



January 2017 Annual Report

Northern New York Agricultural Development Program

Farmer-Driven Research • Real-World Results

Clinton, Essex, Franklin, Jefferson, Lewis & St. Lawrence Counties

CO-CHAIRS: Jon Greenwood, 315-323-4814 • Joe Giroux, 518-563-7523 • Jon Rulfs, 518-572-1960

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More than 100 farmers serve on the Northern New York Agricultural Development Program Committee

• 225-plus farms participated in on-farm research projects in 2015-2016 •

This farmer-driven program has a record of science-based success stories: www.nnyagdev.org

• Projects produce practical, real-world results specifically suited to NNY soils & climate •

Key Research Areas & Economic Impact Highlights

- **Ag Environmental Conservation:** Tile drainage (TD) trials are demonstrating a critical agronomic practice for soil, manure, and nutrient management; erosion/runoff control; crop production & farm sustainability. **Value:** 7-12% ROI 5-10 yrs.
- **Calf Health:** A study at Miner Institute, Chazy, NY, evaluated how nutrition may be used to reduce heat stress in calves. **Value:** reducing heat-related annual NY statewide losses of \$253,000 in dairy animals up to 1-yr-old.
- **Cow Health:** QMPS Lab, Canton, research enhanced the science for more precise identification of dairy mastitis organisms, particularly strains not previously targeted, but now emerging, in NNY herd causing milk loss, potential cow loss, and treatment/replacement costs. **Value:** NNY dairy industry: ~\$486.9 mil.
- **Cow Health:** Research indicates attention to farm water quality may increase forage digestibility and related cow productivity, preventing loss of 5.5-14.2 lbs milk/cow. **Value:** NNY dairy industry: ~\$486.9 million.
- **New Business:** Disease/pest control research led to a new business established in Franklin County in 2016 to help protect NNY alfalfa crop (grown by 625+ NNY farms). **Value:** \$135/ton DM for milk production; \$188-\$250/ton sold; \$22-55 million depending on harvest, on-farm feedout, sales, etc.
- **New Products:** Maple research evaluated birch syrup production as niche option for NNY sugarmakers. **Value:** Birch syrup: estimated at \$20 gross revenue/tap; \$80/half-gallon in NNY.
- **New Products:** NNY edemame field trial & market survey: **Value:** \$5.99/lb retail/\$2,800-48,000/ac retail potential, however, NNY-specific production challenges must be addressed and consumer education is needed.
- **Emerging Product:** Education improving beekeeper management practices positively impacts pollinator health and honey production. **Value:** Emerging NNY honey industry exceeds \$314,000 annually; \$15/qt NNY Dec 2016.
- **Regional Sales:** Food buyer surveys identified best potential customers and challenges: ~ 60% of consumers buy NNY local once a month; restaurants/caterers noted interest in NNY produce with prerequisites. Season extension project identified fresh market crop potential: **Value:** e.g., local baby ginger up to \$16/lb.





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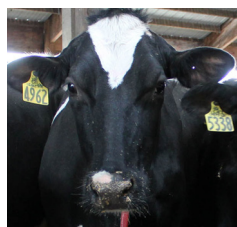
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Key Research Areas & Economic Impact Highlights

Crop Production:

• Corn

Corn-related forage quality, pest/disease indicators and management, nutrient efficiency, yield potential, and grain/silage production research supports dairy and livestock industries and cash cropping.

Value: NNY corn grain/silage crops: \$106.9 million; \$2.85-3.32/bu Dec. 2016

• Soybean

NNYADP disease and pest assessment project acts as a sentinel alerting regional soybean growers to potential crop threats and/or the need to act to protect their crop. **Value:** NNY soybean crop has increased by more than 50% since 2012 to \$6.31 million; \$9.30-\$10.07/bu Dec. 2016

• Alfalfa

Alfalfa-related projects focused on winter survival, brown root rot, pest resistance, and forage quality of this vital dairy/livestock industry crop. **Value:** \$135/ton DM for milk production; \$180-\$300/ton sold; \$22-55 million across all uses in support of NNY dairy industry (~\$486.9 million).

• Oats

Results of summer oats' 2nd-year, 2016 field trials on NNY farms provide an indication of the potential as an emergency annual forage option and conservation/soil health enhancement.

Value: \$2.276/bu Dec 2016; adds value in reducing need for fertilizer for corn planted after oats.

• Sorghum

NNY sorghum trials may prove a drought/heat-tolerant forage option for dairy production with conservation stewardship a bonus. **Value:** boosts milk production and soil health; \$6.79-6.98/cwt Dec. 2016

• Alfalfa-Grass

Field trials evaluated alfalfa-grass mixture quality for dairy producers in NNY. Potential

Value: 14,090 lb/milk/acre or ~\$2085.32/ac (2016 ave.)

Fruit Production:

• Apples

> Identified key apple pests in NNY, enhanced precision orchard management best practices.

Value: NNY apple industry: \$16 million.

