Cornell Cooperative Extension | Northwest NY Dairy, Livestock and Field Crops Program

AG FOCUS

Robotic Milking: Routine Flexibility

by Margaret Quaassdorff

Robotic milking is a growing management style on New York's dairies with over 60 robotic dairies across the state. Proper facility design, and managing cows in a way that takes cow behavior into consideration has helped to decrease the amount of labor needed on these farms. In addition, the type of work and way that it is performed can differ from that of a conventional dairy that milks in a parlor or tiestall setting. In our Automated Milking System (AMS) discussion group, we have recently covered topics surrounding everyday operations, routines and tasks. No matter what color robots a farm has, one goal of an AMS is to maintain steady traffic to the robot in order to reach maximum production and efficiency. Dairy farmers who spoke of successes in their daily routines, recommended to double- and triple-up on tasks in order to spend less time physically disrupting their cows. For example, one dairy farmer fetches cows, scrapes manure out of the barn, and beds with sand in the same time block. During this time, the rest of the cows in the pen are pushed up to the feed bunk alley where they can eat. Depending on the number of fetch cows he has at that time, he keeps the robot milking while he completes the chores in the pen. The fetch cows are typically finished milking when he is ready to move the rest of the cows away from the bunk to clean and bed the front stalls and alley. This leaves the robot open for only a short time before the cows coming back over from the feed bunk will enter to be milked.

Another dairy farmer has found success in moving their feeding time to the early afternoon instead of early morning. She claims that cows do not run out of feed overnight, and the feeding hours are more comfortable for the person doing the job. Automatic scrapers keep the alleyways clean, and open stalls are scraped by hand and wood shavings are added to the mattress beds as needed. Cows are not forced to move if they are lying down at this time.

Training heifers to the robot is a challenging, and sometimes frustrating, chore to many dairies. A dairy with four boxes was able to spend some time training heifers to walk into the robot, and become familiar with the prepping process, and the movements of the robot arm. This made the transition to the milking string easier after the heifers calved. Some dairies rely on a strict fetching policy for heifers to make sure they are milked three times per day. Others allow a little more flexibility when training heifers to go through the robot, and have seen some get the hang of it sooner than others. If you are large enough to have a transition pen, it works well to concentrate your main fetch cows and heifers there as they get used to using the robots. An organic grazing dairy has learned that it can take a little while for the cows to overcome the herd mentality to leave the pasture and go into the barn to milk. Most mature cows figure it out quickly, and come and go as needed. All heifers must go through the robot before leaving to go out to the pasture again. All farms agreed that fetching cows is both a science and an art.

A cow being prepped for milking in an automated milking system. Photo: M. Quaassdorff / CCE NWNY Team

Opinions about footbath location, frequency, and solution use differed among many dairies. All agreed that putting it at the entrance of the robot would reduce the number of visits to the robots. Some chose to have the cows walk through as they exit the robot, which

(Continued on page 3)

A partnership between Cornell University and the CCE Associations in these nine counties:

Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Seneca, Wayne & Wyoming

Postmaster: Send Address Changes: NWNY Team, Attn: Brandie Waite, 420 East Main St., Batavia, NY 14020
Direct all inquiries on advertising space/rates to: Brandie Waite at 585-343-3040 x138 or bls238@cornell.edu

Margaret Quaassdorff
Dairy Management
Genesee County
585.343.3040 x 133 (office)
585.405.2567 (cell)
maq27@cornell.edu

Libby Eiholzer
Bilingual Dairy Management
Ontario County
607.793.4847 (cell)
585.394.0377 (fax)
geg24@cornell.edu

Nancy Glazier
Small Farms, Livestock
Yates County
315.536.5123 (office)
585.315.7746 (cell)
nig3@cornell.edu

John Hanchar
Farm Business
Livingston County
585.991.5438 (office)
585.233.9249 (cell)
jjh6@cornell.edu

Jodi Putman
Field Crops & Soils
Livingston County
585.991.5437 (office)
585.208.8209 (cell)
jll347@cornell.edu

Ali Nafchi
Precision Ag
Genesee County
585.313.6197 (cell)
amn93@cornell.edu

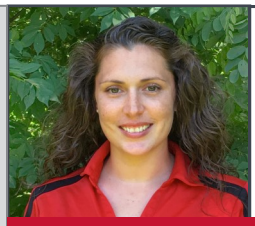
Joan Sinclair Petzen
Farm Business Management
Wyoming County
585.786.2251 (office)
716.378.5267 (cell)
jsp10@cornell.edu

Mike Stanyard
Field Crops & IPM
Wayne County
315.331.8415 x 123 (office)
585.764.8452 (cell)
mjs88@cornell.edu

To simplify information, brand names of products may be used in this publication. No endorsement is intended, nor is criticism implied of similar products not named.

Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Changes occur constantly & human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying pesticides.

By law and purpose, Cooperative Extension is dedicated to serving the people on a non-discriminatory basis.



Brandie Waite
Administrative Assistant
Genesee County
585.343.3040 x138 (office)
bls238@cornell.edu

For more information about our program, visit us at:
nwnyteam.cce.cornell.edu

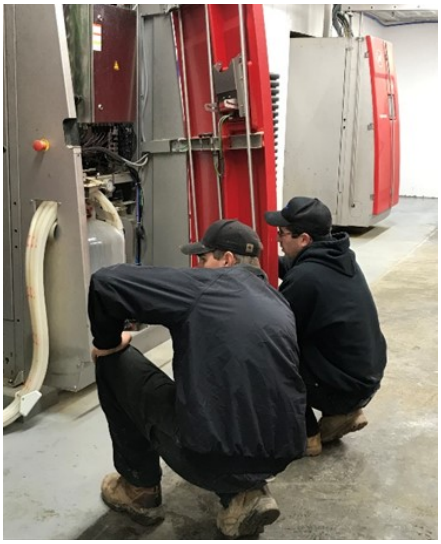
like us on facebook

Robotic Milking: Routine Flexibility

(Continued from page 1)

did not seem to affect visits, but could potentially cause chemical damage to the robot machinery and mechanics in the long run. Others chose to put the footbath away from the robot at cross-alleys, and run the entire herd through several times a week.

