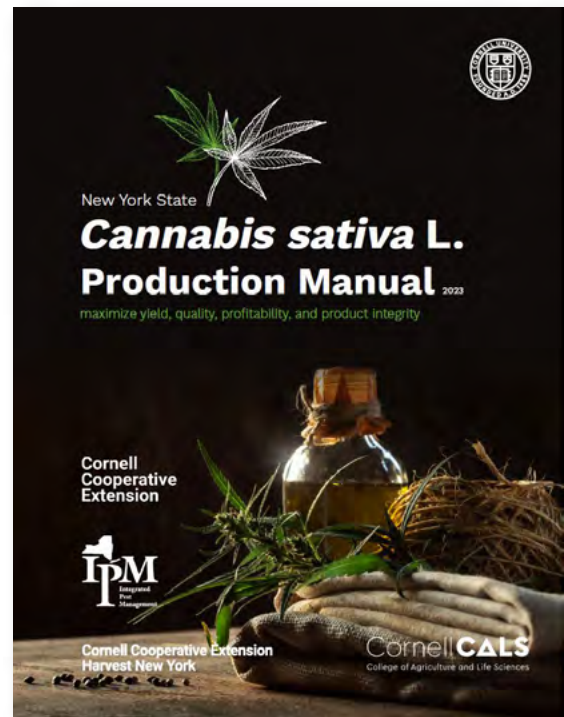
It's Out! New York State Hemp Production Manual Released

Cannabis sativa L. is a versatile crop used for cordage, textiles, paper, high-quality protein, oil for nutrition, cooking, lubrication, fuel or solvent in paints, personal and beauty products, and medicinal compounds. The legalization of hemp in the 2014 and 2018 Farm Bills allowed for cultivation of *C. sativa* with less than 0.3% tetrahydrocannabinol (THC—the psychoactive substance) and subsequently acreage of hemp cultivation has expanded. Market volatility and uninformed cultivation practices have highlighted the need for producers to have access to data driven information that can support both economic and environmental sustainability. Therefore, we developed the **first edition of a comprehensive [New York State Cannabis sativa L. Production Manual](#)** written for use by New York farmers, but much of the information can be used nationally and worldwide.

Harvest NY's Emerging Crops Specialist, Daniela Vergara, served as the lead author of the publication, pulling in additional authors from Cornell University, USDA, Cornell Cooperative Extension, industry, Alabama A&M University, and Cornell graduate students. Editorial review and publication design was completed by Cornell Cooperative Extension's Angela Ochterski.

This *Cannabis sativa* production manual is one of the most complete to date. In 208 pages, information is presented pertaining to the three production systems for which *C. sativa* is grown for: grain, cannabinoids, and fiber. It also includes a complete bibliography, glossary, and many photos, illustrations, and figures from multiple sources. This collaborative publication is a cutting-edge result, bringing evidence-based information to those who need it the most in an emerging industry that lacks access to proper educational materials.

The manual is available free online, allowing for wide dissemination of research-based information, creating community awareness and engagement, establishing the manual's scientific identity worldwide, and designating this manual as a go-to educational resource internationally.



Cover and four inner pages of the new manual. Inner pages (top to bottom): 1) Venn diagram showing the relationship between the three market-styles of *C. sativa*. 2) Some of the insect pests of the plant. 3) Stalk cross section for fiber hemp in the fiber section. 4) The first page of the Controlled Environment section.

Agritourism in New York State and Beyond

According to the 2017 US Census, agritourism fits into five main categories including direct sales to consumers, education, hospitality, outdoor recreation, and entertainment. We are still waiting on the recent census report but in 2017, New York had 6,622 farms offering direct sales or agritourism—with 525 farms relying only on agritourism, 301 farms offering both direct sales and agritourism, and the remainder only selling direct to consumers. Since 2020, there has been an increase in agritourism operations and an interest in consumers visiting agritourism operations. Farms are looking to add agritourism activities to the farm to increase sales, and current agritourism operations are looking to increase their knowledge and share their experience with other farmers.

