Corns, 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.
Adjuvants can help improve mixing, application, and pesticide performance. There are various types that can be used to best fit your needs.

**Using Adjuvants in Your Pesticide Program**
*By Katelyn Miller, Field Crop and Forage Specialist*

An adjuvant is a substance added to a pesticide or spray mixture with a specific function. Different functions include improving mixing, application, and pesticide performance. Formulations can be customized for specific needs and local conditions, making it important to understand their characteristics. As warm weather approaches, it’s a great time to review how adjuvants can improve pesticide efficacy.

Now that we’ve reviewed the types of adjuvants, it’s time to take into account some important considerations for selecting one. Keep in mind some of the considerations below with the goals of your farm’s pesticide program.

1. A single adjuvant can’t do everything. Compatible adjuvants can often be combined to perform multiple functions at the same time.
2. Know when and when not to use an adjuvant. Some formulations already use an adjuvant, so double check before adding one to the mix.
3. ALWAYS read the label. The "Directions for Use" section will provide mixing instructions, and if any adjuvants are recommended.
4. Look for recommendations, suggestions or implied use like the examples shown below.
   - “spray coverage should be uniform and complete”
   - “thorough spray coverage is important”
   - “spray mix combinations must be compatible”
   - “coverage should be maximized”
5. Make sure your adjuvant of choice has been thoroughly tested and marked for pesticide use. If you are unsure of its efficacy, test the product on a small area first.

There are many options for using adjuvants, so always read the label for instructions and learn which ones can help suite your current pesticide program. If you want more information on adjuvants, refer to the DEC CORE Book which you can purchase online from the Cornell Book Store or by calling your PHOTOS CREDIT: University of Kentucky

**SURFACTANTS** help spread pesticide spray droplets evenly. They are also referred to as wetting agents or spreaders because they create a wet leaf surface by decreasing water surface tension. Be careful not to use too much surfactant, as it can cause excessive runoff and reduce pest control.

**STICKERS** increase the adhesion of solid particles to a target surface. They can help reduce evaporation and the amount of pesticide that washes off during rain. Many adjuvants are formulated as **SPREADER-STICKERS** which help spread the pesticide over the leaf surface and adhere to it.

**EXTENDERS** keep pesticides on the target surface which slows down evaporation and prevents the sun from breaking it down.

**PLANT PENETRANTS** enhance the penetration of some pesticides into plants.

**COMPATIBILITY AGENTS** are commonly used to help products mix. They help to reduce clumping, fix uneven distribution, and help to reduce the plugging up of the pump.

**BUFFERS AND ACIDIFIERS** acidify and stabilize the water in the spray tank. Most pesticide mixes are stable between a pH of 5.5 to 7.0, so the goal is to keep it within this target for the best efficacy.

**DRIFT CONTROL ADDITIVES** improve placement target by increasing average droplet size.

**THICKENERS** slow the evaporation of pesticides by increasing the thickness (viscosity) of the mix.

**DEFOAMING AGENTS** work to reduce foam created by some pesticide formulation agitation.

**FOAMING AGENTS** can be added to a spray mix to do the opposite of defoaming agents. Certain formulations work better with foam as it can help reduce spray drift. Usually, foaming agents are used in difficult to reach areas like septic pipes, under stoops, or for termite control.

**PHOTO CREDIT: University of Kentucky**

**PHOTO CREDIT: https://www.croplife.com/crop-inputs/adjuvants/adjuvants-activating-yields/**

Before using adjuvants, always read the label for their characteristics and mixing instructions. For more information, call Katelyn Miller.

April 2023 - 3
Northeast farms are planting over one million acres of cover crops, and momentum for this conservation practice continues to grow because of its crop, soil, and environmental benefit. Increasing financial incentives coupled with environmental regulations have pushed even more farmers to adopt cover crops. However, like any other crop grown on the farm, the benefits will only be realized with proper planning and timely management.

To make cover crops a successful part of crop rotation, especially in the Northeast, it is important to be creative and adaptable. Cover cropping works the best when it is an integral part of the farm’s cropping system, not just an afterthought. With spring knocking on our door, our focus is on the best strategies to terminate winter cereal cover crops. Emphasis is on being flexible based on weather, field conditions, and management goals. The best plan is to always have a backup plan!

