

THE WILLIAM H. MINER AGRICULTURAL RESEARCH INSTITUTE

*Carrying on William Miner's vision of
science and technology in the service of
agriculture and the environment.*

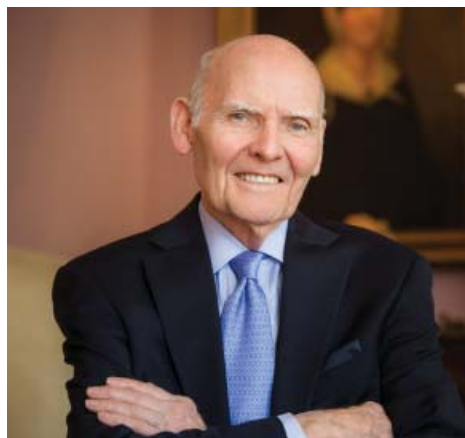


2015-16 Annual Report

MESSAGE FROM THE CHAIR

THE WILLIAM MINER WAY

The Institutions that will last
must link the wisdom from the past
with the fresh findings of what's new
to build their plans for what they do
Research to probe for all that's best
Demonstration they meet the test
Education to teach the skills
to farm the land the farmer tills
Bountiful crops and preserved land
Animals well cared for and manned
That was the William Miner way
And we continue it today



— Dr. Joseph C. Burke
Chair, Miner Institute Board of Trustees

BERNING'S VISION HELPED GUIDE THE FOUNDATION

The success of The William H. Miner Foundation, which provides investment funds to the Chazy School, the Champlain Valley Hospital, and the Miner Institute has had several champions, such as James FitzPatrick and Middleton Miller. But its growth through the years owes an enduring debt to the drive and skills of one man: Larry Berning. Larry pushed the Miner Foundation from the old world of conservative bond ladders to the new age of burgeoning hedge funds. His knowledge and drive built a dwindling fund into a growing endowment that helps support three of our North Country's wonders. Larry has gone but his legacy lives on and on.

— Joseph Burke



Larry Berning, left, with Middleton Miller, middle, and James FitzPatrick, right at Miner Institute in the 1980s.

Larry Berning served as trustee of the William Miner Foundation from 1981 to 2012. He was a partner at the law firm Sidley Austin LLP in Chicago, IL. Larry died on August 1, 2015. He was 74.

PRESIDENT'S MESSAGE

Do Miner Institute Programs Have an Impact? This question is the most important one that we can ask. In 2015, we educated 65 students, wrote over 1.5 million dollars' worth of grants, and received two USDA-NIFA competitive grants that totaled one million dollars. We received a generous gift from the Flanagan family of 1.2 million dollars which we will use to support our agriculture students here at the Institute. We saw over 3600 people come through our stone gates, and demonstrated best management practices as evidenced by the continued high performance of our dairy herd. We conducted over 44 events from a Belmont Stakes Horse Barn Party to our annual Dairy Day!



Our impact is evidenced by the fact that Miner graduates have leadership roles in farming, agribusiness, academia, and government. Approximately 50% of cows in Vermont and Northern New York are directly impacted by graduates of our courses. Seventy percent of our dairy graduates are either dairy farmers or leaders in agribusiness. Over time, these Miner graduates will shape our industry.

In 2015, we published 17 scientific reports as peer-reviewed journal articles and research abstracts. Our staff delivered 77 industry presentations in the US, Mexico, Canada, and Italy. This is a tremendous educational footprint for a small staff. From Chazy, NY we have developed international research linkages with colleagues at the University of British Columbia, the University of Bologna, ZenNoh (the largest Japanese Agricultural Cooperative), Lallemand's Center for Forage Excellence, and Delta Instruments (headquartered in The Netherlands) with Cornell University's Dr. Dave Barbano.

In 2016, we will be aggressively marketing our spring dairy scholar program hoping to attract undergraduates focused on a career in the dairy industry. We plan to hold an Institute-wide Open House, host an Agriculture in Society Speaker, and premier the William Miner biographical documentary two years in the making.

There is much more that we have planned – so if you have questions about the range of Miner Institute programs – research, education, and demonstration – please feel free to contact us. As always, if you find yourself in the beautiful North Country of New York State, please stop in and experience for yourself the outstanding facilities, grounds, programs, and staff of Miner Institute.

— Dr. Rick Grant
President, Miner Institute

EDUCATION

Miner Institute's educational programs all emphasize a hands-on approach to learning with a research-based educational focus.

In 2015, 65 students participated in our educational programs. This includes two Advanced Dairy Management students; 13 summer experience students; 40 Applied Environmental Science students; four year-long interns who have finished their undergraduate degrees; four graduate students; and two post-doctoral researchers.

To learn more about our education programs visit whminer.org/education

In 1923, William Miner envisioned that Heart's Delight Farm would evolve into an educational and research institution with "instruction to be given in such subjects as dairying, animal husbandry, plant pathology, soils, and agricultural chemistry (and that) opportunities be given for experimental and research work in order that the school may serve to advance the science of agriculture."

Applied Environmental Science Program

The Applied Environmental Science Program features courses taught on a full-day basis; the format allows integration of theory developed in lectures with hands-on experience in indoor and outdoor labs dealing with soil, water, forestry, and the agriculture-environment interface.

