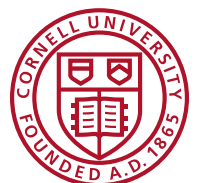




# HARVEST NEW YORK 2023 Year in REVIEW

## Linking Consumers and Agriculture Producers

Harvest NY is an innovative Cornell Cooperative Extension team that focuses on growing New York's Farm and Food Economy. Harvest NY seeks to link consumers and producers in four major areas: Food Systems, Urban Agriculture, Emerging Crops, and Climate Resiliency.





On the cover...

Harvest NY Specialist Kwesi Joseph (center) with fellow collaborators at the opening of a new garden at the Salvation Army's Springfield Residence in Queens, NY. See page 7 for details.



# From the Team Leader

The term 'first ever' appears repeatedly below for very good reason. CCE Harvest NY identifies new opportunities in the farm and food sectors and develops solutions that advance the economic, social and environmental sustainability for New York stakeholders. In 2023, we accomplished the following:

- Published the first ever NYS urban ag report incorporating expertise from over 100 stakeholders across NYS and NYC.
- Directly supported the procurement of \$8,224,808 in support of 644,916 students.
- Published the first ever NYS *Cannabis sativa* production guide, with more than 1,200 downloads to date.
- Collaborated on the creation of new urban gardens in diverse neighborhoods in Queens and Nassau County.
- Supported 90 NYS school districts procurement of locally grown food, including first time ever to reach 30% level in Long Island, Northern NY and the Hudson Valley.
- Reached 680 with agritourism resources and created CCE's first ever agritourism webpage.
- Published the first ever guides to urban ag pests in NYC in English and Spanish.
- Employed transitional young adults at a Rochester urban farm, growing 1,000 lbs of produce while developing job skills which have lead to full time employment for participants.
- Coordinated a tour of 17 Buffalo urban ag sites for 500 participants.
- Initiated the first ever national urban ag curriculum for USDA employees.
- Developed 14 new outreaches with NYC Department of Education for NYS food worth 8.4 million dollars.
- Initiated CCE's programming for Minority and Women Owned Businesses.
- Conducted disease management trials in strawberries in conjunction with farmers and faculty.

2023 was an impactful year for CCE Harvest NY. Our major partners include NYS Department of Agriculture and Markets, NYC Department of Education, NYS Office of Cannabis Management, NYS Berry Growers Association, Scenic Hudson, and many more. We could not do this work without you! Most importantly, we thank the gardeners, farmers, processors, and school food authorities that we serve. Please reach out with questions on any of our success stories herein.

Judson Reid

Team Leader and Extension Vegetable Specialist



# A Study of Urban Agriculture in New York State Released

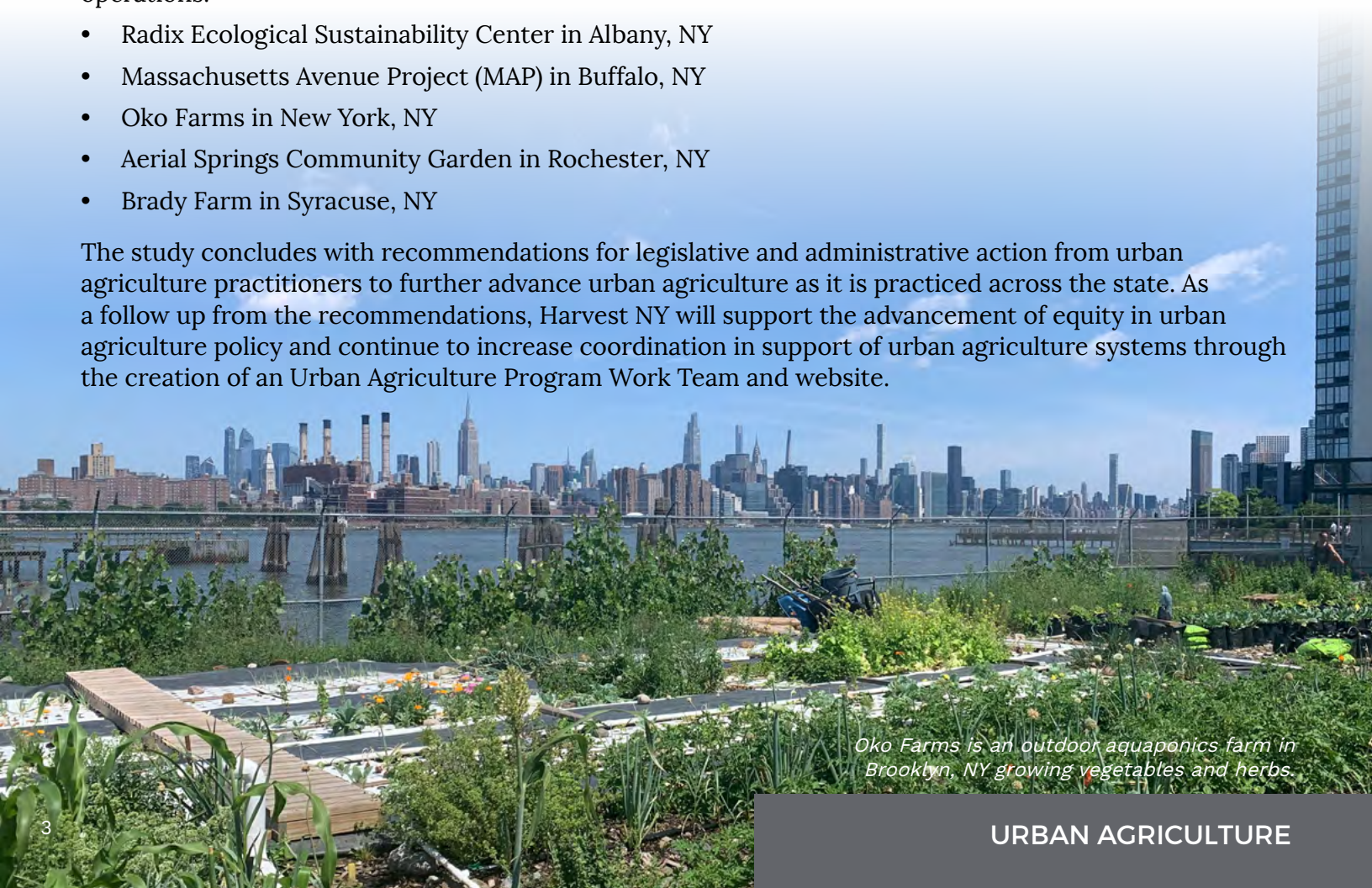
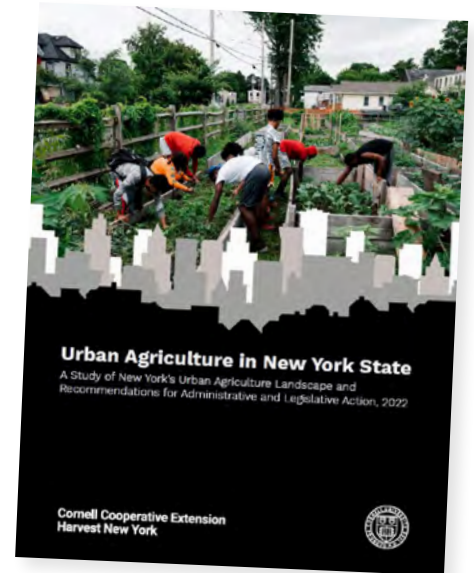
The Harvest NY team, including Yolanda Gonzalez and Kyle Karnuta, and the New York State Department of Agriculture and Markets are excited to announce the publication of [Urban Agriculture in New York State: A Study of New York's Urban Agriculture Landscape and Recommendations for Administrative and Legislative Action, 2022.](#) Studies published prior to this report only covered community gardens rather than a variety of urban agriculture typologies (including commercial operations), or only focused on a specific city, like New York City. This report incorporates expertise and feedback from over 100 urban agriculture stakeholders, examining urban agriculture across New York to create a state-wide snapshot.

