“Northeast Agribusiness and Feed Alliance proudly supports and collaborates with PRO-DAIRY because it plays a critical role in assisting the dairy industry to reach its potential as a vibrant growing economic engine in New York. We work together on programs and services that benefit the dairy industry, and thus return value to the agribusiness sector. The Agribusiness and Feed Alliance is bullish about the future of the Northeast dairy industry because we know that PRO-DAIRY will continue to serve the industry in effectively managing nutrients, maximizing renewable energy resources and achieving sustainable profitability.”

- John Clark  
President, Northeast Agribusiness and Feed Alliance
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The Cornell CALS PRO-DAIRY program is proud of its vital role in leading education and applied research in support of New York’s dairy industry. The past several years have been very challenging for much of the industry, but we remain optimistic that our dairy industry will continue to be resilient and remain critical to New York’s economy and contribute to the strength of our country’s food system. I am confident in the people who comprise New York’s dairy industry and believe that their unique strengths and the strong partnerships within the industry are key to our future, and to the future of the families who make their livelihood by farming. The New York dairy industry has:

• forward-looking farmers who have a proven-record of innovating and thriving amidst constant change
• an active and strong agribusiness sector
• a skilled team of Cornell Cooperative Extension specialists that surpasses any others in the country
• a talented PRO-DAIRY statewide specialist program that works in collaboration with other faculty programs at Cornell, the only Ivy League and Land Grant University with a strong mission to educate and support agricultural communities via programs that create new knowledge and new practices

The educational programming offered through PRO-DAIRY and the independent and collaborative applied research conducted by our specialists is top-notch. This report highlights the many ways that PRO-DAIRY serves as a valued resource for our dairy farm businesses. PRO-DAIRY hones the management skills of our dairy farm owners and managers, enhances the technical skills of dairy farm employees, and provides technical expertise to our state’s dairy farms in many important areas including farm business management, environmental stewardship, forage and crop production, cow health and management, dairy facilities and dairy systems engineering, and through youth development programs that enhance knowledge of careers in dairy and attract the next generation. Additionally, our strong and productive partnerships with agribusiness and extension professionals helps all of us to grow and improve in support of the industry every day.

With many thanks for your continued support and partnership.

- Dr. Thomas R. Overton
  Director, PRO-DAIRY

NY Dairy Stats

- 4,190 dairy farms
- 623,000 cows
- 4th nationally in milk production
- 14.8 billion pounds of milk annually
- $2.5 billion (est.) in farm-gate milk revenue annually

Facilitate New York State economic development by increasing the competitiveness and sustainability of New York’s dairy farm businesses through industry-applied research and educational programs that enhance farm profitability while advancing dairy producers and agribusiness professionals’ knowledge, skills and enthusiasm.

For over 30 years PRO-DAIRY has dedicated itself to one goal: to foster a progressive New York State dairy industry through its programming and leadership. Through results-driven education and research, PRO-DAIRY specialists have contributed to the technical knowledge, management skills and economic strength of New York’s dairy industry since 1988.

Progress

The dairy industry is not static, nor is PRO-DAIRY. As New York’s dairy farms have changed over time, so has PRO-DAIRY. The program has added specialists, programs and research that target industry areas and issues important to keeping New York dairies competitive in today’s market-oriented environment. PRO-DAIRY features programs that span the industry, including environmental management; crop, manure and nutrient management; business performance; herd health and management; and youth education.

Profit

While looking forward to where New York’s dairy industry must be to remain competitive, PRO-DAIRY attends to the basics of dairy business profitability. Through programs and research, it targets business management, cow care, nutrition, facilities, dairy replacements, and manure management, to name a few.

Partnerships

In today’s business climate, partnerships are essential to success. PRO-DAIRY, a joint venture of the New York State Department of Agriculture and Markets and Cornell University’s College of Agriculture and Life Sciences, has a long history of partnering with dairy organizations. Key collaborators include dairy producer groups and farming organizations, Cornell Cooperative Extension, numerous agribusinesses, and state government agencies.
PRO-DAIRY's Programs

PRO-DAIRY programs are well-received by the dairy industry.