Courses offered as part of the 2015 program were Forest Ecology and Management with Dr. Jacob Straub; Agriculture and the Environment with Stephen Kramer; Water Quality and Modeling with Dr. Lyn McIlroy; Wetland Ecology and Management with Dr. Rachel Schultz; Soil Science with Dr. Robert Fuller, and Wildlife Ecology and Management with Dr. Danielle Garneau, which was taught on campus in 2015.



L to R: Dr. Edwin Romanowicz; Dr. Jacob Straub (holding his son Oliver Straub); Dr. Rachel Schultz; Dr. Robert Fuller; Charles Hacker; Ryan Ackerman; Andrew Jenkins; Ashley Regan; Zachary Fleury; Dimitrios Almeida; Emily Hastings; Stephen Kramer; and Dr. Danielle Garneau.

"I believe that the Applied Environmental Science Program at Miner is an excellent value in both the education received and in field experience. The hands-on experience gained during the classes at Miner really helped open my mind to what I wanted to do with my degree, as I really enjoyed doing the field work and data collection and then seeing that data used in the equations and applications we learned. The staff at Miner were always pleasant and willing to strike up a conversation with anyone. This was really nice because it creates a strong sense of community among everyone there."

— **2015 student testimonial**

Summer Experience Programs

The summer experience programs offer students a 13-week paid internship focused on either dairy farm management, agricultural research, or equine management. Students from around the country apply for the highly-competitive internships.

Farm Management Students



L to R: Jessi Dercks from the University of Wisconsin; Katie Kelly from the University of Kentucky; Erin Allen from the University of Tennessee; and Amy Middleton from The Pennsylvania State University.

Equine Management Students



L to R: Janie Weiss from Colorado State University; Kerry Spain from the University of Vermont; Emily Steeley from the University of Minnesota Crookston; Valerie Krause from William Woods University; Briana Sullivan from SUNY Cobleskill; and Elena Crowley from Cazenovia College.

Agricultural Research Students



L to R: Elle Andreen from Michigan State University; Jessie Uline from The Pennsylvania State University; and Sarah Allen from Mississippi State University.

"This program definitely exceeded my expectations! Not only was the hands-on experience everything I needed, but the additional events planned around the program were superb."

"It was a very flexible program that was adjusted to the interests of the students throughout the summer. There was a good combination of hands on learning and independence that grew as the summer progressed."

— 2015 student testimonial

Advanced Dairy Management Program

The Advanced Dairy Management program, a 15-credit course is a combination of 5 classes offered at Miner Institute. The course was designed to help meet the changing needs and challenges of the dairy industry. The dairy industry today requires greater technical education and knowledge, is operated on borrowed money for expansion to stay competitive, resulting in market forces that demand educational programs in dairy production to remain relevant to the industry. Training leaders of the future is an important part of what we do in our education programming.

In 2015, the two students enrolled in our program came to us from the University of Vermont.



From L-R: Jessica Waterman and Serena Reynolds.

RESEARCH



William Miner's vision for Heart's Delight Farm in 1928 was to provide "opportunities ...for experimental and research work in order that it may serve to advance the science of agriculture." Today, Miner Institute proudly carries on his noble mission. Our highly-regarded professional staff, exceptional technical staff and well-managed dairy herd and crop program combine to support a unique research model focusing on the interface of crops, animals and nutrient management. The results for most of the research conducted by Miner Institute are reported to the public through scientific meetings and journals or through the monthly *Farm Report* available on our website at whminer.org.

In 2015, Laura Klaiber completed her graduate work which focused on quantifying the differences in runoff water yield and phosphorus losses associated with tile-drained and undrained field plots. Also in 2015, Miner Institute was awarded funding for two grants submitted to the USDA AFRI Animal Well-Being Program Area. The federal research funding process is highly competitive and successfully receiving funding support recognizes the efforts of Miner Institute and their colleagues in the animal well-being area. Dr. Heather Dann worked with collaborators, Dr. Peter Krawczel (University of Tennessee) and Dr. Katy Proudfoot (The Ohio State University), to submit a grant entitled, The effect of visual seclusion and stocking density on the behavior and welfare of transition dairy cows. A couple of studies within this grant will be conducted over the course of the next few years at Miner Institute and the University of Tennessee. We believe that by accommodating the natural behavior of cows, their stress will be alleviated and health will be improved which will both benefit herd profitability and fall in line with social values about animal welfare. Dr. Rick Grant and Mackenzie Campbell, (Ph.D. candidate- William H. Miner Agricultural Research Institute/The University of Vermont) also collaborated with Dr. Krawczel to submit a grant entitled, Evaluating the interaction of stocking density and management environment on the behavior, physiology, and rumen health of lactating dairy cow. For this grant, three studies over the next few years will also be conducted at Miner Institute and University of Tennessee. These studies should provide a unique insight into a combination of stressors that dairy producers have varying degrees of ability to control. Both of these grants should provide recommended management strategies for the dairy industry that will improve animal well-being and take a proactive step toward reducing social concern over the quality of life of animals in our care.