The study highlights the major forms of urban agriculture currently practiced in urban centers across the state, including vertical farming, community gardening, and urban farming. In addition to categorizing the various forms of urban agriculture, the study examines the impacts that urban agricultural practices and markets have on access to locally grown food, job creation, education opportunities, and the environment. By researching and reporting the benefits and limitations of urban agriculture, as well as challenges facing the expansion of urban agriculture, the Harvest NY team provided policy recommendations to maximize the benefits of urban agriculture.

To illustrate urban agriculture as it is practiced in New York, case studies highlight the diversity of operations:

- Radix Ecological Sustainability Center in Albany, NY
- Massachusetts Avenue Project (MAP) in Buffalo, NY
- Oko Farms in New York, NY
- Aerial Springs Community Garden in Rochester, NY
- Brady Farm in Syracuse, NY

The study concludes with recommendations for legislative and administrative action from urban agriculture practitioners to further advance urban agriculture as it is practiced across the state. As a follow up from the recommendations, Harvest NY will support the advancement of equity in urban agriculture policy and continue to increase coordination in support of urban agriculture systems through the creation of an Urban Agriculture Program Work Team and website.



*Oko Farms is an outdoor aquaponics farm in Brooklyn, NY growing vegetables and herbs.*



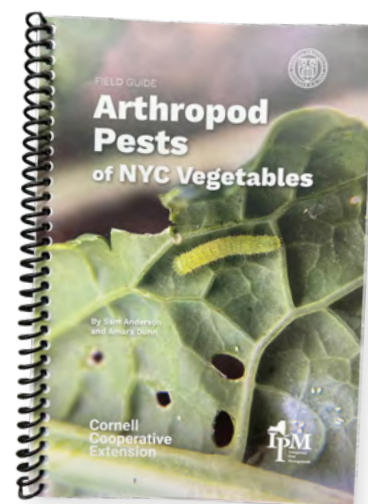
# Insect Identification for NYC Farmers and Gardeners

For those growing vegetables on the more than 60 farms and 700 community gardens across New York City, like anywhere else, correctly identifying insects is essential. It's also an area of need: In a recent CCE survey, urban farmers ranked insect ID as their top educational priority; in workshop pre-assessments with NYC farmers and gardeners in recent years, participants correctly identified insects as either pests or natural enemies only about half of the time.

It doesn't help that some of NYC's most prevalent pests of vegetable crops—such as harlequin bug and twospotted spider mite—are usually only discussed in university resources as pests in other regions or in specific settings, such as in the southern U.S. or in greenhouses. Others—such as cabbage whitefly and pigweed flea beetle—are rarely mentioned at all.

Urban Agriculture Specialist Sam Anderson, with Amara Dunn of the New York State IPM Program and with funding from the Toward Sustainability Foundation, set out to fix this by creating and distributing field guides tailored for the farmers and gardeners of New York City. Now, over 350 print copies of [\*Arthropod Pests of NYC Vegetables\*](#) are making their way into urban growers' hands. They were also able to translate another new guide they'd worked on, [\*Beneficial Insects of NYC Farms\*](#), into Spanish, printing and distributing another 300 copies. NYC's two largest community gardening programs, overseeing more than 600 gardens combined, are both planning to create their own print runs of one or both guides for their gardeners.

In the course of this work, Anderson made some new discoveries, too. He located broad-headed bug as a pest of pigeon peas, documented a newly expanded range of host plants for spotted lanternfly nymphs, and identified a highly effective and apparently naturalized predator of twospotted spider mite on cucumbers at multiple urban farms, a *Stethorus* ladybeetle.



**Most recently, Anderson found an *Encarsia* wasp species which does not appear to have been recorded anywhere else in North America, but which appears to be locally naturalized in NYC as a parasitoid of cabbage whitefly. By rearing the wasp indoors in late 2023, he observed its ability to effectively control cabbage whitefly in a controlled setting, suggesting its future use as a biocontrol.**

Now, with the new field guides becoming staple resources for urban farms and gardens in New York City and beyond, many urban farmers have already said they feel better equipped to identify insects on their plants—and more confidence to make discoveries of their own.



*Newly discovered Encarsia wasp parasitizing cabbage whitefly nymphs.*





## Harvest NY Offers Education, Fresh Produce, and Job Readiness Training to the Rochester Community

Harvest NY is celebrating a successful season building community health and resilience in Rochester, New York, offering education, fresh produce, and job readiness training in the community.