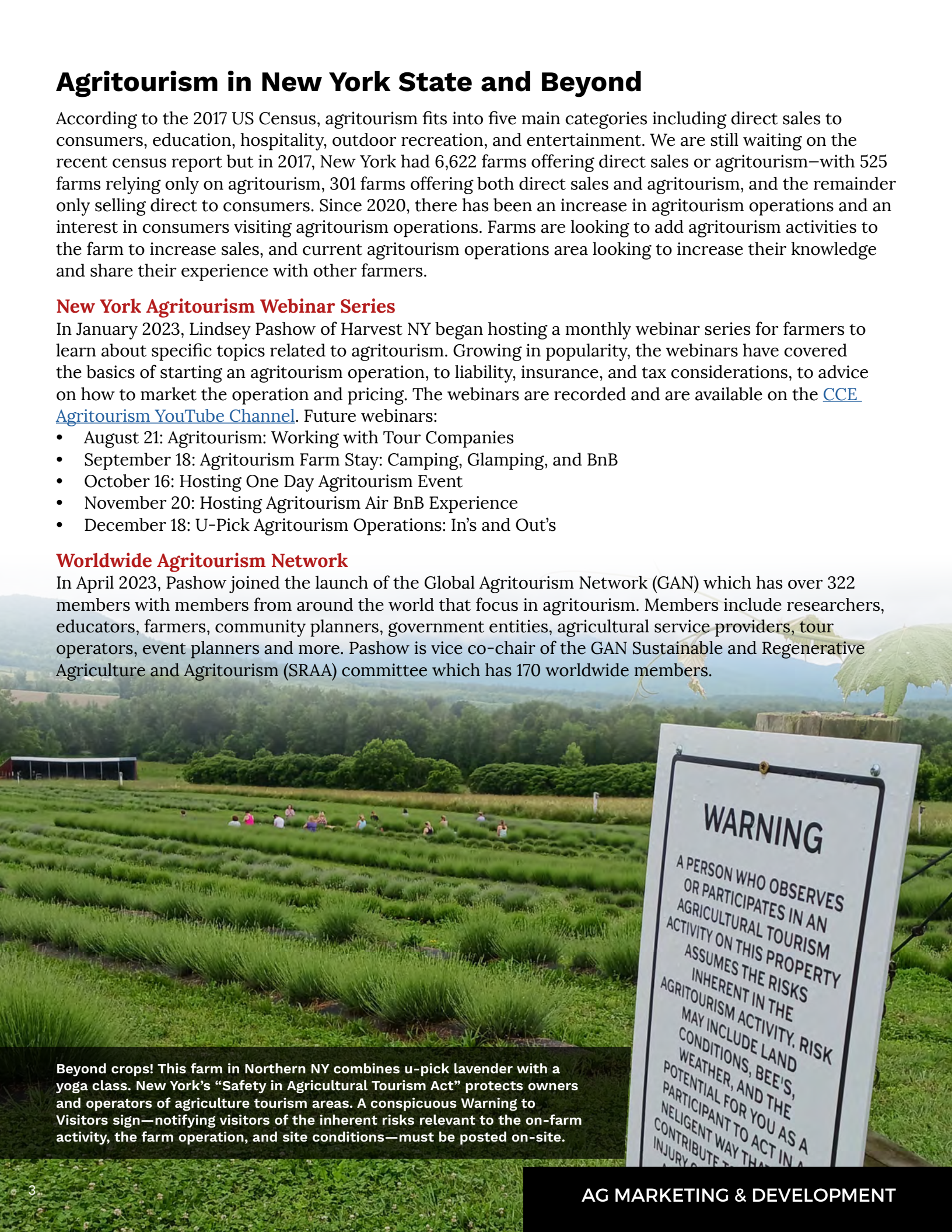
New York Agritourism Webinar Series

In January 2023, Lindsey Pashow of Harvest NY began hosting a monthly webinar series for farmers to learn about specific topics related to agritourism. Growing in popularity, the webinars have covered the basics of starting an agritourism operation, to liability, insurance, and tax considerations, to advice on how to market the operation and pricing. The webinars are recorded and are available on the [CCE Agritourism YouTube Channel](#). Future webinars:

- August 21: Agritourism: Working with Tour Companies
- September 18: Agritourism Farm Stay: Camping, Glamping, and BnB
- October 16: Hosting One Day Agritourism Event
- November 20: Hosting Agritourism Air BnB Experience
- December 18: U-Pick Agritourism Operations: In's and Out's

Worldwide Agritourism Network

In April 2023, Pashow joined the launch of the Global Agritourism Network (GAN) which has over 322 members with members from around the world that focus in agritourism. Members include researchers, educators, farmers, community planners, government entities, agricultural service providers, tour operators, event planners and more. Pashow is vice co-chair of the GAN Sustainable and Regenerative Agriculture and Agritourism (SRAA) committee which has 170 worldwide members.