PROJECTS FUNDED IN 2015

Title	Project Support
Agronomic and forage quality characteristics of brown midrib (BMR) and non-BMR corn silage hybrids grown in Northern New York	Northern New York Ag Development Program
Do high mineral concentrations in water affect feed digestibility, cow health and performance on Northern New York dairy farms?	Northern New York Ag Development Program
Assessing agronomic and environmental aspects of tile drainage in the northern New York region	Northern New York Ag Development Program
Characterizing the response of transition cows to amino acid supply in the close-up diet	Zen-Noh
Edge of field monitoring	USDA-NRCS
Identifying feeding and management practices related to milk fatty acid composition	Cornell University, St. Albans Co-operative, Delta Instruments
A novel bm3 corn silage hybrid with floury kernel genetics improves lactational performance and feed efficiency in Holstein cows	Dow Agrosciences LLC
Pre-commercial corn silage hybrid testing at Miner Institute	Chemgro Seeds, Dyna-Grow Seeds, King's AgriSeeds/Masters Choice, Thurston Genetics
An evaluation of lactic acid bacteria inoculants on quality of grass silage	Provimi North America
An evaluation of various combinations of lactic acid bacteria inoculants on quality and aerobic stability of corn silage	Provimi North America

* Additional projects were conducted confidentially evaluating pre-commercialized products.

In 2015, Miner Institute's Dr. Heather Dann collaborated with Dr. Dave Barbano (Cornell University) to explore novel applications using existing milk analysis technologies that may help dairy producers address health and longevity of cows in their herd. While mid-infrared (MIR) spectrophotometry is used worldwide to measure fat, protein, and lactose in milk for farm payment and dairy herd improvement programs, we are exploring opportunities to use this technology for daily farm management decisions. With support from Delta Instruments (Drachten, The Netherlands), a LactoScope Fourier Transform Infrared (FTIR) Advanced milk analyzer was installed at Miner Institute in July. With the use of this milk analyzer, a full infrared spectra of each milk sample is generated allowing the opportunity to extract additional information beyond content of fat, protein, and lactose. We hope the FTIR milk spectra will allow for the generation of real-time management data that will influence decisions regarding feeding, health, and reproductive management.





The Miner Institute dairy herd remained in the 99th percentile in New York State and the nation for milk production for the 9th straight year in 2015. The Miner herd finished out 2015 with 30,000 pounds of milk, 4.2% butter fat, and 3.2% protein: those components accounted for 82% of our 2015 milk income. The average milk price for the year was \$18.00 per hundredweight (cwt), which was down \$8 from the 2014 average of \$26/cwt. Projections for 2016 milk price are not looking good. In addition to the lower milk price, we are facing the mandate by our milk co-op to stop using rbST by January of 2016. In August of 2015 we stopped enrolling new cows on rbST. However, we have made several management changes that will help to maintain milk production going into 2016. One of the changes was to our reproduction program, decreasing the voluntary waiting period to get cows bred back sooner. We also put up some excellent forages in 2015. The corn silage was higher in starch and starch digestibility compared to 2014. Also in 2015 we were able to separate out the high quality haycrop silage at harvest time, allowing us to maximize the percentage of forage in our diets.



Multiple research projects requiring feed and dietary changes and pen moves were conducted in 2015. Fulfilling our mission of education, research, and demonstration is a challenge that certainly sets us apart from average dairy farms. We rely on a knowledgeable and flexible dairy and crops staff to meet our goals and maintain our successful program.

Our milking herd averaged 411 milk cows in 2015 with around 800 total animals on the farm. We dealt with yet another challenging cropping year in Northern New York. Heavy rains in late spring made it difficult to get corn planted. Hay fields yielded well in part due to the abundant rainfall. This year we tilled 200 acres and cleared another 50 acres; over time, we expect to gain 30% more forage from these fields.

Dairy and crops staff worked with our year-long intern Vicky Bem from Pennsylvania State University and four summer students: Jessi Dercks from the University of Wisconsin, Katie Kelly from the University of Kentucky, Erin Allen from the University of Tennessee, and Amy Middleton from Pennsylvania State University. Students worked alongside our staff learning how to milk cows, feed calves, and maintain a healthy herd. The field crops staff worked with the students teaching them about growing and harvesting crops – everything from picking rocks and preparing the ground to mowing, merging, and chopping haycrop silage. Many of these students have never driven a tractor before, so they gain practical, hands-on experience in how a modern production dairy farm operates. Most of these interns go on to work in the dairy industry in some capacity.

Overall it was another highly successful year for the dairy operations at Miner Institute.



EQUINE



Following a successful first dressage show in September of 2014, HD New York (Legacy's Viking x Sugarlane Dominique) was purchased in June to be the new sport horse for his owner on Martha's Vineyard and HD Clayton (Tedwin Titlist x UVM Valkyrie) is now owned by a student at the University of Vermont.

Sugarlane Dominique had a gorgeous chestnut colt, HD Kingston, by our stallion Canon, in early June. His easy birth was a welcome sigh of relief as we came very close to losing another treasured broodmare, HD Massena, to an abortion and retained placenta in late March. As a result of her illness, it was decided that she not be asked to carry a foal again, but her offspring have proven valuable enough to the herd that we bred her twice, but flushed for embryo transfer. Two embryos, both by Canon, were transferred and one recipient mare held her pregnancy and is due in the summer of 2016. Following the retirement of UVM Valkyrie from the broodmare band, her daughter by Legacy's Viking, HD Valhalla has stepped in and is due with her first foal this summer by Townshend Rob The Wave. Stonecroft Duece's Wild is bred to UVM Springfield. What will make this foal special is that she was bred via semen that was frozen by Katie Ballard at the UVM Morgan Horse Farm in early 1999. UVM Springfield's service was donated by Janet and Chris Morris of Paradise Morgans and they're looking forward to the foal as much as we are since "Springy" died in 2014. Sugarlane Dominique is bred back to Canon for a spring foal. Several local mare and stallion owners took advantage of our reproductive services offered.



