Cornell Cooperative Extension



Northwest NY Dairy, Livestock and Field Crops Program

Outstanding in Her Field and On Your Farm

By: Jerry Bertoldo

ibby Eiholzer is a familiar name to L those who read this newsletter and have had occasion to use her talents as a bilingual dairy specialist with the NWNY Team. Last month Libby received the Jackie Kunes Outstanding Woman in Agriculture Award at the County Ontario Agriculture Appreciation Banquet in Geneva, NY. The Ontario County Farm Bureau established this award as a tribute to Jackie Kunes (1937-1977), the first woman president of Ontario County Farm Bureau, a distinguished and devoted leader in the industry, her family business and the community.

Libby grew up in Mecklenburg, NY on her family's 450 cow farm. After graduation from Cornell, she joined the Peace Corps and spent two years in Guatemala where her focus was becoming fluent in Spanish and helping women of the area to improve themselves and their families. Libby is safety instructor for а certified NYCAMH, active with the Ontario County Farm Bureau Young Farmers and Ranchers Committee and a member of the statewide Ag Workforce Development Council. She facilitates two dairy discussion groups and publishes the quarterly Hispanic focused newsletter Dairy Culture Coach. In between all of that she is enrolled in a Masters' program in human resource management at Cornell and helps where she can on her husband's dairy farm.

Congratulations Libby!



Casey Kunes presents the 2018 Jackie Kunes Award to Libby Eiholzer of Stanley. Photo source: Jim Hooper

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Mission Statement

The NWNY Dairy, Livestock & Field Crops team will provide lifelong education to the people of the agricultural community to assist them in achieving their goals. Through education programs & opportunities, the NWNY Team seeks to build producers' capacities to:

- Enhance the profitability of their business
- Practice environmental stewardship
- Enhance employee & family well-being in a safe work environment
- Provide safe, healthful agricultural products
- Provide leadership for enhancing relationships between agricultural sector, neighbors & the general public.

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On a Farm Near You...

Garry Wilson Beef

By: Nancy Glazier

Though the sign still says quarter horses, Garry Wilson has made the transition to beef cattle. It started about 5 or 6 years ago with rescuing a neglected longhorn cow. Next, he needed a bull to breed to her. He purchased a quality, registered bull and decided he needed more cows to utilize the investment. The longhorn is long gone, but the herd is still growing.

Garry has about 32 acres at the home farm in LeRoy. He keeps the 16 brood cows there through winter until he moves the pairs to rented pasture for the grazing season. He finishes out his weaned calves plus 10-15 additional calves he purchases at auctions. Those get grazed in season on rented ground. He is able to access the rented pasture since it is not suitable for row crops. Some of the acreage is wet, with Black Creek running through it. The old railroad bed makes for easier access. He rents about 90 acres for hay and pasture.

For finishing out the steers, Garry purchases corn from a nearby farm. He can purchase a gravity feed wagon as needed and grinds it at the farm. Breweries are becoming more plentiful in the region. Garry is looking to take advantage of some of the spent grains and feed that to some of the cattle. He is running into issues with steady supply, and will need to feed it out in a week or so, less time when the weather warms up.

Always a challenge for small producers is the marketing. Garry is working with someone who handles that piece for him. The relationship began when he started renting pasture there. The landowner had wanted to have his own cows on the pasture, but decided to let Garry run his cowherd there. Last summer he moved the cows, this summer the landowner will do that for Garry.

There's more to the story, but I want Garry to fill in the blanks. We will have a pasture and farm walk scheduled for Thursday evening, May 17 starting at 6:30 pm at his rented pasture on the west side of Transit Rd, about 0.1-mile south of Route 5 in Stafford. There will be signs up to help find it. He is looking to subdivide the pasture to better utilize the



forage; he has ideas, but would like some discussion with others. After that, we will relocate to the home farm in LeRoy for discussion and refreshments. The cost will be \$10 per person. Please register with Cathy Wallace for the event by calling 585.343.3040 x138 or <u>cfw6@cornell.edu</u> by May 15.

By then, the feeder calves should be out on pasture!



Dairy Training Resources Guide Now Available

By: Libby Eiholzer

E mployee training can be overwhelming. From keeping up with your milk cooperative's animal handling training requirements, to meeting OSHA safety training obligations, it can be challenging to keep up with everything. Not to mention providing ongoing educational training for employees who are taking on new responsibilities, like breeding cows or feeding calves.

