A partnership between Cornell University and the CCE Associations of Allegany, Cattaraugus, Chautauqua, Erie and Steuben Counties.

Crops, Cows & Critters Newsletter
Volume 3 · Issue 4 · April 2022
(USPS #101-400)
Cornell Cooperative Extension of Chautauqua County
Subscription included in minimum of $65 Program Participation fee.
Periodical Postage Paid at Jamestown, NY 14701. “POSTMASTER: Send address changes to the: Chautauqua County Extension Connection at 525 Falconer St. JCC Carnahan Center, PO Box 20 Jamestown, NY 14702-0020.”

“Cows, Crops, and Critters Newsletter” by the Southwest New York Dairy, Livestock, and Field Crops Program with Cornell Cooperative Extension in partnership with Cornell University and the five county region of Erie, Chautauqua, Cattaraugus, Allegany, and Steuben and their CCE Associations.

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 and 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. Newsletter layout and design by Katelyn Walley-Stoll.

Announcement Coming Soon -
Our New Field Crops Specialist will Be Starting this Summer!

County Association Executive Directors

<table>
<thead>
<tr>
<th>County</th>
<th>Name</th>
<th>Contact Information</th>
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County Association Agriculture Educators

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<td>Erie County</td>
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<td>Allegany County</td>
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<td>Camila Lage</td>
<td>Dairy Management <a href="mailto:cd546@cornell.edu">cd546@cornell.edu</a> 607-422-6788</td>
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Crops Cows & Critters newsletter

For accommodations or accessibility concerns, please contact our specialists at least one week prior to the scheduled event. If you need information provided in a different format, call 716-640-0522.
The milk price outlook for 2022 has been a welcomed change over the past couple of years. Increasing the number of cows in the herd may be a way to capture the benefit of high milk prices. However, feed prices and animal behavior should also be considered.

**Stocking Density Economics:** The economics of stocking density can be evaluated by determining the farm's profitability per stall or space. Each cow added to a pen will add revenue and costs. Economic optimal stocking density is reached when total revenue per stall equals the total cost. However, every added cow will decrease the performance of the original cows in the pen. Performance reduction needs to be considered when calculating revenues. Research out of the University of Florida found that milk and feed price drive the profitability of stocking density. Only when milk price is high and feed costs are low will higher stocking rates (150%) become feasible. Unfortunately, the outlook on feed prices for 2022 is similar to milk prices, high. Ideal stocking rates presented by the Florida research were around 120% in the scenarios presented in the study. Additional research has shown that stocking rates greater than 120% can decrease animal welfare.

**Lying Space = Lying Time:** When having available access to lying space, cows spend 10 to 14 hours a day lying down. Research has shown an increase in stocking density leads to a decrease in lying time. One study found that a one hour increase in lying time resulted in an increase of 3.7 lbs of milk production. High stocking density can also reduce rumination time and increase stress.

**Consider More Than Lying Space:** Feedbunk or water space might be the most limiting area of the pen. Overcrowding at the feedbunk and waterers has been shown to decrease dry matter intake. Reducing 1lb of dry matter intake can decrease milk production by 2 lbs. Increased stocking density can also lead to more time in the holding pen and parlor. Spending more than 4 hours from feed and water per day has a significant impact on dry matter intake.

**Avoid Overstocking Transition Cows:** Overstocking close-up dry cows and fresh cows can affect cow performance in the coming lactation. Limiting stocking densities to 80% can decrease the risk of transition cow diseases and increase milk production. An increase in 10% stocking density can decrease milk yield by over 1.5 lbs per day throughout the next lactation.
For every 1 pound of pre-weaning average daily gain, heifers produced 850 to 1,113 pounds more milk during their first lactation.

The pre-weaning piece. It should come as no surprise that the pre-weaning stage of a heifer's life has a big impact on first-lactation milk production. After all, most producers are aware of research from Cornell University showing that, for every 1 pound of pre-weaning average daily gain, heifers produced 850 to 1,113 pounds more milk during their first lactation. Similar results were found in studies from Penn State University and the University of Minnesota. However, positively impacting first-lactation milk production goes beyond simply feeding more milk to maximize pre-weaning growth rate. In fact, the studies from Penn State University and the University of Minnesota discussed large amounts of variation in the observed responses. They pointed out that even though pre-weaning growth rate was a significant predictor, a vast majority of the first-lactation milk production response could not be explained by pre-weaning growth rate. This means many factors - in addition to pre-weaning growth rate - impact first-lactation milk production.

What better place to start than colostrum? The importance of good colostrum management is often one of the first topics to come up in conversation among producers, nutritionists and veterinarians. Recent research from Poland has shown that heifers fed high-quality maternal colostrum with initial serum total protein greater than 6 grams per deciliter produced about 3,427 pounds more milk in their first lactation than those with lower initial serum total protein. One of the many reasons for this observed response is likely tied to improved health of calves with increased serum total protein. Healthy calves would be expected to produce more milk in their first lactation. Researchers from Penn State University confirmed these expectations. Their research showed that as the number of days a heifer spent ill increased, her first-lactation milk production decreased. This research also stresses the importance of treating sick animals quickly and appropriately to minimize their days spent ill. Starter grain intake is another factor within this phase of a heifer's life that deserves mentioning. While the Cornell University study did not evaluate the impact of starter intake, the other aforementioned studies did, and they all found it to be positively associated with first-lactation milk production. One study from Penn State University showed starter intake had the greatest positive effect on first-lactation milk production. The other Penn State University study showed the predicted milk response more than doubled when starter intake was included in the model. This demonstrates that first-lactation milk production is more greatly impacted when heifers have improved growth from consuming both milk and starter as opposed to improved growth from milk alone.