HD Gouverneur
(GCM Vernon Hall x UVM Valkyrie)
2010 gelding

HD Philadelphia and Karen Lassell travelled to the historic New England Morgan Horse Association's Regional Championship show in July to compete in the carriage division. "Pixie" took the blue ribbon in the Training Level Arena Driving Trial and had the highest dressage score of the day. In September, HD Philadelphia and HD Irondale (UVM Jubilant x Sugarlane Dominique) went to the New York State Morgan Horse Society Regional Championship Show. Once again, "Pixie" brought home several good ribbons, including a blue, in a very competitive carriage division. HD Irondale, with Kristen Anderson up, showed in 4 Western Dressage tests with each score better than the previous and also several blue ribbons.



2015 YEAR IN REVIEW

In 2015, we hosted more than 40 events, including six Cornell Cooperative Extension programs. We had more than 3,500 total visitors including several hundred local schoolchildren who visited as part of a school field trip. Here are some of the highlights from 2015:

JANUARY

- Hosted a producer meeting for Yankee Farm Credit and Farm Credit East.
- Rick Grant, John Bernardi, executive director of United Way of the Adirondack Region, and Bruce Garcia, campaign co-chair, kissed a Miner Institute Holstein to celebrate exceeding our goal of raising \$3,000 for the United Way's 2015 campaign.
- The annual Cornell Maple School attracted 70 attendees.
- Hosted the annual 4H Horse Bowl and Hippology event for youth. Equine Manager Karen Lassell and yearlong intern Kristen Anderson were judges for the event.

FEBRUARY

- The annual Crop Congress meeting was co-hosted at Miner Institute with Cornell Cooperative Extension and attracted 70 attendees.
- Hosted a meeting of industry experts involved in the USDA's Dairy 2050 group for the third year. The group will meet at Miner again in 2016.
- Hosted a meeting for the Northern NY Ag Development Program with 30 participants.

MARCH

- Our annual equine seminar, EquiDay, attracted 80 attendees.
- Hosted a meet-up of NY Agri-Women – women involved in agriculture around NY State. The group listened to a talk by Dr. Heather Dann on the importance of agricultural research, toured the Institute and visited the Miner sugarhouse.

APRIL

- Hosted an equine podiatry clinic with Dr. Sammy Pittman. The clinic had 20 attendees.
- Hosted 30 members from the Franklin County, VT 4H Dairy Club. The group toured the dairy barn and participated in interactive demonstrations in the research area of the barn.
- We co-hosted a Miner legacy program about William and Alice Miner with the Alice T. Miner Museum at the Plattsburgh Public Library.



MAY

- Hosted the Third Annual Strides for James charitable 5K/10K race. More than 200 runners participated.

JUNE

- Hosted the Cornell Nutrition Conference with 75 attendees.
- Our annual Farm Days for Fifth Graders event saw 600 youngsters over the course of the three-day event.
- Hosted the fourth annual Horsemanship Retreat with clinician Jane Jackson from Sheffield, VT.

JULY

- Hosted a blood drive for the North Country regional Blood Donor Center.
- We were included as a stop on a Prominent Historic Figures of the Champlain Valley tour with Clinton Community College's Tom Mandeville. The 10 participants learned about William Miner's lasting impact on the North Country.

AUGUST

- Hosted a research-focused program for NY State Master Teachers from our region with 15 local educators in attendance.
- Hosted a program on modern dairy farming program at the Plattsburgh Public Library.

SEPTEMBER

- We led a tour with 20 members of Adirondack Architectural Heritage (AARCH). The group toured The Alice T. Miner Museum, the Riverside Cemetery and the Heritage Exhibit and barns at the Institute.
- Zen-Noh meeting with president.

OCTOBER

- Hosted a SOCT Law-Yankee Farm Credit seminar for producers on transitioning their farms.
- Celebrated William Miner's birthday with visits from Chazy Central Rural School. Kindergarteners visited the dairy and horse barns; first graders visited the Schoolhouse; fifth graders visited the Heritage Exhibit.

NOVEMBER

- Hosted the Cornell Feed Dealer meeting, with 35 attendees.
- Hosted the Cornell PRO Dairy producer tour with 25 attendees.

DECEMBER

- The annual Dairy Day meeting attracted more than 120 attendees.

2015 ACCOMPLISHMENTS

Dr. Rick Grant earns Dairy Nutrition Award

Miner Institute President Dr. Rick Grant was awarded the 2015 Nutrition Professionals Inc. Applied Dairy Nutrition Award at the July American Dairy Science Association annual meeting in Orlando, FL. The award recognizes outstanding achievement in research, teaching, or extension in applied dairy nutrition. The American Dairy Science Association says that winners have “made significant contributions to the dairy industry in the area of applied dairy nutrition in one or more areas such as applied nutrition research related to improved production efficiency, reproductive function, or herd health; integration of innovative nutritional management practices into profitable management systems; or education and application of nutritional information to students, producers, and the public.”



Dr. Rick Grant, left, with graduate students Melissa Woolpert and MacKenzie Campbell in Orlando, FL.

