NYFVI. Creating the Knowledge that Farmers Need to Succeed.

At the New York Farm Viability Institute (NYFVI), we believe that farmers know the problems they need solved and can determine if a potential solution could be adopted on their farm. That's why our competitive grant program relies on New York farmers to read and score the research proposals we receive. We also rely on a 10-person board of directors to lead the organization. Ag organizations nominate seven directors, and three at-large members identified by NYFVI to ensure a range of industry perspectives are represented. All directors are limited to two consecutive three-year terms.

The projects that Farm Viability selected for funding in the 2021 and 2022 FVI grant rounds were reviewed and evaluated by farmers across the State, and final funding decisions were made by the NYFVI board of directors. Farm Viability would like to thank our farmer reviewers for the time they invest in reading and scoring proposals.

We would also like to thank the New York State legislature and Governor for providing us the opportunity to connect farmers' needs to the development of agricultural research and education projects. We appreciate the leadership of Senator Hinchey, Assemblymember Lupardo and their Ag committees as they have helped their colleagues build knowledge about the food system and agriculture across the State.

NYFVI Board Officers

Dave Ryan has served on the NYFVI board since 2018 and as its chair since 2021. He represents the NYS Nursery and Landscape Association.

Tim Dressel joined the board as an at-large member in 2020. He has served as its vice chair since 2021.

Mary Jeanne Packer represents the Council of Agricultural Organizations on the NYFVI board. She is serving her second year as Secretary and Treasurer and her sixth year on the board.

New Products

Emerging Opportunities

The creativity of New York's farmers and the organizations that support them is impressive. The rise in direct market cut flower growers is creating the potential for cover crops to manage weeds, other growers want to explore if NY chickpeas are economically viable, and wool and hemp growers are exploring the potential of new, high quality fibers.

NYFVI is particularly excited about a focus grant project to explore and document the potential of aquaculture for urban and community gardens. The knowledge it creates will provide a strong foundation for organizations across the state.

Building a Roadmap to Incorporate Aquaculture and Aquaponics for Community and Urban-based Gardens.

Elisa Livengood— SUNY Morrisville

The goal of this project is to examine the feasibility of incorporating aquaculture and aquaponics systems into community and urban garden spaces. It will assess the opportunities for community and urban garden organizations to incorporate aquaculture by identifying current producers in New York. We will collect data on barriers, logistical challenges and critical components of the planning process with community organizations and existing aquaponics and aquaculture facilities through interviews, site visits, and science methodology. These data will inform the development of a planning worksheet and a decision tree will provide potential producers the ability to assess the feasibility and scale of the aquaculture operation their logistics and site constraints allow. This developed tool will be reviewed by an advisory board meeting of community and urban agriculture producers. Finally a microcredential training on urban aquaculture production and aquaponics will be developed to support potential aquaculture producers.

The scale and infrastructure requirements of aquaculture facilities can vary widely. The system above is installed at Morrisville State College.

Best Practices of Growing Cover Crops for Weed Suppression and Improving Soil Health in Cut Flower Production

Jingjing Yin – CCE of Albany County

Weed and soil health management are two great challenges in cut flower production. Cover crops provide a wide range of benefits to agricultural systems, including weed suppression and enhancing soil health; however, the effects of using cover crops in cut flower production have not been evaluated. This project will evaluate various summer and winter cover crops on their potential for weed suppression and improving soil health in cut flower production systems. The project leader anticipates that the costs of weed control will be reduced by 50% and fertilizer inputs will be reduced by 20% while maintaining or enhancing crop yield and quality

Providing NY Farmers with a Diversified Revenue Stream through Additional Chickpea and Lupini Trials to Determine Optimum Growing Conditions and Yields

Judy Cherry – Schuyler County Partnership

This project will explore variety selection, best management practices, and economic analysis of growing chickpeas and harvesting chickpeas in NYS. While chickpea cultivation in NYS is novel, plant based proteins are a growing market and this project advances location-specific knowledge of the crop. Trials will be conducted on four farms and the results will provide the industry with a strong understanding of the viability of this crop for New York.

