



# Cornell Cooperative Extension

## South Central NY Dairy and Field Crops Program

THIRD QUARTERLY REPORT

JULY – SEPTEMBER 2021



### Lean Activity Project Helps Dairy Farms Improve Labor Efficiency and Reduce Waste in Production Processes *Mary Kate MacKenzie, Farm Business Management Specialist*

Hired labor is the second largest cost on most dairy farms. Even as the dairy industry struggles with low milk prices, milk and feed price volatility, and limits on milk production, labor costs are rising at a faster rate than most other expenses. The minimum hourly wage in upstate New York rose from \$9.70 in 2017 to \$12.50 in 2021, representing a 29% increase over the past four years. Beginning in 2020, New York State enacted overtime pay for agricultural workers. Farm workers now earn 1.5 times their regular hourly rate for any hours worked above a 60-hour workweek and on their day of rest.

Farms have responded to these regulatory changes by making improvements to labor efficiency. Dairy Farm Business Summary data from 125 farms showed a 2% increase in labor efficiency, measured in cows per worker and milk sold per worker, from 2019 to 2020. However, these labor efficiency gains were not large enough to offset the growing cost of labor, as these same 125 dairy farms reported a 4% increase in the total cost of hired labor over the same period.

As labor costs rise, there is a growing management focus on improving employee engagement and overall labor performance on farms. "Lean" principles and practices offer one approach to achieve these goals. Lean systems have been a focus of the manufacturing world for the last 20 plus years. In recent years, the agricultural industry has shown a growing interest in using Lean process design to reduce waste and improve efficiency and profitability on farms. The Lean approach offers a structured process that includes making changes within production systems and encouraging a cultural shift across the organization. For instance, a focus on continuous improvement, employee engagement, and proactive problem solving are important elements of the Lean philosophy.

In collaboration with Cornell PRO-DAIRY, we developed a Lean

Activity Project to educate dairy producers about Lean process design and guide them in implementing Lean practices in one or more areas of their farming operation. The Lean Activity Project consists of a seven-step process for farms to undertake supported by a 22-page printed resource packet, digital access to all resources via Cornell Box, and a series of three live webinars with recordings available following each session. We designed the project to be extremely flexible so each farm could be creative and seek out the best opportunities for improvement given their existing goals and resources.

In June 2021, we invited more than 200 dairy producers to participate in this initial round of the Lean Activity Project. Participating farms will apply Lean principles and practices to one or more activities on the farm to improve labor efficiency and effectiveness. While labor is the primary focus, there may be other areas of improvement associated with reducing waste, minimizing disruptions, or improving product quality. Farmer discussion group meetings will take place in November and December. Farms have until then to complete the project's seven steps. The ultimate objective is to improve financial performance, although the farm may not fully realize the financial benefits of this activity within the project's 6-month timeframe.

We will evaluate impacts of this Lean Activity Project by tracking the information that farms report during the discussion group meetings. Following the conclusion of this initial round, we intend to update project materials based on feedback from participants. Ultimately, we hope to make the Lean Activity Project materials permanently available to farmers and educators across agricultural commodities through an online platform that will broaden the program reach.



**Cornell Cooperative Extension** links the research and extension efforts at **Cornell University**, and **Cornell AgriTech**, the New York State Agricultural Experiment Station, **providing the knowledge** to maximize New York State's agricultural and natural resources. The **South Central New York Dairy and Field Crops Program** is a Cornell Cooperative Extension partnership between Cornell University and the CCE Associations in 6 Counties.



## New York Soil Health Trailer Back in Demand

*Fay Benson, Small Dairy Support*

Last year (2020), was a non-year for many activities. This included the cancellation of all presentations for the NY Soil Health Trailer. In the previous five years, the trailer and I traveled across the northeast, from Pennsylvania to Maine, to put on talks for farmers, civic groups, elementary, high school, and colleges. We had over 7,000 attendees at these events from 2015-2019.



Photo of NY Soil Health Trailer. To visit online, <https://www.facebook.com/nysoilhealthtrailer>

This past month, was more like pre-Covid for the trailer events. Below are the events from August 2021:

- ⇒ August 2,3,&4th Participated with Onondaga CCE with the Soil Health Trailer at **Empire Farm Days**.
- ⇒ August 13, Soil Health Trailer at the **Tioga County Fair**.
- ⇒ August 24th, **Pasture Walk Ontario Co.** with Soil Trailer
- ⇒ August 24th **Pasture Walk Yates Co.** with Soil Trailer.
- ⇒ August 25th **Chautauqua Co soil Health Day, Fredonia**, with Soil Trailer

The trailer was awarded to the New York Grazinglands Coalition in 2015 from a NRCS Conservation Innovation Grant. Four other states received one of the trailers which are outfitted with displays, solar power, and its own water tanks to do the various demonstrations including a six-foot-tall Rainfall Simulator. Showing the impacts of soil management practices, instead of just talking about them, makes the educational content much more accessible. Whether demonstrating for a gathering of crop farmers, or a group of 4-H sixth-graders, the educational delivery system is neither too complex nor too simple.

I received a lot of post-event feedback commenting that farmers are familiar with terms like aggregate stability of soil, biological cycling, and water infiltration, but that seeing those concepts in action adds a different level of understanding. As hands-on people, farmers tend to be more visual learners and they are completely engaged during our sessions.

One workshop we did for the Hudson Valley Farm Hub was attended by a large number of Hispanic workers. Afterward, the Farm Hub manager emailed me saying he and his workers appreciated the way the information was presented since it was so straightforward, it didn't require much translation.