Historic Triple Crown Winner Caps Belmont Stakes Barn Party

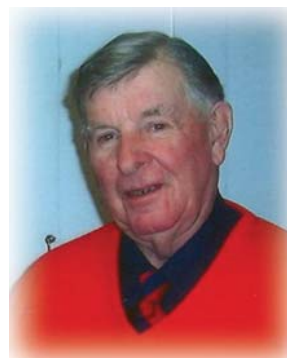


American Pharoah's historic Triple Crown win was a great way to cap a gorgeous day at Miner Institute for the June 6 Belmont Stakes Party. We hosted about 75 people for the event that featured stick horse decorating for kids; an equine judging demonstration with our Miner Morgan herd; NY-themed refreshments; a barn full of friendly Miner Morgans; and of course the historic race!! Visitors bet on who would win the race for a chance to win a purse donated by Adirondack Tack. We raised more than \$100 which was donated to the Forever Morgan horse rescue organization.

Flanagan bequest will honor family's farming tradition

In late 2015, Miner Institute's education programs received a \$1.3 million boost with a generous donation from the late Stephen Flanagan. The donation will be used to establish a scholarship fund that will support two students enrolled in Miner Institute education programs each year. The scholarships will be named after Mr. Flanagan and his parents, Stephen S. Flanagan and Frances B. Flanagan.

“This generous gift will allow the Institute to offer scholarships to students focused on the science of dairy farming and dairy cattle management. It is a wonderful legacy to leave to this region as we train future generations of farmers and young agribusiness professionals,” said Dr. Rick Grant, President of Miner Institute.



Mr. Flanagan was a lifelong farmer who owned and operated Sunshine Dairy Farm until 1972 and thereafter continued to raise beef cattle on his Rugar Street Farm in Plattsburgh. He was also influential in the creation of the Antique Farm and Home Museum at the Clinton County Fairgrounds. Mr. Flanagan wanted to ensure that deserving young people would have an opportunity to study the science of food production and enjoy farming as much as he had. Mr. Flanagan passed away in November 2014 at the age of 86.

OUTREACH

In 2015, we sent out eight press releases which resulted in 10 news stories in addition to publication in the Sunday Farm Briefs section of the Plattsburgh Press Republican. Additionally, Miner Institute was featured in an Across the Fence interview; was mentioned as a Top-10 site to visit for history and scenery on a regional tourism blog; and was the feature of an Adirondack Coast Minute produced by Mountain Lake PBS and funded through the Adirondack Coast Visitor's Bureau.

Rick Grant was the subject of a profile in Strictly Business and also authored an op-ed in the Press Republican in response to the Plattsburgh City Council's resolution encouraging residents not to use GMOs and pesticides. Another letter to the editor concerning GMO food labelling was published in the Boston Globe. Farm Report articles on these same topics and the use of rbST in milk production were widely reprinted locally, nationally, and internationally. Staff also spoke on GMO foods and regional land use and forest clear-cutting for farming at Rotary and other local organizations. Research led by Heather Dann at Miner Institute was featured in an article in Dairy Herd Management. At least 30 Farm Report articles from 2015 were reprinted or reported in other publications. Additionally, Miner Institute was featured in the May 2015 issue of Holstein News.



We hosted the Third Annual Strides for James charity run in 2015 with nearly 300 runners.



Director of Research Katie Ballard discusses digestion with a group of 4-H members from VT.



Summer Experience interns talk to fifth grade students in the dairy barn as part of Farm Days for Fifth Graders.



Students from Keeseville Elementary participate in a respiration lab at Miner Institute.

OUTREACH

High School Chemistry Program



As part of the high school chemistry program, area high school juniors and seniors take part in four “hands-on” learning labs dealing with water quality and pollution from various sources. Each lab demonstrates a set of skills to solve problems that can be utilized in the next lab. Students also learn some basic laboratory techniques, including pipetting, weighing and creating standard solutions which augments their experience.

The goal of the program is to teach students to engage in math and science rather than be afraid of it by doing activities rather than having them explained. The hands-on nature of the program comes from our annual Applied Environmental Science Program, which is held each fall semester in conjunction with SUNY Plattsburgh. In 2015, 70 students from two area schools participated.

Farm Days for Fifth Graders

The annual Farm Days for Fifth Graders event began in 1982. Students from area schools participate in various agriculture-based activities such as exploring the environment where the cows live and are milked, modern equipment used for planting and harvesting, storing crops, feeds for dairy cows, the fistulated cow, equine behavior, horse care, maintenance and training, and the history of the farm. Our mission in this program is to help students to become more aware of agriculture in our community and the impact on our daily lives.

In 2015, we had nearly 600 fifth grade students participate.



Farm Report and Stable Sheet Newsletters



The Miner Institute *Farm Report* is a monthly dairy newsletter sent to more than 2000 subscribers worldwide. It is written primarily for farmers and other agricultural professionals in the Northeastern U.S. and Eastern Canada. Most articles deal with dairy and crops topics, but also included are articles dealing with environmental issues and global agriculture as well as editorial commentary. Articles are frequently re-printed in other industry publications.

The *Farm Report* and *Stable Sheet* can be found online at www.whminer.org

The *Stable Sheet* is a semi-annual newsletter for both equine owners and industry professionals. It provides practical information on all aspects of horse care, from breeding to training to health and safety. We also share challenges we've faced and offer insight on how to prevent the same from happening to others. The *Stable Sheet* also promotes equine events sponsored by Miner Institute and the University of Vermont.