<table>
<thead>
<tr>
<th>Program</th>
<th>Approximate Annual Number of Cows Represented and Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cornell Dairy Farm Business Summary and Analysis Program</td>
<td>125,977 cows, 111 farms (direct PRO-DAIRY contribution).</td>
</tr>
<tr>
<td>Cornell Dairy Executive Program Management Symposium</td>
<td>78,514 cows (56 producers, 92 participants).</td>
</tr>
<tr>
<td>Dairy Profit Monitor (monthly benchmarking tool)</td>
<td>125,379 cows (102 dairy farms).</td>
</tr>
<tr>
<td>Academy for Dairy Executives</td>
<td>17,280 cows (11 dairy farms, 1 agriservice).</td>
</tr>
<tr>
<td>Operations Managers Conference</td>
<td>169,00 cows, 203 attendees.</td>
</tr>
<tr>
<td>PRO-DAIRY Webinar Series in English and Spanish</td>
<td>4,973 farm employees and other dairy professionals, including previously recorded webinars that continue to be viewed.</td>
</tr>
<tr>
<td>PRO-DAIRY Online Courses</td>
<td>144,767 cows, 142 registrants in 3 courses. 100 percent of students would recommend the courses to a colleague.</td>
</tr>
<tr>
<td>CAFO Off-Road Show Programs</td>
<td>12 live sites, 467 participants (dairy farmers, contract haulers, staff) representing 80,000 cows.</td>
</tr>
<tr>
<td>New York State Corn Silage Hybrid Trials</td>
<td>2018 results presented at various locations and meetings across the state with 1,000 in attendance. Hybrid entries and company participation was strong with 77 hybrids from 17 brands.</td>
</tr>
<tr>
<td>Herd Health and Nutrition Conference (with Northeast Agribusiness and Feed Alliance)</td>
<td>170 total attendees at the NY site, primarily agribusiness professionals representing the majority of the New York dairy industry.</td>
</tr>
<tr>
<td>CAFO Engineer Training Program</td>
<td>Continuing education workshops with 32 continuing education certificates given out for 11 training hours to participating engineers.</td>
</tr>
<tr>
<td>Northeast Dairy Management Conference (with Northeast Dairy Producers Association)</td>
<td>399 attendees, 202,736 cows (122 producers), 8,707,563 cows (150 agriservice).</td>
</tr>
<tr>
<td>Progressive Dairy Magazine</td>
<td>Circulation of the 16 page “The Manager” insert is 9,110 farms in the Eastern US, plus an additional 3,200 farms in NY and VT.</td>
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</tbody>
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Our Partners

“We are proud of our partnership with Cornell’s PRO-DAIRY program, which provides assistance to farmers seeking to expand their business and achieve success. For more than three decades, PRO-DAIRY and the newly renamed Dairy Advancement Program have provided education and programs that help farmers plan their futures, adapt to changing market conditions, overcome challenges and increase their competitiveness. We are pleased to see the program expanded in 2019, which now allows more dairy farms to participate and better position themselves for long-term success while maintaining their commitment to environmental stewardship.”

- Richard Ball, State Agriculture Commissioner
  New York State Department of Agriculture and Markets

“New York is home to over 4,000 dairy farms that collectively produce nearly 15 billion pounds of milk annually. As a top producer of dairy products, our economy benefits greatly from a thriving dairy industry, and Cornell’s PRO-DAIRY program has played a valuable role in helping our dairy farmers access the tools and resources they need to compete in a challenging and changing market.”

- Jen Metzger
  Chair, Senate Agriculture Committee

Given the challenges faced by the dairy industry, Cornell’s PRO-DAIRY program provides access to the resources farmers need to be successful. From help dealing with the effects of climate change, to improving herd health, PRO-DAIRY is developing strategies to boost this important sector of our agricultural economy. I’m proud to support a program that prioritizes the needs of New York’s farmers who have made our state’s dairy industry a national leader.”

- Assemblywoman Donna Lupardo
  Chair, Assembly Agriculture Committee

“PRO-DAIRY has connected NY’s dairy farmers and agribusiness professionals to CALS’ innovative research and resources for over 30 years, reflecting our long history of supporting New York’s dairy industry as the Land Grant University of New York State.”

- Kathryn Boor
  Ronald P. Lynch Dean, Cornell College of Agriculture and Life Sciences

“As a dairy farmer, I understand how important PRO-DAIRY is to my family’s farm and thousands more across this state. Their programs help farmers with business decisions, environmental management, and planning for the future. The professional guidance and applied research are essential to the growth of dairy in this state, and New York Farm Bureau is proud of the strong partnership our organizations have built together to support agriculture.”

- David Fisher
  President, New York Farm Bureau

“NEDPA members value the great work that the PRO-DAIRY staff does on behalf of the dairy industry. The research and education conducted by staff and industry partners on environmental stewardship is critical for our farm businesses. This past year, farm labor has been the priority issue for our dairy farms. We are grateful to the PRO-DAIRY staff for their timely research, reports, and outreach on workforce data. PRO-DAIRY remains dedicated to being nimble and assisting our fast-changing dairy industry in New York.”