Rochester has the highest percentage of food insecure households in the state, with roughly 135,000 people at risk of hunger on any given day. Economic factors since the COVID-19 pandemic have exacerbated this problem, with farm-level fruit prices increasing 19% since 2021, and farm-level vegetable prices increasing a staggering 52.1%. One in five children in Monroe County are now suffering from food insecurity.

Harvest NY is addressing this crisis through multiple avenues. The South Lawn Project farm at Cornell Cooperative Extension of Monroe County is stewarded by members of GROWS (Gaining Relevant and Outstanding Work Skills), a transitional jobs program for unemployed young adults. Working with Harvest NY Urban Agriculture Educator Michael Kincaid, team members learned how to grow their own food, created resumes, received their OSHA 10-Hour certification, and helped friends and family build vegetable plots at home. The team **doubled last year's harvest, donating more than 1,000 lbs of produce to food pantries, saving Rochester families between \$2,200 and \$5,900 in food costs.**



*Harvest NY Urban Agriculture Educator Michael Kincaid and the GROWS team.*

The South Lawn focuses on regenerative farming, highlighting soil amendments it is possible to produce from waste streams: compost, worm castings, and biochar. In collaboration with New York Soil Health and the Rochester Institute of Technology, the GROWS team gained valuable work experience in designing and tracking experiments, public speaking, and graphic design, presenting educational outreach on soil health amendments to visitors of all ages. The program disbursed more than \$22,000 in stipends over the summer, and participants continued on to full-time employment and education after the season, greatly increasing their future ability to provide for themselves and their families.



## A New Community Garden in Nassau County

There are few gathering spaces for beginning gardeners to exchange techniques, expand their knowledge, and provide their neighbors with access to fresh, nutritious produce in Nassau County. In 2023, a location for a new community garden was selected, cleared and a garden committee was established within the village of Valley Stream. The location is approximately  $\frac{1}{4}$  acre and accommodate approximately 56 garden beds with the current garden plan.

The Village of Valley Stream is one of the most diverse communities in Nassau County with people of color making up approximately 70% of the population, and it is one of the villages on Long Island that provides residents access to federal and state subsidized housing programs. Many Valley Stream residents lack the growing space necessary to apply or improve their horticulture and agricultural skills. There is only one community garden existing in Valley Stream, whereas Nassau County has a vibrant community of approximately 100 master gardener volunteers who are equipped to provide garden-based programs to their community members. The lack of gathering space for beginning gardeners to exchange techniques, expand their knowledge, and provide their neighbors with access to fresh, nutritious produce in Valley Stream means that residents have to travel outside of their immediate neighborhoods to gain access to gardening space and attend educational programs.

Makela Elvy from Harvest NY partnered with educators from CCE Nassau and officials from the Village of Valley Stream to support the development of a second community garden. The Village of Valley Stream designated, designed and cleared approximately  $\frac{1}{4}$  acre for the community garden. Through significant outreach efforts, CCE Nassau organized a community garden steering committee and Elvy worked collaboratively in the community engagement efforts. In November, the Village held a press conference to announce the new developments of the project, where Elvy presented on the beneficial impact of community gardens to gain community support.

Assemblywoman Michelle Solages committed approximately \$75,000 to this project, and has made available \$15,000 to begin site development in 2023. Elvy's presentation to community members increased community support for the project. Forty community members attended the press conference and many of them expressed interest in securing a plot and attending events at the new community garden.



*Press Conference (left to right): Hildur Palsdottir Dello-Iacono, Makela Elvy, Assemblywoman Solages, Gregory Sandor, and Michael Fiorentino.*



## Collaboration Leads to New Garden Opening and Educational Opportunities for Families in Transitional Housing

On Saturday, April 22, a new garden was launched at the Salvation Army's Springfield Residence in Queens, NY. The garden opening was a culmination of more than a year of planning between Cornell Cooperative Extension (CCE), the Cornell Human Ecology (CHE), the College of Agriculture and Life Sciences (CALS), and Harvest NY. The garden was built for the children to learn about gardening and for the parents to use the vegetables for their nutritional program.

Action Research Collaborative (ARC) collected data during the two, 8-week nutrition programs run by the Expanded Food and Nutrition Education Program (EFPNEP). That data will be published in 2024. Urban Garden Specialist Kwesi Joseph of Harvest NY designed the garden then taught gardening classes for the youth each week. The transplants were provided by Brooklyn Grange, Sunset Park. Some of the vegetables grown in the garden were: collards, kale, tomatoes, basil, eggplants, ground cherries and green peppers. Tomatoes and kale were the most popular vegetables.

This was the second time that Joseph and Tashara Leak, the Co-Director of the ARC, Associate Professor in the Division of Nutritional Sciences at Cornell University and Division of General Internal Medicine at Weill Cornell Medicine, and Associate Dean of Cornell Human Ecology, collaborated on a project. Their first project was building a garden for The Advanced Cooking Education (ACE) program at Our Lady of Trust Catholic Academy in Canarsie, Brooklyn in 2022.







## Buffalo Urban Farm Day Showcases City's Flourishing Urban Growing Community

Buffalo's third annual Urban Farm Day took place this year on Saturday, August 26. Seventeen urban farms spanning not only the City, but also neighboring towns, welcomed visitors during this free event. Experienced growers, novice gardeners, and those interested in the local food system were able to take part in both guided and self-guided site tours, in addition to a variety of workshops throughout the morning and afternoon. Topics such as indoor mushroom farming, urban food production, food preservation, therapeutic gardening, composting, and equitable urban growing were among the highlights of the timed workshops. Folks were able to shop farm stands to purchase local produce, make and take native flower bouquets, and enjoy made-to-order pizzas cooked in an outdoor farm pizza oven to cap off the enriching experiences.

