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Cornell Cooperative Extension

Southwest NY Dairy, Livestock and Field Crops Program

swnydlfc.cce.cornell.edu

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

CROPS COWS & CRITTERS newsletter

Crops, Cows & Critters
Newsletter

Volume 3 • Issue 9 • September 2022

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Every effort has been made to provide correct, complete and up-
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Newsletter layout and design by Katelyn Walley-Stoll.

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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.

How Do I Know When It's Time to Harvest my Corn for Silage?

By Casey Guindon; PennState Extension

Proper harvest timing is key when it comes to storing high quality corn silage. Optimum moisture content at harvest is essential in the promotion of fermentation, which results in high quality silage. While the optimum level of moisture may vary depending on the type of ensiling system you plan to use, a moisture level of 65% is a good estimate. At this moisture content, the silage can be adequately compressed, and the oxygen is removed more quickly. The quick transition to an anaerobic environment promotes the development of lactobacillus bacteria (the good guys). At a lower moisture content, oxygen is not quickly excluded, and mold can continue to grow and heat the silage. At a higher moisture content, clostridia bacteria begin to grow, and create silage that smells rancid -- resulting in lower palatability and quality.

So how do you determine when the corn is at the proper moisture content for silage harvest? Many growers rely on the maturity of the corn, and plan to harvest shortly after the corn reaches the dent stage. While this is generally a safe estimate, the moisture content at dent stage can vary widely based on corn hybrid and weather patterns. A more accurate measure of moisture content comes from analyzing whole plant samples.

Now, I realize that most people don't have personal access to a moisture tester or forage quality lab. However, good estimations of moisture content can be obtained with the use of a scale and a microwave. Take several whole plant samples from your field- enough to be representative of the average field condition. Break samples down small enough so that they will fit in your microwave. Measure the weight of each sample prior to heating it in the microwave. Heat the sample in the

microwave on high for about 5 minutes and weigh the sample again. Return the sample to the microwave for another minute. Weigh the sample again. Continue this process until two consecutive weight measurements are the same. This measure is the dry matter content in your sample. Subtract the dry matter weight from the original weight to obtain the weight of water in your sample. Divide that amount by the original weight of the sample to determine the moisture content.

Now that you have a moisture content, you can make management decisions about your crop. Is the crop too dry and better suited for grain corn? Is it time to get equipment moving and get ready to begin chopping or call your harvester if using a custom operator? Or, should the crop be left for a few more days and have the moisture retested? Knowing the condition of your crop is the first step in being able to make informed management decisions.



Ideal Moisture Content Based on Silo Type

Silo Structure	Ideal Moisture Content
	%
Horizontal bunker	70 to 65
Bag	70 to 60
Upright concrete stave	65 to 60
Upright oxygen limiting	50 to 60

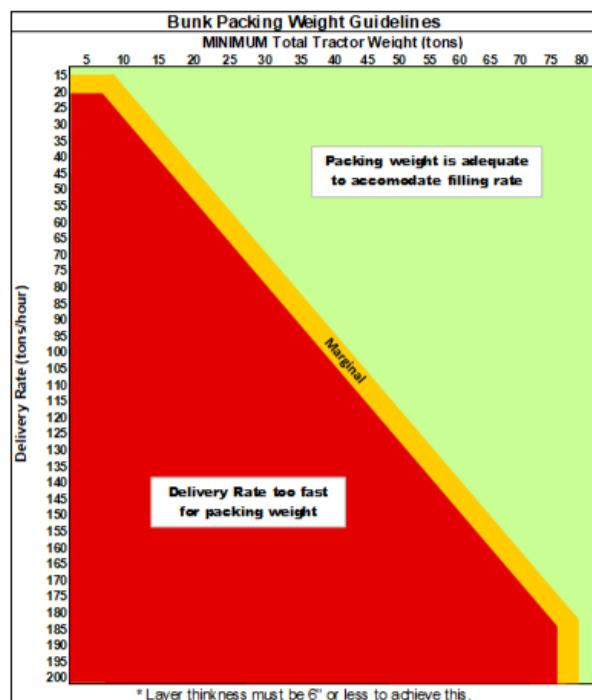
Make sure that your moisture content matches with your storage system. Corn must be ensiled at the proper moisture to get fermentation for preservation. But, determining when to harvest corn at the right whole plant moisture is difficult. Each storage structure properly ensiles at slightly different plant moisture optimums. Harvesting corn too wet for the storage structure will result in reduced yield, souring and seepage of the ensilage, and low intake by dairy cows. Harvesting too dry reduces yield, can cause mold to develop, and lowers digestibility, protein and vitamins A and E.

Retrieved from Joe Lauer, University of Wisconsin-Madison Integrated Pest and Crop Management. Full article can be found here: [https://ipcm.wisc.edu/blog/2016/08/timing-corn-silage-harvest/#:~:text=Silage%20harvest%20usually%20begins%20around,storage%20structure%20\(Table%201\).](https://ipcm.wisc.edu/blog/2016/08/timing-corn-silage-harvest/#:~:text=Silage%20harvest%20usually%20begins%20around,storage%20structure%20(Table%201).)

Corn must be ensiled at the proper moisture to get fermentation for preservation. But, determining when to harvest corn at the right whole plant moisture is difficult.

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For more information about Corn Silage and Field Crops, contact Katelyn Miller at 716-640-2047.



← **5-1/2"** (packing layer thickness gauge) →

Corn Silage Processing Score

In the laboratory processing score is measured by the amount of starch passing through a 4.75 mm screen size (example above).

Will the kernel fractions in your silage fit through this screen size?

Guidelines for Success:

- **Send all employees home to their families safe everyday.**
- Proper Siting & Construction.
- Harvest at correct Moisture.
- Fill bunk quickly.*
- *Match forage deliver rate to packing weight (see charts).
- Fill in thin layers (≤ 6 inches) and pack each layer thoroughly.
- Covering immediately after filling.
- Proper Feedout management.

Katelyn Miller
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Originally formatted by: **Cornell Cooperative Extension**
Jefferson County

Utilize this card to ensure adequate bunk packing weight for feed delivery rate based on a 6" layer thickness. **Not printed to size** Contact Katelyn Miller at km753@cornell.edu or 716-640-2047 for a packing card today!

Cover Cropping After Corn

By Katelyn Miller; Field Crop and Forage Specialist

As cover crops gain traction in cropping rotations, let's dive into some of the advantages and disadvantages of utilizing them in your operation.