When considering labor, farms with fewer than three robot boxes had no more than two full-time employees completing all chores on the farm, including feeding calves and heifers, and taking care of maternity and fresh cows. Farms with six to eight robot boxes said that almost everyone was cross-trained on all chores on the farm with a few more focused employees for robot maintenance. In speaking with larger robot dairies, it seems they tend to have specifically skilled employees for different areas of the farm including larger tasks of breeding, feeding, special needs cows, and robot maintenance. This helps to maximize the efficiency of each employee, and capitalize on their strengths. In the end, all dairies agree that to maintain efficiency in an AMS, it is good to have a set routine for daily, weekly, monthly and yearly tasks. They also stress the need to be flexible in how you go about accomplishing each task, as different cow behavior and robot technology can sometimes interfere with your plans.



Employees inspecting the mechanical side of an automated milking system. Photo: M. Quaassdorff / CCE NWNY Team

If you are a robotic farm interested in joining our discussion group, please send an email to: maq27@cornell.edu to find out the details of the next meeting in your region.

Upcoming Webinars

April 13, 2020 - Noon (CST)

An update on feed additives with a B-vitamin focus

Mike Hutjens, University of Illinois

https://hoards.com/flex-309-Webinars.html

April 14, 2020 - 8:30AM (EST)

Finding & Addressing Dairy Facility Bottlenecks

Dan McFarland, Penn State

https://extension.psu.edu/technology-tuesdays

April 27, 2020 - 1:00PM (EST)

Management aspects of culturing

Ginger Fenton, Penn State

https://extension.psu.edu/dairy-management-mondays

Inside This Issue

Robotic Milking: Routine Flexibility
by Margaret Quaassdorff 1

Fall for the Planning Fallacy
by Timothy X. Terry 4

Developing Management Zones Based on Soil Sampling Method
by Ali Nafchi 5

Report Seedcorn Maggot and Wireworm Damage
by Jaime Cummings 7

Seeding, Restoring, or Renovating Pastures and Hay Fields with Perennial Forages
by Jodi Putman 9

Farm Machinery and Labor Sharing
by Joan Sinclair Petzen 11

Creating SOP Videos
by Libby Eiholzer 13

Get Off to a Good Grazing Start
by Nancy Glazier 14

Fall for the Planning Fallacy by Timothy X. Terry, Harvest NY

Perhaps a better title would be: *Don't* Fall for the Planning Fallacy.

So what is it…

The *Planning Fallacy* is a term that was developed by Daniel Kahneman and Amos Tversky in 1979 and it's described as a "tendency to underestimate the time it will take to complete a project while knowing that similar projects have typically taken longer in the past. So it's a combination of optimistic prediction about a particular case in the face of more general knowledge that would suggest otherwise."[1]

…and what does it look like?

Here's a familiar scenario, and I've spoken about this before: You have an older structure on the farm, be it a barn, sugarhouse, or other outbuilding, and you're considering retrofitting, remodeling, or razing it to make way for growth of the farm business. You've priced out a new structure that would fit your needs exactly, but you've done some of this type of retrofit work before and you've seen professionals do most of the rest of it. So you figure you can save a boatload of cash by doing it yourself, and do it faster because you won't have to be waiting on the contractor's schedule. Unfortunately, you dismiss the disparity in skill levels between yourself and the professionals, the amount of tinkering required to retrofit 21st century technology into a 19th century building, the availability of the necessary tools and materials, and lastly, how you're going to fit it in with daily chores, planting, first cutting, etc. (This is why I advise that if a retrofit/remodel is 50% or more of a new structure go for the new structure because we tend to *over*estimate the value of the existing structure and *under*estimate the time, talent, and treasure required to rework it.)

…because we tend to *over*estimate the value of the existing structure and *under*estimate the time, talent, and treasure required to rework it.

How to avoid it

1. Use past performance to predict future completion. This is where actual history is your friend. If it took you X -weeks to complete a similar project, figure on it taking X -weeks again even if you gained more experience and competencies last time. Better to finish early and start the next phase than to fall behind and never catch up. If this is a new one for you, seek out others with comparable skill levels who have completed similar projects. Ask them how long the project took and what things they would do differently next time.

2. Be pessimistic. Murphy said **"what can go wrong, will go wrong," and at the most inopportune time** (emphasis added). I've yet to have a plan go exactly according to design. There have always been problems. Whether it's a missing or defective part, wrong material, delayed delivery, weather, etc. there has always been something. I'm not saying you need to take on the persona of Eeyore (apologies to A.A. Milne), but be conservative and always have a Plan B (risk management). That way the project can still progress even if you're waiting for a part, a delayed delivery, the weather, etc.

3. Ask a skeptic to give you some honest feedback on the plan and the proposed timeline. Ask them if they think the plan is not only feasible, but also realistic. Many times when we've worked and reworked a plan for so long we often miss key items. Having someone else look it over may help you find the voids and flawed assumptions in your plan.

Check your work

Finally, build some key performance indicators (KPI's) into your plan so that as you go to implementation you can make sure that everything is going "according to Hoyle" and not running off the rails. In practice this might be "defined milestones." For example, by some set date you will have completed items A, B, and the first part of D. If this doesn't happen then you'll know you need to rework the plan.