The pre-pubertal piece. The pre-pubertal stage of a heifer's life is roughly defined as 4 to 10 months of age (or from the time shortly after weaning to puberty onset). Generally, heifers of this age don't require much attention. As such, they often go unnoticed, and producers may be unknowingly impacting first-lactation milk production. A meta-analysis conducted by Penn State University found that growing heifers from 1.8 to 2 pounds per day during this period maximized first-lactation milk production. This is likely due to the impacts growth rate has on mammary development during this piece of a heifer's life. Growth rate after puberty has not been shown to significantly impact milk production.

If you’d like assistance reassessing your heifer rearing system and calf protocols, please feel free to reach out to Camila Lage at cd546@cornell.edu or 607-422-6788.
Magnets are cheap insurance to help bind metal and limit its chances of puncturing the reticulum.

First-lactation milk production is more greatly impacted when heifers have improved growth from consuming both milk and starter as opposed to improved growth from milk alone.

The freshening piece. The freshening stage of a heifer's life is largely impacted by bodyweight and age at freshening. It has been established for quite some time that heifers should be 85% mature bodyweight and 22 to 24 months of age at freshening. Most producers are likely familiar with these targets and should be working toward them, although there has been some recent pushback. Recent research indicates body condition may impact heifer performance in addition to bodyweight at calving. Research conducted by the University of Florida and Penn State University concluded that heifers should be 73% to 77% of their mature bodyweight at calving. They came to this conclusion because heavier heifers in their dataset did not last in the herd as long and, therefore, gave up lifetime milk. The heaviest heifers also experienced the greatest amount of post-freshening bodyweight loss. This may indicate the reason heavier heifers did not perform as well is because they were over-conditioned. Producers should continue targeting 85% mature bodyweight, while keeping an eye on body condition to dial in first-lactation milk production and longevity. Considerable research continues to show that freshening heifers at 22 to 24 months of age is the economic sweet spot. It gets expensive to leave heifers on feed past 24 months. Although the reasons aren't yet clear, heifers freshened prior to 22 months don't produce as well, even when they hit target bodyweights. There simply appears to be a physiological limit to how early heifers can be freshened and still perform at peak levels.

Completing the puzzle. At this point, it should be readily apparent that many puzzle pieces in the heifer growing process impact first-lactation milk production. A lot happens in the life of a heifer before she freshens, and producers may be capping their potential if they don't carefully consider each piece of the growing process. A jigsaw puzzle isn't completed until the last piece is put in place. Likewise, all the pieces of the heifer growing process must be put in place and properly executed to optimize first-lactation milk production.

BEEF X DAIRY WORKSHOP

Given the challenging conditions within the dairy industry today, dairy farmers are seeking solutions to enhance their bottom lines. Replacement animals typically account for 15 to 20 percent of milk production costs, but advancements in reproductive management on many farms resulted on an oversupply of dairy replacement heifers relative to anticipated herd needs, which has contributed to economic strain for many dairies. Although the use of beef semen on dairy animals has the potential to benefit the whole supply chain, feedback from growers and meat packers suggests that crossbred animals can be extremely variable in health, growth, performance, and carcass traits, which is not beneficial to the beef industry. Fine-tuning semen selection by seeking bulls with complementary genetic traits to dairy cows and making sure crossbred calves are treated optimally from birth may increase profits for dairy and beef producers, making more beef available to communities in our region. Join CCE SWNY for a Beef x Dairy Workshop to talk about Economics of Adopting Beef x Dairy on your Herd, Assuring the Market Value of Crossbred Calves and more.

When: Wednesday, April 27th, 2022
Location: Howard Community Center,
7481 Hopkins Rd, Avoca, NY 14809

For more details, check out the flyer on page 19.
I recently attended the National Extension Risk Management Education Conference in Omaha, NE (doesn’t sound exciting, but I promise that it was!). In the midst of topics related to financial analysis, succession planning, and sound farm practices were several outstanding speakers sharing research-based information on one hot topic – Carbon Credits.

Interestingly enough, we’re not seeing a huge pick up here in New York, but I am getting a lot of questions on the topic. As with any new program or initiative, there are always those early adopters that jump right in and can either see a really big payoff or troubleshoot all of the frustrations for the rest of us. However, even more so with this topic, it does seem like there are some pretty big issues at play, and the “opportunity cost” of being an early adopter might be higher than expected.

First, some background information from Iowa State University: “A carbon credit is a tradable asset (similar to a certificate or permit) that represents the right to release or emit carbon into the atmosphere. Carbon credits are created when entities (compared to a set baseline) reduce their carbon emissions or sequester carbon.” So, companies can pay people to sequester carbon on their behalf (or pay a third-party aggregator). Farmers, and their carbon sequestering agricultural practices are one of their primary targets/partners. These transactions take place on the voluntary market.

For some, selling carbon credits can be a helpful and efficient way to boost/diversify farm income. Especially since most of the practices that are used to sequester carbon also provide added soil health and additional benefits to the farmstead. Now, here are some key considerations and questions that you should consider before jumping right in.

1. **Additionality.** Most companies will only pay for newly adopted carbon-sequestering practices. For farms that are already implementing practices like no-till, cover cropping, creating permanent pasture in marginal crop production fields, or reducing fertilizer applications – additionality means they won’t qualify for selling carbon credits. Unfortunately, the hope of future carbon credits prevents some farms from implementing these soil-saving, best management practices while leaving behind those who have already done the work. Some companies will offer a one-time “look back” which will pay for practices adopted within the past 2-5 years.