**SPRING TERMINATION STRATEGIES FOR WINTER CEREAL COVER CROPS IN THE NORTHEAST**

**EARLY TERMINATION.** Early adopters of cover crops may “fear the cover crop” especially come spring! The first impulse is to get rid of it as soon as possible so it doesn’t interfere with cropping activities. In many cases if spring conditions are dry, it may be advisable to terminate the cover crop so that soil moisture is conserved for the cash crop. The cover crop begins to grow much earlier than most grass species and will actively remove moisture and nutrients from the soil. Early termination generally results in low cover crop growth resulting in minimal organic matter additions and nitrogen (N) credits. For farmers interested in higher cover crop biomass that still terminates early, consider sowing a winter tender species like oats, radishes or annual legumes that will kill with winter frost. **CONVENTIONAL TERMINATION TIMING.** Many farmers terminate the cover crop just prior to corn planting (seven to 10 days) or before the stems begin to elongate. There are many advantages to terminating at this time/stage. First, if the cover crop is terminated through tillage, it is easier to incorporate and may take fewer passes through the field. It also is generally easier for most no-till crop to push through the biomass and less chance for the cover crop to impede corn seedling growth. Many farmers select the time of termination based on moisture content of the soil, letting the cover crop grow closer to planting to reduce soil moisture in wet years or terminating earlier if the spring is dry. Herbicide termination too close to the time of planting might cause issues with the planter as the cover crop can become wiry and wrap-up around the coulters and row cleaners and ultimately plug up the planter. Manure can be applied on these fields as soon as field conditions are good in the spring, minimizing losses, but also getting it on soon enough to not impede cover crop herbicide termination.

**PLANTING GREEN.** Planting corn directly through a living cover crop prior to terminating it has become a popular approach because of the flexibility it allows the farmer to plant corn when the conditions are right without needing to worry about terminating the cover crop first. This maximizes the benefits of the cover crop by allowing it to grow as long as possible without getting overmature. It is often easier for a corn planter to work effectively, as the cover crop is still green and anchored to the soil, preventing wrapping on row cleaners and closing wheels or pinning residue in the furrow. However, once the corn is planted it is important to terminate the cover crop quickly to keep the cover crop from impeding corn growth and development. If the cover crop has elongated and heads are visible or nearly visible, the corn crop may require additional early nitrogen since the cover crop will be slower to decompose and release N. This approach also offers a lot of flexibility for

Like any other crop grown on the farm, the benefits of cover crops will only be realized with proper planning and timely management.
manure applications as manure can be applied anytime from the fall through spring on a living crop, reducing nutrient loss and runoff risk.

ROLLING AND CRIMPING. Cover crops can be mechanically terminated with a process that involves rolling down of the cover crop while simultaneously crimping the stems. This practice is gaining favor as a tool to manage cover crops that have “gone by” and with organic farmers interested in reducing tillage. Farmers are generally striving to terminate the cover crop before it begins to head/flower to minimize issues with planting of the cash crop. However, in wet years many farmers have found it difficult to get in the field and terminate the cover crop whether they have planted green or not. Once the cover crop has fully headed, biomass quantities can be very high and herbicides are less effective. Rolling and crimping the cover crop is a proven method to terminate a cover crop that is flowering and can be done before or after the annual cash crop is planted. Benefits to rolling and crimping include soil erosion protection, weed suppression, and keeping the soil cooler and retaining moisture during the hot summer months. It does, however, take intensive management and there are many considerations to take into account.

HARVEST FOR GRAIN, SEED, OR STRAW. Many farmers have been interested in taking the winter cereal grains to produce their own grain, cover crop seed, or straw. Growing grain for seed may require additional equipment such as a combine, drier, seed cleaner, and some type of storage. However, it can save the farm input costs and help to diversify the farm rotation. Winter cereal grains are harvested between July and August depending on location in the Northeast. The crop is harvested early enough to allow for a summer new perennial seeding or a legume cover crop ahead of corn or sorghum the next year. It also opens a summer window to spread manure.

NEW TO COVER CROPPING OR JUST WANT MORE INFORMATION? TRY THESE RESOURCES:

- Need more information on cover crops? Northeast Cover Crops Council’s website has some great tools available to help make decisions about species, seeding rates, planting dates, and more. Visit northeastcovercrops.com/decision-tool/.


- Looking for federal cost share programs? USDA-Natural Resource Conservation Service (NRCS) has several incentive programs designed to help defray the cost of cover cropping. Learn more about these initiatives or find a NRCS office near you at nrcs.usda.gov.

