



Northern New York Agricultural Development Program

FACT SHEET

1 in a series on NNY Research Facilities

The Importance of Research and Research Farms in NNY

**What is the
Northern
New York
Agricultural
Development
Program?**

**A research and
education program
designed to
address issues
specific to farming
in NNY.**

**Assessment of
crop species and
varieties under
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at five research
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Introduction:

Research and Education for NNY

Ideally, research should be conducted in the area in which the results of that research will be applied. Five agricultural research centers are located in Northern New York and the results of work at these centers benefit not only farmers in the region, but statewide and elsewhere.

In the 1960s, Dr. Robert Lucey of Cornell University was the catalyst for the formation of the Northern New York Agricultural Development Program as a research and education program designed to address issues specific to agriculture in Northern New York (NNY), i.e., Essex, Clinton, Franklin, St. Lawrence, Lewis and Jefferson counties.

In 1961, he prompted the New York State Legislature to appropriate funds to Cornell University to establish a research station at the State University of New York Agricultural and Technical College at Canton. That same year, Mr. and Mrs. Henry Uihlein II donated land near Lake Placid for the Uihlein Potato Research Station. In 1965, they donated land for the Uihlein Maple Research Station.

In 1982, E. Vreeland Baker donated his farm near Willsboro, and Dr. Lucey designed research facilities and infrastructure and recruited researchers and staff to establish a research station there, and he built a strong working relationship with The William H. Miner Agricultural Research Institute in Chazy, NY.

The Research

Research in Northern New York has focused on all aspects of the agricultural industry - from dairying, field crop production and raising beef, small grains, and vegetables to organic, grass-fed and maple production practices, integrated pest management; agricultural environmental management; product marketing; applied technology; and agriculture-based economic development.

Go to www.nnyagdev.org for fact sheets, research reports, and other information on the work of the Northern New York Agricultural Development Program.

For example, the site includes a Regional Profile with the latest Census of Agriculture data. Fact sheets offer information on:

- Developing a P Index for NNY Soils
- Coping with plant pests and diseases
- Soil Health and Conservation Agriculture
- Dairying in NNY
- Manure Management
- Variety Trials ...

Assessment of crop species and varieties under Northern New York conditions, during both the spring-to-fall growing season and the cold winter months, provides information critical to Northern New York farmers for crop selection decision making.

Studies of cropping practices are equally important for producing data on crop quality and yield, meeting consumer food quality trends, and understanding the impact of practices on the environment. Projects looking at environmental impact include research into phosphorus (P) leaching and runoff, reducing starter P on corn, and the timing of manure application to grass crops.

Comparison studies of such crops as brown-midrib sorghum-sudangrass vs. corn provide data from multiple years of growing under Northern New York conditions to help farmers evaluate yield, quality and income potential for each crop.

In more recent years, research on vegetable crops, organic production practices, and food-grade soybean and maple syrup production has joined the continuing emphasis on how to enhance the region's dairy industry.

The Research Facilities

Cornell Cooperative Extension of St. Lawrence County Learning Farm and Education Center, Canton, NY

The Cornell Cooperative Extension of St. Lawrence County Learning Farm and Education Center is located on Route 68 outside the Village of Canton, New York. From the 1950s until the late 1990s the farm was used as an educational laboratory for SUNY Canton's agricultural program. In 1998, the State University of New York (SUNY) at Canton discontinued using the farm and the State of New York turned the farm over to Cornell Cooperative Extension (CCE) — St. Lawrence County. Through an agreement with SUNY Canton, Cornell ran an Agronomy Laboratory at the site from the 1961 through 1999. This part of the facility was also turned over to CCE—St. Lawrence County.

Cornell Cooperative Extension of St. Lawrence County views the takeover of the farm as gaining a unique resource. The farm provides an invaluable site for events and activities, youth-oriented agricultural awareness programs, and adult educational programs in the areas of food, agriculture and natural resources; and is a place to demonstrate innovative crops, products and farm practices.

*For large file of this fact sheet
with color photos, go to
Facilities section online at
www.nnyagdev.org.*

*This group of farmers is
learning about agronomy
practices from Cornell
Cooperative Extension field
crops educator Peter Barney
at the Learning Farm and
Education Center in Canton.*

The property includes two parcels of land totaling 363 acres. The former Martin property is 220 acres with historic barns, two houses and several outbuildings. The large barn classroom has been renovated and the classroom in the large Martin house will also be updated.

The former Kennedy farm property includes 143 acres, a house and outbuilding used for offices, a Quonset building and a storage shed. Fifty-six acres here are tillable; 80 acres are forestland. Six acres were in replicated plots until 2003 with other land easily accessible for further plot work. Crop and research studies before 2004 included switchgrass, grass varieties, kura clover, maple stand improvement, deer exclosure, and a sheep demonstration program.