Over the past year, I've been compiling a list of training resources that are easily accessible for farm managers. These resources include online videos, articles, fact sheets, posters, booklets, comic books, webinars, and more. The topics covered so far are:

- Safety
- Animal Handling
- Calf Care
- Milk Quality





Dairy Care365 is just one of many free online resources you can use to provide training for your employees.

- Calving Assistance
- Reproduction
- Herd Health
- Lameness/Hoof Trimming
- Forages/Feeding
- Creating Human Resource Management Documents
- Employee Housing
- Learning Spanish/English

The document is now available on our website at <u>https://nwnyteam.cce.cornell.edu/submission.php?</u> id=735&crumb=bilingual|13.

I plan to keep updating this guide as I become aware of new resources. Please reach out to me if you know of a resource I should include in the guide, if there is a problem with a link, or if you're looking for training materials on another topic. Thank you!



Do's and Don'ts for Dairy Farmers When Facing Financial Difficulty

By: Wayne A. Knoblauch, Professor

Dyson School of Applied Economics and Management SC Johnson College of Business College of Agriculture and Life Sciences Cornell University

Do's

1. Complete a production and financial management analysis of your business for 2017. Determine strengths, but most importantly, areas for improvement with an immediate response and improvement in cash flow.

- 2. Complete a profitability and cash flow projection, for example, partial budget of the expected impacts of any changes made to improve the business.
- 3. Meet with your lender and share your financial management analysis and cash flow projections. Communicate with your lender often and provide periodic updates regarding your financial situation.
- 4. Continually review and update cash projections and partial budgets. Cash flow management is the key to surviving difficult economic times.
- 5. If you have past due balances, meet with suppliers to develop payment arrangements.
- 6. Effectively utilize farm produced feeds, especially forages.
- 7. Test all farm-grown forages and feed for nutrient availability. Evaluate the most cost effective commodities to purchase when feeding balanced rations, especially to early lactation cows.
- 8. Treat disease outbreaks, such as mastitis, before they become worse.
- 9. Be an astute purchaser of inputs.
- 10. Examine family living to see if expenses can be reduced.
- 11. Maintain minimal inventory; cull unprofitable cows, buy feed as needed. If you have extra dairy replacements, consider selling them. When selling animals, remember to consult your tax preparer concerning associated tax liabilities.
- 12. Sell nonessential capital items, including machinery and equipment, that is not needed to

operate the business. Consider selling land not essential to the business, including timber. Remember to consult your tax preparer concerning tax liabilities of a sale.

- 13. Examine debt for possible benefits of restructuring or alternative financing.
- 14. Perform tasks in a timely fashion, yet get enough rest. Sleep deprivation can interfere with task performance and judgement.
- 15. Consider off-farm work by all family members.
- 16. Communicate current financial situation often with management team/family members. Seek and welcome their suggestions and involve them in key financial decisions.
- 17. Adopt new technologies only after careful study.
- 18. Monitor the financial health of those who purchase your farm products. They may also be under severe financial pressure in this economic period.
- 19. Seek management advice and analysis assistance early from Cooperative Extension, consultants, FarmNet, and others.
- 20. Seek personal counseling and advice from close friends, clergy, FarmNet, medical professionals, and others.
- 21. Routinely test manure for nutrient content. Employ modern soil testing technology to minimize purchased crop nutrients.
- 22. Evaluate risk management tools such as crop insurance, livestock gross margin, and the margin protection program in order to minimize production and price risk.
- 23. Evaluate business arrangements with other farms that have potential to reduce costs.
- 24. Forward contract inputs such as feed, fuel, and other supplies if you can lock in a profit.
- 25. Obtain price quotes from multiple suppliers for inputs such as feed, fuel, and other necessities.

on'ts

1. Make decisions that will cause the problem to be worse a week, month, or year down the road.

- 2. Continue the same practices simply because you've always done it that way.
- 3. Neglect needed accounting tasks because there isn't time right now.
- 4. Utilize farm produced feeds so rapidly that they are used up without a replacement plan.
- 5. Reduce purchased feed just to save money.
- 6. Purchase products that promise to be a cure-all, unless you have hard data and experiences of others to confirm.
- 7. Make capital investments to reduce tax liability or because "it is a good buy."
- 8. Borrow money unless the profitability of the farm is reasonably expected to increase in order to provide for repayment.
- 9. Neglect the details: cleaning and maintaining equipment, communicating with and managing labor, detecting heats, etc.