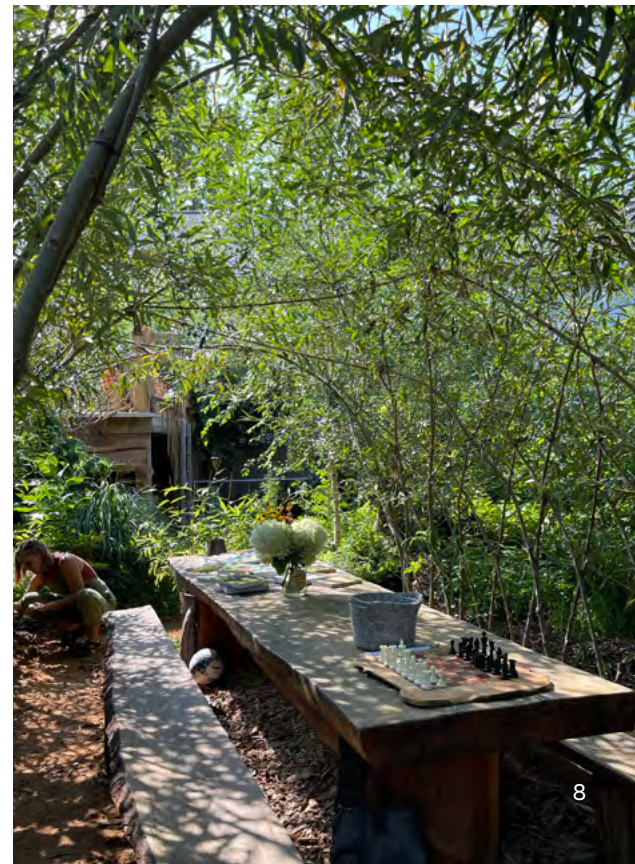
Harvest NY Urban Garden Specialist Mallory Hohl, co-chair of the Urban Farm Day planning committee, in addition to urban farmer and home gardener committee members, began planning this event months in advance, with the help and guidance of the parent group Gardens Buffalo Niagara. Through long standing partnerships, support, and collaboration, the committee secured participation in this day with most of the Buffalo urban farms, a local pay-as-you-go community café, and the University at Buffalo Food Lab.

With an estimated 500 attendees of Buffalo Urban Farm Day, this event has proven to be an annual summer highlight for many local Buffalonians, in addition to tourists interested and engaged in the urban growing scene in WNY.

*Pelion Gardens (left) and Bolyard Garden (right).*



URBAN COMMUNITY GARDENS





# Urban Agriculture Curriculum Design Influenced by Stakeholder Feedback

The USDA’s National Urban Agriculture Initiative (NUAg) team hosted a project kickoff in October in Atlanta, Georgia. The purpose of the 3-day conference was to clarify the goals of the initiative and showcase the USDA’s increased investment in urban agriculture to project stakeholders. Cornell’s Urban Agriculture Curriculum Development Specialist, Kyle Karnuta, and project PI and Co-PI, Judson Reid and Vicki Giarratano, respectively, presented Cornell’s plan for NUAg at the conference.

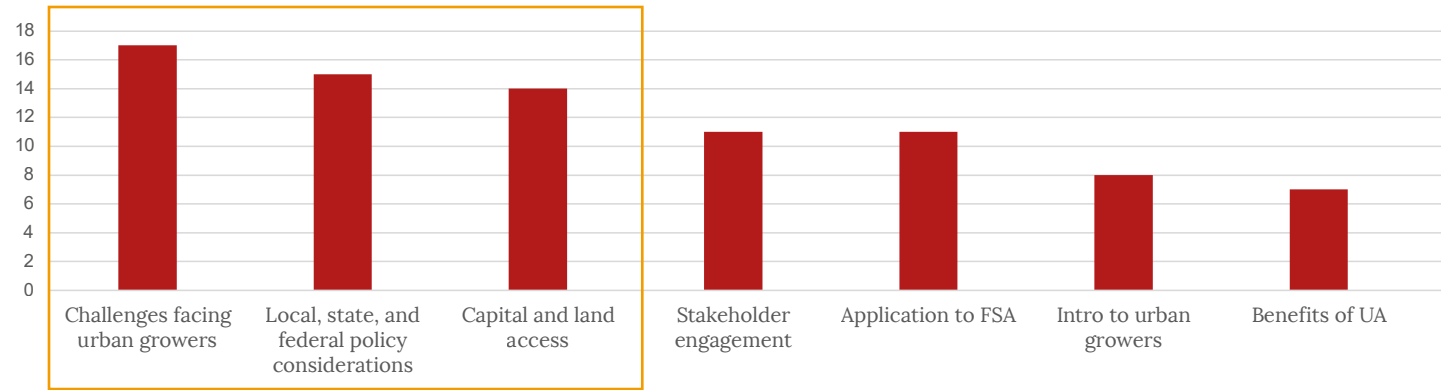
Our team is tasked with building a curriculum for USDA employees about urban agriculture: what is it, what are the benefits, who are urban growers, and what challenges do they face? Before meeting in Atlanta, Karnuta developed a preliminary curriculum outline of ten modules. She vetted this outline with USDA leadership, the project team, and urban agriculture experts at Cornell Cooperative Extension.

## Draft of the NUAg Curriculum Course Modules

Background	Application
<div><div>Virtual</div><div>0. Introduction 1. Food Systems Fundamentals 2. Introduction to Urban Growers 3. Recognizing Urban Agriculture 4. Urban Agroecologies 5. Benefits of Urban Agriculture</div><div>Live Zoom Session</div></div>	<div><div>Virtual</div><div>0. Pre-work 1. Challenges Facing Urban Growers 2. Dig Deeper: Capital and Land Access 3. Stakeholder Engagement 4. Local, State, and Federal Policy Considerations 5. Application to FSA</div><div>Wrap Up</div></div>

The Cornell team solicited feedback on the curriculum outline from conference attendees, who are all project stakeholders. The major takeaways for the curriculum development team include the need to focus on what USDA employees can do to improve conditions for urban growers within the scope of their roles: what challenges do growers face, especially regarding capital and land access, and what local, state, and federal policies must they consider? Additional feedback illustrated the need to keep training modules practical and create space for discussion and workshops to inform recommendations.

## Priority Curriculum Topics Specified by Stakeholders



We also asked audience members from the USDA to share what most motivated them at work. Community and agricultural impact, a sense of purpose, and feeling like part of a team were key motivators. Our curriculum development team will use these results to inform training design and our approach to marketing the training at the USDA to incentivize strong participation.