In 2004 several projects funded through the Northern New York Agricultural Development Program were located at the Extension Learning Farm and Educational Center. Projects at the farm have included: BMR Sorghum Sudangrass: As an Economic and Environmentally Sound Alternative to Corn in NNY, Tall Fescue Variety Trials, Sorghum Sudangrass as an Alternative for Late-Planted Corn, and a Grass-Fed Beef project.

Projects at the Learning Farm and Education Center as well as on local farms provide an outstanding opportunity for local educators to partner with Cornell faculty to provide information that can be practically applied to farms in St. Lawrence County as well as other counties in Northern New York.

To learn more, visit www.cce.stlawrence.ny.us.

In more recent years, research on vegetable crops, organic production practices, and food-grade soybean and maple syrup production has joined the continuing emphasis on how to enhance the region's dairy industry.

Areas within a 40-acre field at The William H. Miner Agricultural Research Institute are managed for yield trials of varieties and selections of forage legumes and grasses, field corn and soybeans, and for studies related to the management of these crops.

The new dairy barn at The William H. Miner Agricultural Research Institute was built in 2004.

The William H. Miner Agricultural Research Institute, Chazy, NY

"No other occupation is so vitally important to the human race, nor requires such a wide range of practical and technical knowledge as farming." - William H. Miner, 1915

William H. Miner built Heart's Delight Farm on the lake plain adjacent to Lake Champlain in Chazy, NY, in 1903. Today, The William H. Miner Agricultural Research Institute serves as a leading agricultural research facility. The Institute donates a 40-acre area to Cornell University and the Northern New York Agricultural Development Program for research studies. Cornell researchers and the farm crew from the Cornell Baker Research Farm at Willsboro manage agronomic trials here.

The climate of the area is cool temperate with a freeze-free season of about 128 days. Soils in the 40-acre area used for soil and crop studies were formed from lake and marine sediments. The dominant soil that developed in the lacustrine silts is the somewhat poorly drained Roundabout variant soil. A ridge that borders the eastern edge of the 40-acre field is a beach ridge of Glacial-Lake Vermont. The substratum is rapidly permeable gravel and sand and water drains freely from the profile. The dominant soil in the ridge is Waddington.

In the main growing field, a subsurface drainage system is in place, alleviating the limitations that excessive soil wetness may have on growth and yield of field crops. Areas within that 40-acre field are managed for yield trials of varieties and selections of forage legumes and grasses, field corn and soybeans, and for studies related to the management of

these crops. Examples of those studies include tillage practices for field corn, management of tall fescue, and evaluation of kura clover.

Miner Institute maintains a herd of approximately 500 Registered Holstein dairy cattle, with about 270 cows milked three times a day. Maintenance of a stress-free working environment for the cows and the people is important and attention is given to cow comfort by a staff of eight.

The farm also employs a staff of three for field crop production plus one part-time worker. Approximately 180 acres of corn is grown and harvested as corn silage. Hay crop silage is harvested from 240 acres of mixed alfalfa-grass fields. Another 175 acres of grass is harvested for silage and dry hay. Silage is stored in concrete bunker silos.

The laboratory complex at The William H. Miner Agricultural Research Institute conducts research on forage quality and how to produce quality forages under Northern New York conditions to benefit dairy animal health and production. The lab also focuses on evaluating the environmental impact of dairy management practices. Phosphorus levels are routinely measured in the dairy herd's TMR (Total Mixed Ration) and in the manure produced by the Institute's dairy herd.

The new dairy facility built here in 2004 includes a classroom, observation deck, research area for nutrition trials, animal handling/sorting area, a catwalk the length of the barn, video access to free-stall pens, and the intensive research area, and the parlor. The barn was designed for cow comfort with rubber flooring, wide alleys, larger than typical stalls, abundant waterers, and open sidewalls and fans.

The William H. Miner Agricultural Research Institute works with a network of commercial dairy farms to study dairy nutrition with controlled studies on farms. The operation of this site as a demonstration farm extends the access of research data and discussions to visiting farmers.

An automated weather station at the farm provides information critical to current projects and for trend tracking.

To learn more about The William H. Miner Agricultural Research Institute, visit www.whminer.com.

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The unusual proximity of soil types at Cornell Baker Research Farm in Willsboro provides unique opportunities to compare various crop, manure and nutrient treatments.

The subsurface drainage at the Cornell Baker Research Farm at Willsboro allows for excellent research on and analysis of runoff.

Crop variety plantings are among the many research trials undertaken at the Cornell Baker Research Farm at Willsboro.

Cornell Baker Research Farm, Willsboro, NY

In 1982, E. Vreeland Baker donated his farm in Willsboro, New York, for agricultural research and demonstration to Cornell University. The 350-acre farm is on a gently rolling lacustrine plain a mile-and-a-half north of the entrance to Willsboro Point peninsula on Lake Champlain.

The farm has a 150-day growing season (average 2000-2200 growing degree days). The annual precipitation averages about 33 inches per year, with an average of 16 inches from May through September. The farm's soils include fine-textured, lake-laid clays (Kingsbury), glacial till soils (Bombay), and sandy soils from glacial outwashes (Stafford and Cosad).