Beyond crops! This farm in Northern NY combines u-pick lavender with a yoga class. New York's "Safety in Agricultural Tourism Act" protects owners and operators of agriculture tourism areas. A conspicuous Warning to Visitors sign—notifying visitors of the inherent risks relevant to the on-farm activity, the farm operation, and site conditions—must be posted on-site.

WARNING
A PERSON WHO OBSERVES
OR PARTICIPATES IN AN
AGRICULTURAL TOURISM
ACTIVITY ON THIS PROPERTY
ASSUMES THE RISKS
INHERENT IN THE
AGRITOURISM ACTIVITY. RISK
MAY INCLUDE LAND
CONDITIONS, BEE'S,
WEATHER, AND THE
POTENTIAL FOR YOU AS A
PARTICIPANT TO ACT IN A
NEGLECTFUL WAY THAT
CONTRIBUTE TO
INJURY

Growing Independently for Culture and Cuisine

Westchester County is among the top five wealthiest counties in New York State, however, some parts of the county lack access to fresh, nutritious produce. Yonkers, where the median household income is approximately 30% lower than the county average, is one of these food insecure areas. Although Yonkers is a low-income area, it is rich in culture and community. According to US Census data, 54% of the population identify as Black or Latino, and 31% of the population were born outside of the United States.

To address these socioeconomic barriers, local Yonkers high school, the Charter School for Educational Excellence, offers a one-of-a-kind robust culinary arts elective program to students that equip them with necessary skills to acquire immediate employment. As part of their Green School Initiative, the AP Environmental Science class began investigating food systems and urban agriculture as a way to gain access to fresh food for the culinary arts program, and improve soil health on campus with the goal of building a school garden. To support this effort, Urban Garden Specialist Makela Elvy connected the high school to their local community garden and secured 3 garden beds in 2022. At the community garden, Makela led urban gardening workshops on crop planning, intercropping, the social and environmental impacts of urban agriculture, food systems and soil health management. Through the connection to the community garden, students gain practical experience growing culturally relevant vegetables and herbs to share with community members and contribute to the school's culinary arts program.

In May 2023, the high school students harnessed the knowledge and experience gained through this initiative to create culturally significant foods as part of their culinary arts final. In June, the Charter School for Educational Excellence was able to get enough support to build a small vegetable and herb garden on their property to sustain these efforts.

Students at the Charter School for Educational Excellence (CSEE) participating in their culinary arts final (below, top). Bottom row: 1) Mexican Ceviche made during the culinary arts final. 2) CSEE students volunteering at the community garden. 3) Harvest NY's Makela Elvy teaching a workshop at Yonkers Community Garden. 4) New raised beds at CSEE.



A New Garden Grows in Brownsville, Brooklyn

At the Brownsville Neighborhood Health Action Center, an NYC Department of Health and Mental Hygiene facility, ground was broken for a new community garden. The garden will be at the rear of the building in a shaded area. Moya Dewar (holding the soil sample) is a Community Health Worker for the Bureau of Brooklyn Neighborhood Health. She met Kwesi Joseph, Harvest NY Urban Garden Specialist, at the GrowTogether GreenThumb Conference in April 2023. In May, Kwesi began visiting the location to coordinate the creation of the garden.

The garden will be built this summer. Members of the community have assisted in the removal of the grass and weeds to clear the area for the garden. Once completed, community members will be able to grow their own food in the garden. The garden will be offering programming for the community members. Kwesi is working with a local artist to create classes for the garden. Additionally, some of the faculty at the Cornell Institute of Healthy Futures (CHIF) may get involved with the garden. CHIF promotes green spaces in cities. There is an indirect relationship between green spaces and crime, and there is direct relationship between green spaces and mental health.



Above: Moya Dewar holding a soil sample taken from the location of a new community garden being established behind the Brownsville Neighborhood Health Action Center.

Below: A community member helps remove grass and weeds to prepare the area for the new garden.



Urban Farmer Training Program

Every year hundreds of applicants apply to urban agriculture training programs, like Farm School NYC, and are turned down due to lack of available slots to meet the growing demand for education in New York City. As a response to this need, the Harvest NY Urban Agriculture team collaborated with the International Rescue Committee (IRC) to launch an Urban Farmer's Training program. This two-year SARE funded project will support community members interested in working in the agriculture industry as new or beginning farmers. The aim is that 50 beginning and aspiring immigrant farmers will engage in comprehensive on-farm training. Of these, around 22 farmers will be involved in intensive training and stewardships to pursue income-earning or advanced skill training opportunities related to their local food system. Participants will graduate with knowledge in food systems, crop planning and rotation, seed starting, soil health, and composting, to name a few.