- Want to see what your local area offers for cover crop support? Check with your state government’s Agriculture Department or your county’s Soil and Water Conservation District for local programs and technical assistance. Many of these programs are focused on water quality, climate smart farming/greenhouse gas, soil health, and other initiatives.

- Worried about your crop insurance? NRCS and Farm Service Agency (FSA) have updated a coordinated policy regarding cover crop termination and have guidance here: www.rma.usda.gov/-/media/RMA/CoverCrops/NRCS-Guidelines-version-4-June-2019.ashx?la=en.

- Find Extension and university resources by state by visiting Northeast Cover Crops Council (NECC) resources page and click on your state: northeastcovercrops.com/resources/.

Early Spring  <<< During Crop Planting >>> Summer

- Early Termination
- Harvest/Graze (Forage)
- Terminate just before planting
- Planting green
- Rolling/ Crimping
- Harvest for grain/seed

Planting green has become a popular approach, but be sure to terminate the cover crop quickly so as to not impede corn growth and development.

A grain crop is harvested early enough to allow for a new seeding, and also opens a summer window to spread manure. For more information, contact Katelyn Miller at 716-640-2047 or km753@cornell.edu.
$28.5 Million in State Grants to Help NY Farms Combat Climate Change and Protect Water Quality

Jason Oliver and Kirsten Workman

On March 27, New York State announced $28.5 million in funding through the Agricultural Non-Point Source Pollution Abatement and Control (Ag Non-Point) and the Climate Resilient Farming (CRF) Grant programs. This is a substantial increase in funding from previous years. Program goals, eligible best management practices (BMPs), project deadlines and other details are below.

**Agricultural Non-Point Source Pollution Abatement and Control**

The goal of the Ag Non-Point program is to protect water quality and reduce or prevent non-point source pollution from agricultural activities. This year’s program (Round 29) has $13.5 million available. Cost-share funds up to 75 percent of total eligible costs of the planning or BMP implementation is available for proposals with no contribution (cash and/or in-kind services) from the owner or operator of the agricultural land, and up to 87.5 percent for projects with landowner or operator contributions. Proposals must be submitted to the State through Soil and Water Conservation Districts. A wide range of BMPs are eligible across the various land uses and management areas on farms and are based the farm’s conservation plan (for examples, see the Agricultural Best Management Practice Systems Catalogue). Reach out to your local Soil and Water Conservation District to discuss options and possibilities for the current or future funding rounds. Project proposals are due at **4:30pm on June 26, 2023.**

**Climate Resilient Farming**

The goal of the CRF grant program is to help farms mitigate their impact on climate change and adapt and increase resilience to the extreme weather events associated with climate change. Funding has nearly doubled to $15 million in the current (Round 7) request for proposals. Proposals must originate through the Agricultural Environmental Management (AEM) framework. Cost-share funds up to 80 percent of total eligible costs of the BMP implementation is available. Proposals must be submitted to the State through Soil and Water Conservation Districts. Reach out to your local Soil and Water Conservation District to discuss options and possibilities for the current or future funding rounds. Round 7 includes an emphasis on BMPs identified in the New York State Climate Action Council’s Scoping Plan including manure storage cover and flare, precision feed management and agroforestry. Applicants must apply under ONE of the tracks outlined below. Project proposals

**Track 1: Livestock Management: Alternative Waste Management and Precision Feed Management**

(Previously Agricultural Waste Storage, Cover and Flare Systems), $5 million

Projects that mitigate methane emissions and increase resiliency to major precipitation events including:

- Waste storage and transfer systems, including cover and flare systems
- Composting systems and composted bedding packs
- Solid-liquid separation systems
- Innovative manure treatment technologies
- Prescribed rotational grazing systems
- Nutrient management systems
- Feed management systems

**Track 2: Adaptation and Resiliency**

(Previously Water Management systems), $5 million

Projects that prepare farms for the impacts of a changing climate including floods and droughts:

- Riparian buffer systems
- Stream corridor and shoreline management systems
- Structural erosion control systems
- Green infrastructure systems (NYS stormwater management design)
- Irrigation water management systems
- Access control systems
- Prescribed rotational grazing systems
- Integrated pest management systems
- Weather monitoring systems to facilitate the above mentioned

**Track 3: Healthy Soils NY**

Projects that improve soil health, enhance resiliency to climate impacts, increase soil carbon sequestration and reduce greenhouse gas emissions from crop lands including:

Soil health systems, including weather monitoring systems and equipment to prevent or reduce soil compaction (note: cover crop practices will be awarded on a per acre basis for a three-year term). Erosion control and riparian buffer systems. Nutrient management systems, including application equipment for manure incorporation or injection; crop yield monitor systems; and weather monitoring systems and tools, all to advance implementation of existing Nutrient Management Plans. Prescribed rotational grazing system. Agroforestry and silvopasture systems.