2. **Complexity of Payments.** Every carbon market entity handles payments for carbon credits differently. Some will offer portions of the payment up front, after the first growing season, or within their annual lease agreements. However, others might hold portions of payment for 5+ years to ensure continued compliance. Another consideration is the type of payment. While some will simply mail a check, others might offer stock, purchase credits, “tokens”, or even cryptocurrency.

3. **Stacking.** Usually, fields that are enrolled in a carbon credit program will not be eligible for other

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Have you been approached to sell your farm’s carbon credits? What types of payments were offered? Would that additional income outweigh the costs of changing your farm’s practices?

Looking for more information about Carbon Credits - try a search on Google by typing in “Carbon Credits for Agriculture” but add “EXTENSION”. This will bring you University released resources.
government programs or other environmental credit markets. So, if you enter into a contract selling carbon credits, and another program comes along offering payment for adopted practices, you won’t be able to use those fields in the new program for a certain length of time (set in your contract). Those new programs might offer even more incentive or fit your farming practices better.

4. **Permanence.** Carbon Credit contracts can last anywhere from 1 to 10 or even 20 years. Over the length of the contract, the implemented practice will likely need to stay in place or there may be penalties and fees involved. This is an important consideration as it might take a much needed tool out of your toolbox – lost for decades like your 10mm socket. If you, for example, have an herbicide resistant weed pop up in a no-till field, how will you manage the growing weed pressure without tillage? It’s not impossible, but it does bring up some interesting management decisions. What if your farm changes production or diversifies into new crops? What about your succession plan and future farm ownership?

5. **Data Management.** When selling credits, a lot of sensitive farm data will be collected. This will include things like contact information, historical cropping practices, yields, and values. It’s important to clarify how your data will be protected and how it will be handled. In some situations, companies may want to share, use, or sell your data to other entities.

6. **Determining Payments.** In addition to how you’ll get paid, there are some complexities with how much you’ll be paid. What type of process will be used to submit soil samples or prove that carbon has been sequestered – and to measure that carbon? Some companies will have a price floor, some will pay market value, some will spread payments out over a period of time. Will you be paid a set per-acre rate, or will that vary by the amount of carbon you sequestered?

I think that it’s safe to say that we all see the challenges of climate change in our work every day. Sequestering carbon, and implementing best management practices in field crops production systems, will benefit soil health, farm production, and the environment as a whole. Yet, as with most things nowadays, it’s important to utilize technical advisors and **SOUND LEGAL COUNSEL** when considering entering the Carbon Credit Market. The starting contracts that are out there are drafted by the purchasing companies and will always put their interests first – having someone on “your side” to ask questions, challenge clauses, and clarify details will be key before locking into a multi-year contract agreement.

*This information is for educational purposes only and is not a substitute for sound legal counsel. Cornell Cooperative Extension is dedicated to providing research-based information to our agricultural producers. Every effort has been made to provide correct, complete, and up-to-date recommendations. Changes occur constantly and human errors are possible.*

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**NYS HERO Act Plans No Longer in Effect**

From Cornell’s Agricultural Workforce Development Program

New York State employers are no longer required to implement their workforce safety plans. The NYS Department of Health removed the designation of COVID-19 as a serious risk to public health on March 17. As a reminder, employers need to have a HERO Act ready to go, but it can be put on the shelf when a public health threat is not identified by New York State.

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**APRIL UPCOMING EVENTS**

**April 14th, 2022, 7-8:30 PM**

*Beef Marketing Webinar Series presented by the NY Beef Council: Adding Value to Your Marketing Display - online*

**April 21st, 2022, 7-8:30 PM**

*Navigating, Valuing, and Negotiating Land Leases—online*

**April 23rd, 2022, 9:30AM- 3:30PM**

*2022 Forage & Pasture Management Workshop*

**April 27th, 2022, 5-8:00 PM**

*Beef x Dairy Workshop - In person Howard community center*

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Questions? Contact Katelyn Walley-Stoll, Farm Business Management Specialist at 716-640-0522 or kaw249@cornell.edu.
What does this program do?
The Meat and Poultry Processing Expansion Program (MPPEP) provides grants to help eligible processors expand their capacity. USDA Rural Development designed the MPPEP to encourage competition.

Who can apply for this program?
Sole proprietor businesses or other entities that engage – or want to engage – in meat and poultry processing.

What is the maximum grant amount?
The maximum award amount is $25 million, or 20 percent of total project costs, whichever is less. There is no minimum award amount.

Applications are due by May 11, 2022.

How can funds be used?
Grant funds can be used to expand processing capacity by supporting activities such as:
- Building new – or modernizing or expanding existing – processing facilities. Developing, installing, or modernizing equipment and technology
- Ensuring compliance with packaging and labeling requirements
- Upholding occupational and other safety requirements
- Modifying facilities or equipment to protect food safety
- Paying for voluntary grading services on value-added processed products
- Offsetting costs associated with becoming an inspected facility
- Supporting workforce recruitment, training, and retention

USDA AMS Meat and Poultry Inspection Readiness Grant Now Accepting Applications

The Meat and Poultry Inspection Readiness Grant (MPIRG) program assists currently operational meat and poultry slaughter and processing facilities in obtaining a Federal Grant of Inspection under the Federal Meat Inspection Act (FMIA) or the Poultry Products Inspection Act (PPIA); or to operate as a State-inspected facility that is compliant with FMIA or PPIA under a respective Cooperative Interstate Shipment (CIS) program.

Applications are due May 24, 2022.

The MPIRG focuses on:
- Improving meat and poultry slaughter and processing capacity and efficiency;
- Developing new and expanding existing markets;
- Increasing capacity and better meeting consumer and producer demand;
- Maintaining strong inspection and food safety standards;
- Obtaining a larger commercial presence; and
- Increasing access to slaughter/processing facilities for smaller farms and ranches, new and beginning farmers and ranchers, socially disadvantaged producers, veteran producers, and/or underserved communities.