Earlier this spring, Urban Agriculture Specialist Sam Anderson taught a soil health workshop alongside Urban Garden Specialist, Kwesi Joseph to this year's cohort. On June 17, Urban Agriculture Specialist Yolanda Gonzalez coordinated a visit to Big Dream Farm, a lamb and African vegetable operation in Saugerties, NY run by farmer Kama Doucoure.

The project's education model of agriculture workshops and one-on-one technical assistance through the farm stewardship will provide participants with full support. Together with IRC, Cornell will build on its job readiness capacity to provide participants with continuing education workshops to strengthen participants' leadership skills. These transferable skills will enhance the learning goals necessary to pursue the agriculture industry. Finally, with the integration of partner sites to host participants' farming stewardships, aspiring immigrant farmers will be part of a larger agricultural network within New York City, gaining the connections and confidence to pursue a career in urban agriculture.

Buffalo Holds First Soil Health Day to Educate Growers About Importance of Soil Safety

Buffalo has had a thriving, engaged urban growing community for decades. Urban farmers and community gardeners have been honing their knowledge and skills for years with the help of fellow growers and a variety of community-based organizations whose goal is to empower those groups and ensure safety and success for all growers. The Greater Buffalo Urban Growers (GBUG), with the support of partners such as Cornell Cooperative Extension, Harvest NY, Soil and Water Conservation District, and Natural Resource Conservation Service, held their first Soil Health Day this past spring at Farmer Pirates Compost in Buffalo.

Community gardeners of all types—large scale, indoor, and backyard growers—were able to bring soil samples to the event to get them screened for contaminants, such as heavy metals, using an advanced technology system called a pXRF machine, or portable X-Ray Spectroscopy instrument. Participants could also have an interactive demonstration testing the pH of their soil, in addition to learning about compost and the chance to ask questions to soil experts. Additional opportunities were made available for those who wanted more in-depth testing of their sample, with future follow up and test results provided by Cornell University.

This free event was a success in educating community growers about the importance of soil health and safety, while providing individualized soil metrics to guide present and future urban growing practices.



Soil health experts and technicians use specialized pXRF machine to screen community soil samples.



Youth shows compost bin filled with nutrient-rich compost at Soil Health Day.

Rochester's Urban Ag Spring Conference Welcomes Record Attendees and Invigorating Workshops

The city of Rochester's blossoming community of growers gathered to celebrate urban agriculture during an enriching day of workshops and demonstrations at the Urban Ag Spring Conference on May 6, 2023, at Edison Tech High School.

The day kicked off with keynote speaker Leah Penniman, Soul Fire Farm, as 125 attendees enjoyed her discussion describing how her farm works towards food and land justice. Organized by the Rochester Urban Ag Working Group (UAWG), the day was filled with hands-on workshops, interactive demos, and educational lectures led by experts from Cornell University, the City of Rochester, neighborhood urban growers, school gardeners, and more. Breakout session topics included weed identification, mulching techniques, greenwashing, upcycling in the garden, and the importance of pollinators. A City-centered panel also took the stage to talk about Rochester-centric issues, highlighting successes and opportunities for growers in the City. Other nonprofits also brought information and giveaways, such as a seed exchange, set up for participants to interact with throughout the day.

Active members of the UAWG, such as Urban Garden Specialist Mallory Hohl of Harvest NY, and other representatives from CCE Monroe, Monroe County Soil and Water Conservation District, EquiCenter, 490 Farmers, Taproot Collective, and many other community partners worked for months to secure a robust schedule of urban growing-focused offerings. This free conference also included a locally procured lunch from Foodlink, a food-assistance nonprofit in Rochester.

A day centered around the great urban growers of Rochester and their supporters, the Urban Ag Spring Conference was a successful kickoff to the growing season, and the first of two community-growing events in Rochester, culminating with a day celebrating community gardens in the fall.



Marci Muller of CCE Monroe and Harvest NY, introduces keynote speaker, Leah Penniman of Soul Fire Farm.



Cornell University student speaks about weeds during a breakout session.



Conference participant engages with nonprofit tabling organization around growing education.