For more information, reach out to any of our team members, your local SWCD, or NYS Ag and Markets.
It’s spring. Birds are calling, the harsh chill is starting to lift. Giddy with anticipation for your spring flock, you go onto your favorite hatchery’s ordering page and find out that they are sold out through summer. Concerned, you try your local farm supply store, but there’s nothing peeping in their bins - they sold out of their chicks as soon as they got them in this morning. So this begs the question, why can’t you get ahold of chicks right now?

It’s no surprise that increased input costs of farming have resulted in pricier eggs at the supermarket. To complicate matters, the presence of Highly Pathogenic Avian Influenza has resulted in the death of 10% of the nation’s laying hen flock. This setback in production, coupled with the holiday demand at the end of 2022, caused the wholesale price of eggs to spike to $5.43/dozen in December. It’s recently come down, but these prices are prompting more people than ever to add some chickens to their backyard and for small farms to increase the size of their laying flocks.

While egg laying flocks have been impacted by HPAI, breeder chickens supplying the eggs for meat producing (broiler) flocks have also been affected. The shortage of breeders means a shortage of meat-type chicks for everyone. For larger breeder operations, that means chicks that would normally be made available to small farms and backyard producers may first fill commercial broiler houses instead, limiting their availability. That said, at this point the shortage is localized to different areas of the US. If your hatchery doesn’t have broilers in stock, there may be other hatcheries that have them!

Regardless of what type of chicken they hatch or what market they sell into, breeders of chicks must plan their flocks at least a year in advance. For those flocks that are laying eggs for the 2023 hatching season, those breeders had to have been selected and raised in the summer and fall of 2022. So, this year’s numbers for hatchery breeder flocks are essentially set. Because companies have to project chick demand a year in advance, it can be challenging to estimate how many hens and roosters to stock in a breeding flock to match demand. Many times, they’re spot on, but with bird flu cases and overall demand increasing, demand is outpacing supply. Once the reservations are full, they’re full! Sometimes availability opens as orders are cancelled or ship dates are changed, but it’s a gamble to wait if you have a plan to raise a certain number of hens or meat birds this year.

So, what can small flock owners do this year to get the birds they need? There are a couple of options.

1. Explore hatcheries you haven’t investigated before. We recommend looking for baby poultry from NPIP-certified flocks, which are tested free of certain poultry diseases and have acceptable, practiced biosecurity protocols. A listing of NPIP-certified hatcheries by state can be found using the clickable map at: https://www.poultryimprovement.org/statescontent.cfm

2. If you know you will need chicks later in the year, get your reservations in now! Many hatcheries are already selling out through summer.

3. Consider purchasing straight run chicks, especially for laying strains. Straight run means that 50% of the chicks will be male and 50% will be female. The straight run option tends to sell out slower than the all pullet (female) option, so there may be straight run chicks available sooner than all female chicks.

If your orders are not already placed for the season, it may be challenging to find chicks. But the good news is that hatcheries will pivot and increase production for next year to meet this new demand.

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**Preparing Farms for the Loss of OTC Antimicrobials Webinar**

*May 3rd, 2023 at 7:00pm*

By June 11, 2023, the FDA will require farmers to have a prescription from their veterinarian to purchase all over the counter, medically important, antimicrobial products. Dr. Melanie Hemenway, Field Veterinarian with NYS Department of Agriculture & Markets will provide an overview of what this means for your farm.

With the elimination of OTC antimicrobials for livestock use, veterinary diagnosis is needed prior to treatment to ensure these products are used judiciously.


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Poultry producers may need to source their chicks from new suppliers this year! We recommend connecting with an NPIP-Certified hatchery.

For more information about the loss of OTC antibiotics and finding a veterinarian for your livestock farm, contact Amy Barkley.
Join us for our Spring Shop Talks!

Meetings will focus on crop rotations, fungicides and management considerations on the farm.

A light lunch will be provided at all meetings thanks to our sponsors.