This December, I have been asked to report on the success of the trailer at the National Grazinglands Coalition Meeting in Myrtle Beach, S. Carolina.







## Focus on Farm Management: NYFVI funded project documents areas of excellence on farms

*Betsy Hicks, Area Dairy Management Specialist*

The collaborative grant project, Focus on Farm Management, funded by NYFVI wrapped up this quarter. The fifteen participating farms across NYS (5 in the SCNY region) each received two assessments over the course of the project. The project wrapped up by documenting the successes of each farm – either by an area of excellence already achieved by the farm, or an area of opportunity that the farm worked on over the course of the project. Three farm tours, one in each region, hosted other farmers and industry personnel to share about their area. Further outreach, in the form of videos, articles and a short podcast series, are being compiled and planned through the fall and winter. The regional dairy specialists Margaret (NWNYS), Lindsay (NCRAT) and Betsy (SCNY) are looking forward to sharing these stories of how farms achieve their success in the coming months. Stay tuned to our YouTube page and our blog to see the features as they're released!

***"It was a great project, we're glad we participated"***

– Chemung farm

***"Very beneficial project to be a part of. Changes happened whether they were planned or not and it was good to see where we stood before and after them"***

– Broome farm

***"I was surprised on how a low investment change could make such a big improvement"***

– Cortland farm



*A participating Cortland dairy farm highlighted cow comfort as an area of excellence. As seen in this photo, every single stall is occupied by a resting cow – most definitely a comfortable experience!*



## Grazing Success – Weekly Monitoring Across NYS

*Betsy Hicks, Area Dairy Management Specialist*

The Pasture Regrowth Monitoring Project continued through the grazing season offering weekly updates on grass regrowth, rainfall and growing degree days across NYS. This grazing season, graziers saw success

with a little input, as the region especially saw substantial rainfall events throughout the summer. This project featured weekly updates from the Grass Whisperer, Troy Bishopp, on keys to his grazing plan. Graze Magazine interviewed Betsy and Troy on the project and featured an article on how other regions can utilize the approach to increase grazing awareness. A select group of graziers continue to report regrowth heights through the fall (see photo for late September grass growth on four farms). While the grazing season has come to a close on many farms, those who are managing their pasture with intent are still planning for another month plus of grazing. This extends forage in inventory, keeps nutrients out on pasture by keeping livestock outdoors and minimizes labor tasks like feeding and spreading manure.



Alpine NY monitoring farm



Canastota NY monitoring farm



Deansboro NY monitoring farm



McGraw NY monitoring farm



## SCNYDFC Summer Interns —Dairy Greenhouse Gas Emissions & Biodiversity

*Lydia Young & Megan Wittmeyer, Interns*

This summer, we interned with SCNY field crop extension specialist, Janice Degni, and Cornell's Nutrient Management Spear Program (NMSP). While with Janice, we learned how to soil sample, run pre-side dress nitrate tests (PSNTs), measure hemp, sample bunk silos for bunk densities, process silage samples, and set up and check invasive moth traps. We not only developed our technical skills, we improved our communication and networking skills. We spoke to middle school students about how dairy farmers feed their cows and explained why farmers feed more home grown forages than purchased feed products. We created a dairy sustainability display for Empire Farm Days to show that there are many practices to increase farm sustainability (i.e: cover crops, no till, better cattle breeding programs). And throughout the summer, we toured many different farms and visited with farmers. These tours were great opportunities to learn about different management practices and get farmers' input on current issues in the dairy industry. For our NMSP work, we collaborated on the dairy sustainability project. Lydia focused on greenhouse gas emissions, and Megan focused on farm biodiversity.



### **Dairy Farm Greenhouse Gas Emissions--Lydia**

Throughout the summer, the dairy sustainability team researched different software tools to measure dairy sustainability. I used COMET-Farm and Cool Farm Tool to quantify the greenhouse gas emissions from one of the case study farms and then compared the results from each tool to determine which tool is easier to use. Along with entering all of the data into the tools, I had to collect the data from the farm and organize it in a way that could be easily used in both tools. As I went through the process, I documented issues I came across and

made notes of what I did so we can be consistent in collecting and entering data for the other case study farms. Along with my main project about greenhouse gases, I gathered data on common feeds that are imported onto dairy farms such as corn meal and canola meal. This information is going to be used to

figure out the emissions from these specific feed imports.



### **Dairy Farm Biodiversity--Megan**

This summer, I investigated two different farm biodiversity assessments from the software tools Cool Farm Tool and Field to Market. The biodiversity assessments are relatively new and have not been used by the NMSP team yet, so my job was to develop a protocol to collect farm biodiversity data, then compare the tools using the farm results. First, I made individual surveys based on each tool and then I made a combined survey based on both assessments. I used the combined survey to interview two case study farms and then ran their biodiversity data through each assessment and compared the scores. Like Lydia, I documented issues with the tools to evaluate which is easier to use.

We had a fantastic summer with Janice and NMSP. This was a new experience for both of us, so there was a lot to learn. This internship taught us a lot about extension, the future of the dairy industry, and ourselves. We both realized that we much prefer being outside to desk work, but also confirmed that we do want to return to our family dairy farms. So for anyone reading this, even if you are certain of what you want to do with your life, don't be afraid to try something different!

Thank you Janice Degni and SCNY DFC, Quirine Ketterings and NMSP, and all the farms we visited for an awesome learning experience!