Photo source: www.pixabay.com

- 10. Use alcohol to excess. Alcohol and other drugs can make a tough situation even worse.
- 11. Assume a management strategy that worked for one farm will be effective on yours.



Calving Assistance – Do No Harm!

By: Jerry Bertoldo, DVM

There have been estimates that up to 30% of calving cases in dairy herds are assisted. Most of these are attributed to first calf heifers particularly delivering bull calves. Stillborn rates average around 8%, heifers at 11% and multiparous cows at 4.5%, but range from 3% for births with a calving ease score of 1 (on a 1-5 scale) to 60% for a score of 4 (NAHMS, 2007). Once upon a time, as old tales go, a successful assisted calving meant the calf was alive and the mother was able to stand. As a veterinary practitioner this was part of my mindset for a long time as well.

In the more modern era we have come to know that a heartbeat, breathing and standing up are not exactly the best parameters to predict how well a dystocia calf is going to do in the future. There are lots of physical issues and physiological changes that happen with difficult pulls.

The dystocia calf - not your ordinary newborn

Dystocia calves with a calving ease score (CES) of 3 or higher suffer from broken ribs (34%), respiratory acidosis, low blood oxygen, low blood sugar and hypothermia (in the colder weather). The rib fractures are at the junction of the long upper rib portion and shorter bottom piece where cartilage holds them together. No treatment is practical or needed, however discomfort is a given. The acidosis, blood oxygen and sugar levels rapidly reverse with breathing and prompt normal colostrum consumption. If the hypothermia results in body temperature of less than 101°F for an hour or more, reduction in IgG absorption and immune function can suffer.

Assisted calvings – technique makes a big difference

"Pulling calves" from dams that are not completely dilated with excessive force and in a hurry leads to bruising, retained placentas, metabolic compromise and higher stillborn rates in newborn calves. Knowing the stages of labor and being able to assess progress in delivery is an important skill.

Cleanliness should be mandatory with calving assistance. Not washing up the area surrounding the vulva and under the tail (if it is not tied over the top



of the cow to a front leg) invites contamination of the uterus and possibly that of the oral cavity and nasal passageways of the calf before it is born. Bare armed assistance is inexcusable in this day and age. The bacteria on our skin does not remove with a quick scrub.

Calving assistance should be done with manual dilation if necessary, with sufficient lubrication, with a bucket of clean, warm water and a cup to help hydrate and disinfect, a mild disinfecting solution in the water (not essential) and a good soap (disinfecting or dishwashing type) in a squeeze bottle. The cow is prepped before a sleeve is put on. Extra sleeves are available in case the cow pushes manure out and dirties the one in use. Do not attempt to clean the manure off a sleeve or dunk dirty calving chains in the bucket. Rinse off dirty items out of the pail with the cup! Use a new sleeve! Remember, the pail is the clean reservoir of water not a wash bucket. This water will be used to dilute J-lube or provide extra moisture in the case of a dry calving. In addition, do not use soap as a lubricant inside the cow or on your sleeve. Only something as Plain Jane as Ivory can be considered somewhat non-irritating to the lining of the uterus. Other soaps burn. Do not disinfect the pail of water with soaps either. This is just another way to irritate the uterine lining if this water is used inside the reproductive tract.

Traction on the calf should be coordinated with the cow's contractions with reduced force in between. The angle of pull should be in an arcing manner whether the calf in presented forward or backwards. Calf jacks allow for this aspect of assistance, but can cause significant damage with overzealous use. The recommendation is force equal to two people's combined effort.

Consequences of Difficult Calvings

Dystocia has multiple negative impacts, obviously to the calf, but also to the dam. Nerve damage, tears, metritis, delayed breeding and lower milk production have to be considered in the cost.

The stillborn rate averages around 8% nationally, ranging from 2% for unassisted births to 60% for hard pulls or a CES of 3&4 (NAHMS, 2007). The percentage of calves that are born alive, but die within 48 hours averages between 6-7%, (NAHMS, 2007). This breaks down to 2% mortality for a CES of 1, 5.4% for a CES of 2 and 36% for a CES of 3&4 with a two person pull or calf jack use (Garry et al, 2006).

Increased death rates between 2 and 120 days of age are associated with higher assistance scores. CES 1 births have mortality rates of 8%, CES 2 calves 8.5% and a combined CES of 3&4 is 14.6%. Higher sickness rates follow the same relationship as mortality does to calving ease scores. CES 3&4 calves have 17% more scours and 56% more respiratory infections than those with unassisted births (Tomlinson et al, CSU).