- Jon Greenwood
  Chair, Northeast Dairy Producers Association
The impetus of PRO-DAIRY was a business focus and the Managing for Success program. The Farm Business Management program area has expanded and now impacts farms across the state and includes business analysis, discussion groups and personal growth programs, including:

**Dairy Farm Business Summary and Analysis Program (DFBS),** a 60-year-old program, directed by Dr. Wayne Knoblauch and administered through PRO-DAIRY, that uses on-farm data over time to drive programming. Farmers report their annual performance over a web-based system housed at Cornell and receive business analysis reports and comparisons for their dairy. Participants use the individualized information to monitor their performance from year-to-year and to benchmark their performance against other dairies. PRO-DAIRY plays a central role in collecting, analyzing and disseminating data. Over 120 farms, representing over 120,000 cows, typically participate in DFBS through PRO-DAIRY’s efforts.

**Dairy Profit Monitor** was a natural next step from DFBS. It is an online business trend analysis tool that provides a monthly snapshot of key operating parameters and farm-level efficiencies. It provides a means for farms to monitor their businesses in a more timely manner. Farmers can create customizable benchmark reports to track progress and trends, assess the impacts of management changes and highlight areas for improvement. Over 100 farms, representing nearly 125,000 cows, use this tool each year.

**Dairy Profit Discussion Groups,** create space for farmers to meet to share business performance data. Participants indicate as a result they make changes to some aspect and improve their business, including increased income. The network they develop is a resource they continue to use.

Statewide 12 Break-Thru Management Teams focus on business management education and share performance data, including the Dairy Farm Business Summary and the Dairy Profit Monitor data. PRO-DAIRY specialists facilitate these business focused group meetings, prepare reports and support additional groups that are facilitated by local Extension and agri-service personnel, representing over 150,000 cows.

All of the participants surveyed in 2017 say they made a change or improvement to their business and 94 percent maintain the business relationships developed.

“"It is not possible to put a dollar value on my participation in this group. I will say that when I started attending these meetings we were milking about half the cows that we are today. Production per cow per day is up 20 percent plus. Our cost of producing a unit of milk has decreased by 10 percent plus. Very valuable program.”

“We have grown substantially and solicited advice from other members on the journey. We were looking at building new facilities and a parlor and it was great to get input from the other farms in the group. We really are challenged by the cost controls and production of other members of the group. We have had great discussions on things that work and really don’t or little nuances that need to be dealt with when making changes. The group is a great resource as well as great friends.”

“It is valuable to benchmark against other top dairy farms of similar size and complexity. Also, the group has become very close so topics discussed outside of the formal meetings are very in depth about operations and problems. The complete trust and openness of the group in sharing and analyzing is invaluable.”

**Activity Analysis Projects** are an outgrowth of the discussion groups and includes development of cost calculators for key management areas. For example, the 2018-2019 focus was labor compensation, labor hour allocation and efficiency, herd health costs, and costs to operate milking centers. 63 farms with nearly 94,000 cows participated.

**Cornell Dairy Executive Program (CDEP)** is a multi-session executive level management training program to improve business management skills over two one-week programs in a year. CDEP offers dairy producers and managers in related agribusiness opportunities to develop and strengthen skills in business management and leadership.

Nearly 25 people, representing around 50,000 cows, typically participate in the program.

Additionally, a Cornell Dairy Executive Program Management Symposium is held. It offers a continuing education to Cornell Dairy Executive Program alumni and other progressive dairy producers on key business management topics facing the industry. Topics range and have included milk pricing, joint ventures and collaboration, activity management, and servant leadership.

Attendance is typically up to 100 people, representing up to 100,000 cows.

**Academy for Dairy Executives** was started in 2010 and targets the next generation of farm management and ownership. Curriculum includes “Managing with Finance” and “Managing with Success” topics and learning by networking with other participants in similar roles. Typically participants are the junior generation who return home to more effectively communicate and coordinate with senior farm owners. The class includes both farmers and agribusiness professionals, representing around 20,000 cows.

Succession Planning Workshop Series were held in 2018 in partnership with Cornell Cooperative Extension regional teams and NY Farm Net staff, with nearly 50 farms that participated.