More details about the program can be found by going to this webpage: https://www.ams.usda.gov/sites/default/files/media/2022_MPIRG_RFA.pdf.
FREE WEBINAR FOR FARMERS & LANDOWNERS

NAVIGATING, VALUING, AND NEGOTIATING LAND LEASES

As the cost of owning land rises, and farm profitability tightens, now's the time to evaluate the role that leased and rented land plays on our local farms - and our bottom lines. Join Farm Business Management Specialist, Katelyn Walley-Stoll, to learn more about the considerations and resources that are available for evaluating and executing your land lease options. Topics of discussion include written lease agreements, determining "fair" rental rates, and communication strategies.

Free to attend, but registration is required.

PRESENTED VIRTUALLY VIA ZOOM. REGISTER & RECEIVE A RECORDING, EVEN IF YOU CAN'T ATTEND LIVE.

THURSDAY, APRIL 21ST, 2022
7PM - 8:30PM

register: tinyurl.com/LandLease22
**Stages of labor**

1- Preparation: Cervix and birth canal begin to dilate

Common signs include restless behavior, isolation from the herd, raised tail head, swollen vulva, vocalization, full udder, and mucus discharge. Usually lasts 2-6 hours. Examine the cow/heifer if you do not notice any progression to stage 2 after 4 hours.

2- Delivery stage: Cervix fully dilated, and calf moves through the birth canal:

Starting with a fully dilated cervix, the appearance of the membranes (water bag), and abdominal contractions are evident. A few minutes later (~15-20 min) calf’s leg become visible. *(Learn when to intervene on page 2).*

3- Expulsion of the fetal membranes stage:

Usually happens 8-12 hours post-calving, and if it takes longer than 24 hours, it is considered retained placenta. Risk factors are dystocia, twinning, induction, hypocalcemia (milk fever), and abnormally long or short pregnancies.

DEVELOPMENT: DETERMINING IF THE COW/HEIFER NEEDS YOUR HELP

4 tips that dramatically affect the outcome of delivery

1. **Observe**
   - The recommended frequency of observation is every 1 hour. Once a cow/heifer is in stage 2 of labor, the frequency of observation should increase to every 30 minutes.

2. **Knowing when to intervene**
   - The water sac has been visible for 2 hours, and you have not seen progression (the cow is not trying);
   - If the cow has been trying for over 30 min and making no progress;
   - Cow quit trying for more than 15-20 min after a period of progress (rest shouldn’t last >5-10 min);
   - Cow or the calf is showing signs of stress or fatigue (swollen tongue on the calf, yellow staining of the fetus, or severe bleeding from the rectum of the cow);
   - If you suspect the calf has abnormal presentation, position, posture.

3. **Determining if the calf can be delivered by forced extraction**
   - Once you have decided to intervene, you should palpate the calf and birth canal to determine if the calf is alive and 2) if it can be delivered through the birth canal.
   - Know when to pull and when to quit
   - Be sure to always correct malpositions before pulling. Talk to your veterinarian about the best ways to intervene.

4. **Know when to call for professional assistance**
   - You cannot access the problem;
   - You know what you are dealing but you do not know how to fix it;
   - You have been trying to correct the problem for 30 minutes and have not made any progress.
Dairy Market Watch

March 2022

An educational newsletter to keep producers informed of changing market factors affecting the dairy industry.

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**Dry Products:** The low/medium heat nonfat dry milk price ranges in the West and Central/East both contracted this week. Industry contacts say trading was limited, due to scarcity of supplies and quiet demand. West. Nationwide dry buttermilk prices shifted higher this week. Demand is picking up ahead of spring baking, but inventories are tight. The national dry whole milk price range is steady on light trading activity.

**Cheese:** Cheese demand is noted as hearty in all regions. Until recent weeks, hesitant customers were awaiting potential downward pressure on prices. Now, they are actively seeking out cheese to refill pipelines, and get ahead of bullish price movements. Western suppliers are busily filling orders for Asian buyers, as domestic cheese prices remain a bargain to global values. Labor and hauling remain problematic, although cheesemakers who can run full (or near-full) schedules are busy.

**Butter:** Butter makers say cream supplies are accessible, but availability is tightening. Cream demand is strong as output ramps up for ice cream and other cream-based seasonal products. Multiples are pushing upward, and some Eastern butter producers are opting to pause churns this week to sell cream. Some plant managers are working to grow butter inventories while others feel current supplies are satisfactory. Food service sales are steady to stronger.

**Fluid Milk:** Across much of the United States, milk production is increasing seasonally. However, when compared to last year, current milk production is not measuring up in many regions. Industry contacts suggest that steady volumes are clearing into Class III and IV. Bottling demand is steady to lower as numerous educational institutions are on their spring breaks. Retail orders are trending up, although some Central market participants relay lighter than anticipated demand at this point in the season.

**February 2022 Retail Prices (FMMO):** U.S. simple average prices are: $4.02 per gallon for conventional whole milk, $3.97 per gallon for conventional reduced fat 2% milk, $4.39 per half gallon organic whole milk, and $4.39 per half gallon organic reduced fat 2% milk.

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### Dairy Commodity Markets

(Excerpt from USDA Dairy Market News – Volume 89, Report 12, March 25th, 2022)

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**February Utilization (Northeast):** Class I = 31.0%; Class II = 23.6%; Class III = 28.3%; Class IV = 17.1%. 

Class I = fluid milk; Class II = soft products, cream, and yogurt; Class III = cheese (American, Italian), evaporated and condensed products; Class IV = butter and milk powder.