COLLABORATION & SUPPORT

COLLABORATORS

- Eileen B. Allen, GISP
SUNY Plattsburgh
- Marie Audet
Blue Spruce Farms
- Dr. Dave Barbano
Cornell University
- Les Berghorn
AfgriTech
- Dr. Gary Bergstrom
Cornell University
- Dr. Sid Bosworth
University of Vermont
- Dr. Jonathan Bradley
University of Missouri
- Dr. John Brouillette
Mycogen Seeds
- Robert Brower
NYS SWCC –
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Agriculture & Agri-Food
Canada
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Cornell Institute for Climate
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Climate Change
- Lindsay Collings
Novus
- Linda Corey
Fairfax, VT
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Yankee Farm Credit
- Karl Czymmek
Cornell Pro Dairy
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University of Vermont
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Cornell University
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Limnotech
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Lallemand
- Dr. Jen Dulin
Vermont Large Animal Clinic
- Jerry Emerich
Select Sire Power

- Pete Emond
Delta Instruments
- Mike Farmer
Yankee Farm Credit
- Anita Figueras
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Dairy One
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University of Bologna
- Claude Fortin
Mycogen Seeds
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SUNY Plattsburgh
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SUNY Plattsburgh
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SUNY Plattsburgh
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Cornell University
- Dr. Francis Glenn
Glenn Seeds
- John Gloss
Dairy One
- Art Graves
Mycogen Seeds
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University of Vermont
- Dr. Russ Hahn
Cornell University
- Tim Hayes
Hayes is for Horses
- Dr. Joe Hogan
The Ohio State University
- Mike Hunter
CCE, Jefferson & Lewis
counties
- Amy Ivy
CCE, Clinton County
- Linda Corey
Fairfax, VT
- Jane Jackson
Bookends Farm
- Brian Jerose
WASTE NOT Resource
Solutions
- Ivor Jones
Select Sire Power
- Jason Karszes
Cornell Pro-Dairy
- Dr. Quirine M. Ketterings
Cornell University
- Carl Key
Healthy Herd Genetics
- Tom Kilcer
Advanced Ag Systems
- Dr. Limin Kung
University of Delaware
- Joe Lawrence
CCE, Lewis County

- Dr. Sam Leadley
Attica Veterinary
Associates
- Dr. Cathy Lombardi
The Oaks Veterinary Clinic
- Steve Mahoney
River Bend Ag &
Environmental Services
- Molly McCue, DVM, MS,
Ph.D., ACVIM
University of Minnesota
- Dr. Lyn McIlroy
SUNY Plattsburgh
- Dr. David Mertens
Mertens Innovation
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Cornell University
- Dr. C. Steve Mooney
Morrisville State College
- Dr. Kimberly Morrill
CCE Regional Dairy Specialist
- Dr. Andrew Novakovic
Cornell University
- Dr. Kitty O'Neill
CCE Regional Field
Crops & Soils Specialist
- Dr. Tom Overton
Cornell University
- Dr. George Palmer
Palmer Veterinary Clinic
- Dr. Steve Plehn
Dow Agrosiences/
Mycogen Seeds
- Barry Putnam
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SUNY Plattsburgh
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Poulin Grain
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- Dr. Rachel Schultz
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University of Wisconsin
Madison
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Cornell University
- Dr. Charlie Sniffen
Fencrest, LLC
- Clayton Stoffel
Papillon Nutrition
- Ryo Suzuki
Zen-Noh
- Carol Tetreault
Adirondack Tack

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Oak Point Agronomics
- Dr. Tom Tylutki
AMTS, LLC
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Cornell University
- Dr. Harold Van Es
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- Dr. Edward Verhamme
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- Mark Winslow
Papillon Nutrition
- Katie Woods
Novus
- Dr. André Wright
University of Arizona
- Jessica Ziehm
NY Animal Agriculture
Coalition
- Bill Zweigbaum
Farm Credit East

SUPPORT

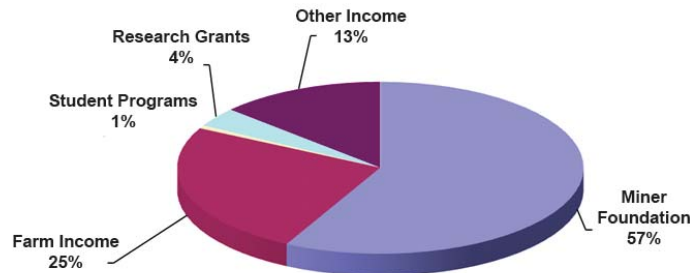
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- Ajinomoto Co. Inc.
- AMTS LLC
- Dr. Joseph and Joan Burke
- Nancy Caisse
Townshend Farm
- Chemgro Seeds
- Corning Life Sciences
- Dow AgroSciences
- Doug and Adrienne Gable
- Drylet, LLC
- Dyna-Grow Seeds
- Glenice E. Morris
- King's AgriSeeds/Masters
Choice
- Lallemand Animal Nutrition
- Leatherstocking Morgans
- Microflex Corporation
- NNY Ag Development Program
- Patricia Waring
- Provimi North America
- RUM&N SAS
- Thermo Spectronic
- Thurston Genetics
- USDA-NRCS
- Zen-Noh