[1] – Anthony, Scott D., *The Planning Fallacy and the Innovator's Dilemma,* Harvard Business Review, Aug. 2012. https://hbr.org/2012/08/the-planning-fallacy-and-the-i

Developing Management Zones Based on Soil Sampling Method by Ali Nafchi

Zone management allows the application to optimize the inputs utilization and potentially to decrease the overall use of chemicals, seed, water, and other inputs. Fertilizer recommendations are commonly derived from soil sample analyses that are collected from sampling the field. Through precision agriculture, inputs are managed on a smaller scale, thus allowing for more precision addressing the variations in a field. Two common methods for collecting soil samples based on smaller management zones are called grid sampling and zone sampling. In grid sampling method, a field is broken into equal square areas from which soil samples are collected from within these grids. Typically large grids (>10 acres) do not provide as much representation of field variability but usually have a lower sampling cost. Additionally, small grid sizes (<2.5 acres) provide better representation of field variability but typically have higher sampling costs associated with them due to the number of samples. The second sampling method, zone sampling, is where zones are created using previous data collected from the field to determine areas with similar soil properties (i.e. soil texture; soil organic matter; soil electrical conductivity; yield maps; aerial images). Depending on the method used for zone determination and zone size, zones can vary on how effectively they capture the variability in the field. The goal is to determine which sampling method provides the greatest economic return when collecting soil samples and managing fertility levels.

Sampling costs associated with grid sampling is often considered one of the major drawbacks. However, these data demonstrate that sampling costs are negligible compared to the costs associated with the under application of fertilizer and lime. If only the data from the grid sampling method, including three divisions & whole field, is observed then it can be suggested that as the grid size gets smaller, the losses due to sub-optimal management are reduced. In other words, field variability could be accounted for by using a smaller grid size, although with smaller grid sizes the sampling and lab cost will increase.

Reference: Precision Agriculture, Grid sampling vs. Management zone sampling

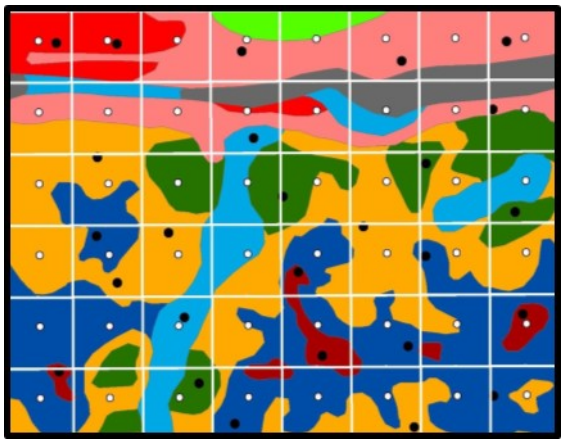


Figure 1. *Soil sample points, Grid ○ and Zone ● sampling.*

○ *Grid Sampling; Uniform sampling, No relation between locations and soil type, higher number of samples*

● *Management Zone Sampling; Not uniform sampling, Relation between soil sampling locations and soil type, Less number of samples*

Report Seedcorn Maggot and Wireworm Damage: WE NEED YOUR INPUT by Jaime Cummings, NYS IPM Program

Given the recent controversy surrounding the proposed legislative bans on some pesticides in NY, Cornell researchers and extension specialists are working to provide necessary data on the efficacy, usefulness and perceived need for these products in our agricultural systems. To do this, we need your help with identifying, documenting and quantifying losses to early season pests, such as seedcorn maggot and wireworm in your corn and soybean fields.

A collaborative effort between the NYS Integrated Pest Management program and Cornell Cooperative Extension field crop specialists will begin in 2020 with the goal of monitoring for and documenting losses to pests that the neonic seed treatments are intended to protect against. Given the sporadic distribution of damage caused by seedcorn maggot and wireworm, it can be challenging to quantify losses to these pests in research plots alone. Therefore, we need assistance from farmers, crop consultants, agribusiness associates, and crop insurance claim adjusters to report fields with damage from these pests across NY State.

Your valuable input would require nothing more than a phone call or email to your local field crops extension specialist to report the specific location of damage soon after planting, while pests are still active and can be confirmed (by V2 stage). The extension specialist will then visit the field to confirm pest activity, and may conduct plant stand counts to estimate potential yield losses. Location and farm identity will remain anonymous, as we are only interested in quantifying losses across NYS, not where they occur.

Claims on the value (or lack thereof) of these insecticide seed treatments in NY field crop production cannot be validated or quantified without this sort of data, and we can't obtain this statewide data without your assistance. Therefore, whether you grow corn for silage or grain (or even sweet corn), soybean or dry beans, conventionally or organically, we need to hear from you! Please refer to the following list of specialists to contact in your region to report damage from seedcorn maggot or wireworm in your fields this spring:

Mike Stanyard (CCE NWNY) – email: mjs88@cornell.edu, phone: 585-764-8452

Jodi Putman (CCE NWNY) – email: jll347@cornell.edu, phone: 585-991-5437

Injured soybean seedlings and seedcorn maggot pupae. Photo: M. Stanyard / CCE NWNY Team

Seeding, Restoring, or Renovating Pastures and Hay Fields with Perennial Forages by Jodi Putman

Many horse and land owners want to bring their abandoned or neglected hayfields back into production for quality hay or pasture. Others just want to maintain the fields' production capacity. To do either takes time and attention. Early spring is a good time to assess forage stands and determine if improvements should be made for the upcoming growing season to optimize forage quality and production. There are several factors to consider when determining which species to plant and to help ensure proper germination, growth and stand longevity.

Assess Current Stand Productivity

How productive is the current perennial forage stand? The NRCS Pasture Condition Score Sheet is a great tool for assessing both pasture and hayfield productivity and aid in helping to make the best management decision.