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**Friday CME Cash Prices**

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<tr>
<td><strong>Cheese (40# Blocks)</strong></td>
<td>$1.94</td>
<td>$2.15</td>
<td>$2.19</td>
<td>$2.13</td>
<td>$2.27</td>
</tr>
</tbody>
</table>

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February’s Albany $/gallon paid to farmers was $1.99. This is the highest it’s been since November 2014.

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For more information on Dairy Business Management and Market Analysis, contact Katelyn Walley-Stoll, Farm Business Management Specialist, at 716-640-0522 or kaw249@cornell.edu.
In the past month, we’ve continued to see (and expect) strong prices across all classes. In January 2022, the actual all-milk price was $24.20, the sixth highest monthly all-milk price in history. We’ve continued to see lower than projected total milk production, and slightly increasing global and domestic product demand, which will continue to shape 2022 as an excellent milk price year. USDA’s all milk price forecast has jumped $1.50 higher than last month’s, up to $25.05/cwt. This is in response to continued slowing of milk production.

USDA is projecting the first year-over-year decrease in milk production since 2009 as we continue on our downward production trend. In February, milk production decreased .7% from a year ago. USDA has lowered last month’s export projections on milk-fat and skim-solid bases. January saw low levels of exports and 2022 dairy exports on a milk-fat basis have been lowered by 0.1 billion pounds lower to 10.9 billion pounds. Russia’s continued invasion of Ukraine, and the lasting effects, have made most market outlooks uncertain and volatile, for which dairy is no exception. While neither Russia nor Ukraine are large dairy exporters, Russia does import large amounts of dairy products from nearby countries. This disrupts the entire global market and will decrease our overall export opportunities.

On the feed side of things, Ukraine is a major exporter of corn and wheat which will continue to raise those commodity prices globally. Another aspect that is already hitting hard is higher input costs for things like oil, gas, and fertilizer. Russia is a major exporter of these products and it will have several implications for US dairy producers. Domestically, this will affect the profitability potential for dairy farms in spite of the anticipated high milk prices. Continuing to manage cost of production, input efficiency, and interest rates will be extremely important themes for 2022.

Another aspect of rising costs and inflation is that of domestic dairy purchases. Historically, as costs rise and consumer pockets lighten, dairy purchases decrease. Consumers at the dairy case may choose limited products and eating out will absolutely be limited, slowing the recent wholesale/food service demand we’ve seen as things open up, schools run at full capacity, and large conferences and events return.

So, in similar sentiment from last month’s Dairy Market Watch, continued trends of lower than average increases in milk production will continue to drive milk prices positively. However, the margin will continue to tighten as input costs skyrocket.

Resources/More Information:
Forage Shrink Costs More When Inputs Are High
By Joe Lawrence and Ron Kuck for PRO-DAIRY.

As the 2022 growing season approaches there is no shortage of discussion on the high and volatile prices of inputs for crop production.

While the industry is continually looking to advance practices and become more efficient, these are long-term goals that are not likely to yield meaningful results in addressing rapid changes to inputs from 2021 to 2022. A common theme is there is no magic solution and if something new is suggested that seems too good to be true, it probably is. As always, the potential to mitigate these challenges comes from the use/adoption of current sound management practices.

This same concept applies to our management of forages in the harvest and storage phases. There is little in terms of drastic changes from 2021 to address forage harvest; however, many opportunities remain to evaluate management practices and look for opportunities to combat increased cost. More broadly this ties into evaluating your forage system to develop strategies to ensure quality forage for the entire dairy herd. Furthermore, as supplemental feeds are also experiencing price uncertainty, high quality forages offer an opportunity to combat high commodity prices.

Some level of silage shrink is unavoidable, which is attributed to dry matter (DM) losses through the fermentation process itself. In the best scenarios this is near 10 percent. The real opportunity exists in all the other areas of the ensiling process where both yield and quality are lost. Many of those practices outlined below also help to assure the best possible fermentation which helps reduce the fermentation losses to the lowest practical levels.

Harvesting forage at the optimum quality and working to manage for the weather, rather than letting the weather disrupt plans, is critical. Considerations for upfront planning that can increase the chances of success when harvest time does arrive can be found at dynamic harvest scheduling and corn silage hybrid considerations: relative maturity and traits. The threat for losses in the hay harvest process are greater than in corn silage though both systems are susceptible to losses.

Respiration losses can be minimized by shortening the time mowed hay remains in the windrow prior to harvest. One of the most significant management factors to control this is maximizing windrow width to allow as much exposure to sunlight as possible. Windrows should be a minimum of 80 percent of cutter bar width and preferably more.

Other factors to consider include:
- **No conditioning.** Some studies show no conditioning speeds the drying process for silage, but it is not recommended for dry hay production. It also tends to be more beneficial in alfalfa than high yield grass.
- **Increase cutting height.** Increasing cutting height comes with the tradeoff of leaving more material in the field but can result in higher quality and less overall harvest losses. This outweighs the extra stubble left in the field, particularly in spring when the ground is still wet, which slows drying.

Speeding the drying process has the additional benefit of reducing weather associated risk. Dry matter losses from hay that is rained on in the windrow is reported to range from three to 50 percent, with as little as 0.2 inches to 2.0 inches, respectively. The worst-case scenario is when hay is left in the windrow for several days but still must be ensiled at a lower than desired DM. At this point much of the sugar is gone but the forage is still too wet, which is a leading cause of poor fermentation and butyric acid production.

**Leaf loss.** Particularly with legumes, leaf loss through tedding, raking, and harvesting can be significant, reducing both quality and yield. Losses are generally most significant when the crop becomes too dry prior to the completion of these tasks. Practices to encourage uniform and rapid drying of the windrow mentioned prior, as well as proper setup of hay handling equipment, will minimize these losses. Finally, harvesting at the correct DM, will minimize losses.