Creating a Profitable and Verifiable Farm-to-Market System for Enhanced Hemp/Wool Products

Daniel Walczyk – Rensselaer Polytechnic Institute

RPI is collaborating with SUNY Morrisville, Battenkill Fibers, and Propel, LLC to demonstrate a profitable and verifiable pathway for NY farmers to get their hemp and wool into high value products. An advisory board consisting of seven farmers (3 hemp, 4 wool) will oversee this 12-month project. A fiber cultivar of hemp that is grown in Central NY at three locations will be harvested at two different times, then decorticated and degummed using two different approaches each. The hemp fibers and wool - sheared and fleeced around NY State and cleaned - will be combined, carded, and spun into yarns of two different hemp/wool ratios. The yarn will be pulled off the spools and infused with two different types of silk binding agents to potentially enhance different properties of interest to manufacturers that would use the yarn in their products. Finally, the yarns will be knitted into textile swatches, tested and statistically analyzed. If successful, project results will show NY hemp and wool farmers how these feedstocks can benefit their farming enterprise.

Aaron Allen, with Allenwaite Farms joined the NYFVI Dairy Review panel in 2018 and the NYFVI board in 2022.

Dairy, Livestock and Field Crops

Automation, Cow Health and a Focus on the Environment

The wide range of work funded to support NY's dairy, livestock and field crop farmers over the past two grant rounds reflects both the opportunities that new technologies are bringing to the industry, as well as the urgent need to build knowledge that will help farms reduce nitrogen use and economically implement changes on their farm.

Lower-canopy Crop Sensing for Nitrogen Deficiencies Using Robotic Platforms

Harold Van Es – Cornell University
Nitrogen is a critical nutrient for crop production, but improper application can have significant consequences for the plant, the environment, and farm profitability. While dynamic simulation models provide a framework within which farmers can use precision management to apply Nitrogen fertilizer, the project leader hypothesizes that deploying field robots, which will use sensors to capture data from under the canopy, rather than above, will augment the dynamic simulation models in ways that improve plant health, environmental sustainability, and farm profitability.

Comparison of Soil Compaction in Consistently High and Low Yielding Areas Within Commercial NYS Farm Fields

Kitty O'Neil – Cornell Cooperative Extension
Soil compaction is a form of soil degradation that is difficult for farms to detect and evaluate, mainly because it is difficult to observe from above the soil surface. A study conducted in 2021 on 4 fields in Northern NY revealed a previously not understood relationship between soil compaction and historical crop yield. Soil compaction, measured in this study as resistance to a standard cone penetrometer limits soil functions and health and also crop productivity. This study will build upon this preliminary data set by collecting soil compaction data on additional farms and fields, on more soil types, across more of New York State to confirm its preliminary findings and deepen the understanding of this relationship between soil compaction, soil health, corn yield, and yield stability over time.

Optimizing Nitrogen Fertilization in Nutritionally Enhanced Male Sterile BMR Sorghum for Dairy and Grass Fed Beef

Thomas Kilcer – Advanced Ag Systems, LLC
Male sterile BMR sorghum has a few distinct advantages over corn silage, including naturally killing corn rootworm, deer resistance, no processing expense, and immunity to corn tar spot and other corn diseases; however, the high protein crop is still relatively novel in dairy diets and additional research is needed to identify the proper fertilizer rates. This project will identify optimum nitrogen fertilization rates through conducting replicated, randomized nitrogen plot trials on farms in western NY. Yield and forage quality at optimum harvest will be measured at each plot and the results will be incorporated into dairy nutrition software.

Evaluating Environmental and Economic Benefits of Nitrogen Conservation through the N2 Applied Technology

Mark Stoermann – Newtrient

This project will evaluate a novel technology that claims to nearly double the amount of available nitrogen in manure, reduce methane emissions and remove odor. The N2 Applied system utilizes a two-stage process, the plasma stage and absorption stage. During the plasma stage, electricity is used to split nitrogen (N2) and oxygen (O2) molecules into N and O atoms which form nitrogen oxides. Next, the nitrogen oxides are absorbed into livestock slurry or digestate, creating nitrogen enriched organic fertilizer. Through the enrichment process, the fertilizer becomes slightly acidic, stopping the formation and emission of ammonia. The work, which will be conducted on a New York farm in partnership with Cornell University, will evaluate the effectiveness of the N2 Applied technology for: retention of Ammonia and nitrates; maintenance of usable nutrients, including Phosphorous; and reduction of greenhouse gas emissions during manure storage.