**Benefits from participating in Business Discussion Groups:**
- The group discussions help me think more critically before making decisions
- Feed cost evaluation and labor efficiency evaluation provided insights on where to improve the business
- It moved our management to a higher level by learning from other farms that have been successful
- Visiting fellow group members’ farms has helped us with planning for expansion in our herd
- We have more aggressive reviewing of cost controls
The PRO-DAIRY Nutrient Management Program offers nutrient management educational programs with an emphasis on optimizing crop yields, reducing fertilizer costs, accounting for manure nutrients, identifying related environmental benefits and protecting water quality.

Effectiveness of the program results in part because of active and extensive partnerships with many NY dairy farmers, Certified Nutrient Management Planners and other farm advisors, and state and federal agency staff at the United States Department of Agriculture – Natural Resources Conservation Service (NRCS), Soil and Water Conservation Districts (SWCD), and NYS Departments of Agriculture and Markets and Environmental Conservation (DEC).

The PRO-DAIRY Nutrient Management Program offers nutrient management educational programs with an emphasis on optimizing crop yields, reducing fertilizer costs, accounting for manure nutrients, identifying related environmental benefits and protecting water quality.

Weather records show that NYS is facing increasing annual rainfall and storm intensity. These conditions make it harder to keep soil and nutrients on crop fields, reducing farm productivity, and increasing runoff and water quality challenges. As a result, the general public has become interested in how farmers manage manure. As the interface with the public becomes more active, more time is spent by PRO-DAIRY staff in partnership with an industry Dairy Issues Team to develop community outreach materials and offer meetings to educate local officials and neighbors about farming and nutrient management topics. This effort continues in the Owasco and Cayuga Lake watersheds, with needs also surfacing in the Seneca Lake watershed as well as other parts of the state.

CAFO Training in Nutrient Management

Education and outreach to farmers about careful timing and placement of manure application continues to be a critical effort as harmful algal blooms are being reported with higher frequency. Significant effort continues to be placed on the topic of winter manure application and how to reduce manure runoff risk. While the training is now required by DEC for manure applicator staff on medium and large CAFO farms, it has also been provided to hundreds of small farm operators, certified planners, and support and agency staff.

Over the past few years, on average 500 people attended the manure applicator training held at 12 NY locations, representing 80,000 cows. Farm managers report that after this training staff ask more questions about manure spreading setbacks from waterways and are overall more vigilant of potential manure related risks. Overall, over 1,100 people attended nutrient management and related programs that involve PRO-DAIRY nutrient management efforts.

Water Quality and Groundwater Work Groups

PRO-DAIRY continues to serve as a resource to the Water Quality Work Group, which was formed in 2014 and offers input to DEC on CAFO Permit and related water quality issues. PRO-DAIRY also continues to provide leadership to the Groundwater Work Group that investigates well contamination issues where dairy manure is a suspected contaminant and makes manure management practices recommendations to reduce risk.

Core programming efforts are highly integrated with the extension and research efforts of the Nutrient Management Spear Program at Cornell in a strong and productive partnership to develop and interpret soil fertility research data from commercial and research farms for the benefit of NY’s dairy industry. The team is wrapping up a large project to revise the NYS phosphorus (P) index, a tool to assess potential for P runoff loss from a field, and to work with five nearby states to integrate P indices and potentially reduce interstate differences. This project includes efforts to test P index outcomes on farms with sustainable nutrient mass balances. Much of the recent field effort focused on meetings with farmers and CAFO planners to seek feedback on P index structure and water quality protection practices that should be included in the index. The team is also finalizing analysis of more than 160,000 acres of farm yield records to update corn yields in support of important nutrient management objectives.
The PRO-DAIRY Forage Quality and Cropping Systems Program focuses on improving forage quality and land use on New York dairy farms to enhance economic and environmental outcomes. The program works to integrate agronomic management of forage crops with harvest and feeding practices to optimize the use of forages in the dairy ration. He leads a multi-disciplinary team to implement the annual Commercial Corn Silage Hybrid Evaluation program in NY and Vermont.

The PRO-DAIRY Forage Quality and Cropping Systems Program focuses on improving forage quality and land use on New York dairy farms to enhance economic and environmental outcomes. The program has built and continues to foster key collaborations with dairy producers, industry groups, university partners, agribusiness, and government organizations. The program addresses emerging needs of important practices, including harvest and storage management, double cropping, tillage and conservation to promote soil health, and hybrid/variety selection to optimize crop yield and quality.

Over 1,000 people directly interacted with the program through participation in educational meetings, discussion groups and farm visits in 2019.