Restoring Current Forage Stands

If one decides to keep the existing vegetation and wants to restore then soil samples should be taken of the field to determine the current pH and nutrient availability. If the weed pressure is high, spraying an herbicide to control the weeds prior to planting is recommended. Herbicide efficacy and rates can be discussed with your local extension office. Planting with a no-till drill to fill in the bare ground or to fill an area where undesirable plant species have been killed with the herbicide is recommended. Mowing or grazing forages so that there's a residue height of about 3" will help to ensure the seeds are placed properly and ensure the best chances for establishment. Soil nutrient amendments should be made based off your soil reports to meet the needs of the desired plant species.

An over-grazed horse pasture. Photo: J. Putman / CCE NWNY Team

Complete Renovation

If one decides to destroy the growth and start over with a complete renovation, burning down the existing stand with herbicide is first recommended before reseeding forages. A soil test should be taken to determine nutrient needs and recommendations. A no-till drill can be used for minimal soil-disturbance while planting, or full tillage can be utilized in a complete renovation system.

Seed to Soil Contact and Seeding Rate

Proper seed to soil contact is essential for germination initiation. A firm, clean seedbed is the best way to ensure proper planting depth for perennial forages. No-till establishment is becoming more common as equipment improves and proper seeding depth is achieved. For most cool-season perennial forage species, no more than ½" seeding depth is recommended, with ¼" being most ideal.

Table 1: Forage species seeding rate

Forage Species	Pure Stand (lb/ac)	Mixture (lb/ac)
Legumes		
Alfalfa	15-18	10
Birdsfoot trefoil	10	6
Red clover	10-12	2-4
White clover	10-12	2-4
Grasses		
Orchardgrass	10	4-8
Tall Fescue	12	5-8
Smooth Bromegrass	14	6-10
Timothy	8-10	5-8
Reed Canarygrass	14	4-7
Kentucky Bluegrass	14	4-7

Dairy Cow Management Webinars in Spanish

Manejo de Vacas Lecheras Seminarios Web en Español- Días Miércoles

These webinars will be presented entirely in Spanish. No registration needed. Recordings will be posted to the website after.

Van a presentar estos seminarios web completamente en español. No hay que registrarse. La grabación del seminario estará disponible en el sitio después.

Webinars are held from 12:30 - 1:00 p.m. on the last Wednesday of the month.

Los seminarios web son a los 12:30 - 1:00p.m. en último miércoles del mes.

To learn more visit: https://prodairy.cals.cornell.edu/webinars/spanish-webinars/

Upcoming Webinar April 29, 2020: Milk Quality Part II - Treatment Decisions Based on Mastitis Type
Presenter: Dr. Paula Ospina

More Information

Más información

For further information, please contact Kathryn Barrett at kfb3@cornell.edu or 607.229.4357.

Para obtener más información, comuníquese con Kathryn Barrett en kfb3@cornell.edu o 607.229.4357.

Farm Machinery and Labor Sharing by Joan Sinclair Petzen

With tight margins, short field operations windows and rising labor costs, exploring creative arrangements for sharing both machinery and labor among operations may offer opportunities for increased efficiency and reduced costs. For these benefits to be realized, advance planning is critical. Operations entering into joint ventures for machinery ownership or exchanging labor must discuss operating plans, share a common vision for the arrangement, and agree upon a plan for dissolution should circumstances change. Trust is built by ironing out as many details of the arrangement as possible in advance. Sharing financial information, particularly balance sheets, also contributes to understanding each business's ability to fully support the joint venture.

The concept of sharing equipment and labor is not new in the agricultural community. Our history is rich with stories of threshing crews and neighbors coming together at harvest to operate and reap the benefits of bringing grain to the thresher when it came to the area. Many of our fathers or grandfathers owned a single planter or harvest equipment to use across two or more farms. The glue that held these agreements together were trust, mutual benefit and maximizing the use of a single machine to reduce each operation's costs.

Some keys to success of working together in cropping operations are 1) choosing the right partners, 2) having an appropriate organizational structure, 3) clearly defining the details of how equipment will be owned, repaired and dispatched to support each farm, 4) agreeing on a system for keeping records and tallying up at the end of each season, 5) outlining how new partners will be added or existing partners will exit, and lastly, 6) agreeing upon a process for dispute resolution.

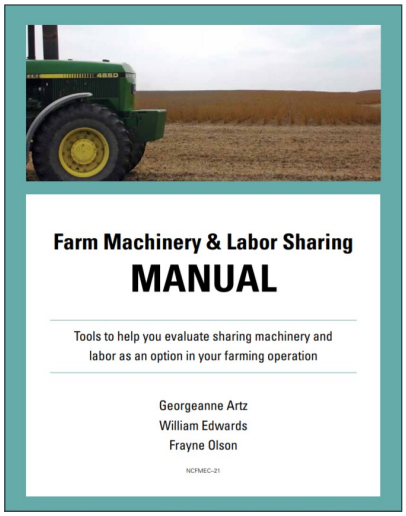
More formal agreements become critical as the amount of sharing and comingling of assets increases. Agreements range from simply trading use of a couple of pieces of equipment to one person owning equipment that another hires to custom complete specific operations to jointly owing most equipment needed for field operations, together hiring a work force to operate and service equipment and planning field operations as if all acres were part of the same entity. According to Artz, Edwards and Olsen, authors of "Farm Equipment & Labor Sharing Manual," Issues facing all groups regardless of complexity, include how to handle member entry and exit, schedule use of equipment, compensate for unequal contributions of time and equipment use, and make group decisions. Personal trust coupled with planning and good communication among members is also a key ingredient for success.

In their publication, Artz, et. al. discuss choosing partners, operational issues for informal and formal agreements and joint ventures. They also provide worksheets for tracking investment and labor contributions, annual operating expenses and payments and methods for "settling up" at the end of each season. Worksheets are available either in printed or electronic form. They provide resources for addressing organizational structures and developing operating agreements. Lastly, they compiled ten case studies of joint ventures of varying levels of complexity and success to demonstrate the concepts outlined.