One of the most discussed advantages of cover crops is how they improve soil health. Cover crops create more surface residue, in turn reducing soil erosion, increasing water infiltration, and reducing compaction. They can recycle nutrients and help with weed control but be cautious, this may turn into a disadvantage later when it comes time to plant your next crop, with the cover crop then becoming the weed to remove. Because of this, there can be increased labor and chemical use along with a possible shift in planting time if the crop does not die off. Also, it's important to note that cover crops can work in any system but thrive best with no-till, strip-till and spring tillage. There may be difficulties with trying to incorporate crop residue with tillage so keep this in consideration with your farm practices.

You can get as simple or as complicated as you like with planting cover crops. Utilizing monocrops or mixes of legumes and non-legumes will provide benefits to your soil. Non-legume cover crops include cereals such as rye, wheat, barley, oats, and triticale; forage grasses include annual ryegrass; and broadleaf species can be buckwheat, mustards, and brassicas. They are most useful for scavenging nutrients, reducing erosion, suppressing weeds and leaving large amounts of organic soil residue. Cover crops such as oats and oilseed radish will die over winter, but crops such as annual ryegrass or cereal rye are usually killed with

herbicides in the spring. Common legume cover crops include red and crimson clover, vetch, peas, and beans. Utilizing them will help reduce nitrogen inputs for next year's crop, reduce erosion, and support beneficial insects/pollinators.

As we approach corn silage harvest, it's a good time to start thinking about possible cover crops to plant this winter season. Here are five tips to keep in mind as you plan:

1. Talk to a farmer who already utilizes cover crops.
2. Starting small is better than not starting at all. Take time to learn what works well for your operation!
3. Keep your goals at the forefront of your decision. Utilize cover crops that help you achieve them.
 - Do you need forage?
 - Do you want to break up compaction, reduce erosion or build organic matter?
 - Do you have excess nitrogen in the soil for plants? Or do you want to provide extra nitrogen for next season's crops?
 - Do you want to establish a crop for next season?
4. Think ahead on how and when you will seed in your crop, terminate it, and plant into your cover crop. Having a plan set in place will help reduce future stress.
5. Keep in mind the resources you have available to you. Time, labor, and equipment are all important factors in deciding your approach to cover cropping.

Ensure a well packed bunk by matching packing weight to the rate of forage coming into the bunk.

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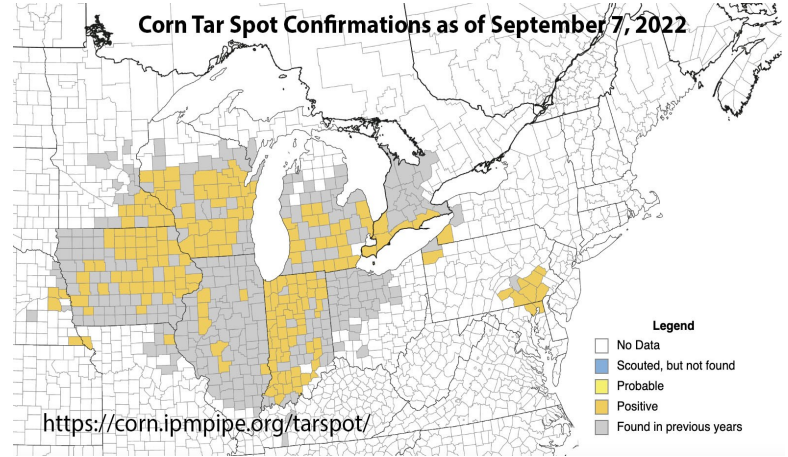
Keep your goals at the forefront of your decision when planning which cover crops to utilize in your operation.

Positive Case Found! Tar Spot in New York State

The first positive observation of tar spot in New York has been confirmed in southwest Chautauqua County. Recent rains have been conducive for tar spot development making this an opportune time to scout corn fields, especially silage fields that may be harvested soon. In the field in which tar spot has been located, stomata were not evident two weeks ago but are prevalent now on lower and middle leaves, as well as some upper leaves. This field had been in silage corn in several previous years and is ready for harvest. Scout field borders, as tar spot is more prevalent there than in the center of the field. Diagnosis is all about finding the raised black fungal stomata (see photo) which cannot be wiped or scratched off the leaf surface as insect frass can. If you think you have tar spot in your field, contact Katelyn Miller at 716-640-2047 or km753@cornell.edu.



Photo by Gary Bergstrom: Cornell Professor, School of Integrative Plant Science
Plant Pathology and Plant-Microbe Biology



Steuben County Farmers Invited to Participate in the Arkport Central School District Farm to School Program

Arkport Central School District is exploring ways to incorporate more locally grown and raised foods in their school meal programs. The district's Farm to School program aims to serve fresh, local, and high-quality products to students. To support Arkport CSD in these efforts, Cornell Cooperative Extension of Steuben County and Cornell Cooperative Extension - Harvest NY are reaching out to area farmers to learn more about what is available right in our community.

The purpose of this Request for Information is to solicit information from farmers, growers, and producers in the region who are interested in selling to Arkport CSD in the 2022-2023 school year and beyond. The RFI outlines the types of products the district is looking for and seeks information from potential suppliers. We ask that you complete RFI Response Form to help the district gather information about the products they can procure locally. The RFI Response Form asks for information about product availability and distribution/delivery options. You can obtain a copy of the RFI by reaching out to

Susan Walker, Steuben County Educator, at 607-664-2574. Completed forms can be emailed, mailed, or directly delivered to the CCE Steuben office.



REMINDER - Funds Available for On-Farm Milk Storage and Handling

The Northeast Dairy Business Innovation Center recently announced a grant opportunity for dairies to purchase equipment and other related costs that will improve milk storage, handling, and energy efficiencies. Awards range from \$15,000 - \$50,000 with a 25% cash or in-kind match recommended.

Applications are due October 6th and must be applied for online. The online application does take some time to navigate. Our Farm Business Management specialist, Katelyn Walley-Stoll, has been helping farms who need additional internet support.

Depending on the number of animals you're feeding, your equipment, and your forage harvest schedules, one type of silo will be better suited for your farm.

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For more information about forage and field crop harvest and storage, contact Katelyn Miller by calling 716-640-2047.

Is Your Footbath Working For You?

By Betsy Hicks; CCE South Central Team Dairy Management Specialist

As I was working with a set of farms on a lameness project this summer, the question of footbath protocols was included in the set of intake questions. Very few of the farms included in the project could definitively say what concentration they were aiming for, or what the volume of the bath was that they were using. This brings the question, is your farm making your footbath work for you? Or are you just guessing?