**PRO-DAIRY Specialist**

**Joe Lawrence** is PRO-DAIRY’s Dairy Forage Crop Production System Specialist and focuses on dairy forage systems management, drawing from his experience working with the NY dairy industry as a private sector Certified Crop Advisor (CCA) and as a Field Crops Educator for Cornell Cooperative Extension. The program works to integrate agronomic management of forage crops with harvest and feeding practices to optimize the use of forages in the dairy ration. He leads a multi-disciplinary team to implement the annual Commercial Corn Silage Hybrid Evaluation program in NY and Vermont.

**Commercial Corn Silage Hybrid Evaluation Program**

PRO-DAIRY continues to lead the Commercial Corn Silage Hybrid Evaluation Program, providing valuable information on the rapidly changing options related to corn hybrid selection, addressing both agronomic and nutritional aspects of corn silage to the dairy industry. Collaborative partnerships have grown into a formal partnership, the Northeast Corn Silage Hybrid Evaluation Consortium, that now includes University of Vermont, Professional Dairy Managers of Pennsylvania, Penn State University, Western NY Crop Management Association, and University of Maine.

Program collaborators continue to leverage the hybrid trials as a platform for additional applied research projects. Recent studies that have allowed for the collection of additional data from the ongoing hybrid trials have addressed important issues related to corn nitrogen use efficiency and the impact of emerging insect pests.

**Management of Forage: Weather Challenges**

Every growing season brings unique opportunities and challenges; however, in recent years more extreme weather variations, both within season and from one season to the next, have presented unprecedented challenges to producing high quality forages. Our program strives to react to these growing season conditions, and provide stakeholders with timely and targeted information on how to manage through these conditions, with an eye on optimizing forage quality. This information is quickly distributed through short articles in widely distributed electronic networks.

**Forage Management Online Course**

An online forage management course was developed and offered through PRO-DAIRY’s online learning series in fall 2019. This seven-week course provided participants with key information on managing key forage crops, from crop selection to storage and feedout. The 76 participants represent 20 states, 11 countries and over 30,000 cows. Strong interest in the course highlights the continued demand for this form of educational opportunity in the industry.

**Applied Research and Education**

The program continues to expand applied on-farm research collaborations to address emerging issues. During the 2019 growing season, grant funding from the New York Farm Viability Institute, New York Corn Growers Association and the Northern New York Agricultural Development Program was utilized for field studies.

PRO-DAIRY’s Forage Management Program actively educates through a PRO-DAIRY Forage Management online newsletter, Cooperative Extension newsletters, popular press publications (Hay and Forage Grower, Progressive Forage, Progressive Dairy and DAIRYBUSINESS) and a number of email listservs and websites.
The Cornell PRO-DAIRY Dairy Environmental System (DES) program came into existence in the early 2000’s after an initial focus in 1998 on cow comfort and well-being and the resulting return on investments. In the early 2000’s, the CAFO system was initiated and that, along with the need to educate on how to best manage sand-laden dairy manure, because many cows were bedded with sand to increase comfort, broadened the focus of the cow comfort/well-being program to the development and delivery of educational information on dairy cattle housing and dairy farm facilities.

Overall, the DES program team works closely with other specialists in PRO-DAIRY and appropriate New York State, US, and international dairy industry leaders to identify, develop, document, introduce and disseminate innovative methods in dairy housing and byproduct management systems targeted to enhance animal performance, animal well-being, system efficiency, environmental compliance and stewardship, and overall farm profitability. Efforts are accomplished with the goal of furthering individual farm and industry-wide growth and movement towards sustainability.

Program efforts are accomplished by conducting sponsored and self-funded industry-applied research with the objectives of furthering the understanding and development of dairy housing and waste management systems (with current focus on anaerobic digestion) and by monitoring relative research and Extension work performed by nationwide and international counterparts.

Findings are disseminated by conducting on-farm trainings and demonstrations of new technologies and by developing and delivering written, oral, and web-based materials. Additionally, expertise is provided through educational programs offered by county and regional Cornell Cooperative Extension employees and agriservice and agribusiness entities.

Program initiatives have resulted in dairy producers and their advisors being better positioned to make informed business decisions in the areas of cow comfort/well-being, renewable energy, waste (nutrient) management/treatment, air emissions, and farm safety. Impact indicators are testimonials from dairy producers and their advisors and observed changes in business behavior. At a US dairy industry level, impacts include providing specific information on key industry items to national industry leaders on greenhouse gas emissions, renewable energy, manure treatment systems, water use footprint, and overall dairy industry sustainability.

Future DES efforts will be to continue to work proactively on topics, issues and items of importance for farms, the dairy industry as a whole, and especially society, as the dairy industry needs society to be engaged and educated about how farms house and care for their cows and calves, how they manage their byproducts, and how they are working to minimize their environmental footprint while maximizing their food value output.