The unusual proximity of these soil types provides unique opportunities for researchers working here to compare various crop, manure and nutrient treatments. With these soils being representative of the Northern New York region, the Cornell Baker Research Farm is ideal for intensive nutrient management studies dealing with animal waste.

A state-of-the-art subsurface drainage system here is a unique feature that was added to the Baker Research Farm after its donation to Cornell University. Manholes connected to tiles allow researchers to collect drainage/runoff for analysis of leachate from farm manure, fertilizers and pesticides.

An outbreak of alfalfa snout beetle on the farm decades ago makes it the only agronomic research farm permitting alfalfa snout beetle research in the U.S. Researchers are able to conduct work here under controls not available in farmer-owned fields.

About 1994, about 20 acres of the farm were dedicated to organic production research with six acres set aside for certified organic production.

A pond and pump facilities assure irrigation is possible anywhere on the farm. Because of the farm's location along Lake Champlain, researchers have a unique opportunity to study the affects of farm runoff on lake quality and aquatic habitat. Woodlots on the farm allow for study of woodlot management as a supplementary farm enterprise.

Weather station facilities provide information so crop and soil experiments can be correlated to weather events.

The Cornell Baker Research Farm at Willsboro is operated by the Cornell University College of Agriculture and Life Sciences.

To learn more, visit <http://www.organic.cornell.edu/facilities/willsboro.html>.

Uihlein Maple Research Station, Lake Placid, NY

The Uihlein Maple Research Station in the Adirondack Mountain region near Lake Placid was established in 1965 with the aid of Mr. and Mrs. Henry Uihlein II. The Station is recognized throughout the Northeastern US and Canada as a leading center for sugar maple research.

More than 220 acres provide an outdoor laboratory for the study of forest management and health, and specifically for maple syrup production and processing. The Station's greenhouse and sugarbush are at the core of a Northeast regional research initiative to identify and cultivate genetically improved maple stock. State-of-the-art vacuum tubing and processing equipment enable researchers to develop improved techniques for sap collection and syrup processing. The sugar bush here has about 4,000 taps that have shown increasing annual production. Maple products produced here help support research and extension efforts.

The Station is administered by Cornell University's College of Agriculture and Life Sciences' Department of Natural Resources.

To learn more, visit <http://maple.dnr.cornell.edu>.

The Uihlein Potato Research Station of Cornell University is the official seed potato farm in New York State.

The farm's location - geographically isolated from heavy commercial potato production and in a colder, 80-day growing season climate - and the farm's use as a potato farm are by design to help keep the potatoes disease-free.

Above: The testing laboratory and greenhouse at Uihlein Potato Research Station in Lake Placid are unique for their location directly on a potato farm.

Right: a field filled with potatoes at the Station with Mount Marcy in the background.

Uihlein Potato Research Station, Lake Placid, NY

The Uihlein Potato Research Station of Cornell University is the official seed potato farm in New York State. Located about two miles south of Lake Placid, the farm was donated to the university in 1961 by Mr. and Mrs. Henry Uihlein II. Their purpose was to establish a site for the production of basic potato seed stocks for the New York potato industry.

The farm's location - geographically isolated from heavy commercial potato production and in a colder, 80-day growing season climate - and the farm's use as a potato farm are by design to help keep the potatoes disease-free.

In 1977, the Uihleins provided funding to build the Henry Uihlein II Laboratory. The tissue culture laboratory is unique in its location on a potato farm. Commercially-sold potatoes originate from test-tube plants that have started in a test tube in such a lab. A 125-foot greenhouse adjoins the laboratory that is used to develop disease-free nuclear seed stocks of commercial varieties of potatoes. Plantlets are tested and thoroughly screened for disease-causing micro-organisms, including bacteria, fungi, and viruses. A focus of the program in recent years has been to develop cultivars and new varieties that are resistant to the golden nematode.

The farm has approximately 175 tillable acres. Sixty to 70 varieties of potatoes are grown here each year. Most of the potatoes are planted on contract for commercial entities or to produce foundation seed for the U.S. Department of Agriculture for use in other states. The rest of the potatoes grown here represent research lines from breeding programs at Cornell University and elsewhere.

To learn more, visit <http://seedpotato.newyork.cornell.edu/uihleिन.html>.

NNY Research/Education Institute

Representatives:

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For more information, contact your Cornell Cooperative Extension office:

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The Northern New York Agricultural Development Program selects and prioritizes research the results of which can be practically applied to farms in the six-county region of northern NY: Jefferson, Lewis, St. Lawrence, Franklin, Clinton and Essex Counties.

To learn more about the Northern New York Agricultural Development Program, contact Co-Chairs Jon Greenwood, 315-386-3231, or Joe Giroux, 518-563-7523; or R. David Smith, Cornell University, 607-255-7286; or visit www.nnyagdev.org. ♦



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