Taking the Guesswork Out of the Equation

With setting up a footbath, none of the steps should be guesswork. Fortunately, the University of Wisconsin Dairyland Initiative has put together an excellent resource to do exactly this. Simply put, the only measurements needed to calculate the volume of a footbath are length, width, and depth to fill height. They have a spreadsheet that calculates different concentrations of varying products to remove all guesswork.

Footbath Best Practices

1. Bath as infrequently as possible to reduce transitions from chronic to acute DD (Digital Dermatitis or hairy heel wart) lesions
2. Use a well-designed footbath to optimize the transfer of antibacterial to feet
3. Locate a mixing station adjacent to the footbath for safe handling of chemicals
4. Start a regime once a day for 4 days per week and adapt based on the outcome
5. Use an antibacterial with proven efficacy that **DOES NOT DAMAGE THE SKIN DEFENSE** - maintain pH>3.0
6. Use the bath as long as it is effective ~ 100-300 cow passes
7. Don't forget the dry cows and heifers!

Issues Found During the Project

When using a footbath, the goal is to achieve a minimum of two dunks per foot through the footbath. On many farms, the design of the footbath rarely allows for this, and only one dunk is achieved. Often, the cow passing through the bath is able to bypass the bath with at least one foot, and that foot is often the foot with an issue.

Watching cows pass through the bath or videoing cow passes is a good way to assess if this is happening on your farm or not. A time-lapse camera can be set up to record if this is a concern on your dairy.

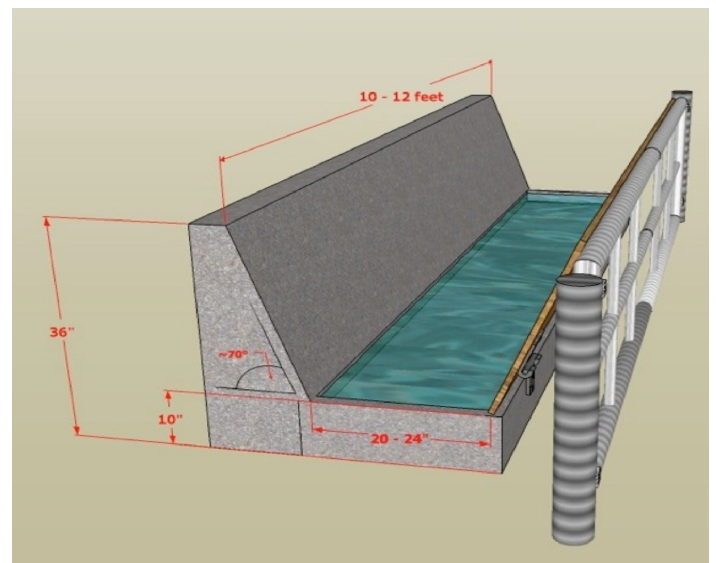
Another problem I encountered was one I didn't anticipate.

One farm, knowing that the bottom of their bath had hard rubber nubs that cows didn't like to step on, put rubber mats in the bottom of the bath. This is a great workaround for the comfort of the cow passing through the bath. However, the rubber mats sometimes would get flipped up and be above the footbath level, causing a trip or balk hazard for the cow. It also takes away some of the volume of the bath, so unless the farm measured the gallons using a known amount, the concentration of the bath was a complete guess.

A third issue was making the concentration of the bath "too hot". As stated by the Dairyland Initiative, the bath should be efficacious **WITHOUT** damaging the skin. In other words, we want control of heel warts, but not at the expense of skin integrity. Most farms did not check the pH of their bath, and the concentration of the product was a guess.

Key Points for an Ideal Footbath

- Know the bath volume! If there are mats included in the bottom, be sure they are accounted for to get a true amount of water in the bath!
- Measure the amount of product (Copper, Formalin or other) to be added! To make it easier for those filling the bath, you can draw lines on buckets, cut off plastic bottles to the desired level, or any other way to get the right amount of product included. Just don't guess!
- Watch cows pass through the bath to make sure you're getting two dunks per foot. If not, it may be time to take a good look at the location and set up and make a change.



The ideal footbath, Source: Dairyland Initiative

Enjoyed this article and want help troubleshooting your footbath management? Reach out to Camila Lage at 607-422-6788 or cd546@cornell.edu.

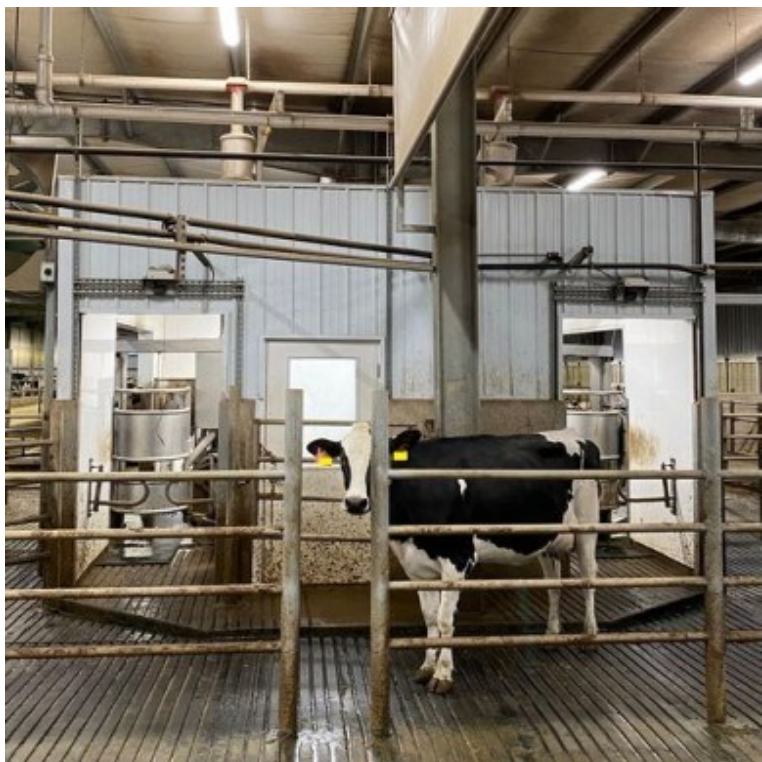
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If you need the link for the Dairyland initiative resources we are talking about, do not hesitate to reach out as well!