Registration is preferred, but not required. Contact Katelyn Miller for more information.

Phone: 716-640-2047   Email: km753@cornell.edu

Tuesday
4/11
1pm
Managing In-Field Variability
Join us at the Teelak Farm in Cattaraugus County
7301 Hinman Hollow Road Mansfield, NY 14755

Thursday
4/13
1pm
Incorporating Small Grains Into Your Forage System
Join us at the Phillips Farm in Erie County
1809 Brant Road North Collins, NY 14111

Friday
4/14
1pm
Breaking Down Fungicides
Join us at Mahaney Farms in Steuben County
8316 Canaseraga Road Arkport, NY 14807
*0.5 DEC Credits in 1a, 10, and 21

Amy Barkley & Katelyn Walley-Stoll Named NYBPA Extension Educators of the Year

The New York Beef Producers Association is a group of beef producers dedicated to working together for the improvement of the beef industry. They are member driven to address the pressures and influences from outside of the industry to make a difference. Their annual conference took place on January 20th and 21st in Syracuse, NY. This was a great event that featured Keynote Speaker Temple Grandin along with other presentations, industry representation, and networking. One special announcement was that of “Extension Educator of the Year”. An annual award presented to extension educators and specialists that support beef producers by providing educational opportunities, research, and individual guidance.

This year, the award went to SWNYDLFC’s very own Katelyn Walley-Stoll and Amy Barkley. They were presented with this award at Saturday, March 18th’s Regional Beef Producers Meeting in Little Valley, NY. They are pictured here with Regional President and State Past President Ted Card. For more information, visit: NYBPA’s website at nybpa.org.

We hope to see you at once of our upcoming Shop Talks! Missed out on this round? No worries - we’re planning more for the fall season (and are looking for more hosts).
This webinar is for both dairy and beef producers and will cover information that will be helpful for experienced and new farmers.

The use of beef semen in dairy breeding selections has increased in our region. These calves can be used for farm diversification or additional revenue!
The study found that Holstein cows were, on average, $456 more profitable per cow annually than Jersey cows. These results do not apply to new facilities, where cost savings from scaling to the smaller Jersey cow may narrow the gap.

Despite the disadvantage in profitability, Jersey cows were slightly more feed efficient at 1.75 lb. of energy-corrected milk per lb. of feed dry matter compared to 1.67 for Holstein cows. Furthermore, Jersey feed cost per lb. of fat was $1.82, while Holstein cows had feed costs of $1.97 per lb. of fat.

Given these feed efficiency advantages, why weren’t Jerseys more profitable than Holsteins? Each Holstein cow, occupying the same single freestall and time in the milking parlor, for example, produced much more total revenue, thereby greatly diluting the fixed costs of production relative to Jersey cows. Although feed is the largest single cost on a dairy, maximizing feed efficiency doesn’t necessarily maximize profitability.

The study also analyzed what assumptions might have influenced the finding of greater profitability for Holstein cows. Were there variables that, if altered slightly, would have changed the overall conclusions? In general, changes in milk component prices, bonuses, or discounts did not lead to altered conclusions. The only variable that leads to an altered outcome was an increase in average Jersey productivity. If Holstein production does not change, increasing Jersey productivity from 60 to 70 lb. of milk per day with the same component concentrations would allow them to match the profitability of Holsteins. Of course, it is unclear what short-term changes would lead to such dramatic improvements in Jersey productivity without aiding Holstein productivity at the same time.

These results do not apply to new facilities, where cost savings from scaling to the smaller Jersey cow may narrow the gap. In the current financial environment in Michigan, though, transitioning from Holstein to Jersey cows in existing facilities does not appear to be a profitable decision for most dairy farms.
May 10th’s Ag Career Day is an opportunity for farms to meet with potential employees and vice versa. We hope to see you there!
Did you know that half of Americans don’t drink enough water? Despite our knowledge that water is crucial to keep our body functioning properly, our busy routines can get in the way of our hydration if we don’t always have a full water bottle. The same is true for our dairy cows. With so many important things to deal with on a dairy farm, it is easy to overlook water resources when routinely evaluating farm management. I recently read a review on JDS that showed, based on reports on Welfare Quality scores across European countries, although improved in recent years, there is still much room for improvement in access to fresh drinking water in dairy cattle production. The review also reflects on how little research is available on compensatory water intake in cows (drinking all needed water in limited visits) and how it may affect their stress levels, performance, and welfare.