In today's operating environment, efficient use of capital and labor are key to long term success of farming operations. Perhaps working together can provide an avenue for reducing investment in equipment or provide an opportunity to realize the full potential of people with specialized skills. Joint ventures are worth investigating. "Farm Machinery & Labor Sharing Manual" will prove useful as you explore opportunities. Finding the right partners, understanding each other's needs and expectations, formalizing agreements and being willing to give and take along the way are keys to success.

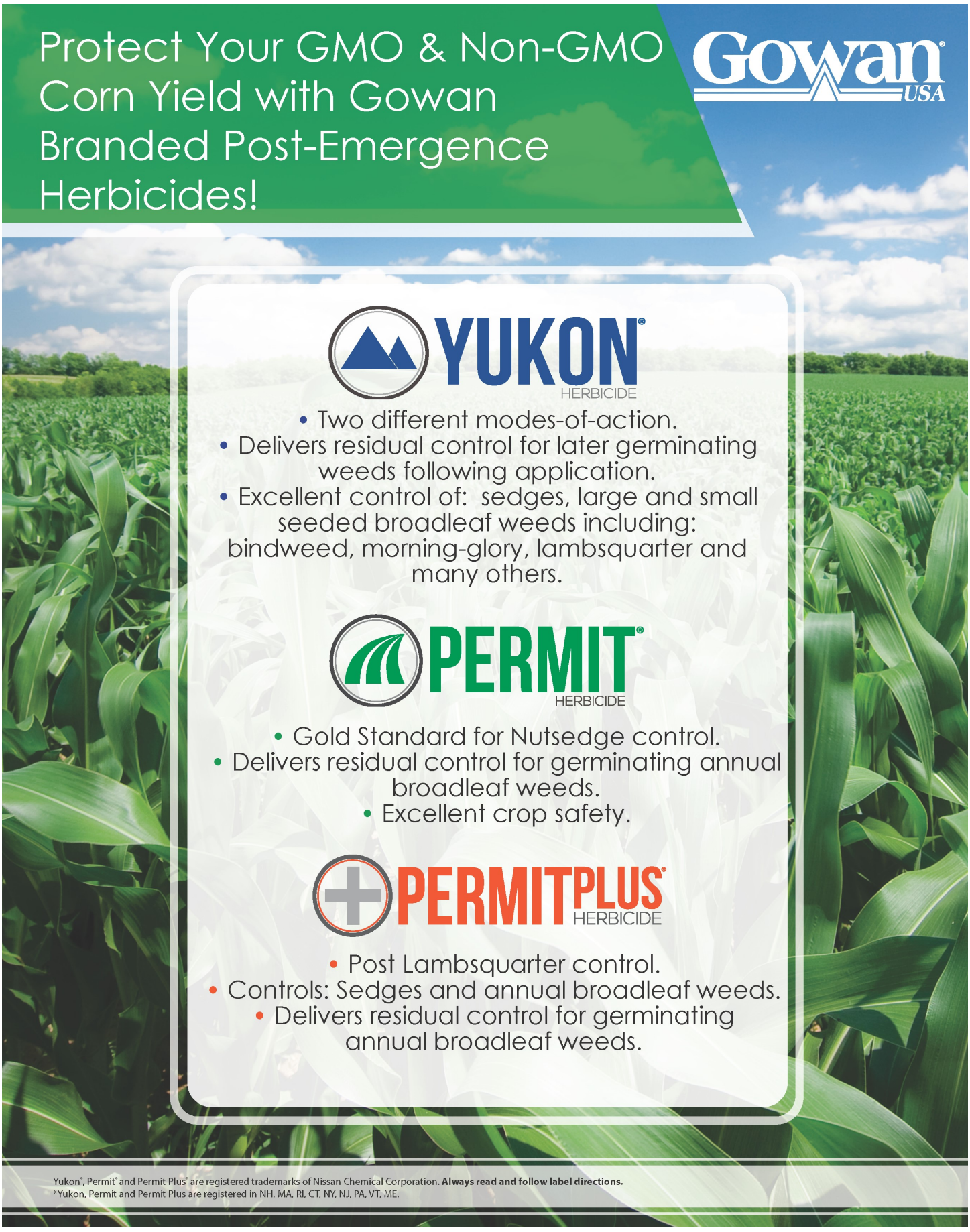
Resources:

Farm Machinery & Labor Sharing Manual: Tools to help our evaluate sharing machinery and labor as an option in your farming operations; G.M. Artz, W. Edwards, F. Olson; 2009



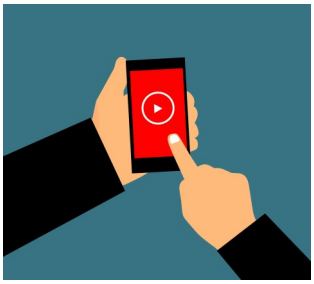
Farm Machinery Joint Ventures; W. Edwards; www.extension.iastate.edu/agdm; 2009

Acquiring Farm Machinery Services; W. Edwards; www.extension.iastate.edu/agdm; 2009


Protect Your GMO & Non-GMO Corn Yield with Gowan Branded Post-Emergence Herbicides!
Gowan USA
YUKON® HERBICIDE
• Two different modes-of-action.
• Delivers residual control for later germinating weeds following application.
• Excellent control of: sedges, large and small seeded broadleaf weeds including: bindweed, morning-glory, lambsquarter and many others.
PERMIT® HERBICIDE
• Gold Standard for Nutsedge control.
• Delivers residual control for germinating annual broadleaf weeds.
• Excellent crop safety.
PERMITPLUS® HERBICIDE
• Post Lambsquarter control.
• Controls: Sedges and annual broadleaf weeds.
• Delivers residual control for germinating annual broadleaf weeds.
Yukon®, Permit® and Permit Plus® are registered trademarks of Nissan Chemical Corporation. Always read and follow label directions.
*Yukon, Permit and Permit Plus are registered in NH, MA, RI, CT, NY, NJ, PA, VT, ME.