Breeding And Raising The Right Cow For Automatic Milking Systems

By Camila Lage, Dairy Management Specialist and Victor Malacco (MSU Extension)



The increasing adoption of automatic milking systems (AMS) by farms worldwide is a reality that will likely continue in the following years. Reductions in labor availability and increases in wage rates across the U.S. are driving higher adoption of automation in all farm sizes. However, in addition to investment cost, uncertainties about the transitioning process, changes in management practices, and the potential for increased voluntary culling rates of cows that do not adjust to the new system often make farmers second guess the decision to implement AMS.

Advancements in technology have made AMS reliable. Data from a Canadian survey of farms that went from conventional milking systems to AMS showed that, on average, just 2% of animals needed to be culled because of behavior or conformational characteristics, such as udder conformation. However, more opportunities exist to improve productivity and efficiency in AMS herds by adjusting breeding goals and management. This is especially important for large herds, in which some of these adaptations may pose logistical challenges.

Several conformational and behavioral characteristics will make a cow suitable for milking in automated milking systems.

Reductions in labor availability and increases in wage rates across the U.S. are driving higher adoption of automation on farms of all sizes.

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Good udder conformation, feet, and legs that deliver the maximum amount of milk in fewer visits are some of the ideal characteristics of a "robotic cow."

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SEPTEMBER DAIRY EVENT HIGHLIGHTS

Event: *Managing Colostrum Supply: What Farm Management and Nutritional Factors are Associated with Colostrum Yield*

Date: September 14, 2022

Time: 4pm-5pm EST

Location: Webinar (https://cornell.zoom.us/join/register/WN_mPsCAfgxRKaISJNOfkf1QQ or email cd546@cornell.edu)

Host: Cornell CALS PRO-DAIRY

Event: *Fall 2022 CleanSweep NY* : Farmers and pesticide applicators/technicians possessing unwanted or unusable pesticides and other waste chemicals are welcome to transport their materials to the following collection sites:

Falconer, NY Tuesday, September 27, 2022

Hornell, NY Wednesday, September 28, 2022

Date: ****Registration deadline 9/19****

Telephone: 518-225-8146

E-Mail: cleansweep@dec.ny.gov

In the perfect world, we would like to have a cow:

- With good udder conformation, making it easy for the robot to attach the milking unit and clean the teats.
- With good feet and legs that do not prevent the cow from voluntarily getting to the robot.
- That would quickly adapt to the robot, visit the robot many times, push other cows out of the robot area, and not need to be fetched.
- That has a high milk flow rate, lowering cow time in the robot, but not more susceptible to mastitis.
- That has maximum milk delivery in fewer visits to maximize the number of cows/robots.

continued on next page ...

...continued from page 7

Studies have evaluated and identified selectable traits that can improve cow milkability and longevity in AMS herds without harmful side effects on health and productivity. The large amount of data collected daily in the AMS is an important tool to evaluate individual cow efficiency. Dr. Dechow and colleagues used data collected by the AMS to calculate the breeding value of desirable traits for cows being milked with an AMS. The selection for characteristics that improve milk flow rates has been associated with improved efficiency of the robots.

However, selection for high milk flow is often accompanied with poorer udder health. Selecting cows for traits that can reduce the time spent in the milking robot, like how fast they enter and exit the milking robot, the time required for teat cup attachment, and the milking unit kick off rate can also result in higher milking robot throughput without compromising udder health.

Herd genetics play a significant role in the success of a dairy farm. However, training and conditioning cows to the system are critical when talking about AMS, especially in the case of first lactating cows. Their success in an AMS herd is dependent on how quickly they adjust to the AMS after calving. Fetching cows is time-consuming and largely impacts the farms' production and labor efficiency. Some studies suggest that early life management can affect the behavior and adaptability of cows to novel environments, animals, people, and management procedures on farms.

A review covering the potential effects group housing has on dairy calves by Dr. Costa and colleagues shared evidence that individual housing is associated with aggressiveness and fear response. Moreover, early life socialization can impact the calf's ability to cope and learn new skills, with animals raised in pairs or groups being more adaptable to changes than calves raised in individual setups, as shown in a study published by Dr. Meagher and collaborators.

The utilization of an AMS phantom for heifer pre-training before calving is another strategy that resulted in an increased number of visits after calving. A phantom in the barn is when there is a setup similar to the AMS to familiarize the heifers with the future milking robot and milking situation, which often gives the heifer positive feedback such as grain. This could lead to heifers adapting more quickly to the system, along with numerous other potential benefits:

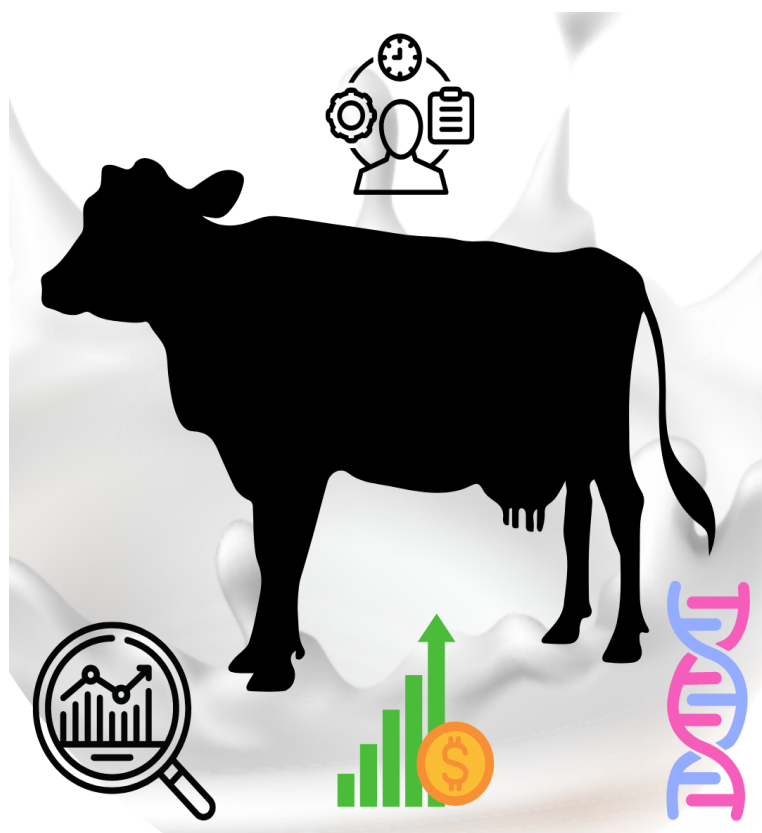
- **Increased milk production during the lactation**
- **Reduced number of fetched animals**

- **Reduced injury during the adaptation to the AMS**
- **Reduced culling rates.**

Another method adopted for larger farms is the creation of a trainee herd in which the fresh first lactation animals are kept together and batch milked twice or thrice daily until voluntary milking occurs. This could minimize the disruption of voluntary cow movement of the main herd. Some AMS farms with smaller herds are introducing their late pregnant heifers to the lactation herd. Farmers report that the simple acclimation to the barn before calving and the fact that heifers watch mature cows going through the robots significantly reduced the number of times heifers need to be fetched after calving.