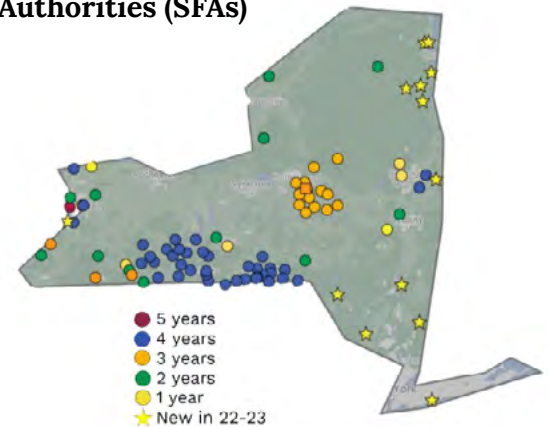


## Five Years of 30% NY Initiative Success

The Harvest NY Farm to School team has been a strong supporter of the 30% NY Initiative since its inception, recognizing the program's ability to catalyze local procurement efforts. Five years later, we're excited to reflect on the program's success.

- To date, 77 school food authorities (SFA), representing ~90 school districts, have successfully qualified for the 30% NY Initiative.
- Since 2018, SFAs have spent over \$26M on foods grown, raised, and produced in NY State. Because some SFAs stop tracking local food purchases after reaching their 30% threshold, this dollar amount under-represents actual purchases.
- Several exciting firsts were realized during the 2022-23 school year, demonstrating that there is no one-size-fits-all approach to 30% success:
  - There were 13 first-time applicants
  - A Long Island SFA successfully qualified for the first time (Copiague)
  - The Hudson Valley saw its first successful applicants (4 SFAs)
  - The North Country saw significant increases in participation (6 newly successful SFAs)
  - For the first time, an SFA successfully qualified without using fluid milk purchases (Livingston Manor)
  - Buffalo Public Schools qualified again, marking 5 years of purchasing over 30% local foods for use in their lunch program

**Map of Successful School Food Authorities (SFAs)**



**While there is no universally adaptable pathway to 30% success, qualifying certainly doesn't happen by accident, but rather through intention. Farm to School Coordinators worked closely with partners on strategic bid development, supply chain coordination, product development, and traceability, among other things. Visit [Harvest NY's 30% Newsletter](#) to learn more about the program's success over the past 5 years.**

## 2023 Harvest NY Farm to School Highlights

Directly supported the procurement of \$8,224,808 in support of 644,916 students and indirectly supported an additional \$3,609,256 in support of 36,750 students

Partnered with 20 stakeholders to leverage nearly \$4M to expand Farm to School programs across NYS

Provided 2,176 direct contact hours to 4,851 Farm to School stakeholders

Provided statewide training on the [30% NY Initiative](#), [Buying Part or Whole Animals for School Meal Programs](#), and the [Strategic Use of USDA Foods and the 30 NY Initiative](#)

Hosted a Virtual Vendor Showcase featuring products from 17 NY Food Producers ([Day 1](#). [Day 2](#))

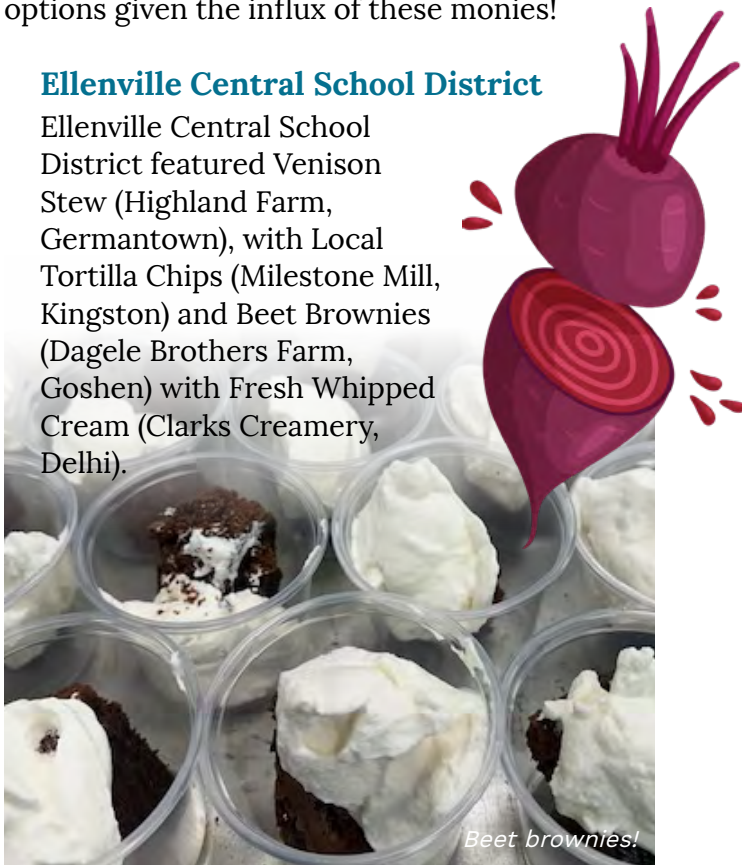


## Local Foods for Schools

Harvest NY partnered with the NYS Department of Education Child Nutrition Department (State Ed) to serve as [Local Food for Schools](#) (LFS) Technical Assistance providers. Harvest NY is actively working with 76 awardees to spend \$10,621,129 on New York Food Products. In response to the opportunity, Harvest NY created a [database](#) listing small businesses and socially disadvantaged producers, the primary beneficiaries of LFS funds. This database was shared with SFAs and continues to be populated with new producers. While the program is still ongoing, Harvest NY has already witnessed some exciting new menu options given the influx of these monies!

### Ellenville Central School District

Ellenville Central School District featured Venison Stew (Highland Farm, Germantown), with Local Tortilla Chips (Milestone Mill, Kingston) and Beet Brownies (Dagele Brothers Farm, Goshen) with Fresh Whipped Cream (Clarks Creamery, Delhi).