**HOW DO COWS DRINK WATER, AND HOW MUCH WATER DO THEY NEED?**
Water is a crucial nutrient for cattle. In addition to maintaining various physiological functions such as digestion, transportation of nutrients to cells, and regulation of body temperature, milk is about 87% water, which means that a dairy cow producing 60 pounds of milk a day will excrete 52 pounds of water/per day just by producing milk. The main water sources for our livestock are drinking water (which provides up to 80% of needs) and water contained in the feed. The main determinants of dairy cow water requirements are milk production, feed ration composition, and ambient and water temperatures. A Holstein cow drinks, on average, 2.7 lb/lb of milk produced daily, meaning that a cow producing 70 lbs of milk would need almost 24 gallons of water/per day. This can almost double at high temperatures, making water availability during summer critical.

The drinking behavior of dairy cows is closely related to their schedules of feeding and milking. Indoor-housed cows fed TMR diets and milked twice a day will drink roughly 40% of their water within two h of both feeding and milking. (Figure 1). A dairy cow will typically spend between 10 to 60 min/day drinking and will go to the water source approximately 5 to 20 times a day. It is important to remember that cows are social animals that tend to synchronize their behavior, which means competition will occur when there is limited access to a resource.

**WATER QUALITY**
Water is a limited resource and ensuring good quality water for livestock animals is not always easy. However, providing low-quality water to your cows can reduce water intake and affect performance and health. A research project from Penn State analyzing water quality in 243 farms observed that almost 1/3 of farm water supplies had at least one water quality issue. Interestingly, average milk production for these farms was 10 pounds lower when compared with farms with good water quality. Also, none of the farms with high milk production (above 75 pounds of milk per cow per day) had water quality problems, while 32% of farms with low milk production (below 50 pounds of milk per cow) had at least one potential water quality problem.

- **Water analysis:** Good quality drinking water is clear, colorless, odorless, has low total solids, and does not contain pollutants or disease-causing organisms. Ideally, water testing should be done yearly. Many labs offer this service, and kit packages and instructions on collecting samples are available on lab websites. If you want more information on water analysis, please reach out at cd546@cornell.edu
- **Evaluating herd water consumption:** If you suspect water quality problems, evaluating the water intake of the herd can also be a valuable troubleshooting tool. In brief, this can be done by installing water meters on lines to drinking devices (when cows cannot access other water sources) over 5-10 days and comparing the average daily results of water intake to estimates of what they should be drinking.

Figure 1. An example of how lactating cows drink water during a whole day. The time of milking was 0530 and 1630 h and the feeding times were 0700 and 1500, respectively (Osborne et al., 2020, modified by Jensen and Vestergaard, 2021).

A Holstein cow producing 70 lbs of milk needs almost 24 gallons of water/per day, which can almost double during high-temperature days.
Ideally, water quality testing should be done yearly. We have labs that will run comprehensive tests for you, just call Camila Lage for more information.

Even if the farm has high-quality water, dirty troughs/bowls can reduce cows’ water intake and/or negatively affect their production and health. An excellent way to know if the water is clean enough is often to ask yourself if you could drink the water. Of the two pictures below, which would you prefer to drink water from?

Water troughs should be cleaned about once a week. Empty the tank and scrub all the dirt, algae, and other residues the best you can. Rinse it with a 10 percent bleach solution and rinse it at least 2x more with regular water to clean any bleach residue. For bowls, especially cows in tie stalls, cleaning should be performed more often if bowls are accumulating feed and dirt.

**WATER CLEANLINESS**

Even if the farm has high-quality water, dirty troughs/bowls, contaminated water, or a bad taste can reduce cows’ water intake and/or negatively affect their production and health. An excellent way to know if the water is clean enough is often to ask yourself if you could drink the water. Of the two pictures below, which would you prefer to drink water from?