Building on our ongoing theme of a system-oriented approach to solve industry challenges and materialize opportunities, the program will continue to broaden and build more depth to support maximizing the overall dairy food production system per unit of input. The DES program strives to work on topics in a way that helps position the industry to have a good future.
The Dairy Advancement Program (DAP) (previously known as the Dairy Acceleration Program) was expanded to provide more opportunities for New York farmers to address business needs necessary to meet the challenges of today’s marketplace and to better position themselves for long-term success. In addition to continuing to provide business planning, business analysis and advisory teams, new initiatives of the program focus on improving record keeping for decision making and operational budgeting to improve annual operations. Additionally, funds provide for the formation of peer groups of dairy farmers focused on shared learning on specific management topics and analysis for improvement. The program also continues to provide funds for environmental planning through the development and implementation of comprehensive nutrient management plans (CNMPs), facilitating the continued excellence in environmental stewardship on New York’s dairy farms.

DAP is funded through the New York State Department of Agriculture and Markets and the New York State Department of Environmental Conservation. The program is coordinated through Cornell PRO-DAIRY and delivered to farms in partnership with Cornell Cooperative Extension and agriservice professionals.

With financial and facility planning resources through a Dairy Advancement Program (DAP) grant, the Franklin, NY family successfully transitioned from a tie stall barn, constructed a freestall barn and are now expanding through a merger with a neighboring farm.

With the changes, production increased from 71 pounds to 85 pounds per day, and the Grants are considering increasing milking from two to three times per day. Given the farm economy and consolidation in the industry, they appreciate the security of eventually being able to fill a trailer full of milk to keep their milk market. The barn is laid out for robots, which they see as part of the future to enhance profitability and modernize facilities, from replacing an aging parlor with robotics, to building a brand-new facility. Many are also exploring diversification, transitioning management or joining forces with a new business partner.

The CNMP results in nutrient management planning that identifies best management practices for implementation to optimize water quality around the farmstead. Farmers using DAP funds for CNMPs note that the plan allows for maximizing the use of nutrients from the farm and reduced cost of fertilizer inputs as well as proper timing of nutrient application and planting of crops. Several farms have used DAP funds to augment other sources of funds such as the Environmental Quality Incentives Program (EQIP) or Ag Nonpoint Source (AgNPS) funds, facilitating the implementation of the farm CNMP.

More than 50 professionals assist with DAP projects, including Extension Educators, farm business consultants, facility planning professionals, AEM Certified Planners and Professional Engineers (PEs).

With DAP funding the Grants hired John Lehr, a Farm Business Consultant with Farm Credit East, for financial planning and Jeff Ainslie, Red Barn Consulting, for facility planning, including manure storage and facility layout.

“The financial part is invaluables. The clarity financial planning can give you with whatever direction you’re headed – refine, expand, merge - the possibilities are endless,” David said. “John helped us increase labor efficiency and puzzle the debt out to make it cash flow. He put it on paper that it would work even at $17 milk. So far he has been right.”

“The DAP program allows farm families like the Grants access to outside advisors who work with thousands of cows and see a lot of what might work, and more importantly, what likely won’t work. This practical experience plus financial expertise putting realistic budgets together creates a win-win situation,” Lehr said.

“A tie stall was the only thing I knew,” David said. “I knew it was labor intensive. Now we have less physical labor. Shoveling and milking time has decreased, and the people are happier.”

“Small farms need to start to think about this, if you can bring acreage together and efficiency in taking care of the cows,” Laurie said. “We’re tickled about it all!”

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“Small farms need to start to think about this, if you can bring acreage together and efficiency in taking care of the cows,” Laurie said. “We’re tickled about it all!”

With the changes, production increased from 71 pounds to 85 pounds per day, and the Grants are considering increasing milking from two to three times per day. Given the farm economy and consolidation in the industry, they appreciate the security of eventually being able to fill a trailer full of milk to keep their milk market. The barn is laid out for robots, which they see as part of the future to enhance profitability and modernize facilities, from replacing an aging parlor with robotics, to building a brand-new facility. Many are also exploring diversification, transitioning management or joining forces with a new business partner.

The CNMP results in nutrient management planning that identifies best management practices for implementation to optimize water quality around the farmstead. Farmers using DAP funds for CNMPs note that the plan allows for maximizing the use of nutrients from the farm and reduced cost of fertilizer inputs as well as proper timing of nutrient application and planting of crops. Several farms have used DAP funds to augment other sources of funds such as the Environmental Quality Incentives Program (EQIP) or Ag Nonpoint Source (AgNPS) funds, facilitating the implementation of the farm CNMP.

