Cornell Cooperative Extension
Harvest New York

Quarterly Highlights Q1 2022

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

- **Urban Fruit Tree Pruning**
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Fruit Tree Pruning Workshop at Morning Glory Community Garden, 3/19/2022.

Urban Fruit Tree Pruning

Since the beginning of the urban agriculture movement in New York City, urban fruit production has been an integral part of the harvest. Gardeners and farmers across the five boroughs grow:

- traditional pome and stone fruit, like apples, sweet cherries, peaches, pears
- common berries, like strawberries and blueberries
- specialty fruit crops like persimmon, quince, and paw paws

Successful tree fruit production requires ongoing maintenance and proper pruning to ensure a plentiful harvest.

The Bronx is a borough that is bursting with fruit production, with large urban orchards taking over vacant lots. To meet the need for fruit care management in the Bronx, Harvest NY Urban Agriculture Specialist Yolanda Gonzalez and Urban Garden Specialist Makela Elvy, in collaboration with NYBG's Bronx GreenUp, partnered to lead a fruit tree pruning workshop on March 19th at Morning Glory Community Garden. Morning Glory Garden is a 6,000 square-foot licensed Green Thumb Garden located in the Crotona Park East neighborhood of the South Bronx. The goal of the workshop was to teach urban gardeners and farmers necessary fruit tree management skills. Over 30 participants attended this event, including 5 participants who were able to leverage the hands-on experience to achieve NYBG's pruner certification. Throughout the workshop, participants demonstrated increased ability to use common pruning tools, differentiate between necessary cuts and future cuts, and conduct basic fruit tree health assessment.

"Lots of information shared and great tips for best practices when taking care of trees. Loved this program!"

Stevenson Orchard, a 2-acre space with over 150 fruit trees located across the street from Adali Stevenson High School in Soundview, Bronx.

Blustery Weather Makes for Good Blueberry Pruning

The prime time to prune blueberries is when the bushes are dormant, between January and April. A well-pruned blueberry patch is more likely to have vigorous, productive bushes, and reduced disease issues due to a host of benefits that come with regular pruning.

With the assistance of cooperating farms and local Extension offices, Harvest NY led 5 on-farm, hands-on blueberry pruning workshops across the state this winter.

Serendipity Blueberry Farm, Penn Yan, NY (Yates County), 2/21/2022

Cornell Orchards, a teaching farm and functional orchard (Tompkins County), 2/26/2022

Gakwi:yo:h Farms, sovereign territory of the Seneca Nation in Collins, NY (Erie County), 3/2/2022

Mandeville Farm, Spencer, NY (Tioga County), 3/5/2022

Mr. and Mrs. Hoover's farm, Fort Covington, NY (Franklin County), 4/6/2022

Lessons were structured to first strengthen attendees' knowledge of blueberry anatomy and biology, then boost their pruning confidence by allowing everyone to experience pruning hands-on. Harvest NY provided the recommended pruning equipment but encouraged attendees to bring their own too—this gave people a chance to recognize equipment that is dull, or the wrong size, without damaging their own bushes.

Connecting Classrooms to Community Gardens

Each year during the winter and early spring, community gardeners begin making their crop plan for the upcoming season by identifying local seed and transplant suppliers in New York City to ensure that their respective gardens can provide fresh, nutritious, and culturally relevant produce for community members to enjoy. This practice is especially important in environmental justice (EJ) neighborhoods where environmental adversity is high and the population faces significant barriers to access healthy food, such as low socio-economic status, limited grocery options, or are considered food deserts where fresh food is limited or nonexistent.

In 2021, Harvest NY Urban Garden Specialists Makela Elvy and Kwesi Joseph, partnered with the Advanced Cooking Education (ACE) 4-H After School Club to begin developing a community service component that connects ACE participants to local community gardens to address this need. With over 1 million dollars allocated in funding, this multi-year, city-wide program will engage 7th and 8th grade students from NYC Title 1 schools located in Brooklyn, Harlem, and the South Bronx.

On March 11, 2022, members of the ACE Club and Harvest NY team began the Pilot Test and Curriculum Development phase of this community service initiative with the start of an indoor herb trial at 55 Hanson Place in Brooklyn, NY. The three herb varieties selected for this trial are African Nunum Basil, Sweet Thai Basil, and Giant of Italy Parsley, due to their cultural relevancy, similar growth habit, maturation timeline and care needs. All the selected varieties in this trial were planted in self-watering trays and use an LED light indoor growing system. These trays will be observed over a 12-week period to identify the optimal time for transplanting. The objective of this trial is two-fold: to identify 3-4 culturally relevant herbs that can be incorporated into ACE cooking curriculum and to engage gardeners with more information on the varieties and samples to try in anticipation for the full program launch scheduled to take place next year.