• Grapes

> Refreshed soil for adding new varieties (NY wine grape grower priority) to Willsboro cold-hardy grape research nursery. **Value:** NNY grape acreage: \$4,413.51/acre.

• Juneberry

> Awaiting first substantive crop from New York State's 1st Juneberry research nursery (Willsboro).

Value: The "superfruit" sells for \$3.25/pt, \$5.95- \$7.50/8 oz jam.

Vegetable Production: Disease-resistance cherry tomato research is helping market growers enhance a "top seller."

• Cherry Tomato

Value: \$14/plant and \$3,491/acre.

Program funding is supported by the New York State Senate and administered through NYS Department of Agriculture and Markets



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Maximizing Opportunities for Northern New York's Dairy Industry

"...pinpointing the lesser-known mastitis-causing organisms in Northern New York dairy herds... helps farmers more directly target treatment... (resulting in) fewer chronically-infected cows, potentially less antibiotic use and cost, and less discarded milk. ... first-year results had shown a strong indication that some lesser-known species... were potentially having a larger impact on some dairy farms than previously thought."

— Jessica Scillieri Smith, DVM, Quality Milk Production Services

Alfalfa-grass mix crops are especially popular as forage in northern NY where more than 95% of the alfalfa acreage is an alfalfa-grass mix. "Research to identify the best combinations of alfalfa and grass for regional growing conditions will help dairy farmers maximize forage quality to support milk production" — Prof. Jerry H. Cherney, Cornell University

"... crop experts, with funding from the Northern New York Agricultural Development Program, are considering if an emergency oat crop can help (farmers cope with drought conditions that impact feed supply). — August 25, 2016, North Country Public Radio



Miner Institute project, 2016: Evaluating nutrition strategies to reduce heat stress in dairy calves



Farmer-Driven Research Helps Young Ag Entrepreneur Start New Business

May 2015: "The Northern New York Agricultural Development Program research and training has been very good for helping us cope with an increasing problem of alfalfa snout beetle in the Malone area. We plan to open our own nematode rearing business." — Mary DeBeer, DeBeer Seeds & Spraying, Malone, NY. **December 2016:** "With the development of her own biocontrol nematode rearing facility, Mary is leading the way for new business opportunities as a result of the long-term commitment the farmers of Northern New York made to finding a science-based solution for alfalfa snout beetle."

— Dr. Elson Shields, the Cornell University entomologist who, with a long-term funding commitment from the Northern New York Agricultural Development Program, pioneered the use of native NY nematodes as a biocontrol for managing a #1 destructive crop pest.

Program Starts 1st Micro-Nutrient Database for NNY Soybean Growers

"The farmer-driven Northern New York Agricultural Development Program has funded the first systematic assessment of the micro-nutrient status of soybeans in northern New York State. To support optimal production of soybeans, an increasingly popular crop in northern New York, the two-year project has begun establishing a database of critical crop nutrients for the six-county region that includes Clinton, Essex, Franklin, Jefferson, Lewis and St. Lawrence counties." — September 10, 2016, Lancaster Farming





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A Farmer-Driven Proactive Standard for Production Efficiency & Environmental Stewardship

"The corn yield potential study is one example of a project where Northern New York took the initiative and leads the rest of the state with its focus on research... The (Northern New York farmers) that have participated in our whole farm nutrient mass balance assessments over the years have shown there is both an opportunity and a feasibility to improve production while reducing the environmental footprint of agriculture... Based on results to date, we think forage sorghum can compete with corn silage for yield and quality in dairy production systems in Northern NY and in the Northeastern U.S. The trials in 2016 (results due in spring 2017) will tell us what is feasible."

— crops researcher Dr. Quirine Ketterings, director, Cornell Nutrient Management Spear Program



"The Northern New York Agricultural Development Program funding has provided awesome support for tile drainage research which is really significant for North Country agriculture. This research is particularly valuable . . . as farms develop more and more efficient manure management to prevent runoff losses with and without tile."

— Miner Institute Research Agronomist Dr. Eric Young

Practical, Economic Value of Real-World Results

"Farmers across the region look to the proactive research and survey work prioritized by their peers with the Northern New York Agricultural Development Program for the results and insights they can apply in a practical way on their farms and that strengthen the agricultural industries that support our communities." — Jon Greenwood, dairy farmer, St. Lawrence County



On-farm mastitis research merited tv & national meeting attention

"The research done here often serves as a sentinel alerting regional farmers to new field and livestock challenges, first wave opportunities for management response, and control solution that may benefit farms in Northern New York and beyond."

— Joe Giroux, dairy farmer, Clinton County

"The Northern New York Agricultural Development Program combines the on-the-ground knowledge of regional farmers, the academic expertise of the best researchers from Cornell University, Miner Institute, SUNY and others. . . to meet needs and develop opportunities to grow the regional farming industry in practical, timely and sound ways." — Jon Rulf, dairy & orchard owner, Clinton County



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