Dairy Cattle Intravaginal Probiotic to Reduce Post Calving Problems and Improve Cow Health Over the Transition Period

Louis Hui – Healthy Cow

This project seeks to improve the health outcomes of dairy cows after calving through the use of an intravaginal probiotic. Initial research indicates that the intravaginal probiotics will yield positive impacts on reproductive performance, fresh cow health, milk production and quality, antibiotic and hormone use, and overall profitability. Cows at participating farms will be randomly assigned to receive the probiotic or follow standard protocols and health outcomes will be documented. A third-party research organization will conduct the study. Intravaginal probiotics have the potential to create meaningful on farm sustainability improvements by helping cows thrive through the transition period, breed back efficiently, and stay in the herd longer.

N2 Applied System

Harnessing the Power of Automated Dairy Cow Health Monitoring Systems: On-Farm Testing and Training of Cow Healthcare Technicians

Julio Giordano – PRO-DAIRY, Cornell University

Dairy cow diseases cost millions to NY dairy farms through reduced milk sales and increasing treatment, labor, and culling cost. Automated health monitoring (AHM) systems based on sensors that track cow behavior and physiology are a potential solution for timely and accurate disease detection. Many AHM systems are being rapidly adopted by farms but independent research demonstrating their value is nonexistent or limited. This project will compare AHM versus a non-intensive health monitoring program that matches the conditions of dairies that lack people, time, or both for proper cow monitoring. The project will document potential benefits of AHM on herd performance and economics due to effective and earlier detection of sick cows. It will also fill a major dairy industry knowledge gap by training farm healthcare technicians, extension educators, professionals, and students at SUNY colleges and Cornell University on the use of AHM. In bilingual hands-on workshops, participants will learn how to use and maximize the value of AHM tools.

An On-line Approach to Teaching On-Farm Mastitis Culture Techniques and Creation of a Practical Assessment Tool for Complicated Procedures on Dairies

Daryl Nydam – College of Veterinary Medicine Cornell University

Future success in the dairy industry involves improving management practices at the cow-level. With social pressure to reduce antimicrobial use, pathogen-based treatment of clinical mastitis will help farmers more precisely use these valuable medicines. Previous studies show that pathogen-based treatment of clinical mastitis reduces antimicrobial use by 30-65% and increases cash flow ~$25/cow/year, but the majority of farms have limited access to the lab tests that can help drive these treatment decisions.. This project will develop an on-line education module to teach or improve on-farm and in-clinic milk culturing techniques. This module will allow 12 farms and 3 veterinary clinics in underserved areas of New York to either start performing milk cultures (startup package provided) or improve their current system of culturing milk samples.

Economic Feasibility Analysis of Dairy Farm Co-Digestion of Manure and Food Waste.

Lauren Ray – Cornell University

New York State and the US dairy industry have established climate goals that will require a reduction in greenhouse gas (GHG) emissions, with a specific focus on methane reduction by 2050. Recent NYS legislation requires large producers of food waste to divert disposal in landfills to recycling or use as feed. The use of manure anaerobic digestion (AD) and food waste co-digestion are meaningful ways to reduce methane emissions, while also producing renewable energy to offset fossil fuel GHG and recycling nutrients. Markets for AD energy, especially renewable natural gas (RNG), are being established through other state fuel standard programs and climate strategies. It is critical that farmers have the information they need to better assess the opportunity to participate in co-digestion as a new business enterprise with an estimated potential revenue of $600 million per year. This project will provide an economic feasibility analysis of the co-digestion enterprise, including required food waste tipping fees and RNG pricing, for 3 system sizes.