Mirem Villamil, Head Garden Manager of Edible School Yard NYC, will assist Harvest NY with a nutrient density trial this summer at P.S. 216 in Brooklyn.

Increasing the Nutrient Density of Food in NYC Urban Gardens

The nutrient density of plants is directly proportional to the amount of nutrients in the soil the plants are grown in. New York City urban gardeners use compost to replenish the nutrients in their soils, however adding compost isn't enough. Compost can only supply elements that were present in the source material that was composted. This works well for adding the major elements found in plants: nitrogen (N), phosphorus (P), and potassium (K). However, important micronutrients such as copper (Cu), iron (Fe), manganese (Mn), molybdenum (Mo), and zinc (Zn) are steadily decreasing in food; therefore, they are steadily decreasing in compost.

Soil remineralization, or adding rock dust to soil, is a simple way to increase a broad spectrum of trace elements in soil. The bacteria in soil make the elements biologically available for plants to use. Urban Garden Specialist Kwesi Joseph has made it his goal is to "spread the gospel" about rock dust to community gardens in NYC this season.

Garden beds at P.S. 216 will be the site of a nutrient density trial.

At P.S. 216 in Brookyln, Joseph will be conducting a rock dust trial with the assistance of the Head Garden Manager, Mirem Villamil of Edible School Yard NYC. The trial will compare the nutrient density of plants grown in beds that have compost and rock dust to plants grown in beds with just compost.

With the collaboration of CALS Dean Ben Houlton and Research Associate Garrett Boudinot, the trial will also measure the amount of carbon sequestered in the soil by the rock dust. About four inches of rock dust, when added to soil, will sequester carbon.

TUFFS Spurs New Farmer-to-Farmer Connections in NYC

A year ago, The Urban Farmer-to-Farmer Summit (TUFFS) debuted as a virtual event, drawing presenters and participants from across the spectrum of New York City urban agriculture. With the success of the second TUFFS this winter, an annual farmer-to-farmer summit is taking shape in NYC—and it has already set the stage for several new farmer-led initiatives.

Harvest NY Urban Agriculture Specialists Sam Anderson and Yolanda Gonzalez convened a steering committee of urban farmers and other stakeholders to co-create the first TUFFS, and the 2021-22 event was once again guided by urban agriculture practitioners. With pandemic restrictions easing late last year, farmers wanted an in-person gathering at the end of the growing season, and so TUFFS was split into two parts.

Farmers self-organized part one of TUFFS, a gathering held in early December 2021 which brought together 30 urban farmers from all five boroughs of NYC—many meeting each other for the first time, and others who hadn't seen each other in person since 2019. For the second part of TUFFS, Anderson coordinated a virtual event in which 20 urban farmers shared technical breakthroughs and challenges from their farms—from mobile compost sifters and hydroponic equipment snafus to Nigerian crops and approaches to youth engagement—in a conversational show-and-tell format, with 56 farmers participating in all.

TUFFS' reach extends beyond the summits themselves. This winter's events inspired plans to re-launch an NYC chapter of CRAFT (Collaborative Regional Alliance for Farmer Training), which will include a series of farmer-to-farmer gatherings and possibly a new listserv for NYC urban farmers to sharenotes and opportunities throughout the season. TUFFS also provided a platform for the development of a new farmer-led project, funded by the Urban Design Forum and the NYC Department of City Planning, to create an interactive "resource map" which enables urban farms and gardens to share material resources—for example, coordinating bulk purchases.

In whatever form it takes next, TUFFS is set to become an annual fixture in NYC urban agriculture, and it is already forging new links between the city's farmers.

New Developments for Cannabis Producers in NYS

Adult-Use Conditional Cultivator License

The *Cannabis* industry continues to grow in the United States, with hemp now valued at $712 million! New York finally has regulations that allow for 'adult-use' *Cannabis* cultivation with a conditional-adult use cultivation license.

THC (Δ^9-tetrahydrocannabinol), the psychoactive compound in *Cannabis*, is the cannabinoid in which laws and regulations are based. Hemp, traditionally and biologically include those *Cannabis* lineages used for industrial purposes such as for fiber, grain or oil extraction. Due to definitions in recent regulations, hemp also includes *Cannabis* producing less than 0.3% THC, although high in other beneficial compounds. *Cannabis* is increasingly grown for these other compounds, including Cannabidiol, or CBD. Proponents claim many therapeutic benefits from CBD, which can be extracted without high levels of THC.

Experimenting with Novel Growing Approaches

Multiple companies are improving their growing operations, both outdoor and indoor, in search for the best ways to grow the *Cannabis* plant to reach their full potential. All these innovative companies are trying novel and ingenious methodologies to differentiate themselves and establish their brands. The Harvest NY team will continue to support hemp companies in their ventures to establish a thriving *Cannabis* industry in NYS.

