

HARVEST NEW YORK GROWING NEW YORK'S AGRICULTURE & FOOD ECONOMY



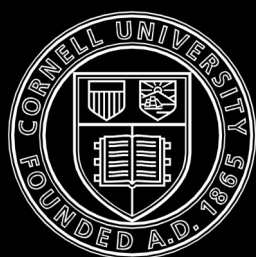
QUARTERLY HIGHLIGHTS Jan-March 2017

HARVEST NEW YORK

An innovative Cornell Cooperative Extension team that focuses on workforce development and business expansion projects that increase profitability and investment in key sectors of New York's agriculture industry.

MAXIMIZING CONNECTIONS

Harvest New York Specialists respond to emerging issues and develop new opportunities using the research of Cornell University, the resources of Cornell Cooperative Extension and relationships with partnering organizations statewide.



FARM STRATEGIC PLANNING

Robot Barn Comes Online

In recent quarters we've been following the progression of a Southern Tier farm from a traditional tiestall barn to a compost bedded pack and robotic milking system – from initial concept to design, through site work and construction, to installation of the robot and appurtenances. What once was a dream is now a reality.

Working with Harvest NY's Farm Strategic Planning Specialist the farm explored the possibilities of robotic milking systems either in a retrofitted tiestall or a new facility. HNY was able to provide cost estimates and facility plan options, as well as grant application assistance, and then work with the contractor to site the new facility. On February 1st, 2017 forty-five cows were walked across the gravel county road to the new 72'x 228' compost bedded pack barn. According to the owners, the trip over was uneventful as this is a grazing herd and are used to walking from barn to pasture, however, once inside on the fresh sawdust it looked like free time at the rodeo! Cow comfort was a consideration of high importance to the owners and they feel that they have surpassed their original expectations with this new system.



Figure 1- Herd at the end of the first week in the new barn

By the Numbers

Like any business, on-farm investments are made only after careful consideration and a determination that the bottom line will be positive. In fact, the original plan was to wait until milk prices began to rebound, however, a successful application for a Southern Tier Ag Industry Enhancement Program grant helped move the project forward. Since moving to the new facility daily milk production per cow

has gone from 45 lbs. to over 61 lbs. – a 35% increase. At \$20/cwt. this represents greater than \$4,000 additional revenue per month for the farm. Three cows are producing over 100 lbs. – one at 120+, and first-calf heifers are peaking near 90 lbs./day. These averages are very high for a herd that follows organic protocols. This is the result of a combination of factors – being milked an average of 3.7 times/ day, consistent milking procedures, and frequent pushing up of feed by the robotic feed pusher.



Figures 2a,b- Bergstrom heading out (a), and pushing up feed (b)

It is interesting to note that two-and-a-half years ago this farm was destined to be another statistic, another end-generation farm, when the owners' son received an unsolicited job offer that was too good to pass up. Even after nearly 40 years in the dairy industry the owners felt they were too young to retire, but knew continuing to milk and feed twice daily in an outdated, labor-intensive tiestall was not a sensible option.

While the robotics have all but eliminated the rote physical labor, "we still haven't realized the time savings yet, but that's our own fault. We like it over here! We spend more time managing our cows and talking with visitors about our operation." (A robot observation room and large observation deck on the second floor were designed into the facility). One of their long-term goals is to do some agri-tourism. They would like to be able to host schools and clubs in order to be able to tell the story of modern dairy farming. Two of the daughters have since rejoined the farm labor force. They are part-time laborers but full-time moms. "This is great. Where else can you go to work and bring your kids with you?", quipped one of the daughters. Who knows, maybe one of these youngsters will be the third generation to operate this farm. Harvest NY is pleased to have been part of this success.

Harvest New York Team Update

Harvest NY Specialists complete Evaluation Training

In the 1st quarter of 2017 the Harvest NY team completed a Program Evaluation Training with trainer Jane Cameron Buckley. The goal of this training was to increase our proficiency at mapping our programs and evaluate (document) our impacts. Evaluation results will be used to communicate the value of our work to stakeholders as well as constantly improve our programs. The specialists created Pathway and Logic Models and then designed evaluation plans in each of their program areas. Each specialist will now implement an evaluation plan in 2017. The plans will evaluate the following programs:

- New Ag Facility and Planning
- NNY Winery Business Development
- Western New York Food Hub implementation
- NNY Meat CSA
- Dairy Workforce Development



Harvest NY Team with Evaluation Trainer Jane Cameron Buckley.