The use of robots has the potential to increase the cow's welfare and efficiency, along with the farm's profitability. However, since the interaction between cows and the AMS is still being understood, information on the best management strategies and breeding goals to optimize performance and maximize profitability is updated frequently.

This article was written as part of a collaborative program of Michigan State University Extension and the Cornell Cooperative Extension SWNY Dairy, livestock, and field crops program.



For additional information or if you are interested in discussing breeding strategies and replacement heifers' management in AMS operation,

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Please do not hesitate to contact Camila Lage at cd546@cornell.edu or 607-422-6788

An Update on Deer Worm in NYS

By Dr. tatiana Stanton, Cornell University



I wanted to caution folks that I have had a couple of people contact me about deer worm infections in their goats or sheep in the last two weeks. The incidence of deer worm infections goes up sharply as we get into fall so be sure to familiarize yourself with typical signs.

There are two common types of signs that an infected sheep or goat may show. Many affected animals will have trouble moving around; early signs of deer worm infection include mild stumbling, knuckling and/or dragging the toes of one or both hind limbs, and general weakness of the hind limbs. In more advanced cases the sheep/goat may suffer total paralysis of the hind limbs, leaving it sitting in a dog-sitting posture or

down and Figure 1. In more advanced cases, the animal may experience paralysis of the hind limbs unable to get up. The front limbs are less commonly affected, but can have the same problems as the hind limbs. Even in a case of total limb paralysis, animals may still recover fully given proper treatment and/or time.

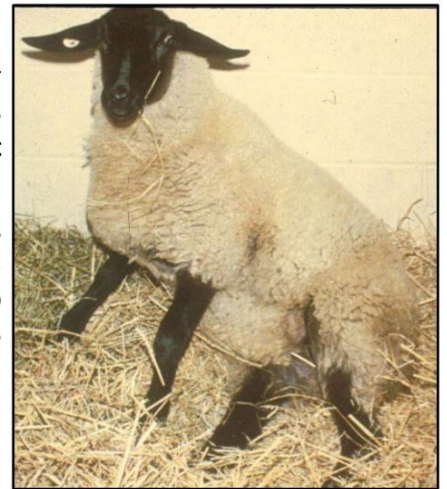
Another common sign associated with deer worm infection is excessive itching and rubbing of one area on the side of the body. Migrating larvae can irritate an individual nerve where it merges with the spinal cord, making the animal rub and/or bite incessantly at the area where the nerve runs. This leads to hair loss and occasionally a wound in the skin. Less commonly, infected animals will show signs of brain disease such as a head tilt, walking in circles, rapid eye flickering, and difficulty chewing. Appetite and body temperature typically remain normal in animals affected with the deer worm, which is not often the case with other common diseases of the brain in sheep and goats. It is important to note that not all affected animals will show all these signs. There can be a wide range of manifestations of deer worm infection, so it is important to be vigilant in watching for any problems with your animals.

Cornell conducted a study to determine if available treatments could cure the infection. <https://blogs.cornell.edu/smallruminantparasites/chemical-treatment-protocols/>.

The treatment protocols options for this study were:

1. Safeguard (10% Fenbendazole) orally for 5 days at 25 mg per kg of live weight (1 + 1/3 cc per 10 pounds of live weight). FARAD provided a meat withdrawal period of 14 days for goats and 54 days for sheep for Safeguard at this dosage..
2. Dexamethasone injectable 2 mg/mL IM at 0.2 mg/kg live weight for first 3 days and 0.1 mg/kg next 2 days (1/2 cc of Dexamethasone per 10 pounds live weight for the first 3 days, followed by 1/4 cc Dexamethasone for next 2 days). Ewes and does in last month of pregnancy are not to receive Dexamethasone. Instead, they will receive flunixin meglumine (Banamine) 50 mg/mL at the rate of 1 cc/100 lb live weight (1.1 mg/kg) orally for 5 days. FARAD provided a meat withdrawal period of 60 days for Banamine at this dosage.
3. 1/4 cc of either "Product A" or "Product B" SQ for 5 days for each 10 pounds of live weight determined by whether the animal has been assigned to "Treatment A" or "Treatment B". One of these products is an Ivermectin Placebo and the other is Ivermectin 1% injectable administered at 0.5 mg/kg live wt. **FARAD provided a meat withdrawal period of 96 days for both goats & sheep.**

Please plan on discussing these protocols with your vet. Some vets like to go 6 days rather than 5 days, some like to keep the dexamethasone at full strength for all 5 or 6 days rather than halving it after the first 3 days. Your vet should also check with FARAD to see what withdrawal periods FARAD is now recommending. As you can see above the meat withdrawal on the ivermectin at these heavy dosages is quite long so deciding to include ivermectin in your protocol has implications you really need to weigh before deciding to include it in your protocol. Some vets like to include Thiamine, etc..



Please consult your veterinarian before applying a treatment such as the ones described above for deer worm.

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Advanced cases can result in total hind end paralysis. Photo shared by the Cornell Sheep and Goat Program and Cornell Ambulatory Veterinary Services.

It's Time to Start Calculating Forage Inventories

By Amy Barkley, Livestock and Beginning Farm Specialist



This year, like last year, has been a bit of a rocky one for livestock farmers across SWNY concerning their forage harvests. While the weather was ideal for many to get an early first cutting off, we began to experience droughty conditions that persisted until just a few weeks ago. Many second cuttings were poor, if they were taken off at all. Only some farms in our region experienced the Goldilocks weather that resulted in good hay harvests. Regardless of what was experienced, it's time to calculate the amount of dry hay and fermented bales available as we go into winter. Getting hay this time of year to fill in any production loss will be much easier than trying to source it when it's February and you realize that you're going to run short.