Daniela Vergara cutting clones at Tap Root Fields.

Professional Cannabis Meetup Group

Harvest NY, along with *Cannabis* community members, have established **The NY Cannabis Professional Meetup Group**, a monthly event bringing together scientists, academics, professionals, and entrepreneurs to network, educate, and learn more about *Cannabis*. The Meetup has been incredibly successful with approximately 30 attendees, either in-person or via Zoom.

Meetup organizers (left to right): Corinne Devine and Tim McDowell from Bristol Extracts; Daniela Vergara, CCE Harvest NY; Brandy Young, Certainty Analytical Labs.

Celebrating Cultural Diversity with Buffalo Farm to School

Buffalo's Celebrating Cultural Diversity Initiative (see Harvest NY Q3 2021 Highlights, page 6) made great progress in early 2022. To launch the Initiative with the six pilot schools, Chef Sharif Abdi and Farm Mentor and Incubator Farmer Mahamud Mberwa of Providence Farm Collective (PFC) trained Buffalo Public School's (BPS) food service staff and Buffalo Farm to School team members how to prepare githeri, kachumbari, and chapati, dishes native to their homeland. The githeri was prepared with African maize grown in PFC's soils from seeds brought over from Tanzania. The kernel is larger than sweet corn, chewy, nutty, and quite delicious. The recipes were served to teams of administrators, faculty, and students at the pilot schools during the project's kick-off meeting.

While Providence Farm Collective is 20 miles south of Buffalo, many of the farmers' children attend BPS and have yet to enjoy a recipe at school native to their culture—a reality this Initiative aims to correct through the redevelopment of school food bids.

When asked during the kick-off if anyone had tried this food before, one young student noted:

> ***"I know this menu because my mom makes githeri at home and I'm used to it. It's a surprise to know my school lunch is now featuring our own language and culture within the school."***

This Initiative is supported by a USDA Farm to School Implementation Grant. Project co-leads include Buffalo Public School Food Service and Cornell Cooperative Extension, Harvest NY. Core project partners include Providence Farm Collective, Food for the Spirit, Urban Fruits & Veggies, Buffalo Food Equity Network, Cornell Cooperative Extension of Erie County, D'Youville College, Buffalo School of Culinary Arts and Hospitality Management, and the Cornell Vegetable Program.

Bridget O'Brien Wood (left), BPS Food Service Director, and Mahamud Mberwa (right), PFC Farm Mentor and Incubator Farmer, roll out chapati dough for Sharif Abdi, PFC Chef, to pan fry.

Sharif Abdi (left), PFC Chef, works with Bridget O'Brien-Wood (middle), BPS Food Service Director, and Cheryl Bilinski (right), CCE Harvest NY Specialist, on standardizing the githeri recipe. Photo by R.J. Anderson, Cornell Cooperative Extesnion

Values-Based Purchasing through Buffalo Farm to School

Buffalo Farm to School serves as an exemplary model of what occurs when action is put behind intention, in this case through the redevelopment of their school food bids, the singular mechanism used by the Buffalo City School District to source food.

Buffalo Public School's (BPS) school food bids awarded priority points to local food and farm partners who are value-aligned with the BPS Farm to School program. These values include local economies, with the highest number of points awarded to Buffalo-based urban farms; diversity, equity, and inclusion, with points awarded to BIPOC and women-owned farms; environmental sustainability, with points awarded to organically-produced products; food safety, with points awarded to producers adhering to the highest food safety standards; and animal welfare.

A total of $930,420 was awarded to NY food and farm partners for 2022-23:

- Providence Farm Collective ($4,765), Celebrating Cultural Diversity's primary farm partner, is a consortium of New American farmers, largely from East Africa and Myanmar. They will be supplying the district with items never served in BPS school lunch before: African maize, Asian eggplant, African eggplant, sweet potato leaves, roselle leaves, Swiss chard, and collards.
- Flat 12 Mushrooms ($7,000), an indoor mushroom farm on Buffalo's west side.
- Groundwork Market Garden ($8,900), a diversified urban farm on Buffalo's east side that grows to organic production standards and is co-owned by a woman.
- 5 Loaves Farm ($1,200), a diversified urban farm on Buffalo's west side that grows to organic production standards.
- Eden Valley Growers/Western NY Food Hub ($342,454), a 60-year-old NY Grown & Certified vegetable cooperative in Eden that supports over twenty multi-generational farms.
- Bippert's Farm Market ($16,000), a certified woman-owned business and 4th generation farm located in Elma.
- Headwater Food Hub ($54,986), a certified B-Corp who works collaboratively with a network of regional farmers and food producers to coordinate a "Good Food System" that delivers sustainable foods year-round.
- Wardynski's ($264,515), a family-owned and operated Buffalo business since 1919, who custom produces NY Grown & Certified beef products, free of nitrates, artificial ingredients, and preservatives.
- Slate Foods ($189,700), a certified woman-owned business that partners with a consortium of farms and processors in various regions across the state to provide schools with NY Grown & Certified beef, free of growth-promoting antibiotics and hormones.
- Empire State Farms ($40,900), a central NY business that provides institutional markets with NY Grown & Certified beef products.