Cows with the most difficult calving scores do not

breed back as well with up to 40 extra days open. These individuals also produce an average of 660 lbs. less milk in that lactation with an overall loss of \sim \$200 per head (Bicahlo, 2007).

Training Should Be Standard Practice

Training of calving personnel with hands-on demonstrations is critical to make sure those charged with calving responsibilites understand the concepts and to make any necessary clarifications. There are videos available on-line that are helpful. One of the better ones was put out by Genex/CRI a number of years ago. Pricey, but excellent and available in English and Spanish at https://webapps2.crinet.com/ProfitShop/do/category/DHERDSVIDEO/10. In studies using these learning methodologies, calving personnel were able to significantly increase their level of knowledge and reduce the incidence of stillbirths by about 9 percentage points from 15.5% to 6.5% (Schuenemann, 2013).

Ask your veterinarian to help with calving protocols and demonstrate the skills and tools needed to accomplish effective calving assistance with minimal problems. You can also contact the NWNY Team for training in English or Spanish.



Robotic Milking Systems – What We've Learned So Far (Part 1)

By: Timothy X. Terry

Farm Strategic Planning Specialist, Harvest NY

was recently invited to participate in a robotic I farming discussion group. The evening began with a few presentations by a robot manufacturer which, surprisingly, were less about sales and more about start-up and management of the systems and the cows. These proved to be good fodder for a fruitful discussion among the technical service people, dairymen and women, and other industry people in attendance, like yours truly. This discussion meet continued the next day with a tour of three farms currently using robotic milking systems (RMS) - two in the Finger Lakes and one in western NY. Both the discussion and the tour brought to light some interesting concepts regarding robotic milking systems. I managed to glean several pages of notes on these concepts, but I'll try to distill them down into something more manageable to take home. So here they are in no particular order.

- The three areas where RMS's can have the greatest influence are: feeding, cows, and labor.
- Feeding In any group situation some are underfed and some are overfed. In either case this is very inefficient, both economically and energetically. The Partial Mixed Ration (PMR) and the grain through the robot allow you to customize the diet to each cow which can increase feed efficiency. The general rule-ofthumb for formulating the PMR is herd or group production average minus 15 lbs. milk. Balance the remainder of the individual requirements with the grain in the robot. This prevents over- / underfeeding, but still gives the lower producers in the group some incentive to visit the robot. Some newer versions of the robot are allowing for dispensing of multiple feeds in multiple forms - liquid, mash, pellets, or a combination.
- Some unpublished comparisons of robotic manger sweepers vs. skid loader/tractor have shown a 3% increase in milk yield for the robot sweeper, as well as more consistent dry matter intakes (DMI) likely a function of feed availability. The robot also produces 75% less CO₂ and uses less than 10% of the energy. (I also wonder about the ancillary benefits of consistent DMI reduced slug feeding and subacute rumen acidosis, butterfat drops, lameness, DA's, etc.)



- Cows The RMS allows her individuality to shine. The boringly consistent process of prepping and milking is just what the cow ordered. She spends far less time standing than in a parlor setup -- when she's not eating or milking she's lying down (each hour of rest ≈ 3-5 lbs.) Real-time data is collected on every cow and deviations outside of "normal" are flagged for review. As such, symptoms of illness are detected earlier, and treatment regimens are often shorter and more effective.
- Labor On average, changing from a parlor to an RMS results in a 40% reduction in labor devoted to milking. This gives you the option of reducing the labor force, reassigning the labor to another enterprise, or increasing the herd size without increasing the labor force. Moreover, you can spend more of your time managing cows and less time on rote labor tasks. With the advent of 15/hr. minimum wage, an RMS will have a payback of 5-7 years based on labor costs alone. Furthermore, an RMS never shows up late, tired, drunk, or not at all. It also does not come with a difficult significant other. Some of the impetus for installing an RMS on the tour farms was because of a transient and unpredictable labor force. On more than one occasion did they deal with a sudden workforce reduction due to an ICE raid in the neighborhood.

- Of the three main milking systems parlor, pipeline, or RMS – RMS's tend to have the lowest total cost of ownership. Some of this may be a function of the self-diagnostics in the RMS programming. It will alert you to service issues when it is a nickel or dime fix versus waiting until it becomes a \$5 or \$10 fix. Add to this any lost production due to delays or poor performance.
- RMS's in sand bedded herds do require more repairs and maintenance than sawdust or straw bedded herds due to sand's abrasive nature. However, this only amounts to an average of \$250/RMS/year. If the RMS is servicing 55-60 cows and milk is \$15/cwt, this only requires a 0.1 lb./cow/day increase to break even. Many herds have seen an 8-10 lb. increase after switching to sand, so is sand worth it? Yeah!
- The better the stalls are maintained and the more comfortable it is the fewer fetch cows you'll have. We don't know why this is true, but it is what's happening out there.