Farmer-Driven Evaluation of the Value of Manure

Quirine Ketterings– Cornell University

It is well acknowledged that manure can help build soil organic matter, enhance nutrient supply and cycling, and in general improve soil health and climate resilience. More than 20 years ago, the Land Grant University developed a manure crediting system that guides farmers with manure management decisions. It recognizes that manure contains all the 17 essential nutrients for crop production and should be valued as a nutrient source, not as a waste. In this project, led by Quirine Ketterings who leads the Nutrient Management Spear Program (NMSP) at Cornell University, farmers will conduct on-farm trials to address two gaps in current knowledge: 1) the need for information about manure nutrient crediting of variable sources of manure (liquid, post digestors, solids, etc.) and application methods (with or without incorporation or injection); and 2) the potential economic, as well as yield and forage quality, benefits of manure as a replacement for synthetic nitrogen. The knowledge gained from these on-farm trials will be used to assess the current manure crediting system and identify if changes are needed.

Understanding Corn Silage Component Forage Quality as Influenced by Planting Date and Dry Matter at Harvest to Refine Harvest Management and Optimize Production.

Joe Lawrence– PRO-DAIRY, Cornell University

Feed costs are the highest cost on a dairy farm and optimizing homegrown forage in the cows' diet is linked to overall farm profitability. Advances in forage testing and ration formulation related to the digestibility of both fiber and starch create the need to understand how these characteristics change as the corn plant reaches maturity, and the implications for total available nutrients from the forage in ration formulations. This project will collect data on a range of growing environment variables including planting date, hybrid maturity, harvest timing and plant components to derive multiple nutritional quality combinations for analysis. This information will clarify the metrics used to determine optimum harvest timing in modern hybrids and allow farmers to make more informed decisions about the longer-term trade-offs that may be associated with their growing season decisions.

Precision Feed Management: Grass- Fed Beef Cattle

Ashley McFarland– Cornell Cooperative Extension

Grass-fed beef production accounts for roughly half of the state's beef farms and the product's popularity has increased significantly with climate conscious consumers. The challenge? Not all pastures, or pasture management approaches, provide high quality forage, and it can be hard to understand how a farm's fields measure up. This project will work with at least 10 participating farms across NY state and will show how improved pasture and stored forage quality positively affects average daily gains, and reduces days-to-harvest and feed cost per pound of gain. The benchmarks created will help farms know what they need to do to alter their pasture management and/or forage production strategies to increase forage quality, improve daily gains and profitability. Results will be shared with participating farms, extension educators, and beef producers

Relationships of Feeding Management During the Close-up Dry Period and Forage Fiber Levels During the Fresh Period with Postpartum Health and Performance

Tom Overton – PRO-DAIRY, Cornell

The 3 weeks prior to calving and 3 weeks postpartum are critical for successful dairy cow performance. Much has been learned about the benefits of feeding controlled energy diets to dairy cows in the weeks before calving and it is a common practice at many farms. The use of a higher starch diet postpartum is also thought to be beneficial. Despite adoption of these practices, there is significant variation observed in fresh cow performance across dairy farms. This work seeks to understand if the variation is driven by diet, or feed management. His project will observe current farm practices on 48 farms, collect additional inputs and analyze the data to better understand optimal precalving feeding management strategies as well as optimal diet fed during the postcalving period. This knowledge will help farms keep their herds healthy, productive, and profitable.

The Effect of Full vs Partial DCAD Diets on Health, Production, and Reproductive Performance in Dairy Cows.

Mark Thomas – Dairy Health and Management Services

Anionic or negative dietary cation-anion difference (DCAD) diets are a prepartum nutritional approach widely adopted on dairy farms in New York, the USA, and internationally, as an effective tool to lower the risks of milk fever and other health disorders after calving. It is well-accepted that prepartum negative-DCAD rations improve calcium metabolism around calving, which may explain the better health and production outcomes when compared with neutral to positive DCAD diets. However, the ideal prepartum DCAD level that allows for greatest milk production without comprising health and reproductive performance of dairy cows is not known. This project, led by veterinarian Mark Thomas with Dairy Health and Management Services, will include measurement of health, milk production, and reproductive outcomes, as well as the economics of each dietary treatment. The results will strengthen the understanding of negative DCAD feeding approach and allow dairy producers, nutritionists, and consultants to recommend an optimal prepartum diet across the state.