Harvest NY Specialists worked with BPS to design bid language that enabled value-aligned producers to successfully respond to school food bids, trained producers how to respond to the complicated bids, and developed business-to-business relationships between farmers, processors, manufacturers, and distributors.

A field of young beet plants struggles under dry growing conditions.
Photo by Julie Kikkert, CCE Cornell Vegetable Program

Ag Climate Resiliency Specialists Join Harvest NY

The new Ag Climate Resiliency Specialists will gear their efforts towards:

- **Mitigation** – Reducing agricultural greenhouse gas emissions and sequestering carbon.
- **Adaptation** – Increasing the resiliency of New York State farms in the face of a changing climate.

Follow the Ag Climate Resilience team on Facebook, Instagram, and Twitter for events, news, and relevant information.

Water, muddied with soil, pours off a field in early spring following a flash flood.
Photo by Judson Reid, CCE Cornell Vegetable Program

Buckwheat cover crop grows between rows of sweet corn, helping to protect the soil from erosion. Once the cover crop dies, the decaying plant material will add nutrients to the soil.
Photo by Judson Reid, CCE Cornell Vegetable Program

Zach Spangler

Zach Spangler joined the Harvest NY team as an Ag Climate Resiliency Specialist in March. In this work, he aims to support farm practices which enhance farms' resilience and long-term economic viability while reducing greenhouse gas emissions.

Concern over climate change and a deep desire to protect natural systems originally led Zach to SUNY College of Environmental Science and Forestry where he earned a B.S. in Chemistry and became interested in ecosystem services provided by agricultural land and the complex relationship between agriculture and climate change. Over the next several years, he worked on research projects which aimed to limit greenhouse gas emissions by developing renewable fuels and chemicals. Zach felt an increasing urgency to support people in adapting to current and inevitable impacts of climate change. To this end, he earned his M.Sc. in Disaster Risk Management and Climate Change Adaptation from Lund University in Sweden. His thesis identified relevant adaptation practices and studied why farmers may or may not implement them, including the role of the local Extension staff in this decision-making process.

Zach has worked or volunteered on a variety of farms in the U.S. and Sweden including an urban farm, a small family orchard, and two midsized vegetable, field crop, and livestock farms. Through these experiences, he has seen the benefits of practices such as silvopasture and rotational grazing.

Zach is excited to work with farmers to improve resilience and decrease GHG emissions. He is particularly enthusiastic about holistically assessing complexing systems and finding win-win-win solutions which achieve farm profitability, greenhouse gas emission, and resilience goals with no regrets. You can contact Zach at zhs3@cornell.edu.

Jenna Walczak

"Hello! My name is Jenna Walczak, and I recently joined the the Harvest New York team as an Ag Climate Resiliency Specialist!

After growing up gardening with my dad in Western New York, I became further interested in agriculture while studying Biology and Environmental Studies at Colgate University. I learned about the diversity of agricultural production systems in the United States and the complexities of these social-ecological systems. During my undergraduate studies and afterwards, I worked on farms and in community gardens throughout the United States—including operations on the Olympic Peninsula, in Northern Arizona, and across New York State.

I gained hands-on experience in urban farming and gardening, greenhouse growing, small-scale livestock production, and CSA management. I was first introduced to Cornell Cooperative Extension through my position as the Program Manager for the Journey's End Refugee Services Green Shoots program in Buffalo, NY. I collaborated with Extension staff on crop planning for a quarter-acre urban farm, workshops for new American farmers, and crop variety trials. In addition to farm production knowledge, I have experience writing, managing, and reviewing state and federal agricultural grants.

In my new role with Harvest NY, I collaborate with farmers and Extension staff across the state to help interested stakeholders implement greenhouse gas emission reduction strategies and develop agricultural systems that can withstand changing climate conditions. Key parts of this effort include providing educational opportunities and supporting farmers in accessing funding for climate-related projects. My areas of programmatic interest include agroecology and work with frontline communities.

I am currently based in the Hudson Valley. I can be contacted at jw2254@cornell.edu."

Harvest NY Specialists

Growing New York's Farm and Food Economy

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