FINANCIAL SUMMARY

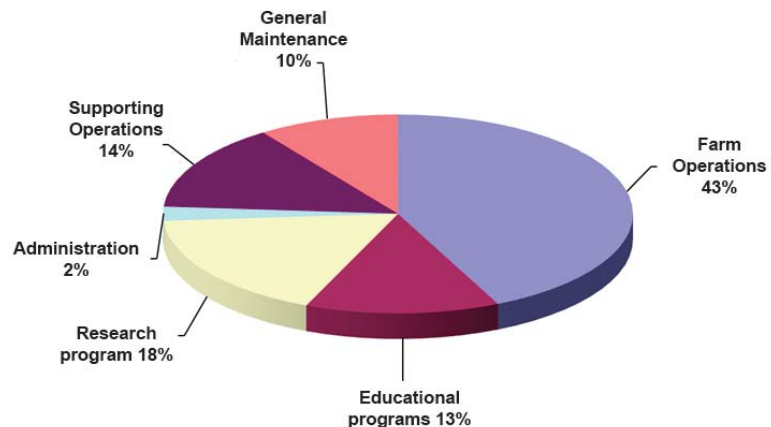
Miner Institute's primary source of revenue is from The William H. Miner Foundation Trust established in 1923. The contribution from the Miner Foundation has historically accounted for 65-70% of the Institute's overall revenue. In 2015, the overall contribution increased by approximately 2% and accounted for 57% of the Institute's revenue. Farm operations contributed 25% which was lower than the 2014 due to a 30% decrease in average milk prices. Other income increased significantly in 2015 with the receipt of \$1.0 million in donation income from the Stephen Flanagan Estate. This donation will be used to establish two scholarships for students attending educational programs at Miner Institute.

Miner Institute's farm operations accounted for 43% of overall operating expenses and revenue from these operations offset 73% of these expenses. The Institute's research projects including funded as well as in-house research represented 17% of the 2015 operating budget with 26% being offset by research grants. Various educational programs offered throughout the year at Miner Institute made up 13% of our operating expenses with the majority of these programs (94%) being funded by the contribution from The William H. Miner Foundation.

**The William H. Miner Agricultural Research Institute
2015 Revenue**



**The William H. Miner Agricultural Research Institute
2015 Expenditures**



CONGRATULATIONS TO ...

Victoria Bem



Victoria was the year-long dairy intern from October 2014 to October 2015. Victoria graduated from the Pennsylvania State University in May 2014. She now works as a dairy herdsman at a 450-cow dairy farm in Clymer, NY. She is responsible for caring for calves, treating and caring for fresh cows, administering vaccines, heat detecting, breeding, and general herd health.

Shane Fredin, Ph.D.



Shane was a post-doctoral researcher at Miner Institute from June 2014 to June 2015. Shane earned his Ph.D. at the University of Wisconsin-Madison before coming to Miner. He now works as Eastern North America Technical Manager for Adisseo USA Inc. and lives in Spring Park, MN. Adisseo provides two rumen-protected sources of methionine, Smartamine® M and MetaSmart®.

Laura Klaiber, MS



Laura was a student in the Applied Environmental Science Program in 2007. She worked as a research technician from 2008 to 2012. Laura earned her master's degree in Plant and Soil Science from the University of Vermont in December 2015. Her research looked at nutrient runoff on a tile-drained versus undrained farm field. Laura has accepted a position as an environmental research technician at Miner Institute.

Kristen Anderson



Kristen was a Summer Experience in Equine Management student in 2013. After earning her Bachelor of Science degree in equine industry and business management from the University of New Hampshire, Kristen returned as the year-long equine intern in September 2014. She now works as an assistant trainer and riding instructor at Chrislar Farm — a 40-horse Morgan show horse barn in Rowley, MA.

Elizabeth Remick



Elizabeth was an Advanced Dairy Management student in 2014 and returned as a year-long research intern after graduating from the University of Vermont in 2014. She is working toward a Master's degree at the University of Wisconsin-Madison. She is working on a project evaluating sorghum hybrids and their usefulness in heifer rations.

HEART'S DELIGHT FARM HERITAGE EXHIBIT



The Institute had another successful Heart's Delight Farm Heritage Exhibit season in 2015. Organized tours included: Farm Days for Fifth Graders (~600 attendees over 3 days), Adirondack Architectural Heritage Association (~25 people), several regional school groups, a travel writer from Quebec, and U.S. Representative Elise Stefanik and her staff.

Museum Weekend attracted approximately 150 visitors. In total, approximately 1,500 people visited the Heritage Exhibit in 2015.



The Heart's Delight Farm Heritage Exhibit is open to the public weekdays from May through October. The gardens and Wayside Walk are open year-round. We welcome the public, groups, schools and clubs to visit us to learn more about William and Alice Miner and their contributions to the North Country.

BOARD OF TRUSTEES & MEMBERS

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Miner Foundation Trustee
Chair Miner Institute

Bernard Leerkes, Jr.
Co-owner
Leerkes Dairy Farm

Richard Eakins
Owner
NORCO Farms

Ann M. Willey, Ph.D., J.D.
Adjunct Professor
Albany Law School

Roderic G. Giltz
Chairman/CFO
Northern Insuring Agency

Frederick Woodward, Ph.D.
Retired Chief
Collegiate Administrator

Rocklyn Giroux
Co-owner
Adirondack Farms

Geoffrey Yates
Senior Vice President/
Chief Strategy Officer
Yankee Farm Credit

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President, Plattsburgh
State University

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Animal Science
Cornell University

Steven G. Frederick
Vice President for
Institutional Advancement,
Clinton Community
College Foundation

Carol F. Harrell
Community Volunteer

Perry J. Kurtz, Ph.D.
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R&D Director

William L. Owens
Retired U.S. Congressman,
NY 23rd District

Brendan P. Owens, Esq.
Attorney at Law
Stafford, Piller, Murnane,
Kelleher & Trombley PLLC

OFFICERS:

Richard J. Grant, Ph.D.
President

Kirk E. Beattie
Vice President,
Administration & Finance

Rachel Dutil
Secretary



Front Row (L-R): Dr. Joseph Burke, Dr. Fred Woodward, Richard Eakins, Rocky Giroux, Bernard Leerkes.