Surveying NY Farm Cash Rental Rates and Custom Service Fees to Improve Bargaining, Budgeting, and Profitability

Katelyn Walley-Stoll and Cornell Cooperative Extension team

Access to farmland is essential for farm survival and expansion. While data on land prices are often publicly available, rental rate data are more difficult to learn. Even more difficult to find are custom service fees, things like hay harvesting activities, tractor rates, and custom labor. Landowners and farmers often reach out to Cornell Cooperative Extension (CCE) Specialists across the State to understand what a fair price might be for land rental and custom cropping services. For years, the answer has been to check information from other states' websites. This project, led by Katelyn Walley-Stoll and a team of regional dairy, livestock and field crop extension educators wants a better answer. This project will gather and share New York specific data to create a better starting point for negotiations between landowners and farmers.

Jill MacKenzie has represented the NY State Horticultural Society on the NYFVI board since 2017. Prior to her board service, she participated on the review panels..

Apple and Grape

Novel Disease Management Approaches, Mechanical Harvesting

Changing weather patterns are contributing to an increase in fire blight in New York apple orchards. The bacterial disease thrives in warm, wet springs and results in significant economic loss in NYS every year. Susceptible cultivars and high-density orchards are at greater risk and existing management methods are expensive and not always effective. Guided by input from the Apple Review panel, the NYFVI board chose to invest in two extraordinarily innovative management approaches to this costly disease. Both approaches have the potential to prove effective in managing fungal and bacterial diseases in many New York crops.

The grape review panel was highly supportive of work with biological tools, and IPM floor management strategies, while the cider reviewers were excited about research in mechanical harvesting.

An Innovative Therapeutic Solution Based on RNA Interference for Effective and Durable Management of Fire Blight in Nursery Stocks and Mature Apple Trees

Awais Khan - Cornell University

This project, led by Awais Khan at Cornell, combines his deep knowledge of the bacterial strains of fire blight and horticultural expertise, with an innovative RNA Interference-based therapeutic solution developed by Silvec Biologics. If successful, a tree may only need a single treatment to stimulate its long-term ability to fight the pathogen. Silvec has demonstrated the technology's ability to manage bacterial diseases of citrus, olives and grapes and is seeking government clearance for its use. This will be its first trial in apple trees. The ultimate goal for the product is to provide immunity for all bacterial and fungal diseases of apples.

Amplifying the Power of Natural UV Light to Manage Fire Blight in New York Orchards

Mark Rea- Mount Sinai

This project is led by Mark Rea at Mount Sinai's Icahn School of Medicine Light and Health Research Center and supported by Cornell University. It brings together a multi-disciplinary team of physicists and plant pathologists with expertise in applied research and a commitment to sustainable solutions. It will explore the use of a novel mode of action of titanium dioxide (TiO2) a widely used food/ cosmetic additive, and a disinfection catalyst in healthcare applications. A property of TiO2 that differentiates it among other catalysts is that it can become activated by both visible light and UV energy to kill bacteria. Lab and orchard trials will be conducted to understand the efficacy and economics of the approach.

Mechanically Harvesting Cider Apples Will Save Growers Money and Further Increase the Quantity and Quality of New York Hard Cider

Gregory Peck - Cornell University

With a ten-fold increase in hard cider (fermented apple juice) production in the U.S. over the last decade, there is need for more locally grown cider apples for this $1.5 billion industry. Data show that cider producers are willing to pay a significant premium for specialty cider apples. A sustainable increase in the state's production of specialty cider apples will create new marketing opportunities for apple growers, provide opportunities for orchard expansion, and improve the quantity and quality of ciders made in NY. Unlike fresh market apples, those grown for cider can be mechanically harvested with machines that collect fruit from the orchard floor. Mechanical harvesting also minimizes labor and thus reduces production costs. This proposed two-year project will lay the foundation for mechanized cider apple harvest in small, mid-size, and large orchards by identifying suitable harvesting machines and knowledge to best manage apple maturity, ensuring a consistent and high-quality product. It will be led by Greg Peck at Cornell University.