Next month: more important tidbits on robotic milking.

Upcoming Webinars:

Annual Northeast Dairy Farm Summary

May 1, 11:00 a.m. - 12:15 p.m. *Presented by:* Chris Laughton, Director of Knowledge Exchange Farm Credit East <u>https://www.farmcrediteast.com/knowledge-</u> exchange/webinars

Calf Rearing Affects Lifetime Eating Behavior

May 14, 1:00 p.m. - 2:00 p.m. *Presented by:* Trevor DeVries University of Guelph <u>https://hoards.com/flex-309-Webinars.html</u>







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There's Still Time to Respond to the 2017 Census of Agriculture

SDA's National Agricultural Statistics Service (NASS) needs a Census of Agriculture response from ALL the nation's producers. In order to get an accurate representation of American agriculture - of all farmers and ranchers across the country - NASS will continue to accept completed census questionnaires through spring. NASS has heard that some producers need extra time due to planting, bad weather, or gathering documents for taxes and the census. All operations are important and every response matters. NASS is committed to giving producers every opportunity to be represented in these widely-used data. Federal law mandates that everyone who received the 2017 Census of Agriculture questionnaire complete it and return it even if not currently farming. NASS will follow-up via mailings, phone calls, and farm visits with producers who have not yet responded. To avoid these additional contacts, farmers and ranchers are encouraged to complete their census either online at



www.agcounts.usda.gov or by mail as soon as possible.

For more information about the 2017 Census of Agriculture, visit <u>www.agcensus.usda.gov</u>. For questions about or assistance filling out the census, producers can call toll-free (888) 424-7828.



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Performance of NYS Dairy Farm Businesses in 2017 – Early Results

By: John Hanchar and Joan Petzen

Please view these early results with caution -- the sample size is small at this stage of data collection, and farm size is large.

C ummary

- ▶ * While milk sold per cow declined 2.2 percent, milk receipts net of milk marketing expenses per hundredweight (cwt.) rose 7.9 percent in 2017 from \$16.21 in 2016.
- * In 2017, the total cost of producing a cwt. of milk was \$19.09, an increase of 4.6 percent relative to 2016.
- * As of February 7, 2018, preliminary results suggest that the same 36 New York dairy farms in Cornell University Cooperative Extension's Dairy Farm Business Summary (DFBS) Program achieved greater levels of profit in 2017 compared to 2016 -- for example, for 2017, the rate of return on all assets without appreciation averaged 3.7 percent compared to 2.2 percent in 2016.

Introduction

On February 7, 2018, staff at the Cornell University, Charles H. Dyson School of Applied Economics and Management compiled and released early, state level 2017 DFBS results. The results reported here represent averages for the same 36 New York dairy farms cooperating in 2016 and 2017.

Rates of Production

- * Milk sold per cow averaged 25,695 pounds in 2017 compared to 26,277 in 2016.
- * Hay dry matter per acre rose from 3.2 to 3.5 tons, while corn silage per acre rose from 17.5 to 18.3 tons.

Income Generation

- * Milk sales net of milk marketing expenses per hundredweight (cwt.) increased from \$16.21 to \$17.49.
- * Milk sales net of milk marketing expenses per cow increased from \$4,260 in 2016 to \$4,494 in

2017, an increase of 5.5 percent.

Cost Control

- * Dairy feed and crop expense per cwt. of milk decreased from \$7.39 in 2016 to \$7.26 in 2017, a decrease of 1.8 percent.
- In 2017, total cost of producing a cwt. of milk was \$19.09, an increase of 4.6 percent relative to 2016.

Profitability

- Net farm income without appreciation per cwt. of milk averaged \$1.73 in 2017, an increase of about 60 percent compared to 2016.
- * Rate of return on equity capital without appreciation rose from 1.4 percent in 2016 to 3.5 percent in 2017.
- * In 2017, the rate of return on all assets without appreciation was 3.7 percent, an increase of 68.2 percent relative to 2016.