Back Row (L-R): Dr. Rick Grant, Kirk Beattie, Geoff Yates, and Rod Giltz.

Absent: Dr. Ann Willey

EMPLOYEES & YEARS OF SERVICE

FACULTY/RESEARCH

Katie Ballard, M.S.	28
Amy Bedard, M.L.S.	9
Maggie Carter	19
Kurt Cotanch, M.S.	14
Alyssa Couse	1
Heather Dann, Ph.D.	11
Jeff Darrah	13
Wanda Emerich, M.Ext.Ed.	28
Heather Gauthier	15
Lisa Klaiber	1
Stephen Kramer, M.S.	21
Sheila Mousseau	3
Leah Schumacher	<1
Andrew Whitney	1
Eric Young, Ph.D.	6

ADMINISTRATION

Kirk Beattie	15
Rachel Dutil	6
Rick Grant, Ph.D.	12
Laurie Miller	32

PHYSICAL PLANT

Jared Ashline
Brian Bechard
Daniel Belrose
David Boulerice
Steve Fessette
Mark Gonyo
Adam LaCount

AGRICULTURE

Cole Ackerman
Jake Ashline
Shawn Bechard
Shaun Castine
Bethann Caston
Steve Couture
Randy Dupee
Joshua Duprey
Lance Ero
Andrew Guerin
Kristup Kalvaitis
Ralph LaBombard
Neil LaCount
Justin LaValley
Henry Meseck
Anna Pape

EQUINE

8	Karen Lassell	20
34	Craig Bosley	3

FOOD SERVICE / HOUSEKEEPING

27		
34		
15		
6		
	Tammy Allen	7
	Hope LaForest	17
	Michelle Miller	3

GRADUATE STUDENTS

2	
17	MacKenzie Campbell
10	Laura Klaiber
6	Melissa Woolpert
12	Keegan Griffith
10	

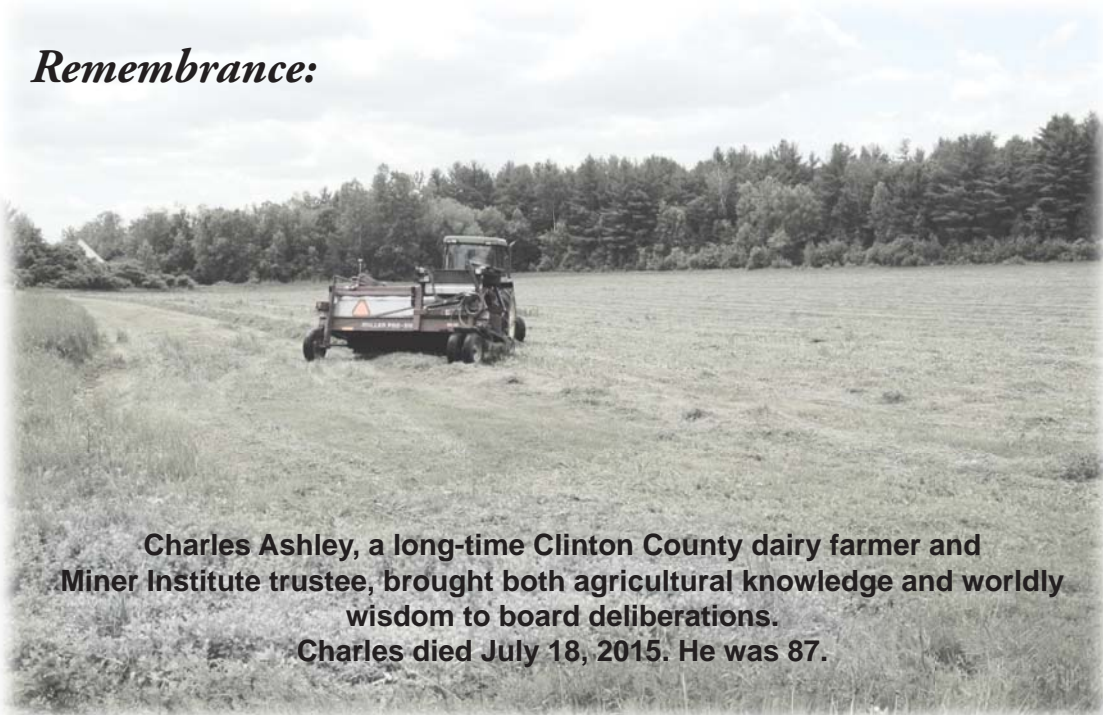
POST-DOCTORAL RESEARCHER

<1	
1	
3	
<1	
8	Luiz Ferraretto, Ph.D.

INTERNS

16	
1	Shannon Heibeck, Equine
31	Kayla Hultquist, Research
9	

Remembrance:



Charles Ashley, a long-time Clinton County dairy farmer and Miner Institute trustee, brought both agricultural knowledge and worldly wisdom to board deliberations.

Charles died July 18, 2015. He was 87.

The William H. Miner Agricultural Research Institute



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