More than 50 professionals assist with DAP projects, including Extension Educators, farm business consultants, facility planning professionals, AEM Certified Planners and Professional Engineers (PEs).
The PRO-DAIRY Herd Health and Management program supports New York State dairy producers by leading educational programs, integrating research results, identifying research needs, collaborating on-farm with advisors, and participating in industry-wide initiatives. Dairy farmers take their responsibility to provide good care for their cattle very seriously and are always looking for new ways to keep the herd healthy. Current areas of focus include fresh cow management, prudent use of medications, calf health and reproductive management.

Research

Cornell University conducts a great deal of research focused on herd health and PRO-DAIRY’s statewide outreach to share the results of this research is critical. PRO-DAIRY also supports applied research at the college and in partnership with CALS and the College of Veterinary Medicine, current areas of focus include impacts of the Veterinary Feed Directive rule changes about judicious use of medically important antimicrobial drugs. Improved understanding of appropriate antibiotic use in food producing animals improves animal health and reduces residue risk.

Another key emerging area is process verification, which improves day-to-day execution of management’s protocols and provides validation of good health standards.

Issue Awareness and Education

PRO-DAIRY is engaged with increasing the dairy industry’s understanding of emerging current issues, including the 2017 Food and Drug Administration’s Veterinary Feed Directive

Programming

The Herd Health and Management Specialist is engaged with a number of educational program development planning committees and continues to expand its offerings of online courses.

Recent programs include:
- Calving and Neonatal Calf Care Workshops
- Dairy Production Management Online Courses
- Dairy Manager Training Workshops
- Future of Dairy Veterinary Practice Roundtable
- Cornell Summer Dairy Institute – Pharmaceutical Labels and Treatment Protocols
- Summer Dairy Research Update Meeting Series

Partnerships

PRO-DAIRY’s Herd Health Specialist is also poised to engage on the state and national level with dairy herd health issues and actively works with and is a member of the American Association of Bovine Practitioners and the American Association of Bovine Practitioners Committee on Pharmaceutical and Biologic Issues, the NYS Beef Quality Assurance Committee, and the Northeast Dairy Producers Association (NEDPA) Animal Well Being Work Group. Lynch also is an instructor and serves on the Summer Dairy Institute Board of Directors, and is co-chair of the Northeast Dairy Production Medicine Symposium.

PRO-DAIRY Specialist

Robert Lynch, DVM, joined the PRO-DAIRY team in 2016 in a newly created Dairy Herd Health and Management Specialist position. Lynch was a senior industry veterinarian, where he provided technical support to dairies across the Northeast US. He also helped develop educational programs and resources focused on management of the replacement dairy heifer. Prior to that he was a managing partner at Willow Creek Animal Hospital in Leesport, PA. His areas of expertise include transition cow health, milk quality, reproduction, replacement management, genomics, housing, lameness prevention, immunology, obstetrics and neonatal care.

Robert Lynch, PRO-DAIRY Dairy Herd Health & Management, served as a volunteer veterinarian for the Dairy Birthing Center at the Great New York State Fair. Photo credit to the New York Animal Agriculture Coalition, which coordinates the Birthing Center.

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As farm practices adapt to change, education becomes vital for farm success. Although information is ever more accessible, the need to be able to critically assess that information is key. Technology also offers the opportunity to increase the accessibility of educational programs across the state. The Dairy Production Management program will continue to use a variety of outreach methods tailored to the needs of the NYS Dairy Industry.

This program collectively reaches over 2,000 farmers each year.

**Online Dairy Management Courses**

PRO-DAIRY has successfully launched a series of well-received online courses attended by farmers and allied industry professionals from across the country and the world. Over seven weeks students enhance their dairy management skills in a flexible learning environment where they guide their own experience on their own time. Some dairy production management background is helpful, but the courses include basic to advanced content taught by leaders in the field. Webinars provide an opportunity to meet weekly and ask questions in real-time. Continuing education credits are offered along with a certificate of completion. In the course evaluation, 100 percent of participants indicate they would recommend the class to a colleague.

Course offerings have included:
- Dairy Cattle Reproductive Management (in English and Spanish)
- Calf and Heifer Management
- Forage Management
- Transition Cow Management

“I appreciate PRO-DAIRY offering this venue for the class. This is a first for me and it has been very encouraging for me to see people from all over the world participating. Thank you for the chance to engage with these people. The dairy industry is better off because of the efforts people like yourself put in.”