### NYC Office of Food and Nutrition Services

In response to their 8.4 million LFS award, NYC Department of Education released 14 competitive outreaches for minimally processed produce products, 12 of which have been approved and added to their distribution contract.

## Building Capacity for Farm to School in NY

The Harvest NY Farm to School team is excited to announce a new 3-year partnership with the NYS Department of Education: *Building Capacity for Farm to School in NY*, which leverages \$2.1M in Federal Formula Funds to support SFAs ability to procure and menu local foods in school meals, and to provide agricultural education opportunities to K-12 students. Activities supported through these monies include a statewide Farm to School Summit to take place in Syracuse in November 2024 (save the date!), culinary training, regional farm to school expos, farm to school education, and marketing and promotion resources.

## New York School Food Cookbook

Significant progress was made on the NY School Food Cookbook in 2023. The project team was busy developing and NY'ifying Child Nutrition friendly recipes, testing recipes with our SFA partners and K-12 eaters, developing companion materials (such as cooking technique videos and photos of different steps involved in recipe execution), and training food service workers on how to prepare recipes. In 2024, we'll publish the cookbook, companion resources, and offer more culinary trainings across the State.





## Buffalo Farm to School is a Net Positive

Todd Schmit, Senior Author, and co-authors Shayna Krasnoff and Cheryl Bilinski, published a study titled [Economic Impact Assessment of Public Incentives to Support Farm-to-school Food Purchases](#), in the journal Food Policy in November 2023. The study analyzed the economic impact of the 30% NY Initiative using procurement data from Buffalo Public Schools, the 2<sup>nd</sup> largest school district in the State. Results demonstrate net positive value-added impacts of the policy even when a negative impact is applied to account for the cost of the policy to taxpayers (the cost of the 30% Initiative). For every dollar in gross domestic product lost in the state to support the program, \$1.06 of gross domestic product is expected to be added. However, the results are only true to the extent that the increase in local food spending is commensurate with an expansion of the related farm and food product industries to meet that demand. Specifically, at least 67% of the growth in local food spending must contribute to new aggregate demand for the related food product industries, rather than reallocation from other local marketing channels. Detailed information about the study can be found in [Food Policy](#), and through a [webinar](#) hosted by Schmit and Bilinski.



## Harvest NY Farm to School In the News...

### [NYS Celebrates Addition of Local Fish to Farm-to-School Lunch on Long Island](#)

State Agriculture Commissioner Richard A. Ball joined leadership and staff from North Shore High School and Cooperative Extension for a special 'NY Thursdays' lunch serving, for the first time, locally caught fish.



*CCE Harvest NY Farm to School team members with Commissioner Ball holding fish tacos.*

[Salamanca Recognized as "Champion of Change" District for School Food Program](#) (Olean Times Herald)

[What's Cool in School: Salamanca Schools Focusing on Fresh and Local for Food Services](#) (Olean Times Herald)

[Adams Administration Secures Funding to Reimagine Farm to School Programming in New York City Schools](#)

[Mayor Adams And Chancellor Banks Announce \\$8.4m State Grant To Purchase School Food From Local Farmers](#)

[Farm to School Collaboration to Bring Fresh Produce to Students in Four School Districts](#)





*Food Systems Specialist Precious Tshabalala of Harvest NY presenting at the New York State Food Policy Council Summit, with co-panelist Cynthia James of the Cornell Food Venture Center and Fran Daloia of Feast Kitchen.*

## Supporting Minority and Women-Owned Businesses in New York State

The Minority and Women-Owned Business Enterprise (MWBE) program was created to promote and increase the participation of minority and women-owned businesses in state contracting and procurement activities. The program seeks to foster equal economic opportunities by leveling the playing field and eliminating barriers for minority and women-owned businesses to compete for state contracts. Businesses that are bonafide minority, women-owned or both according to the New York State Executive Law Article 15-A, which outlines the goals and requirements for the NYS MWBE program can apply for certification through the Division of Minority and Women Business Development (DMWBD).

New York State has a utilization goal for state agencies and authorities to award 30% of contracts to certified MWBEs. Utilization rates in commodities like agricultural goods remain low. This is attributable to there being only a few firms certified under these commodity codes. Out of the 9,526 certifications in New York State, only 39 of those are food and agricultural businesses.

A survey was sent out to assess the degree of awareness of the MWBE program. Ninety farmers reported they did not know about the certification program. In the same survey, respondents who knew about the program highlighted the perceived complexity and lack of clarity in the certification process.

In response to the survey results Food Systems Specialist Precious Tshabalala is developing a program that is focused on providing technical support to MWBEs. This involves educating and creating awareness about the program to increase the number of certified businesses and ultimately increase their participation in state contracts.

Tshabalala participated in a panel discussion at the inaugural New York State Food Policy Council Summit with over 80 attendees. The panel discussed strategies for bolstering minority and women-owned businesses in the food sector.

Additionally, Tshabalala hosted a webinar walking MWBEs through the process of getting a NYS certificate. This webinar was attended by 39 businesses and follow-up information/resources was sent to 79 firms that registered to attend the webinar.



# CCE and Cornell Educators Connect at Climate Symposium

After last year's Agriculture, Food, and Environmental Systems In-service, CCE educators expressed interest in more opportunities to engage in climate topics. As a result, CCE leadership initiated a planning committee for the CCE Climate Symposium.

The [2023 CCE Climate Symposium](#) was held on November 9th at the conclusion of this year's Ag In-service. Over 115 people attended the event that was held on-campus in Ithaca. An additional 27 participants joined the afternoon-long event virtually. The goal of this year's event was to serve as an opportunity for CCE educators, Cornell faculty, researchers, and NYS stakeholders involved in climate, the environment, energy, justice, forestry, water, and agriculture to connect and collaboratively present on shared interests.

Jenifer Wightman, Senior Extension Associate in the Cornell School of Integrative Plant Science, kicked off the event by giving an introductory presentation on NYS greenhouse gas emissions, mitigation, and funding. Julie Suarez, Associate Dean for Land-Grant Affairs at the Cornell College of Agriculture and Life Sciences, gave the Climate Symposium's keynote address on New York State climate policy, agriculture and forestry greenhouse gas mitigation goals, and Cornell CALS climate-related research and projects.