Inoculating Replants With Arbuscular Mycorrhizal Fungi in New York Vineyards

Justine Vanden Heuvel - Cornell University

Grapevines benefit from a symbiotic relationship with arbuscular mycorrhizal fungi (AMF). Mycorrhizae play an important role in vine health, grapevine nutrition, and water relations. Anecdotally, soaking roots of young vines prior to planting in an AMF solution is common practice in vineyards on the West coast, however it is rarely practiced in Northeastern U.S. vineyards. Project leader Justine Vanden Heuvel thinks that may be changing. Over the next two years she will be working with 15 growers to trial the use of AMF as they replace plants in their vineyards. Evaluation of impacts in grower trials and the replicated research vineyard trial will include characterization of root length colonization, leaf blade nutrient concentration, growth analysis, and a count of vine survival in both treatments. Long-term expected outcomes of adoption of an AMF soak include improved vine survival, improved vine growth, reduced need for subsequent replants, and potentially reduced need for chemical fertilizers on young vines. A cost benefit analysis will also be developed.

Juice Grape Floor Management Strategies to Reduce Pesticide Use and Nutrient and Water Conservation Through Cover Cropping

Jennifer Phillips Russo - Cornell Cooperative Extension

Many aspects of vineyard floor management have been studied independently and the industry would benefit from an integrated approach. Current practices degrade soil health, and competitive weed species exhibit herbicide resistance. Cover cropping can crowd out competitive weeds while building healthy soils, but they also create competition for water and nutrients when vines need them most. Cover cropping strategies in wine grapes tend to receive irrigation to maintain growth, and cover crops are used to decrease plant vigor in wine varieties. Cover crop use in juice grapes is more challenging. Nearly all acres are own-rooted and unirrigated, relying on soil water conservation for vine production. This project, led by Jennifer Phillips Russo, a viticulture specialist with CCE, will develop and evaluate the efficacy and economics of best floor management practices in non-irrigated juice grape vineyards.

John Martini with Anthony Road Wine Company in Penn Yan joined the NYFVI board as an at-large member in 2022. His vineyard has participated in numerous research projects over the years.

Brian Reeves serves as the representative for the NY Vegetable Growers Association, He joined the NYFVI Review Panels in 2015 and the NYFVI board in 2020.

Vegetables

IPM, Biocontrol, Disease Management and New Classes of Cabbage

The vegetable proposals that NYFVI receives for funding reflect the wide range of expertise that is necessary to help growers continually fight new pests with fewer resources. The project leaders include entomologists, plant breeders, and a physicists. All are committed to developing solutions to help growers mitigate disease resistance among pathogens through Integrated Pest Management Strategies (IPM)

Enhance Western Bean Cutworm Trapping Methods for Accurate Monitoring and Management in Major Dry Bean Production Areas

Margie Lund – Cornell University

Western bean cutworm (WBC) poses a potentially serious risk to emerging dry bean production in NYS. Results from a small-scale monitoring program started in 2012 have detected an increase in WBC numbers that suggests that moth pressure will continue to increase and result in yield loss on the over 12,000 acres of dry bean production. To provide dry bean growers with actionable information, a more robust knowledge base must be established. This project will increase WBC monitoring to 24 fields and measure how trap type, lure type, and field location impact moth catch per trap. The work will improve tracking of WBC pressure in NY, educate growers on the importance of trapping for WBC, and ensure NY farms are well prepared to minimize yield losses and maintain a strong NY dry bean industry.

Protecting Onions in New York from Iris Yellow Spot Virus Through Strategic Management of its Thrips Vector.