To calculate forage inventories is simple, but you'll need the following information:

- Number of bales
- Average weight of bales
- Dry Matter of bales (baleage is between 50% - 60% dry matter, hay should be around 10% - 15% dry matter)
- Anticipated storage loss (see table 1) and feeding loss
- Number of animals on the farm
- Anticipated consumption of animals (see table 2)
- The number of days you anticipate having to feed this winter

To calculate the amount of forage you have available:

- You'll first need to multiply the average weight of your bales by the number of bales you have. For this example,

let's say that we have 500 small squares of dry hay that weigh 40 pounds each. That would be 20,000 pounds of hay on an as-fed basis.

- After the total weight of forage available is calculated, calculate the percentage of that forage that is dry matter. For example, if we know that the moisture of our dry hay is 12%, that means that the dry matter value will be calculated by taking the difference of 100% dry matter and 12% dry matter, which is 88%. Then, we will take that percentage as a decimal (.88 in this example), and multiply it by the weight of forage we have on an as-fed basis. For our example, that would be $.88 \times 20,000 = 17,600$ pounds of dry matter available.
- The anticipated loss is determined from the sum of the loss expected during storage plus the anticipated feeding loss. The table below will help you estimate loss associated with storage. Feeding loss is based on experience. While storage loss estimates are pretty standard, feeding loss comes from factors including the feeder, feeding area, and species. This number is unique to your farm. For our example, let's say that our hay is stored in the attic of a barn (0% loss) and our animals tend to waste 10%. Our loss factor is $0\% + 10\% = 10\%$, which means that our animals consume 90% of the forage we put up. The loss factor is then multiplied by the amount of dry matter available to get an estimate of what dry matter our animals have available to consume this winter. In our example, that's $.9 \times 17,600 = 15,840$ pounds of feed

Type of Storage	Loss Factor
Inside on ground	5 to 7
Inside on crushed stone	3 to 5
Outside on ground, uncovered	20 to 35
Outside on ground, covered	15 to 35
Outside on stone, uncovered	13 to 20
Outside on stone, covered	10 to 17
Outside on other base, covered	12 to 20

Table 1. This loss table is based on unwrapped haybales. Wrapped bales will have little to no loss. This table was created by Bill Halfman, University of Wisconsin.

Continued on page 11...

Getting your forages tested can help you determine the amount of dry matter available in the bales, plus an estimate of protein and energy.

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Getting bales up off the ground and out of the weather limits storage losses.

The next step in the calculation process is to determine how much feed your animals will consume over the course of a day:

- First, list the number of animals you have and their production groups. For my example, I have 20 ewes that weigh 120 pounds each and 1 ram and 1 wether that weigh 150 pounds each. The example doesn't use lambs because in this hypothetical, they were lambing in the late winter, put out to pasture at weaning, and sold before winter. Idealistic, I know (:
- Next, determine the consumption of your livestock. The table below, compiled from NRC (National Research Council) recommendations, gives general estimates of the consumption of the major grazing species classes as the % of bodyweight per day. Our example ewes are gestating, and because they have a tendency to carry twins and triplets, and because they will be nursing while on stored feed, their feed needs will fall on the higher end of gestating and lactating range for sheep. Let's go with 4% here.
- Multiply the number of animals in each group by their weight and then by their anticipated consumption as a percent of bodyweight. Then, add those consumption values of the groups together. Our example flock has a ewe group where 20 animals x 120 pounds bodyweight x .04 = 96 pounds of feed for the ewes/day. The wether and ram are 300 total pounds x 0.035 = 10.5 pounds of feed for the males. That means that all the sheep on the farm are anticipated to consume 106.5 pounds of dry matter feed per day.

	Intact Males	Gestating or Dry Animals	Lactating Animals	Growing or Finishing Animals
Cattle	2.5%	2% - 2.5%	2.5% - 3%	2.5%
Sheep	3.5% - 4%	2% - 3.5%	3% - 5%	3% - 6%
Goats	2% - 3%	2% - 4%	2% - 3%	2.5% - 5%

Table 2. Nutrient values for the three major grazing species by production category. The values are derived from NRC recommendations. Generally, animals in the later part of gestation will require more nutrients or a higher volume of feed to meet their energy and protein needs. The same goes for animals that are expected to gain at a high rate vs a moderate or slow rate. Lactating animals with multiples require more feed than lactating animals with singles.

Finally, calculate how much feed they will consume this winter and compare that number to the amount of forage you have available.

- I generally recommend that producers estimate for a late start on the pastures and an early pull in the fall since we know that mother nature can be fickle. At this point, you can even estimate in a set number of days for summer feeding if you find that your pastures normally enter a summer slump and/or calculate a set number of extra days in the case of drought. In our example, we're going to pretend that we have a nice mix of cool season pastures, silvopasture, and summer annuals, so we won't need to calculate for summer feed. The grazing season on our imaginary hilltop starts around May 20th, and ends around November 1st, since we stockpile. That gives us 200 days for the grazing season, or 165 days for the winter feeding season.
- Multiply the number of days on feed by the pounds you anticipate the animals to consume per day. Our little flock will consume 106.5 pounds of dry matter/day x 165 days = 17,572 pounds of dry matter this winter.
- Compare the results of your calculation to your stored feed, and see how close you are! In our example, we have 15,840 pounds of dry matter available, and need 17,572 pounds of dry matter. That's really close, but if I had to choose in this example, I would pick up one more ton of forage just to be on the safe side. Sometimes, the amount of forage you need will be more than what you have, meaning you need to buy in forage. Other times, there is a huge excess of stored feed calculated, which means you can keep some for insurance or sell some. This decision comes from experience and your comfort with risk.

As you're going through this series of calculations, and you're unsure where you fall in terms of moisture, loss, or animal weights, estimate more moisture, loss, and weight than less. This will make your calculation more conservative. It's better to have hay left over at the end of the year than it is to need to scramble at the last minute to secure feed. With the days getting crisp and cool, I highly recommend running these numbers as soon as you can if you haven't already.

If you need any assistance or have any questions, feel free to reach out at amb544@cornell.edu or 716-640-0844.

These calculations take only a few short minutes, and can save you days of frustration come late winter!

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If you anticipate youngstock being born during the winter feeding period, they will not be accounted for in the calculation unless they are weaned during that time.