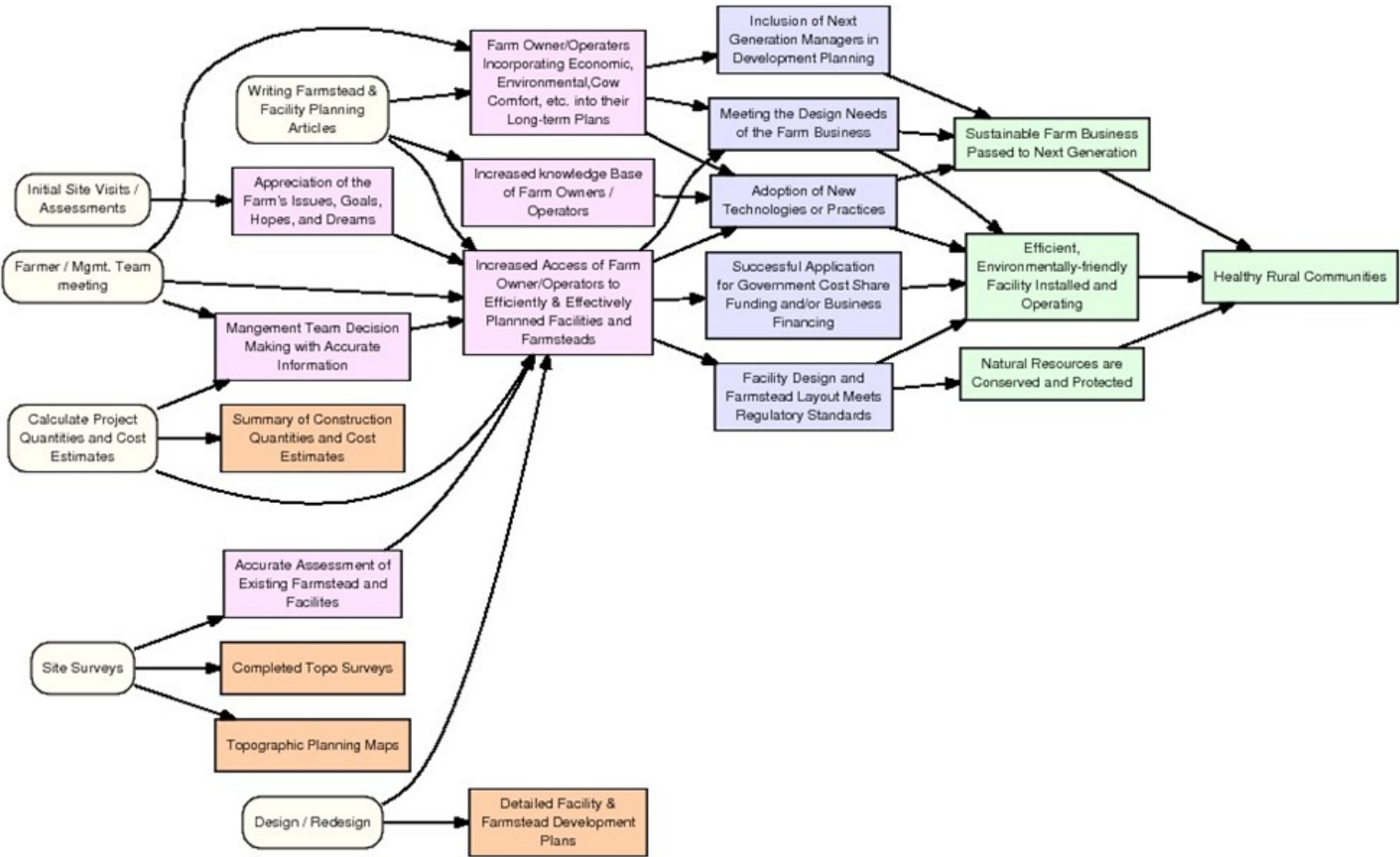


Figure 1– An example of the Pathway models created by the specialists during the Evaluation Training. Outcomes listed in these models are to be measured in 2017

Harvest New York Training Programs

Harvest New York has continued to conduct Food Safety Modernization Act courses over the first quarter (34 people), along with a Dairy Science and Sanitation Course (26 people). In order to help small businesses in Northern New York determine if the Food Safety Modernization Act applies to them or how it affects their business, Harvest New York held a 4 hour seminar in Essex County to assist in clarifying the rule and the rule's requirements. 13 people attended the seminar to receive an overview of the rule and its requirements.

International Dairy Foods Association Food Safety Leadership Award

The 1st quarter of 2017 brought recognition to Cornell's Dairy Food Team, as we received the International Dairy Food Association (IDFA) Inaugural Food Safety Leadership award. IDFA chose our team for this award for our comprehensive approach to support and improve food safety across the dairy industry, and our ability to extend the research conducted directly to the industry. A video describing our team and programs was created for the award presentation. We were honored to receive recognition and will continue to work with educational institutions, regulatory agencies and dairy processors to best serve the dairy industry. To access the award video, please visit <https://vimeo.com/201985633>.



Pictured: Martin Wiedmann, second from left, the Gellert Family Professor in Food Safety, receives the Food Safety Leadership Award along with Anika D. Zuber, Harvest New York regional dairy processing specialist and Sam Alcaine, right, assistant professor of dairy fermentations. They received the award from Ron Bunford, left, chair of the National Cheese Institute, at the Dairy Forum Jan. 30 in Orlando, FL.

