Promoting Agriculture & Environmental Stewardship in the Champlain Valley

Strategic Plan

2011 - 2016
We envision a vital agricultural community in northern New York and surrounding regions built on intelligent use of forage crops and management technologies that optimize animal production and well-being while sustaining the natural environment, particularly in the fragile Champlain Basin.

Miner Institute’s Mission

Miner Institute conducts integrated, cutting-edge education, research, and demonstration programs that optimize the biological and economic relationships among forage-crop production, dairy and equine management, and environmental stewardship.
AGRICULTURAL AND ENVIRONMENTAL CHALLENGES IN THE 21ST CENTURY

• Producing sufficient food for a growing world population.

• Achieving high productivity of crops and animals while preserving land, water, and air quality.

• Ensuring food safety, nutritional quality, and food security regionally and globally.

  • Ensuring animal well-being in our production systems.

  • Maintaining farm profitability in an era of expensive input costs.

  • Effectively utilizing our regional agriculture and natural resource strengths.

  • Assuring an educated workforce in agricultural and environmental sciences.

• Providing science-based information to farmers as well as those not actively involved in agriculture.
Miner Institute’s *fundamental purpose* is to link advanced crop management with efficient animal production to sustain our natural environment.

Our **education** programs will showcase cutting-edge knowledge in agriculture and environmental science.

Our **research** will evaluate advanced forage genetics and management strategies that optimize animal response and agronomic systems that enhance environmental stewardship.

Our farming operations will **demonstrate** best management practices for crop, animal, and nutrient management.

We will **engage** the farm and non-farm community on issues that cross-cut agriculture and society: food safety and security, environmental impact of farming, and animal well-being.
EDUCATION MISSION

Our residential educational programs are regionally and nationally recognized for the hands-on, research-based nature of the programs, and for how they prepare students to assume leadership roles in agriculture and environmental management.

Meeting the Educational Challenges:

Advanced Dairy Management — a collaboration with the University of Vermont.
- A 15-credit course educating tomorrow’s farmers and agribusiness professionals to objectively evaluate dairy, crop and nutrient management on farms.
- Provide critical thinking skills to enhance problem solving abilities on farm operations.

Applied Environmental Science Program — a collaboration with Plattsburgh State University that utilizes the vast resources and knowledge available at Miner.
- Agriculture and the Environment — A 3-credit course training future environmental management professionals and policy makers by providing an agricultural perspective to approaching environmental challenges.

Summer Experience and Internships — Dairy Farm Management, Equine Management, and Agricultural Research
- Providing in-the-field experience for students pursuing careers in agricultural management, veterinary and animal sciences or agribusiness.

Equine Reproduction & Management Short-Courses —
- Providing cutting-edge information for students and community horse owners.

Miner Impact: Graduates of Miner Institute courses have obtained leadership roles in farming, agribusiness, and government.

Approximately 50% of cows in Vermont and New York’s North Country are directly impacted by graduates of our courses.
RESEARCH MISSION

We conduct high-quality, integrated research spanning the forage crop-animal-environment interface that has immediate application for farmers, agribusinesses, community leaders, and policy makers.

Meeting the Research Challenges:

We will expand our applied agricultural research with a focus on:

Mitigating Nutrient Run-off into the Lake Champlain Watershed
- Optimizing the use of water table control structures in subsurface tile drainage systems.
- Measuring nutrient loading in the Little Chazy River and Lake Champlain.

Feeding Approaches that Enhance the Use of Forages by Dairy Cattle
- Evaluate advanced crop genetics for improved nutritional value and farm application.
- Investigate dietary effects on metabolism, health and improving efficiency of milk production.

Enhancing Dairy Cattle Well-Being
- Assessing impact of stocking density and management on behavior, health, and productivity.
- Improving nutritional models (software) to better feed and optimize nutrient utilization in cattle.

State-of-the-Art Research Capabilities:
- 300-cow Research Complex
- Equine Reproduction/Nutrition Laboratory
- 40-acre Agronomy Test Plots
- Soil and Plant Processing Laboratory
- Environmental Science and Forage Laboratory
- Network of National and International Collaborators.

Miner Impact: Ability to attract and conduct $1 million annually in grant-funded research to generate solutions to the challenges facing agriculture.

Approximately 40% of dairy cows in the U.S. are fed diets formulated using software co-invented by Miner Institute, Cornell University, and University of Pennsylvania scientists.
DEMONSTRATION & OUTREACH MISSION

We demonstrate best management practices in dairy and forage-crop production, nutrient management, environmental stewardship, and equine husbandry.

Meeting the Outreach Challenges:

- Miner Institute will be considered a premier source for technical information on agriculture and environmental issues by farmers, agribusiness, community leaders, and policy makers.
- We will utilize new technologies that allow us to expand our outreach footprint beyond northern New York and surrounding regions.

Outreach Resources:

- Newsletters: The Farm Report and The Stable Sheet
- Webinars and podcasts
- On-site conferences and workshops
- Enhanced website

Demonstration Resources:

- Best management practices in dairy, crop, equine, and nutrient management.
- Our dairy herd is ranked within the top 1% of dairies nationally, lending credibility to our research, education, and demonstration programs.

Miner Impact: More than 4,000 people annually participate in our outreach and demonstration programs.
ENGAGING THE COMMUNITY

Miner Institute will engage the general public on issues that cross-cut agriculture and society such as food security, environmental stewardship and animal well-being.

We will accomplish this goal by:

• Initiating a “Miner Institute Agriculture Policy Series” with leading experts in farm policy, business, and economic development.

• Being a trusted source for unbiased, science-based agricultural and environmental information.

• Facilitating discussion of critical topics in agriculture through the use of local media.

• Hosting open houses that highlight the Institute’s rich history and its current educational and research programs.
A century after William Miner built Heart’s Delight Farm, Miner Institute continues his vision of science and technology promoting both agriculture and the environment in his beloved Champlain Valley.

Today, Miner Institute has developed a regional and national reputation for education, research, and demonstration programs in dairy, crop, equine, and agri-environmental management. All three components of our mission – education, research, and demonstration – are interconnected by design and have equal importance to us.

**Uniqueness of Miner Institute:**

Unlike other agricultural educational institutions, Miner Institute uses its farm, facilities, and staff to conduct fully-integrated education, research, and demonstration programs rather than treating them as separate and unequal functions.
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