Conference attendees participate in hands-on outdoor mulching workshop.

Integrated Rice-Duck Farming in New York State

Efforts to cultivate rice commercially in New York State have been underway since 2013. However, the participation of farmers in this endeavor remains relatively low. Cornell Cooperative Extension is reintroducing rice farming at the Thompson Research Farm in Freeville, NY using Japanese technologies. The objective is to provide Extension services and facilitate technology transfer efforts in the next growing season so that more farmers adopt integrated rice-duck production and increase local production and consumption of rice.

What is rice-duck farming and how does it work?

Integrated rice-duck farming is an ancient Chinese practice that involves simultaneously growing rice and raising ducks in the same field. Ducks are introduced to the rice field at a certain growth stage of the rice plants, usually around two to three weeks after rice transplanting. The ducks play a crucial role in the ecosystem of the rice field. They eat insects, weeds, and other pests, while their manure acts as a natural fertilizer for the rice plants, providing essential nutrients like nitrogen to the soil. This natural pest control also benefits the rice plants by reducing competition for nutrients and resources. This system can offer better resilience to climate change, as it diversifies the farm's activities and resources. Because the rice produced receives higher prices, many farmers in Asian countries have adopted integrated rice-duck farming.

Integrated rice-duck farming has the potential to contribute to economic growth in local and regional areas through various means. These include the creation of new markets, increased agricultural productivity, and the generation of income for farmers. High-quality rice varieties, in particular, can offer substantial economic benefits. The market demand for specialized rice types like sushi rice and sake rice, which are used in the production of Japanese sake wine, has significantly increased. This presents profitable opportunities for rice farmers, as they can cultivate these sought-after rice varieties and not only increase their income but also contribute to the local economy by meeting the demand for premium rice products. Furthermore, the production of value-added goods such as packaged sushi rice or specialty sake can diversify revenue streams and stimulate economic growth in the Northeastern US region. In addition to rice, farmers can diversify their income through the sale of ducks and duck-related products, including meat and eggs.

We are conducting a supply chain analysis to demonstrate that the few farmers growing rice in the Northeast Region have been successful, and we will investigate the consumers' willingness to pay for locally produced rice.

Erik Andrus, owner of Boundbrook Farm, an integrated rice and duck farm in Vergennes, Vermont, talking with Precious Tshabalala, Harvest NY Food Systems Specialist. Cornell undergrad intern, Oscar Lieber, stands nearby ready to start planting a rice trial at the Thompson Research Farm.



The NY Food Hub Collaborative Hits the Road!

One of the key activities of the [NY Food Hub Collaborative](#) project is Food Hub retreats, which provide food hubs and Collaborative partners with dedicated time and space to build trust with one another and identify opportunities to work collaboratively on solutions to local food system challenges—with the goal of increasing the economic viability of NY’s mid-tier value chain partners and the producers they support, while simultaneously increasing the shopping cart of local, healthy food available to institutions.

Hosted by [Headwater Food Hub](#), the Collaborative had its inaugural retreat in Rochester, NY. Over the course of two days, partners spent time getting to know one another, both operationally and personally; values and vision were hashed out in small groups; national best practices were shared; and the retreat wrapped with some dreaming of what could be and what was needed to realize that collective dream.

The second retreat was hosted by [Eden Valley Growers](#) in Buffalo, NY. Once again, we focused heavily on moving further down that trust continuum, an effort not done in vain. We spent time talking State of the State, given the exciting and allied funding opportunities available in NY; reviewed how Hubs are currently transacting with one another; workshopped a few key outputs, like the food system asset map and institutional market analysis; and developed action plans for three working groups: two that focus on programmatic opportunities, and one on advocacy.

With the peak growing season upon us, we’re taking a pause from the road until October, at which time we’ll reconvene in Central, NY, hosted by [Upstate Growers and Packers](#).



Representatives from Eden Valley Growers, Headwater Food Hub, Upstate Growers and Packers, Hub on the Hill, 607 CSA, Grow NYC, Capital Roots, East End Food Institute, Farm Fare, and Cornell Cooperative Extension tour Headwater Food Hub in Ontario, NY.



Tianna Kennedy (607 CSA), Chris Hartman (Headwater), TC Washington (Headwater), and Corinna Lee (GrowNYC) participate in a sketch mapping exercise to support the food system asset map, being led by Syracuse University.