**Transportation losses.** Losses during the transportation process may seem insignificant; however, they too can add up, particularly in drier silages and when transported at higher speeds as is more common with the increasing use of dump trucks and tractor trailers. Additionally, they can create safety and public perception concerns when forages blow.

*Hay that is dried for too long can result in leaf shatter as it’s prepared and baled—a loss of valuable protein and energy.*

*Harvesting forage at the optimum quality and working to manage for the weather, rather than letting the weather disrupt plans, is critical.*
onto roadways. Evaluate the use of forage box covers to minimize these losses.

**STORAGE.** After managing the hurdles to get the maximum yield and quality out of the field, storage represents the next challenge and opportunity. Managing these opportunities starts as soon as the forage is delivered to the storage and continue through feedout. Horizontal silos (bunk and drive over piles) continue to gain popularity given their logistical advantages for large quantities of forage but can also present the most challenges to maintain forage quantity and quality. Success with storage starts with pre-harvest planning of how and where forage will be stored with considerations for both preserving yield and quality as well as access to different feeds for different groups of animals.

**Forage Dry Matter.** Ensiling at the proper DM is critical to achieve a proper fermentation. For most silages, a forage DM close to 35 percent is recommended to optimize yield, quality, and fermentation. Though this can differ by storage structure, with a slightly greater DM generally favored for upright silos and baleage.

**Excluding air and water.** Oxygen and water, essential to life, are enemies of forage fermentation. It is critical to drive as much oxygen out of the fresh forage as possible to achieving a high density. Further, this is beneficial to maximize the quantity of forage stored in a given footprint and at feedout in preventing oxygen infiltration into the exposed feeding face of the silage. Exposure to outside water (rain) also leads to significant risk of spoilage and should be excluded from the time of ensiling to feedout. When properly set up and maintained, storage options such as upright silos, silo bags, and baleage achieve the exclusion of air and water in a single process.

Silo bags – Be sure to follow manufacturers guidelines for proper filling and density of a silo bag, and monitor bagger pressure and bag stress throughout the filling process.

Baleage – Increasing bale density is positively correlated with the feedout life of the bale indicating that denser bales experience a better fermentation and result in a more stable feed. After making a quality bale, ensiling should happen as quickly as possible following the forage being baled.

Horizontal Silos – Forage preservation is much more dependent on management decisions in horizontal silos than silo bags and baleage where the harvesting and ensiling equipment play a larger role. Here again success starts with pre-season planning to ensure an adequately-sized and structurally-safe storage area, as well as adequate labor and packing weight to accommodate expected forage delivery rates with additional information available in achieving and measuring silage density. Staff should be properly trained on the importance of safe and proper filling procedures with emphasis on layer thickness, safe slopes, and choreographing multiple pieces of equipment in a small area.

**Fermentation of legumes.** Legumes present additional challenges to achieve an optimum fermentation. Legumes tend to be lower in plant sugars than grass and also tend to have a greater buffering capacity which makes it more difficult to drop the pH to desired levels. Additionally, hay crops and specifically legumes, can be more difficult to spread into thin layers and adequately pack into a horizontal silo. Understanding these added challenges can help to ensure steps are taken to mitigate them.

**Silage inoculants.** When used as directed, inoculants can enhance the fermentation process and stability of silage but should not be considered a solution for problems associated with improper harvest and storage management.

**FEEDOUT.** All steps taken to this point improve the chances for success at feedout as proper management of harvest and ensiling provide the best chances for a high quality and stable silage.

**Silage face management.** Defacers and rakes have become very prevalent on farms and do aid in maintaining a smooth face that will minimize surface area exposed to air; however, regardless of equipment used for removing silage, management and technique are critical.

**Feedout rate.** Efforts should be made to minimize the amount of silage exposed to air during feedout and to size feedout faces appropriately to achieve an adequate rate of feedout. A minimum feedout rate of four to six inches per day is often referenced. This rate may be adequate in the winter months but should be considered a minimum and may not be adequate during the summer months. Avoid scenarios where piles are “split” and an exposed face is left for extended periods of time.

**Safety.** Large bunks and piles present additional risk at feedout. Only the silage removal equipment should be near the silage face. Avoid working near the top edge of the face by keeping tire and plastic removal ahead of feedout, and minimize any spoilage that would need to be removed. If work around the top of the face is necessary, utilize harnesses or portable railings attached to feedout equipment (tractor, loader, skidsteer, tele-handler). Never work in this area alone.

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Equipment should be sized to reach the top of the silage face and the face should never be undermined as it significantly increases the risk of avalanches.

Silage should always be removed from top to bottom to minimize any excess movement of existing silage that would allow air infiltration.
Finally, spring is in the air! It’s the time of year where everything is waking up, including predators. Foxes are having their kits, coyotes are having their pups, and birds of prey are migrating to their northern breeding grounds. The lean winter season coupled with the fact that most prey species have not yet had their young means that predatory species are hungry... and poultry are the perfect meal.

Predators work on a risk-reward scheme. If they aren’t very hungry or the poultry draw them out of their wooded habitat too far, the threat of humans and their activities may dissuade them. However, if they are hungry, the poultry are easily accessible, and/or the humans aren’t threatening, then all bets are off. This time of year, we get many calls from poultry owners who have had a large part of their flocks devastated by predators in a single afternoon, or over multiple days. Below are some of the tips that I share with them to help them rebuild and manage their free-range poultry flocks with less risk.