Creating SOP Videos by Libby Eiholzer

Think You Can't Make a Video? Think Again!



Videos can be a great tool to train new employees, or retrain old employees. While there are many great video resources available online for topics ranging from animal handling to tractor safety, sometimes it's helpful to have a video custom made for a specific task on your farm. Follow these simple steps to make your first video. It's much less complicated than you might think. All you need is a smartphone and a computer with basic video editing software (which comes standard on most operating systems!)

1. Write the Standard Operating Procedure (SOP) for the task you want to teach. Make sure it is simple and specific. Resources for writing a SOP, including the SOP Writing Guide, are available here: https://agworkforce.cals.cornell.edu/human-resource-management/performance/.

2. Using your smartphone, film someone following the SOP to complete the task. Make sure it's a person who knows how to do the task well and will follow the SOP to a T. You might film the whole procedure in one clip, or film a short clip of each step. This allows you to adjust your angle or zoom in and out to provide a clearer shot of each step. Get a few takes of each step so that you're sure you have good material to work with.

3. Transfer the video clips to your computer (either via the Cloud or by plugging your phone into your computer). Identify the ones that you want to use and label them for clear identification.

4. Use video editing software to create your video. This isn't as scary as it may sound! "Video Editor" is a free, easy to use software that comes with Windows 10, and this series of YouTube videos walks you through making a video: https://youtu.be/30s-vPccI8A. iMovie comes standard with Apple products. Import the video clips you want, drop them into the right sequence, trim to the right length, speed up or slow down, add titles and text, and add music or narration. If the video will be used for a bilingual audience, consider subtitles in English and narration in Spanish so that everyone can follow along together.

5. Once you have finished your video, save it somewhere that it is readily accessible for use.

6. Plan to use the video often. Will it be part of new employee training? Available on the office computer? Better yet, store it on the cloud so it's accessible via smartphone. That way employees can refer back to the video when they have a question about how to complete that task.

Get Off to a Good Grazing Start by Nancy Glazier

As I write this the sun is shining, the breeze is blowing with a feel of spring in the air. Pastures are just starting to green up. The short-term forecast sounds like back to winter, but grazing season will soon be here. Start planning now for the grazing season, if you haven't already.

Rotational grazing is the optimum way to utilize pastures. Grazing animals are fenced into a specified sized paddock for a predetermined length of time. These numbers are based on calculations: animals eat from 2-5% of their bodyweight per day (depending on species, stage of growth and production) and they need that many pounds of dry matter multiplied by the number of head. Shorter rotations utilize pastures more efficiently; dairy cows are generally moved to fresh paddocks twice a day and other livestock once a day to once a week. After 3 days on the same paddock regrowth will begin to be grazed by the livestock and can delay regrowth. I don't recommend continuous grazing unless there is much more pasture available than the livestock can utilize. This method of grazing leads to poor quality pastures and weeds getting established.

Ideal grazing height is 8-10". Can you wait that long to start grazing? No. Some research indicates to count leaves not inches. Wait for the grass to get some growth and take a look at the number of leaves on the grass plants, start grazing when there are more than 3 leaves. Grazing when the grass is too small will remove the growing point which will slow regrowth. Flash graze if necessary; move the animals through quickly to prevent damage to growing points. If the soil is wet start grazing when the quantity of pasture will help protect the soil from hoof action. If too much pasture gets ahead of you, harvest excess as hay, clip the paddocks fairly closely, or bring in another group of animals. This will encourage tillering of the grass plants.

Where to start? This may depend on what ground is dryer or what pasture plants have more growth. Some pastures may be better suited for harvest so keep that in mind when beginning the grazing season. A rule of thumb to start the season is you'll need to harvest half since the livestock can't keep up.

Keeping residual plant (what's left after grazing) height taller encourages regrowth of the taller plants. Kentucky bluegrass, less-productive clovers (think sweet clover in your lawn), and weeds do well under short conditions. Leaving the residual taller will encourage the more productive, taller plants to flourish and stay productive. Take half, leave half is a good rule of thumb.

View of a dormant pasture. It might not look like much now, but it won't be long until it's green and lush.
Photo: N. Glazier / CCE NWNY Team

Rest period is just as important as residency period. Pastures need adequate time for regrowth to remain productive. Spring conditions that are cool and moist encourage fast regrowth, 10-14 days, hot and dry conditions may warrant 40-60 days.

A big problem is leaving grazing animals out too late in the fall. I have been told by a seasoned grazier that one day more in the fall will be three days less grazing in the spring. Grass plants need root and rhizome reserves (stored energy) to begin spring growth. There will be little leaf material to capture sunlight for photosynthesis so energy to begin growth is supplied by the stored carbohydrates. This can't be helped now, but keep this in mind in the fall.