Final Thoughts

Owners of dairy farm businesses cooperate in

Cornell University Cooperative Extension's DFBS Program for the purpose of identifying strengths and weaknesses by comparing their results of results to other cooperators. Are you interested in realizing the benefits of DFBS participation? Call us – for contact information, please see information at the front of this newsletter.

Articles in recent issues of <u>Ag Focus</u> reviewed the topic of farm business summary and analysis. If you are interested in improving your farm business' ability to practice sound financial management, then please

contact us to learn more about some of the tools available and their value and/or to discuss plans for completing a farm business summary and analysis for 2017. Owners of all types of farm businesses are encouraged to contact us. The NWNY team has the capacity and desire to work with a variety of farm businesses -- dairy (small, medium, and large; conventional; organic; grazing; and others), field crop, livestock, and others.



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Forage Quality & 1st Cutting

By: Jodi Letham

nowing the right time for 1st cutting chopping of hay crops can be a challenge. Harvest is not linked to a certain calendar date but instead is dependent on growing degree day accumulation (heat) and soil moisture. Now is the time to check your winter triticale's growth stage. Triticale should be harvested at Feekes 9-flag leaf stage for optimal quality. At this stage the collar of the flag leaf will be visible. Many fields across the region are just entering Feeke's stage 8. At stage 8 the flag leaf is just emerging from the top of the plant. Fields will need to be closely monitored over the next 2 weeks to ensure harvest occurs at the right time. Mike Stanyard put together a short video showing the optimal time for triticale harvest and how to determine Feeke's stage 9. https:// vimeo.com/129684323 If your triticale is at Feeke's stage 8 and the weather forecast doesn't look promising for you to wait for Feeke's stage 9, then go ahead and harvest it now.

Harvesting hay at the proper growth stage will also ensure high quality feed and hopefully can reduce the amount of grain supplemented in the feed ration. A guide and chart have been provided below to help you determine proper timing to obtain the highest quality forage.

Measuring the height of alfalfa has been proven to be the best indicator of harvest time for your local climatic conditions and individual fields. Predicting percentages of mixed stands can be difficult and a high percentage of people tend to overestimate the





Photo source: Jodi Letham

amount of alfalfa in the stand. Sampling and weighing the grass and alfalfa samples can help determine the mix percentage and train your eye to estimate hay mix percentage with more accuracy. Dr. Cherney of Cornell has developed an accurate system to assist in your percentage prediction at http://www.forages.org/index.php/tools-grassman.

Click on the grass, alfalfa-grass, or the alfalfa estimator to initiate prediction. You will be asked to enter in alfalfa height, percent grass, NDF target, and weather (normal, hot, cool) and the system will tell you how many days until your field, under your conditions will be at peak quality for harvest.

To help give the producer an idea of when to harvest first cutting, I will be out measuring alfalfa height to predict Neutral Detergent Fiber (NDF) for alfalfa, alfalfa-grass mixtures and grass stands in several fields across the 10 counties. Field locations will reflect the diversity of heat, elevation and soil moisture in the area.

<u>Height indicators of alfalfa and grass for NDF</u> <u>content are below:</u>

In general we say 100% grass stands should be cut when nearby alfalfa is 14 inches tall to achieve the desired 50% NDF. Producers should begin cutting 50/50 mixed alfalfa and grass stands when nearby alfalfa is 22 inches tall for the desired 44% NDF. Producers should begin cutting 100% alfalfa stands when alfalfa is 28 inches tall for desired 40% NDF.

Why is it important to look at NDF Digestibility in Dairy Nutrition?

Neutral detergent fiber digestibility will give dairy producers a more accurate estimate of total digestible nutrients (TDN), net energy (NE), and feed intake potential. An increase in NDF digestibility will generally result in higher digestible energy and forage intakes ultimately leading to an increase in milk production.

Maturity at harvest has the greatest influence on NDF digestibility. As forage matures, NDF digestibility declines. During the vegetative stage of growth in grasses and small grain forages, NDF digestibility is very high. However, when stem elongation occurs in grasses and small grain forage, NDF digestibility declines at a relatively fast rate. In legumes, NDF digestibility is lower than the grasses and small grains during the early vegetative stage of growth but has a more linear decline as it matures. So why does NDF digestibility decline with advancing maturity? With progressing maturity, plants develop more stems, fewer leaves so the leaf to stem ratio declines and as a result NDF digestibility declines because a greater portion of the total NDF is associated with the stem tissue. With the increased maturation of stem tissue more lignin is produced





throughout the plant. In particular, lignin is harder for a ruminant animal to digest.