**Make Coops Predator-Proof**

Many times, poultry coops are built with poultry netting and rest on a dirt or gravel base. These are always the most susceptible to unwanted entry, even if the doors and windows are closed. Predators have all night without interruption to work at poultry enclosures to gain access. A fox, raccoon, or coyote can easily dig under a coop wall or rip through poultry netting to gain access. For this reason, we recommend that poultry enclosures are constructed with solid or hardware cloth bottoms, and that any wire used in their construction is hardware cloth with a one-inch by one-inch square maximum opening. Holes and cracks in coops are also a concern. Anything larger than an inch in diameter can allow for the access of a weasel, which can kill tens of chickens in one go just for the sport of it. Obviously, larger holes allow for larger predators. All holes should be sealed with concrete, wood, or hardware cloth.

**Keep Them Cooped Up**

Sometimes it makes sense to keep poultry cooped up for a little while when a predator has found them. While it’s not foolproof, keeping your birds locked up for a few weeks can help move a predator onto other food sources. However, if there is a lack of prey in the area or they have young to feed, they may be back for a low risk, high reward meal after the lockdown period.

**Electric Fencing Works Wonders**

Simple non-electrified fencing is not effective on its own against ground predators unless it is 6’-8’ tall and regularly checked for digging activity. Even then, there are many predators that can climb it. Any shorter, and they just jump over. I know someone who had backyard chickens and a fox that jumped over the 4’ perimeter fence with ease, taking out their flock in one afternoon. Sadly, this is not unusual.

Adding electricity to a 4’ fence is a deterrent. While electric shocks won’t kill predators, they will dissuade them if they get a zap. There are many companies that sell a product called electric netting. This product can be moved around to create new foraging areas for poultry, and comes with either plug-in, battery-operated, or solar chargers. Stranded electric fences are usually not sufficient because predators can climb over or dig under them without getting shocked. Stranded fences can become more effective if they have multiple strands close together at the bottom and/or have a positive/negative configuration. More strands closer to the ground deters digging, and the positive/negative confirmation results in a shock if both a positive and negative wire are touched at the same time when the animal tries to climb the fence.

When considering this type of fencing, remember that it always has to stay hot. These fences on their own are not deterrents enough and can be easily jumped or walked through. However, if the fence is hot, a curious predator will get their nose/face shocked once and that will be the end of that. To keep the fence hot, always make sure that the power source is charged, that vegetation is trimmed to reduce the voltage loss (keeping your fence hotter), and that sag is reduced (another reason why these fences can lose their bite).

**Get a Guardian**

For some, a livestock guardian may be the answer. There are many types, with pros and cons to each. These animals are typically larger than the largest predator that you want to dissuade and live with the flock either while they’re free ranging or full time. They are typically raised such that they are bonded to their charges. Guard geese and livestock guardian dogs are two of the more popular options for poultry and can protect them against threats both from the air and from the ground.

Guard geese are a popular option for some flock owners – they’re small, easy to care for, and can be aggressive with potential threats. Many suggest getting one goose to force it to bond with the poultry it guards, but this may be detrimental to the goose’s well-being from a psychological standpoint. Having two or more is better for their welfare but can result in them bonding and not doing as good of a job

Predation continued on page 17...
Forage and Pasture Management Workshop

Saturday, April 23, 2022
9:30am - 3:30pm
Pioneer High School

The registration fee is $40 per adult, and $20 per youth (14-28 years), and includes lunch and printed materials.

Registration is required by April 8th.

To Register: Use this link: https://reg.cce.cornell.edu/Forage_Management_Workshop_202 or Contact Lynn Bliven at la03@cornell.edu or (585) 268-7644 ext 18

There’s still time to register for our in-person, hands-on Forage and Pasture Management Workshop! Call Lynn Bliven at 585-268-7644.

Keynote: Getting the Most out of Your Pastures and Hayfields without Breaking the Bank
Dan Steward, WNY Crop Management
Following the keynote, students may select to attend any of the 3 classes below. All 3 classes don’t need to fall within the same track.

Pasture Track:
Setting up a Grazing System
Handling Livestock Safely
Equine Pasture Management

Stored Forage Track:
Stored Forage Economics
Making Quality Hay and Baleage Panel
Analyzing Forage Reports to Match Livestock Needs

Equipment Track:
Selecting and Purchasing Used Equipment
Tractor and Equipment Maintenance
Tractor Safety

Making good quality hay and baleage is as much of an art as it is a science. Learn more from our local experts at our upcoming IN-PERSON workshop.

...predation continued from page 16.

Even if you have one (or more!) that do a good job guarding, they’re still birds, and are just as susceptible to predation as other poultry species. They may make a big ruckus about potential threats though!

Livestock guardian dogs are another popular choice, especially for larger poultry flocks. There are multiple breeds that do well with small charges, but they do need to be trained to ensure that they don’t accidentally harm the poultry they live with.

Get Some Cover!
Sometimes, birds of prey end up being large threats on poultry farms. Unfortunately, you can’t fence these animals out or remove them from the property. Providing cover for poultry consisting of living cover (trees, bushes), a run-in area, or a shade cover can aid in protecting them. Not all poultry will be able to go under cover when an ariel predator strikes, and it’s likely that you’ll still lose birds, but the losses may be reduced.

Make Your Poultry Area Frightening
There are some devices on the market that can deter predators, including fox lights, scarecrows, and wavy arm flailing tube people. These devices set in a rotation can cause enough disturbance in an area that predators feel threatened and look elsewhere for food. A word of caution though: don’t leave one device up for too long – a hungry predator may take a chance, realize there is no apparent threat, and go after your poultry anyway.

Be Cautious with Predator Removal
Sometimes, a particularly bold or aggressive predator may need to be removed from an ecosystem. Before any removal, contact the Department of Environmental Conservation (DEC) to receive a permit. Remember that birds of prey are protected, and you cannot remove them – exclusion and deterrents are your only options here.