A great way to learn about grazing is to attend a pasture walk. Those who host learn more than those who attend, so I have been told! If you would like to host one give me a call. My phone number is listed on the inside cover.

$$$$$ WE BUY MACK, FREIGHTLINER, PETE, KENWORTH, Etc. TRUCKS and CAT, KOMATSU, CASE, HYUNDAI, IR, Etc. CONSTRUCTION EQUIPMENT for $$$$$

CALEDONIA DIESEL, LLC

2905 Simpson Road • Caledonia, NY 14423

585-538-4395 www.caledoniadiesel.com

OVER 325 TRUCKS AND OVER 150 PIECES OF CONSTRUCTION EQUIPMENT

2007 MACK GRANITE CV713; Mack 335 HP; Allison Auto. Trans.; Double Frame; 21' Alum. Box; 18K F/A; 46K Rears On Camelback Susp.; Steerable Lift Axle; 8,995 Hours; 174,712 Miles; Stk. #6156 - $62,900

2005 PETERBILT 378; 475 HP CAT C15; Jake Brake; 10-Spd. Manual; 206" WB; 12,000# F/A; 46,000# Locking Rears on Chalmers Susp.; Polished Alum. Wheels; Dual Exhaust & Air Cleaners; 738,651 Miles; Stk. #5821 - $60,000

2009 MACK GU813; Allison Auto. Trans.; Double Frame Tri-Axle Dump W/Viking-Cives Tub Style Box w/Belt Unloader; 20K F/A; 46K RA, Tarp, Air Ride Susp.; 20K Non-Steerable Lift Axle; Will Separate Body from Chassis. 21' 8" Of Frame Behind The Cab, 206"C-T. Muffler Takes Up 12" Of These Measurements; 151,516 Miles., Stk. #6174 - $64,900

1997 FORD L9000; Double Framed 6x6 Flatbed/Knuckleboom Truck; 330 HP Cummins M11; 18-Spd. Manual; w/Fasse F270 Knuckleboom Crane; 18,740# F/A; 46K Rears; 13,200# Rear Mounted Lift Axle; 23'6" x 102" Flatbed; 248" WB; Will Separate Bed & Crane from Chassis; 29' Frame Behind cab; 208" CT; 111,244 Miles; Stk. #6157 - $26,900

2006 KENWORTH T800; Flatbed Winch Truck w/Braden 30-Ton Winch; 550 HP CAT C15; 18-Spd. Manual; 16K F/A; 46K Full Locking Rears; 284" WB; 18'6" Deck; Air Ride Susp.; Flip Over 5th Wheel; Will Separate Deck & Winch from Chassis; 21' Frame; 206" CT; 4.30 Ratio; 295,224 Miles; Stk. #6148 - $45,900

2004 PETERBILT 320; CAT 330 HP; Allison Auto.; Refuse Truck w/180" WB; 18K F/A; 44K Rears; Can Separate Compactor from Chassis; 17' Frame Behind Cab; 148" CT; 14,873 Engine Hours; 69,512 Miles; Stk. #6209 - $37,900

2004 INTERNATIONAL 5600i; 385 HP Cummins ISM; 8LL Trans.; Double Frame Dump Truck w/18K F/A; 52K Full Locking Rears; Hendrickson Susp.; 184" WB; Can Separate Body From Chassis; 14'8" Frame Behind Cab; 121" CT; 117,870 Miles; Stk. #6226 - $32,900

QTY. 2) 2004 KENWORTH T800; 380 HP CAT C12; 8LL-Spd.; Double Frame; Altec AC18-70S Crane; (5) Outriggers; Chalmers Susp.; 4.33 Ratio; 310" WB; 18K F/A; 46K Rears; Can Separate Crane From Chassis; 25' Frame Behind Cab; 232" CT; 8,995 Hours; 133,460 Miles; 10,482 Hours Stk. #6227 - **Price With Crane: $62,900 - SECOND UNIT:** 2003 w/430 HP CAT C12; 68K GVW; Same Crane Specs - $57,900

2003 KENWORTH T800; 475 HP CAT C15 6NZ Turbo; 8LL Manual Trans.; Clean Daycab w/12,800# Front Axle; 46K Rears On KW 8-Bag Air Ride; 4.11 Ratio; 186" WB; Wetline; 447,898 Miles; Stk. #5925 - $49,900

2010 PETERBILT 365; 350 HP Cummins ISM Engine; Allison Auto.; Long, Double Frame Cab & Chassis w/300" WB; 227" CT; 31' Frame Behind Cab; 18,000# F/A; 60,000# R/A On Hendrickson Susp.; 87,267 Miles; Stk. #5907 - $59,900

1999 MACK RD688S DUMP TRUCK; 400 HP Mack E7; Engine Brake; 8LL Trans.; Rubber Block Susp.; Tri-Axle; 19' Steel Body; 20,000# F/A; 46,000# R/A; 22.5 Tires; 248" WB; Spoke Wheels; EXPORT PRICED!!!; 777,148 Miles; Stk. #5902 - $19,500

2005 PETERBILT 357; 370 HP Cummins ISM; 8LL Trans.; Quad Axle Cab & Chassis w/Double Frame; 18K F/A; 44K Full Locking Rears; (2) 11K Steerable Lift Axles; Air Trac Susp.; 22' Frame Behind Cab; 212" CT; 302,500 Miles; Stk. #5831 - $41,500

2002 KENWORTH T800; 475 HP CAT C15 6NZ; 10-Spd. Manual; Double Frame; Daycab w/20,000# F/A; 46,000# Locking Rears; RENWAY Air Ride Susp.; 5.29 Ratio; 204" WB; 16' Of Frame; 186,151 Miles; Stk. #6097 - $39,500

2007 MACK CT713; Mack 370 HP; 9LL Trans.; Double Frame Plow/Sander 11' One Way Plow & Wing; Lanau Sander CTR Drop Spinner; 20K F/A; 46K Full Locking Rears; Haulmaax Susp.; 4.30 Ratio; 258" WB; 260,183 Miles; Stk. #6173 - $31,000

2007 MACK CT713; Mack 427 HP; Allison Auto.; Double Frame Plow/Sander Truck w/Stratos 870-42 Spread w/Chemical Sprayer; 20K F/A; 20K Lift; 46K Full Locking Rears On Haulmaax Susp.; Schmidt Controls; 240" WB; 19' Steel Box w/Tarp; 335,602 Miles; Stk. #6172 - $49,900