Representatives from Eden Valley Growers, Headwater Food Hub, Upstate Growers and Packers, Hub on the Hill, 607 CSA, Grow NYC, Capital Roots, East End Food Institute, NYS Dept. of Ag & Markets, Farm Fare, Syracuse University, and Cornell Cooperative Extension tour Eden Valley Growers in Eden, NY.

Finding Super New York Super-Kosher Food Items

Harvest NY's Regional Farm to School program has begun working with several Kosher-keeping schools that participate in the National School Lunch Program (NSLP). Driven by the receipt of funding through the Local Food for Schools program, interest in participating in the 30% NY Food Incentive Program, and interest in increasing the quality of food and quantity of fresh cooked items in schools within the Kosher-keeping community, Kristy Apostolides has taken lead on working to determine which super-Kosher items are produced by New York farmers and how we can introduce these schools to more local farms.

There are a number of private schools providing education to the Orthodox and Ultra- Orthodox Jewish community in downstate New York that participate in the NSLP, but due to religious observance, adhere to a stricter standard of Kosher, colloquially referred to as super-Kosher. These products are produced and distributed through a food supply chain that involves a completely separate system from the 'conventional' school food supply chain. To determine if the existing Kosher food products used in schools can be purchased using the Local Foods for Schools funding and to determine if these schools can adhere to Kosher law and still take advantage of the 30% NY Food Incentive Program, we have been tracing the origin of many product ingredients and, so far, have found several dairy items sourced from New York farms. Produce is another likely NY-sourced item that is currently being used in these Kosher-keeping schools and there is a lot of interest in creating a super-Kosher New York bread product, since flour as a raw ingredient is already Kosher. As the research into the supply chain continues, and interest grows in purchasing more local product, we expect to discover more New York super-Kosher items as well as expect to both introduce more New York farms to this exciting market opportunity and see some new New York super-Kosher products come to market.



FARM TO INSTITUTION

New Agriculture and Climate Change Program Work Team

Driven by CCE educators' expressed interest in additional opportunities to engage on climate-related issues, a new Agriculture and Climate Change [Program Work Team \(PWT\)](#) was approved by administration and held its first meeting in April 2023. The goal of the PWT is to bring together CCE educators, Cornell faculty and staff, technical service providers, and external stakeholders to collaborate on opportunities for advancing climate change mitigation, adaptation, and resiliency across agricultural, forested, and managed lands in New York State.

Initial meetings have entailed network building, priority setting, and strategizing a path forward. The team plans to collectively develop educational outreach materials to assist farmers and land managers in contributing to New York State's goal of reducing greenhouse gas emissions by 40% by 2030 and 85% by 2050, as outlined in the [Climate Leadership and Community Protection Act \(CLCPA\)](#) legislation that was passed in 2019.

Emily Lindback (CCE Suffolk Agricultural Stewardship Specialist) and Jenna Walczak (CCE Harvest NY Ag Climate Resiliency Specialist) are co-chairing the statewide group. If you are interested in joining the Agriculture and Climate Change PWT, please reach out to Jenna (jw2254@cornell.edu) or Emily (el684@cornell.edu). The group meets the third Wednesday of every month from 10:00 am to 11:30 am.

Fruit and Berry Twilight Meetings Connect Growers, Extension, and IPM

A new series of twilight meetings created opportunities for growers to network, talk shop, and visit new plantings. From 6:00 – 8:30 pm on the last Thursday of April, May, June, and July, CCE Lake Ontario Fruit Team’s Janet Van Zoeren, New York State IPM’s Anna Wallis, and Harvest NY’s Anya Osatuke spent time in a commercial berry planting with meeting attendees. Meetings covered topics including scouting, phenology review, and pest management. Growers were encouraged to bring pictures or bagged samples of berry and fruit crops that weren’t growing as expected. Meetings were free to attend and no registration was required.

The twilight meetings were hosted by Bobby Brown at Orchard Dale Fruit Company in Waterport, Dave Coulter and Mark Salvo of Coulter Farms in Lockport, Cornell AgriTech in Geneva, NY, and Kendra Burnap of Burnap’s Farm Market in Sodus.



Anna Wallis, NYS IPM, talking with participants of the of the twilight meeting at Brown’s Orchard Dale.



Janet Van Zoeren, CCE Lake Ontario Fruit Team, presenting at Brown’s Orchard Dale.



Anya Osatuke, Harvest NY, talking about raspberry production at the Coulter Farms twilight meeting.



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