Dairy producers who feed forages with higher NDF will allow for an increase in total digestible nutrients, net energy and feed intake, leading to an overall increase in milk production. High producing herds, herds that maximize forage feeding, and high-group cows will benefit most from forages with high NDF digestibility.

If you would like to part-take in my 1st cut monitoring program please e-mail me your name and field locations at <u>jll347@cornell.edu</u>

Wednesday Webinars in Spanish

Milking Routine SOPs & Mastitis Training

May 30, 12:30 p.m. - 1:00 p.m. Presented by: Paula Ospina

The Use of Antibiotics & Vaccines

June 13, 12:30 p.m. - 1:00 p.m. *Presented by:* Franco Francisco Leal Yepes

These webinars will be presented entirely in Spanish. No registration needed. Just go to the website: <u>https://prodairy.cals.cornell.edu/webinars/spanish-webinars</u> at the time of the webinar and clink "Join Webinar". Recordings will be posted to the website afterwards.

Management of Herbicide Resistant Horseweed (Marestail) in Soybeans

By: Mike Stanyard

This year's winter meeting circuit was loaded with herbicide resistant weed talks and lots of training to certify growers planning to use dicamba resistant soybeans. As the planting season is upon us, let's review a little on horseweed/marestail biology and strategies for starting clean and ending clean this year.

Many growers experienced this weed for the first time last year and it took many by surprise as they were figuring out what to do post-emergence. Unfortunately, in most cases there were no rescue options as most of our marestail populations are both glyphosate and ALS chemistry resistant. This will be a big year for marestail! Because of the wet spring in 2017 many acres did not get planted. Many of these fields were allowed to grow up into weeds, were unmanaged and ended up as solid marestail (see picture). Knowing that each plant can produce 200,000 seeds, the potential seed load blowing around our region was enormous.

Marestail Biology

Marestail can germinate twice during the season. In the fall (winter annual) and in the spring (spring annual. Those plants that germinated last fall, overwintered in the rosette stage and are in the field right now ready to get an early start. The remaining seeds that did not germinate will do so in the spring at the same time as our corn and soybeans are emerging.



Photo source: Donn Branton

Starting Clean

The key to marestail management is starting clean. The winter annual plants can be controlled in the fall with herbicides or tillage. Marestail is much easier to control in the rosette stage before it starts to bolt (elongate) in the spring. In the spring, complete tillage will take out the winter annual stage. However, some plants will still be untouched in reduced tillage or no-till system. In these cases, a herbicide burndown is necessary to "start clean." If you did not make it to the Soybean & Small Grains Congresses this winter you missed John Wallace of Cornell give a great presentation on marestail management. Below are some of his recommendations for burndown programs, days to planting restrictions and residual products that you should follow.

Spring Burndown Programs (adding effective modes of action in the tank w/ glyphosate)

Programs	Rate ¹
Glyphosate +	0.75-1.13 ae/ac 22-32 oz./ac WeatherMAX
2,4-D ester	1-2 pt./ac
or dicamba	0.5-1 pt./ac
or/& Sharpen ²	1-2 oz./ac

¹Marestail size dictates product rates and product rates dictate planting restrictions. ²Use of Sharpen influences residual program.

Days to Planting Restrictions for Burndown Products

Product*	SOA	Rate	Days to Planting
2,4-D ester (LVE)	4	1 pt./ac	7 d
2,4-D ester (LVE)	4	2 pt./ac	15-30 d
Clarity/Banvel	4	0.5 pt./ac	14 d
Clarity/Banvel	4	1 pt./ac	28 d
Sharpen	14	1 oz.	No waiting period
Sharpen	14	2 oz.	30 d

* Higher rates are necessary if horseweed has bolted at the time of burndown. If still small rosettes, lower rates can be used which shortens the days to planting restriction.

Residual Products for Extended Marestail Control

Herbicide ¹	SOA	Products in Mixture
Valor SX or EZ	14	Single active
Surveil	14/2	Valor/FirstRate
Trivence	14/2/5	Valor/Classic/Metribuzin ²
Valor XLT	14/2	Valor/Classic

¹Do not tank mix w/Sharpen in burndown program. Sequential applications with PPO's (SOA 14) must be spaced 14 d apart to avoid soybean injury. ²Metribuzin has marestail activity & improves control. Classic & FirstRate have activity on marestail is ALS susceptible

Liberty-Link and Dicamba Tolerant Soybeans

LL tolerant soybeans have been used in the region for the past couple of seasons and have provided very good control of herbicide resistant marestail under extreme weed populations. Liberty provides an excellent post control option of marestail not controlled with a burndown.