Removing a non-problem predator from your ecosystem can result in more problems than you bargained for. When a predator leaves an area, there are more to fill that space... and an animal that was minding its own business may be replaced by one that knows that poultry are an easy meal, causing more problems in the future. My word of advice is that if you have predators around that are for the most part leaving your poultry alone, then it’s a benefit to keep them nearby.

In conclusion, the protection of poultry from predators is a never-ending battle. The use of varied tactics that work for your management style can help you to achieve success. •
If you’re planning on applying for a federal grant, start the process as soon as you are able. These applications can take some time to put together. Looking to contact one of the organizations listed above to assist with your grant application? Contact Amy for more details!

2022 Cornell Sheep Shearer List Now Available

The 2022 Cornell list of sheep shearsers is now available. While all shearsers on this list work with sheep, many work with other species. For a copy of the 2022 Cornell Sheep Shearer list, please contact Amy Barkley (716) 640-0844 or amb544@cornell.edu.

Nationwide Database Search Engine for Livestock Insecticides Can Help You Find the Right Product!

The Veterinary Entomology Pesticide Database can be used to search for which pesticides in which forms are approved for which species (both animal and pest!). This can be used as a resource to develop a list of potential products you can use on your livestock. Contact Amy for more information.

Need technical assistance in getting your federal grant application together? There are service providers available through USDA’s Meat and Poultry Processing Capacity Technical Assistance Program (MPPTA) to help with that!

What does the MPPTA Offer?
Access to technical experts from across industry, academia and state and federal government. Focused content for diverse stakeholders, including family-owned, rural, minority-owned, Native American and Tribal-owned businesses, and other underserved entities seeking to build or expand meat and poultry processing and supply chain capacity.

General assistance with navigating USDA grant application and award processes, and successful post-award grant management. One-one-one advising, including project and proposal reviews tailored to the specific needs of diverse stakeholders, from small and very small processors and new enterprise startups to organizations developing regional concepts and established mid-sized processing companies. Educational resources, events, and webinars covering topics of interest for meat and poultry processing enterprises of all types.

Note: The MPPTA Program does not offer or provide contractor services or financial capital. It does not offer grant writing or project management services, nor does the voluntary use of MPPTA guarantee the success of a grant application or the grant funded project.

In March 2022, AMS identified the following organizations to serve as TA Providers:
Flower Hill Institute • Oregon State University- Niche Meat Processors Assistance Network • Intertribal Agriculture Council • American Association of Meat Processors • American Meat Science Association • Agricultural Utilization Research Institute
BEEF X DAIRY WORKSHOP

INCREASING THE RESILIENCE OF NEW YORK’S BEEF AND DAIRY FARMS

AGENDA

WELCOME: DINNER

ECONOMICS ASPECTS OF ADOPTING BEEF X DAIRY ON YOUR HERD
KATELYN WALLEY-STOLL - CCE SWNY BUSINESS MANAGEMENT SPECIALIST

MAKE THE MOST OUT OF BEEF X DAIRY IN YOUR DAIRY HERD
KAREN WHEATLEY - SELECT SIRES

HANDS-ON ACTIVITY: WHICH BULL WOULD YOU SELECT FOR THIS COW?

BREAK

SETTING UP YOUR CALF TO SUCCESS
CAMILA LAGE - CCE DAIRY MANAGEMENT SPECIALIST

ASSURING THE MARKET VALUE OF YOUR BEEF ON DAIRY CALF
SAM VANSTROM - LOCAL USDA AGENT

MARKETING BEEF CROSSES
AMY BARKLEY - CCE SWNY LIVESTOCK AND BEGINNING FARM SPECIALIST

ABOUT OUR WORKSHOP

The use of beef semen in dairy cows is a strategy that can provide benefits across multiple supply chains. Join us in this workshop to learn how you can make more out of your beef x dairy!

WEDNESDAY, 5:00-7:30 PM
27TH APRIL, 2022

HOWARD COMMUNITY CENTER, 7481 HOPKINS RD, AVOCA, NY 14809

REGISTRATION REQUIRED ($30/PERSON INCLUDES DINNER AND PRINTED MATERIAL). SCHOLARSHIPS AVAILABLE UPON REQUEST

You can register here https://tinyurl.com/beefxdairy2022 or by contacting Amy Barkley or Camila Lage

Amb544@cornell.edu 716-640-0844
Cd546@cornell.edu 607-422-6788

THIS WORKSHOP IS SUPPORTED BY:

Cornell Cooperative Extension’s Southwest New York Dairy, Livestock, and Field Crops Program is a partnership between Cornell University and the Cornell Cooperative Extension Associations in these five counties: Allegany, Cattaraugus, Chautauqua, Erie, and Steuben. Cornell Cooperative Extension is an employer and educator recognized for valuing AA/EO, Protected Veterans, and Individuals with Disabilities and provides equal program and employment opportunities.
Dairy of Distinction
Nominations
Deadline by April 15th

Established in 1983, the Northeast Dairy Farm Beautification Program recognizes the hard work and dedication of dairy owner/operators who have attractive, well-kept farms and promote a good dairy industry image. All active dairy farms in Maryland, New York, Pennsylvania, New Jersey and Vermont are eligible to apply for the Dairy of Distinction award. Winning farms receive the special Dairy of Distinction roadside sign for their farmstead.

To apply for the award, an application must be submitted to the secretary for your state by April 15th. Roadside farm judging takes place in May and is based on the condition of the farm and livestock. Winners are rejudged every year to ensure they maintain the high standards of the award.

To apply, visit: www.dairyofdistinctionawards.com
If you need more information please contact your State secretaries at dairyofdistinction@gmail.com.