Dairy Market Watch

August 2022



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

Milk Component Prices			Milk Class Prices				Statistical Uniform Price & PPD				
Month	Butterfat	Protein	I (Boston)	II	III	IV	Jamestown, NY		Albany, NY		Albany \$/gal. to farmer
July 21	\$1.89	\$2.49	\$20.67	\$16.83	\$16.49	\$16.00	\$16.91	\$0.42	\$17.51	\$1.02	\$1.51
Aug 21	\$1.85	\$2.45	\$20.15	\$16.51	\$15.95	\$15.92	\$16.54	\$0.59	\$17.14	\$1.19	\$1.48
Sep 21	\$1.93	\$2.60	\$19.84	\$16.89	\$16.53	\$16.36	\$16.81	\$0.28	\$17.41	\$0.88	\$1.50
Oct 21	\$1.94	\$3.01	\$20.33	\$17.08	\$17.83	\$17.04	\$17.29	(\$0.54)	\$17.89	\$0.06	\$1.54
Nov 21	\$2.15	\$2.75	\$21.23	\$18.40	\$18.03	\$18.79	\$18.39	\$0.36	\$18.99	\$0.96	\$1.64
Dec 21	\$2.29	\$2.59	\$22.42	\$19.84	\$18.36	\$19.88	\$19.34	\$0.98	\$19.94	\$1.58	\$1.74
Jan 22	\$2.95	\$2.35	\$22.96	\$22.83	\$20.38	\$23.09	\$21.59	\$1.21	\$22.19	\$1.81	\$1.91
Feb 22	\$3.02	\$2.31	\$24.89	\$23.79	\$20.91	\$24.00	\$22.52	\$1.61	\$23.12	\$2.21	\$1.99
Mar 22	\$3.09	\$2.71	\$26.13	\$24.76	\$22.45	\$24.82	\$23.59	\$1.14	\$24.19	\$1.74	\$2.09
Apr 22	\$3.41	\$3.42	\$27.63	\$25.71	\$24.42	\$25.31	\$24.92	\$0.50	\$25.52	\$1.10	\$2.20
May 22	\$3.10	\$3.86	\$28.70	\$25.87	\$25.21	\$24.99	\$25.42	\$0.22	\$26.03	\$0.82	\$2.24
June 22	\$3.33	\$3.41	\$29.12	\$26.65	\$24.33	\$25.83	\$25.83	\$1.50	\$26.43	\$2.10	\$2.28
July 22	\$3.36	\$2.91	\$29.12	\$26.66	\$22.52	\$25.79	\$25.21	\$2.69	\$25.81	\$3.29	\$2.23

July Utilization (Northeast): Class I = 26.9%; Class II = 24.3%; Class III = 30.1%; Class IV = 18.7%.

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.

Dairy Commodity Markets (Excerpt from USDA Dairy Market News – Volume 89, Report 34, August 26th, 2022)

Dry Products: Following a downtrend in pricing for consecutive weeks, nonfat dry milk (NDM) prices shifted higher in every region this week. Inventories remain available, but there have been some increased interests from Mexican importers. Dry buttermilk prices were steady in the Central/East, while Western prices moved lower on the bottom of the range. Demand is quiet, but inventories are sparse, as well, which has created a somewhat quiet market.

Cheese: Cheesemakers are running busy production schedules in the Northeast and West. Cheese inventories are available for spot purchasing in the Northeast and West, but some producers in the Midwest say orders are starting to outpace availability. In the Northeast, retail demand for cheese is steady to lower and food service purchasing is steady.

Butter: In the Northeast and Central regions, cream volumes are tight. High cream multiples have enticed some butter makers in the Northeast into selling into Class II markets, reducing availability for butter makers. In the Northeast, tight butter inventories have caused some purchasers to look to the West for loads.

Fluid Milk: Hot and humid weather has pushed Eastern milk output lower for the most part, while cooler late summer temperatures have given Midwestern farmers more level milk output. Class I milk sales are strong, seasonally. In fact, they are likely near their peak as schools have begun or are prepping to begin within the next few weeks. Other processing needs are generally being met, but a number of contacts say processors are not at capacity. Cheesemakers are clearing spot milk loads at discounts of up to \$3 under Class, but there were some premiums of \$1 reported, also. Condensed skim remains at premiums, according to contacts, but it is still accessible. Cream is tighter in recent weeks.

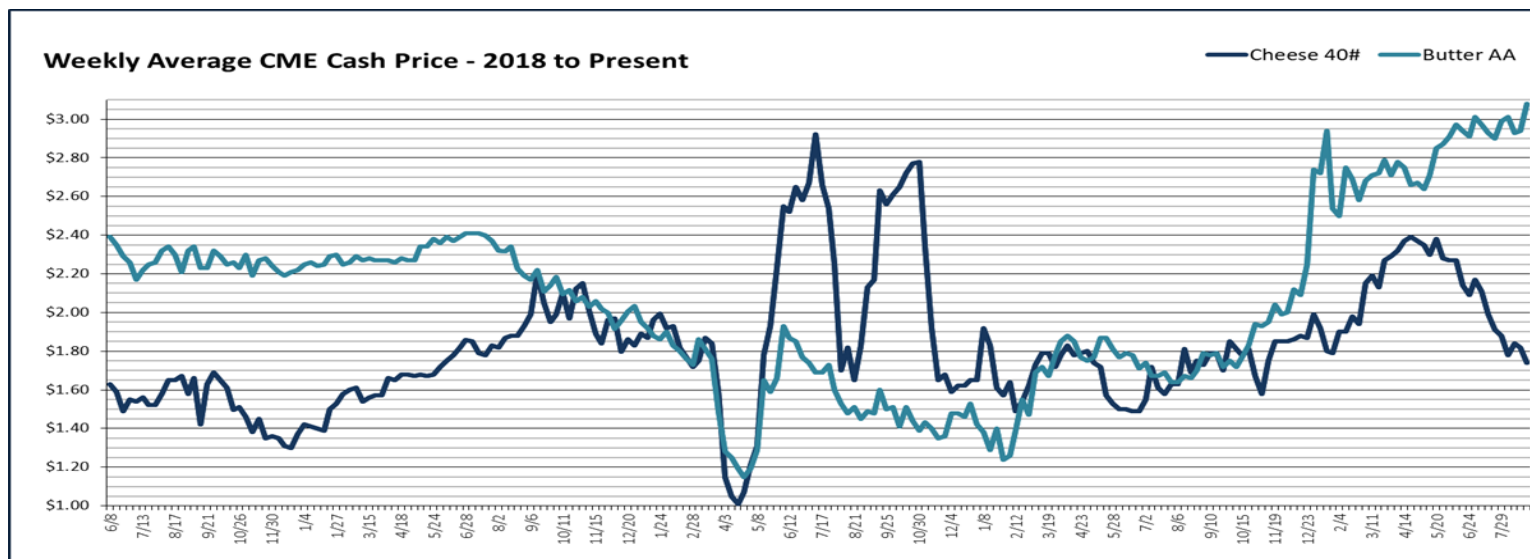
Friday CME Cash Prices					
Dates	7/29	8/5	8/12	8/19	8/26
Butter	\$2.99	\$3.01	\$2.93	\$2.94	\$3.08
Cheese (40# Blocks)	\$1.88	\$1.78	\$1.84	\$1.82	\$1.74

July's Albany \$/Gallon paid to the farmer was \$2.23. This is a slight decline from last months \$2.28, which could signal the beginning of softening milk prices.