Dicamba tolerant soybeans came on-board last year in NY and provided good control on the few farms that I visited. A lot of dicamba tolerant soybean seed was purchased in NY this year and lots of growers went through trainings to get their dicamba certificate to be able to spray it. We have three



RSVP by: May 15

To register, contact: Cathy Wallace cfw6@cornell.edu or 585-343-3040 x138

Join us as we walk the pastures and discuss Garry's goals & suggest improvements. We will relocate to his farm for further discussion and refreshments.

products that can be sprayed: Engenia, XtendiMax and FeXapan. There are lots of restrictions that need to be followed to responsibly prevent drift situations on non-host crops. Remember: the label is the law. When using Xtend soybeans, Clarity and Banvel in a burndown program would be off label. This product isn't for everyone out there! Hopefully those that end up spraying these products do so carefully to keep this management tool viable as we move forward.

For additional marestail management information visit the Take Action on Weeds site, https:// iwilltakeaction.com/weed/horseweed.



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Save the Date...

May 2018

- 5 Beef Quality Assurance Training, 10:00 a.m. 2:00 p.m., New Beginnings Fellowship Church, 4377 Route 78, Gainesville. Chuteside Portion: Wilmar Farm, 3532 Mote Road, Gainesville. Cost: \$15 per person / \$25 per farm. RSVP by May 1 to reserve lunch. Contact Cathy Wallace at cfw6@cornell.edu or 585-343-3040 x138. QUESTIONS??? Contact Nancy Glazier at 585-315-7746 or nig3@cornell.edu
- 17 Pasture & Farm Walk, 6:30 p.m. 9:00 p.m., Garry Wilson, 8962 Transit Road, Stafford. Cost: \$10 per person. 0.1 mile south of Main Street (Route 5), at the old RR right of way. Follow the signs. RSVP by: May 15th. To register, contact: Cathy Wallace at cfw6@cornell.edu or 585-343-3040 x138.
- 28 *Memorial Day*, Office closed
- 30 *Wednesday Webinars in Spanish, Milking Routine SOPs & Mastitis*, 12:30 p.m. 1:00 p.m., No registration needed. Webinar presented entirely in Spanish. Just go to the website: <u>https://prodairy.cals.cornell.edu/webinars/spanish-webinars</u>

June 2018

- 1-2 *Wool Pool*, 9:00 a.m. 4:00 p.m., Washington County Fair Grounds, 392 Old Schuylerville Road, Greenwich 12834
- 2 **Beef Quality Assurance Training**, 9:00 a.m. 12:00 p.m., Tullyfergus Angus, 8974 Clyde Marengo Road, Lyons. \$5/person (no lunch), For more information: Nancy Glazier at 585-315-7746 or nig3@cornell.edu
- 7 **Small Grains Management Field Day (CUAES)**, 9:30 a.m. 12:00 p.m., Musgrave Research Farm, 1256 Poplar Ridge Road, Aurora. For more information contact: Jenn Thomas-Murphy at 607-255-2177 or jnt3@cornell.edu
- 13 Wednesday Webinars in Spanish, The Use of Antibiotics & Vaccines, 12:30 p.m. 1:00 p.m., No registration needed. Webinar presented entirely in Spanish. Just go to the website: <u>https://prodairy.cals.cornell.edu/webinars/spanish-webinars</u>

July 2018

- 4 Independence Day, Office closed
- 10-14 Yates County Fair, 2370 Old 14A, Penn Yan. For more information: www.yatescountyfair.org
- 12 *Aurora Farm Field Day*, 9:30 a.m. 3:30 p.m., Musgrave Research Farm, 1256 Poplar Ridge Road, Aurora. For more information contact: Jenn Thomas-Murphy at 607-255-2177 or jnt3@cornell.edu
- 16-21 Genesee County Fair, 5056 East Main Street Road, Batavia. For more information: www.gcfair.com
- 17-21 *Livingston County Hemlock Fair*, 7370 Fair Street, Hemlock. For more information: www.hemlockfair.org
- 18-21 Seneca County Fair, 100 Swift Street, Waterloo. For more information: www.senecacountyfairny.com
- 23-28 Orleans County Fair, 12690 State Route 31, Albion. For more information: www.orleans4-hfair.com
- 24-28 Ontario County Fair, 2820 County Road #10, Canandaigua. For more information: www.ontariocountyfair.com

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