The afternoon featured a series of one-minute lightning talks given by CCE county association, regional team, and campus faculty and researchers. Presenters were divided into three different categories focused on different aspects of climate work including Responding to the Impacts of Climate Change in New York State, Forests and Farms, and Energy and Community. Each lightning talk section was followed by fifteen minutes of question-guided discussion between individuals in the audience.

Jenny Kao-Kniffin, CCE Associate Director and Associate Professor in the School of Integrative Plant Science, gave concluding remarks that tied together the history and threads of climate work across CCE—from county associations to the new CCE Director, Andy Turner.

At the end of the symposium, participants filled out a card indicating what they need individually, organizationally, and within their communities to further their work on climate. Responses expressed a need for increased networking and communication between Cornell and CCE and expanded funding for education and research. Overall, the event succeeded in increasing awareness with 96% of post-event survey respondents reporting that they were more knowledgeable about climate related work across CCE and Cornell after the symposium. Additionally, 89% of respondents learned about or connected with a colleague that they plan to follow up with afterwards and 96% feel that they now have more information and/or know where to find resources to incorporate climate topics into their work.

The mandate of Cornell Cooperative Extension is to put “knowledge to work in pursuit of economic vitality, ecological sustainability and social well-being.” The post-event survey results hint that the Climate Symposium helped to provide CCE educators on the ground with the information and resources they need to educate stakeholders about practices for mitigating and adapting to climate change, as relates to this mandate.

Speakers and participants expressed a desire for additional CCE climate-related events in the future. In the post-survey, participants indicated interest in topical webinars, regional working group meetings, site visits, one-day in-person meetings, and networking events.

Members of the Climate Symposium Planning Committee included Katherine Bunting-Howarth, Antonius Chess, Jr., Nancy Glazier, David Kay, Laura McDermott, Jenny Kao-Kniffin, Sarah Muzio, Kitty O'Neil, Savanna Shelnutt, Jenna Walczak, and Jenifer Wightman.



# Development of a Statewide Agritourism Program

## NY Agritourism Educational Resources and Outreach

Harvest NY's Lindsey Pashow developed the [Cornell Cooperative Extension \(CCE\) Agritourism webpage](#), housing agritourism resources and a listing of upcoming events for farmers and educators. Additionally, videos are now posted on the [Cornell Cooperative Extension Agritourism YouTube channel](#).

In 2023, Pashow and the CCE Agritourism Program Work Team hosted a monthly webinar series for farmers to learn about specific agritourism topics regarding. Over the year, the webinar series had 680 people attend the live webinars and 466 views on Agritourism YouTube channel.

## Cornell Cooperative Extension Secures Grant to Enhance Beginning Farmer Agritourism Operations in New York

In New York, the agritourism industry has evolved over the past twenty years. Agritourism has been a market diversification opportunity for many agricultural operations. According to the 2017 Ag Census, there are 525 farms who exclusively operate an agritourism operation and agritourism revenue has tripled between 2002 and 2017. While the beginning farmer population makes up 1/3 of the industry.

CCE Harvest NY (Lindsey Pashow) and CCE Broome (Laura Biasillo) received a USDA Beginning Farmer and Rancher Grant totaling **\$313,763** to provide educational outreach to agritourism operations throughout New York State. The project, spanning three years, is focused on addressing key themes faced by beginning farmers operating in the agritourism sector, including risk management, customer service, diversification, and marketing strategies. The funding will enable Cornell Cooperative Extension to offer educational outreach to beginning farmers, including 24 webinars, regional networking events, a statewide conference, and the creation of an online education platform.

The project began in September 2023 and will conclude in September 2026. The grant includes a project team of Jennifer Fimbel (CCE Dutchess), Victoria Giarratano (CCE Administration), Steve Hadcock (CCE Capital Area Agriculture and Horticulture Program), Elizabeth Higgins (CCE Eastern New York Commercial Horticulture Program), Molly McManus (CCE Broome), and Judy Wright (CCE Seneca).

Grant events—webinar series, regional networking events, and conference—and educational resources will be located on the [CCE Agritourism webpage](#) and [CCE Agritourism YouTube channel](#).



## Networking Beyond New York State

### Global Agritourism Network

In April 2023, Harvest NY's Lindsey Pashow joined the newly formed Global Agritourism Network (GAN) which has over 600 members from around the world. Members include researchers, educators, farmers, community planners, government entities, agricultural service providers, tour operators, and event planners that are involved with agritourism. Pashow is vice-chair of the Global Agritourism Network Sustainable and Regenerative Agriculture and Agritourism (SRAA) committee which has 300 members from 75 countries. Pashow is also part of GAN's Webinar and World Agritourism Day committees.

### National Extension Tourism

In September, Pashow presented at the National Extension Tourism (NET) Conference in Milwaukee, Wisconsin. Her presentation was on a "Worldwide Perspective on Regenerative and Sustainable Agritourism." She is co-chair of the NET Agritourism Working Group with Lisa Chase, Director of Tourism at the University of Vermont.



# A Big Year for *Cannabis sativa* in New York

## Hemp *Cannabis sativa* Field Day

This year's Hemp *Cannabis sativa* Field Day was a huge success, with more than 100 attendees that included people of color, women, and the various stakeholders from the NYS cannabis industry including farmers, educators, entrepreneurs, and the presence of Cornell's ILR (Industrial and Labor Relations), and the OCM (Office of Cannabis Management). The event featured seminar-type talks, panel discussions, and a tour of Cornell University's high-cannabinoid *Cannabis* fields.



*Panel discussion at the Hemp Cannabis sativa Field Day in August 2023.*

## *Cannabis sativa* Production Manual

Released in March 2023, the [New York State Cannabis sativa Production Manual](#) has had more than 3,223 previews by at least 2,254 unique people with more than 1,202 free downloads!

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 currently being translated into Spanish, so more science-based bilingual information is coming soon! The manual, in both English and Spanish, was possible thanks to funding from the Toward Sustainability Foundation.