~ Steven Taber
Online Dairy Management Course Participant

**Dairy Industry Communications**

**PRO-DAIRY Specialist**

Julie Berry is PRO-DAIRY’s Communications Manager. She edits The Manager, published in a national dairy magazine, coordinates annual report and promotes PRO-DAIRY’s efforts. She is an experienced media professional, and has worked in Extension, journalism and marketing. She has a BS with honors in animal science from Cornell University and a MA in science writing from Johns Hopkins University.

Outreach and industry education are an important action of PRO-DAIRY and several avenues are used, including a 16 page The Manager insert in Progressive Dairy, a partnership established in 2018. Through a useful combination of research updates, on-farm practices, economic analysis, how-to’s and action steps on every aspect of managing a dairy business, PRO-DAIRY uses The Manager to strengthen New York’s dairy industry and as a key method for PRO-DAIRY staff to share their expertise statewide.

Circulation of Progressive Dairy, including The Manager insert is more than 9,000 farms in the eastern US and an additional 3,200 farms in New York and Vermont. Issues of The Manager are downloaded from the PRO-DAIRY website on average 50,000 times each year.

Timely news is delivered via e-Alerts and a monthly e-Leader newsletter to an email list of nearly 7,000 producers, agriservice and legislators. This list is also used for program, webinar and forage management updates. As farmers increasingly integrate technology into their farms, PRO-DAIRY has added new platforms to engage them with, including social media.

**PRO-DAIRY on the Web**

PRO-DAIRY programs are highlighted at: prodairy.cals.cornell.edu

PRO-DAIRY specialists work closely with Cornell dairy industry related programs represented by the following websites:
- nmsp.cals.cornell.edu
- dfbs.aem.cornell.edu
- fieldcrops.cals.cornell.edu
- dairy.cornell.edu

Nearly 70,000 people visit PRO-DAIRY’s website annually.
Mentoring dairy youth has been a flagship program area since the inception of PRO-DAIRY and is critical to build the next generation of farm owners and managers. The cornerstone of the program is the Junior DAIRY LEADER Program. Participation is highly competitive and 30 selected youth, ages 16 to 19, build enthusiasm for the dairy industry through a year of experiential learning, where personal and professional leadership is developed in a networking environment and the diversity of career options in agriculture are discovered.

Over the past 20 years, 98 percent of the over 500 Junior DAIRY LEADER graduates attend college, and many choose to study agriculture. Prior to participation, over half indicated that they were not planning to study agriculture, or, they were undecided.

With the success of Junior DAIRY LEADERS and the increasingly competitive entry, the Beginning DAIRY LEADER Program was added in 2015. This program targets high school students entering at least their sophomore year, but who have not graduated, and includes four one to two-day workshops to explore postsecondary agricultural education and career opportunities in a networking environment with faculty, students and industry professionals, along with college planning and personal development.

Other key programs include:

- **Dairy Cattle Quiz Bowl**, a Jeopardy-like activity that attracts 400 youth yearly.
- **Dairy Discovery**, an annual hands-on workshop held at Cornell University, that attracts nearly 100 14 to 19 year olds to learn about dairy careers and dairy cattle production.
- **Animal Crackers**, an annual event for 9 to 13 year olds to meet Cornell faculty and students, and learn about animal care, that attracts nearly 100 youth.
- **Traditional 4-H Dairy Youth Programs** provide learning opportunities for 9 to 19 year olds through activities such as dairy judging, showing cattle and dairy quiz bowl, and attracts up to 400 youth.

“Junior Dairy Leader is a huge exposure tool,” said John Mueller, Willow Bend Farm, whose son Thomas, and farm employees, have graduated from the program. “It’s a hook to get youth excited about the industry and opens their eyes to the possibilities, so you’re getting the best and brightest staying in the industry. Labor is desperately short. JDL recruits and retains young kids in agriculture. We need them, to hire them, and for them to become the next generation of leaders in the industry.”

PRO-DAIRY Specialist

Debbie Grusenmeyer is a Senior Extension Associate in the College of Agriculture and Life Sciences, in addition to being part of PRO-DAIRY and the Dairy Management Group for over 20 years. She provides leadership for developing, coordinating, and implementing the NY dairy youth programs, which includes state level 4-H dairy programs, Dairy Discovery, and the dairy track of Animal Crackers. She is also the Director of the NY Junior DAIRY LEADER Program and the statewide Beginning DAIRY LEADER Program.