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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.



Record High Butter Prices, Hopes for Pizza Sales, and the Start of the Slow(?) Decline

By Katelyn Walley-Stoll, Farm Business Management Specialist with Cornell University Cooperative Extension

See the beautifully intricate graph at the top of this page? This is a time honored tradition that has been assembled for Dairy Market Watch since before my time, which began 8 years ago. I've got data all the way back to 2003 on *weekly* commodity market prices for cheese barrels, blocks, and butter.

I've only ever had to change my vertical axis range (price in \$ on the left) twice - once in April of 2020 at the beginning of the pandemic when prices tanked to unprecedented levels - and today as butter spot trades exceeded my \$3.00 range.

Butter closed on Friday, August 26th at \$3.08/lb! "Why?", you say? Glad you asked. We're seeing tight cream markets and cream that's being diverted to other products. We're also seeing very low butter inventory in cold storage, per the latest Cold Storage report.

Want some more scary news to share with Granny ahead of the Holiday Cookie season? Butter prices might go even higher. In the Fall, prices typically creep upward as folks place and produce for holiday orders. When inventory and supplies tighten, butter makers are forced to pay premiums for cream.

Alas, this report can't be all good news for milk producers. It's more than likely that your latest milk checks have shown some slight decreases in milk prices. Part of that is caused by declining cheese prices. Contrary to butter, cheese is seeing record *high* storage, setting new records for natural cheese inventory with 1.5 billion pounds in storage as of July 2022.

We're also seeing a decrease in consumer purchases of cheese products, which trends with increasing rates of inflation and grocery store costs. Retail price index for all dairy products was 15% higher than a year ago. There also seems to be some slowing "eating out" spending as we all budget our purchases.

However, football season is almost here, and the pizza rush could be just enough to start pulling cheese out of storage and helping slow the decline of cheese prices. Go Bills!

Milk production is growing, barely, with 0.2% increase from June of 2021 to June 2022. However, it looks like the rate of increase might be hiking a bit higher, which will continue to slow milk prices. Another thing keeping prices afloat are some incredible export volumes and prices. 19.6% of June's US milk solids were exported, setting another new record. Dairy export forecasts show upward growth that will continue through the end of the year with our competitive prices.

While 2022's milk price outlook has declined slightly, it's still too soon to say what will happen as we round out the year and look ahead to 2023. And you can bet I'll still be saying that come December 15th. USDA softened it's forecasts as seen below.

From USDA	2022	2023
All-Milk Forecast	\$25.20	\$22.50
Class III Forecast	\$21.60	\$19.70
Class IV Forecast	\$23.95	\$20.35

While we might have the "record setting" milk prices of May and June in our rearview mirrors, the year will still end on a good note with, hopefully, enough factors propelling us towards another good year in 2023. At this point, things I'll be keeping an eye on include: inflation's effect on consumer purchases, maintaining international export price competitiveness, domestic production of milk and heifer replacements, and Josh Allen's throwing arm.

Butter in storage decreased by 5% from June to July this year, and a whopping 21% from July of 2021 to July of 2022.

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Dairy export forecasts show upward growth that will continue through the end of the year with our competitive prices.

Beef Quality Assurance Training

Saturday, October 15th

Level I training: 9am - 11am • Level II training: 9am - 2pm
Perrysburg Volunteer Fire Co / Town Line Livestock, Perrysburg, NY

Cost to participate: The training is free
Lunch and refreshments are either “pack your own” or provided by the program for \$15/person.
Please register by Wednesday, October 12th by contacting Amy Barkley at (716) 640-0844 or
amb544@cornell.edu.

You will learn:

- History and benefits of BQA training
- Stress reduction and management through low impact handling
- Herd health management and biosecurity
- Identification and recordkeeping
- Transportation considerations
- Introduction to VCPRs, veterinary drugs, and veterinary equipment
- Chute-side manner and how to properly give injections

This training will be for level I and level II BQA certification. If you are taking the training to recertify, you will only need to take the classroom training. If you want to become level II certified, you'll need to be present for both the classroom and chute-side training.



Cornell Cooperative Extension

This training is for:

- New cattle producers
- Seasoned cattle producers
- Cattle producers looking to become BQA certified
- Cattle producers looking to renew their BQA certification



Don't forget about the 2022 Ag Census!

This is an important tool to monitor agricultural production and secure support funding opportunities.

An aerial photograph of a farm with various fields, a barn, and some trees. The sky is clear and blue.

2022 CENSUS OF AGRICULTURE
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BQA is a nationwide program that can bring added value to your cattle through increased health, welfare, and product quality.

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The 2022 Ag Census will be an important tool for national decisions regarding agricultural program funding and productivity analysis.

All sheep & goat producers are invited!

FAMACHA & INTERNAL PARASITE IPM TRAINING

October 6, 2022
4:00pm - 6:30pm

What you will learn:

- Review of common internal parasites
- Symptoms of parasitic infestations
- Anti-parasitic drug classes
- Using Integrated Pest Management (IPM) to reduce drug resistance in parasite populations
- Pasture management for optimal forage production and limiting potential parasite burdens
- How to FAMACHA score

Registration is \$22/farm

Sheep and goats should be evaluated for internal parasites every 10–14 days during the grazing season.

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Older methods of deworming, including routine deworming of entire herds or flocks, are contributing to rapid parasite resistance to deworming drugs.

September 2022 - 15



Interested Joining Us?

Contact Amy Barkley, CCE Livestock and Beginning Farm Specialist, for more information and to register by Wednesday, October 5th at noon



(716) 640-0844



amb544@cornell.edu



<https://tinyurl.com/FAMACHAFall22>



Mitrowski House Farm, Machias, NY

We will be standing/walking for the entire training. You are welcome to bring a folding chair or bench to sit on.

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