Brian Nault - Cornell University

New York is a leading U.S. producer of onions, and the crop has an average farm-gate value of $50 million annually. Onion thrips and the virus they transmit to onions, Iris Yellow Spot Virus (IYSV), can cause economic losses as high as 50%. While thrips management in onions has been successful following the Cornell Thrips Management Guidelines, IYSV has gotten worse in some areas. Project leader Cornell entomologist Brian Nault suspects that current insecticide use patterns early in the season are permitting thrips adults to survive and spread IYSV. Objectives of this two-year project are to 1) identify the most effective adulticides for onion thrips control, 2) compare thrips densities and IYSV incidence in onion fields treated with or without the adulticide, 3) identify key risk factors for IYSV incidence in onion fields, and 4) develop a comprehensive thrips management program that reduces the incidence of IYSV. Results will be widely disseminated, and the knowledge will allow growers to mitigate the risk of IYSV outbreaks on their farms and protect this high value crop.

Development and On-Farm Testing of New Cabbage Market Classes.

Phillip Griffiths - Cornell University

Cabbage is an accessible and affordable storage vegetable crop that is ideally adapted to NY state growing conditions, and a crop in which NY growers lead the world. This project, led by plant breeder Phillip Griffiths at Cornell University, will capitalize on two decades of work that has resulted in the development of cabbage breeding lines that are resistant to black rot and range in color from light pink through to deep purple. His work has shown that when green and pink/red/purple cabbage lines are combined, they generate a light through dark pink or rosé cabbage that typically has green outer leaves and an attractive pink interior flesh (almost like a watermelon) that is more tender, like a green cabbage. This project will trial and further develop these varieties, seek consumer insights on the product at New York City greenmarkets, and if successful provide growers significant new market opportunities. With improved black rot resistance these cabbage varieties can also be grown with fewer chemical inputs.

Persistent Biocontrol Nematodes: Developing a Farmer/Applicator Friendly Formulation

Elson Shields - Persistent Biocontrol Nematodes

Entomologist Elson Shields has been working with persistent entomopathogenic nematodes (EPNs) as a biocontrol pest management solution since 1992. His work has demonstrated that these microscopic worms can be used in conventional and organic systems as an effective solution for the alfalfa snout beetle, corn rootworm, black-vine root weevil in strawberries, and the Colorado potato beetle. The challenge? It can be hard to keep the nematodes alive until the crop is ready to be treated. This project will focus on improving the shelf life and formulation of the substrate for this biocontrol agent to make the technology easier to use.

Nematode application.

Nematodes are useful to fight pests in a wide range of NY crops.

Advanced UV-C LED Technology to Reduce Fungicide/Pesticide Use on New York Farms

Mark Rea - Icahn School of Medicine at Mount Sinai

Researchers from the Light and Health Research Center (LHRC) and Cornell University have conducted several successful field trials using ultraviolet (UV-C) light to combat various plant diseases. UV-C offers several advantages over pesticide use: unlike with pesticides, produce can be harvested immediately, and there is no potential for pathogens to build resistance to the treatment. Recent advances in the lighting industry have increased the availability and lowered the cost of design-friendly UV-C LED. This project will demonstrate that a cost-effective, modular UV-C LED system can be readily incorporated into existing farm equipment and provide significant benefits for managing fungal and bacterial diseases in food crops.

NY farm viability INSTITUTE

NYFVI. It's time to get involved.

Because farmers know what ag needs to succeed.

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Our board of directors, all farmers, takes the stewardship of the ag research dollars we receive from New York State seriously. They want the dollars to be used to develop the knowledge that **your farm** needs to succeed long into the future. By serving on one of our review panels, you can provide valuable insight into the proposals submitted and help direct the organization's limited resources to the projects you think are most important.

While the work is critically important, we try and make it as easy as possible for you to do. The review is done independently online and culminates in a single virtual meeting to discuss the proposals and their ranking. An NYFVI board member chairs each panel, and that individual relies on your input, and the board makes the final funding decisions. The FVI proposals are reviewed during the fourth quarter of each year, and the Specialty Crop Block Grant proposals are reviewed early in the first quarter.

If you're interested in serving on a future review panel, please reach out to Aileen Randolph, arandolph@nyfvi.org. Or call 315-453-3823

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