2007 KENWORTH T800; CAT 380 HP; 13-Spd.; Vacuum Truck w/Almac Machine Works 3,440 Gal. Tank w/Dump & Rear Hatch; 270" WB; Air Ride Susp.; 16K F/A; 46K Full Locking Rears; 4.10 Ratio; 80,985 Miles; Stk. #6144 - $69,900

2002 MACK CL713; 460 HP Mack E7; 18-Spd.; Double Frame Cab & Chassis; 20K F/A; 46K Rears; 292" WB; 24'6" Frame Behind Cab; 208" CT; PTO; Good Rubber; Mack Air Ride Susp.; 309,234 Miles; 17,680 Hours; Stk. #5909 - $32,500

2006 WESTERN STAR 4900SA; Double Framed Crane Truck; CAT 410 HP; Allison Auto. Trans.; 20K F/A; 46K Full Locking Rears; 16K Rear Mounted Lift Axle; 24' Steel Deck; Chalmers Susp.; 72" Spread; IMT16000 Drywal/Block Crane; Can Separate Crane & Deck from Chassis; 30'6" Frame Behind Cab; 202" CT; 264" WB; 274,074 Miles; Stk. #5948 - $39,900

2005 MACK CX612; 350 HP Mack AC330; 10-Spd.; Clean, Good Running Single Axle Tractor w/12K F/A; 20K Rear; Air Ride Susp.; 149" WB; 764,211 Miles; Stk. #5885 - $11,500
MANY OTHERS AVAILABLE

2005 PETERBILT 357; CAT 305 HP; Allison Auto.; Clean Cab & Chassis; 20K F/A; 46K Rears on Haulmaax Susp.; 17' Frame Behind Cab; 140" CT; 216" WB; New Drive Tires; 129,217 Miles; Stk. #4894 - $59,000

2005 FREIGHTLINER FLD; Detroit 12.7L 455 HP; Allison Auto.; Clean Cab & Chassis w/18K FA 46K Full Locking Rears; Air-Liner Susp.; 250" WB; 20' Of Frame Behind Cab; 178" C-T, w/PTO; 106,621 Miles; Stk. #6137 - $49,900

2003 KENWORTH W900; 320 HP Cummins ISM; Allison Auto.; Clean, Low Mile Cab & Chassis w/20,000# Front Axle; (2) 11,000# Steerable Lift Axles; 44,000# Full Locking Rears On Chalmers Susp.; 5.43 Ratio; 250" WB; 21' Frame Behind Cab; 156" CT; Muffler Takes Up 12" Behind Cab; Stk. #6016 - $54,900

2010 INTERNATIONAL 5600i; 425 HP Cummins ISM; Allison Automatic Trans.; 172" WB; Wetline; 20K Front Axle; 58K Rears On Hendrickson Susp.; 12R24.5 Rubber; 226,177 Miles; We Can Stretch This Tractor To Any Length For HD Cab & Chassis; Stk. #5943 - $47,000

2004 WESTERN STAR 4900S 430 HP CAT C12; 18-Spd. Manual; Clean, Low Mile Tank Truck w/4,360 Gal. Steel Tank & Bowie 3" Pump; 16K F/A; 46K Full Locking Rears, 252" WB; Chalmers Suspension; 133,613 Miles; Stk. #5978 - $38,500

$$$$$ WE BUY MACK, FREIGHTLINER, PETE, KENWORTH, Etc. TRUCKS and CAT, KOMATSU, CASE, HYUNDAI, IR, Etc. CONSTRUCTION EQUIPMENT for $$$$$

$$$$$ WE BUY MACK, FREIGHTLINER, PETE, KENWORTH, Etc. TRUCKS and CAT, KOMATSU, CASE, HYUNDAI, IR, Etc. CONSTRUCTION EQUIPMENT for $$$$$

Cornell Cooperative Extension of Livingston County
NWNY Dairy, Livestock & Field Crops Team
3 Murray Hill Drive
Mount Morris, NY 14510

Nonprofit Org.
U.S. POSTAGE
PAID
Permit No. 298
Rochester, NY

Postmaster:
Dated Material
Please Expedite

An Important Note from our Team

Cornell Cooperative Extension's Northwest New York Dairy, Livestock, and Field Crops Program prioritizes the health, safety, and well-being of our staff, constituents, and community members. Given the uncertainty surrounding the rapidly-changing COVID-19 situation, many of our upcoming events have been cancelled, postponed or switched to an online format for the next 30 days. This includes on-site farm visits and consultations. Our specialists will still be available to help you via phone, zoom or email and we will resume our regular programming as soon as we can. Stay up to date on all of our program offerings by visiting our website or contacting any of our team's specialists. Our direct phone and email contact information is listed on page 2. We look forward to helping you manage your farm business during this time and hope that you and your family stay safe and healthy!

April 2020

Mark Your Calendar
›› UPCOMING EVENTS

14 ***Growing Great People: Training Skills for Dairy Farmers*** Become an effective on-the-job trainer. This session will be offered in English only via online webinar. 6:30pm to 8:30pm. To register online visit: https://nwnyteam.cce.cornell.edu/events.php or call Brandie at: 585-343-3040 x138

16 ***Growing Great People: Training Skills for Dairy Farmers*** Become an effective on-the-job trainer. This session will be offered in Spanish only via online webinar. 12:00pm to 1:30pm. To register online visit: https://nwnyteam.cce.cornell.edu/events.php or call Brandie at: 585-343-30440 x138

Important Links

New York Department of Health - https://coronavirus.health.ny.gov/home

Centers for Disease Control and Prevention - https://www.cdc.gov/

World Health Organization - https://www.who.int/

Cornell Agricultural Workforce Development - http://agworkforce.cals.cornell.edu/

PRO-DAIRY Program, Recorded Webinars - https://prodairy.cals.cornell.edu/webinars/webinar-recordings/