## Grant Supports Compost Monitoring

Tap Roots Fields, a Central NY cannabis company, was granted an award from the New York State Pollution Prevention Institute (NYSP2I). This award was possible through a collaboration between Tap Root Fields, the 2021 Grow NY Winner company WeRadiate, and the Harvest NY Emerging Crops Specialist Dr. Daniela Vergara. Thanks to this grant, Tap Root Fields will be able to monitor their composting piles, including temperature and humidity data, using the probes produced by WeRadiate.



*Visit to a compost site in NYC in October 2023 with members from the site, Tap Root Fields, Cornell, and WeRadiate.*

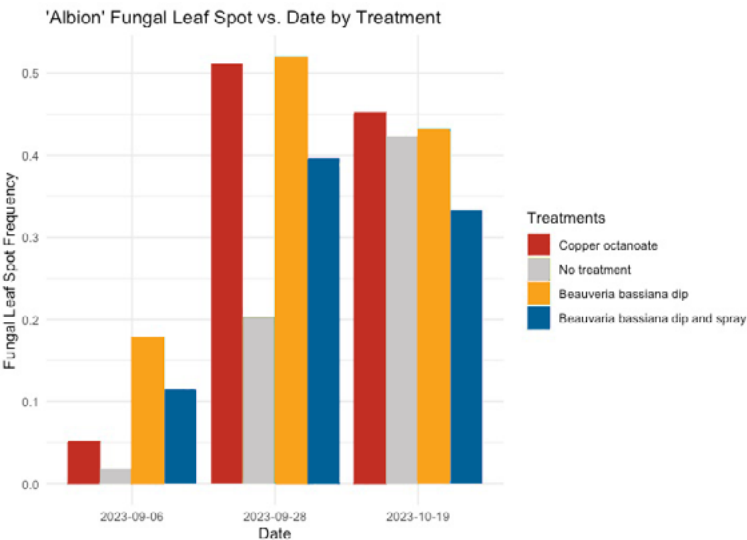


# Berry Research in NY to Inform Effective Fungicide Strategies

Fungal diseases of strawberry can cause major crop losses. Research conducted in 2023 evaluated low-toxicity products for their ability to prevent foliar fungal disease in strawberries, and tracked the emergence of fungicide resistance in local strains of *Botrytis* gray mold.

## Low Toxicity Foliar Fungicide Trial

Harvest NY Berry Specialist Anya Osatuke partnered with the lab of Plant Pathologist, Dr. Kerik Cox to trial a new option for strawberries: the Prime Superior formulation of *Beauveria bassiana*. This biological product was evaluated as a broad-spectrum plant protectant, compared against the Bonide formulation of copper octanoate—another broad-spectrum fungicide—and an untreated control. ‘Albion’ strawberries were treated according to manufacturer recommendations and evaluated for fungal leaf spot incidence and foliar burn.

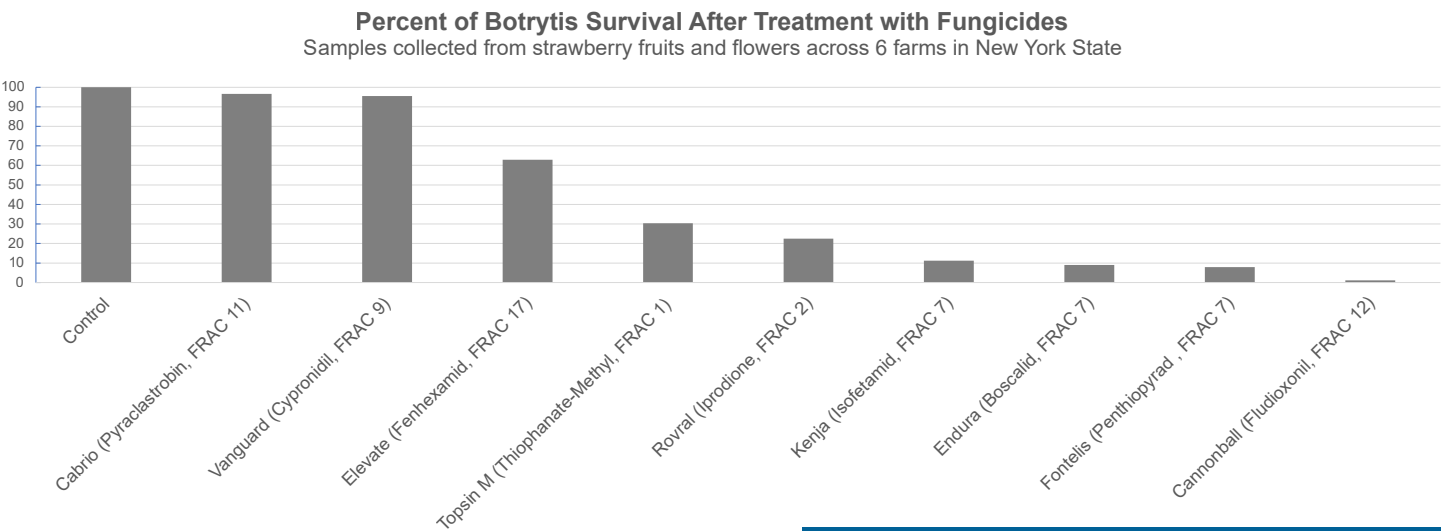


The findings of this study suggest that regular applications of *Beauveria bassiana* may offer a buildup of plant protection over time, whereas regular copper octanoate does not appear to protect against foliar fungal disease as the season progresses.

## Botrytis Fungicide Resistance Trial

Dr. Mengjun Hu, Plant Pathologist at University of Maryland, conducted a regional survey of emergent fungicide resistance in *Botrytis*. With the generous collaboration of growers across New York State, Specialists Anya Osatuke and Laura McDermott (CCE Eastern NY Commercial Horticulture Program) gathered samples to evaluate our local pathogen populations. Each partner-farm received a personalized summary of the fungicide resistance present in their *Botrytis* samples.

Dr. Hu’s analysis found some level of resistance in all single-site fungicides tested in this trial. That means that growers relying heavily on any of these products will benefit from incorporating more multi-site products in their rotation and minimizing the use of single-site fungicides when possible, and only spraying products when the weather is humid or rainy. Even for products with a low rate of resistance, we anticipate their overall efficacy to decrease over time as resistance continues to build.





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Growing New York's Farm and Food Industries

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