Photo Credit: Cornell Chronicle

Ice Cream Making at Genesee Valley Educational Partnership

In Quarter 1 of 2017, Harvest NY worked with 38 Culinary Arts students at the Genesee Valley Educational Partnership in Batavia, NY. During the 2 hour presentation, the students were first given information on the science and technology involved in the ice cream making process and then proceeded to the kitchen where they enthusiastically produced small batches of ice cream and frozen yogurt. The recipes were chosen to illustrate how different combinations of ingredients combine to produce different textures, flavors and amounts of fat in a finished ice cream. Following the production of ice cream, students participated in an exercise to calculate the food costs associated with the various recipes and were given information on food processing educational opportunities available to them at Genesee and Erie Community Colleges in Western New York.

Food Processing Internal Audit Training in Erie County

On March 22nd Harvest NY was involved in the delivery of an Internal Auditing course for food processing operations. Internal auditing is a fundamental verification requirement of a well implemented food safety system. The course was held in Erie County and there were 28 individuals in attendance at the course representing 13 Western New York food processing companies. During the course, participants learned the fundamentals of how to develop an internal audit plan, identify a non-conformance, perform a root cause analysis, and how to implement a corrective action plan. After successful completion of the course the participants received a certificate of achievement which they may use to meet the requirements of their customers.



Pictured: Students produce small batches of ice cream and frozen yogurt at Genesee Valley Educational Partnership

LIVESTOCK PROCESSING & MARKETING

First Quarter Update

The first quarter of 2017 has been very progressive and informative. In Northern NY, we teamed up with St. Lawrence CCE to bring the lamb processing workshop to the North Country. Participants first watched half a lamb carcass being broke down, and then were able to get hands-on experience breaking the carcass down themselves. Lewis CCE was home to the Charcuterie board workshop for consumers. 25 consumers spent the evening at the BarkEater Craft Brewery, learning about local charcuterie, and local cheeses. Not only were they taste testing local product, consumers learned how to create a board that you eat with your eyes first. These charcuterie board classes are to raise awareness for local meats, cheeses, and craft beverages to the consumer. Right after the New Year, a few days were spent in New York City to travel to numerous Craft Butcheries. These butcheries are buying NY meats to sell downstate. Developing markets is very important, and these craft butcheries are a piece of the puzzle to help our upstate New York Livestock Farms. The collaboration between SUNY Cobleskill and Harvest NY brought two new meat processing workshops for the first quarter of 2017. On February 3rd, our Lamb Processing workshop concluded with participants learning the art of butchering. This lamb class concluded the first section of the Meat 1.0 workshops through the collaboration. On March 17, we started the second component of the Meat Workshops. At the Beef Cutting and Cooking workshop participants were able to have hands-on experience cutting a beef carcass. Then, they were able to go over to the culinary center and learned to cook heart, sweetbread,

tongue, and bones. These are all products that are value added, but many producers have a hard time selling these products. This workshop helped the producers market and cook value added products. Harvest NY held their second Meat HACCP course at Cornell University with Penn State Extension on March 28 and 29. This collaboration between two land grant universities is an opportunity for participants in the meat industry to learn from industry leaders and experts, and the HACCP course and instructors are accredited.



Photo Credit: MacKenzie Waro

AGRICULTURAL BUSINESS DEVELOPMENT & MARKETING

Hard Cider: A Growing Beverage and Apple Industry

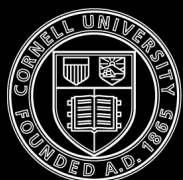
Hard cider is one of the fastest growing beverages in the U.S., with 18 million hard cider drinkers. But New York's apple growers must adjust to meet the needs of the booming market for the libation. That's where Cornell Cooperative Extension Harvest New York comes in.

It's estimated that the American hard cider industry annually generates \$1 billion in retail sales revenue. The passing of New York's farm hard cider law in 2013 increased the number of licensed operations in the state from five to 23. Three of these operations are in northern New York.

In-state apple growers feed the growing cider industry. Cider operations licensed under the 2013 law are required to use only New York apples. But hard cider operations that are not required under their license are still interested in sourcing apples from New York's apple growers.


New York is the second largest apple producer in the country, producing an average of 29.5 million bushels of apples per year. Every year, apples are being planted or replanted in New York with new and older varieties. But growers must now tackle the impacts caused by hard cider's emergence. Growers actively seek varieties that best suit hard cider. Hard cider producers often prefer apples with high levels of acid, tannin, or sugar.

Cornell Cooperative Extension Harvest New York has undertaken a statewide supply chain analysis of the hard cider industry. The goal is to pinpoint both production challenges and marketing challenges, ultimately enabling Cornell Cooperative Extension to develop tailored educational programs and support important policies, all targeted at increasing financial opportunities for hard cider and apple industry.



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