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**WATER ACCESS AND FLOW**

Water quality and cleanliness are critical to ensure drinking motivation. However, lack of water availability will also affect water intake and limit herd performance. Good water access means that each cow has adequate space to drink water whenever she wants without competition and that enough water is always available. According to current recommendations, we should:

- Provide 3.5 linear inches (9 cm) of accessible waterer perimeter per cow with at least two watering locations with some distance between them per group. If using bowls, a minimum of 1 water bowl per 6 cows would be ideal.
- Study has shown that the water trough located in the middle of the barn is the heaviest used, which highlights the importance of cows not needing to travel more than 20 stalls to drink water.
- Cow flow around the waterer is very important, and the alley width should be a minimum of 12 feet for cow flow around the waterer, with the entire width of the crossover totaling 14 feet.
- Have a water supply rate of at least 6 to 7 gallons per minute. However, considering that the time right after milking is also a peak time for water use for cleaning the parlor and milking equipment, having water systems designed to provide about 30 gallons per minute flow rate into the tank will ensure that water does not become limited at active drinking times.
- The upper edge of the waterer should be located 24 to 32 inches (61 to 81 cm) above the cow standing surface for mature Holstein cows (21 to 29 inches (53 to 74 cm) for Jerseys). The water level should be within 2 to 4 inches (5 to 10 cm) of the upper edge.

**REFERENCES**

Dairy Market Watch

March 2023

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

Dry Products: Prices for low/medium heat nonfat dry milk (NDM) moved lower across all facets in the Central and East regions. The price range and mostly price series saw similar downward movement in the West, but the bottom of the price range shifted upward. Demand for low/medium heat NDM is light in the West and market activity is somewhat slow in the Central region. Prices for both acid and rennet casein have moved in a bearish direction, though contacts expect prices to hold somewhere near current levels going forward.

Cheese: Milk is available for strong cheese production in the Northeast and West. In the Midwest, milk remains accessible, though availability varies in different locations. Cheesemakers in the region are running active production schedules, and some say they are operating six to seven days a week. In the Northeast, demand for cheese is steady to strong from both retail and food service customers. Cheese inventories are steady in the Northeast and available to meet current spot purchasing demands in the West.

Butter: Cream is available for butter production in the Central and West regions, while availability varies in the East. Contacts in the East say spring flush will relieve the current tightness of cream for butter makers present in some parts of the region. Butter production is mixed in the East as some manufacturers say they are steadily churning, and others say labor shortages are causing them to operate reduced production schedules.

Fluid Milk: Milk output is steady or trending higher throughout much of the country. Bottling demand has also softened in the Northeast and Pacific Northwest as purchasers in those areas prepare for upcoming spring breaks. Downtime at drying operations in the East and Midwest is contributing to increased condensed skim availability.

February’s $/Gallon (Albany Price) dropped to $1.74. This is the lowest it’s been since December 2021, and is a 13% decrease from a year ago.


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<td>June 22</td>
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<td>July 22</td>
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<tr>
<td>Nov 22</td>
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<td>Dec 22</td>
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<tr>
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<tr>
<td>Feb 23</td>
<td>$2.71</td>
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February Utilization (Northeast): Class I = 29.2%; Class II = 24.8%; Class III = 28.1%; Class IV = 17.9%.

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.

Butterfat and Protein – Excerpt from USDA Dairy Market News – Volume 90, Report 13, March 31st, 2023

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<td>Cheese (40# Blocks)</td>
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<td>$2.00</td>
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Dairy Market Watch is an educational newsletter to keep help producers stay informed of changing market factors affecting the dairy industry.

14 - April 2023
USDA Class III forecast is $17.55 for the year, compared to 2022’s $21.94. Class III Futures are in the $18’s to low $19’s for the second half of the year.

Dairy Situation and Outlook - March 20, 2023 by Bob Cropp, Professor Emeritus, University of Wisconsin-Madison

Some strengthening of cheese prices in March will result in a higher Class III price. The February Class III was $17.78. March Class III could be near $18.00. Barrel cheddar cheese prices have increased steadily since early March going form $1.55 per pound to now $1.9525. Forty-pound cheddar blocks moved up and down in March declining to $1.78 per pound early March to now $1.99. Where milk prices are headed for the reminder of the year is a big question. The answer seems to change weekly as dairy product prices change as do forecasts of milk production, domestic sales, and dairy exports. Milk production increased just 0.1% in 2022. USDA is forecasting milk production to increase 0.9% in 2023. This higher increase will put some downward pressure on milk prices. It is not likely milk production will increase more than this. With continued high feed costs and higher cost of other inputs along with lower milk prices dairy producers will face tighter margins in 2023 than 2022. Also higher slaughter cow prices will likely increase the culling of cows from the herd and this along with fewer dairy replacements could actually reduce the average number of cows in 2023. USDA forecasts the average number of cows in 2023 will decline by 10,000 from 2022. High feed prices are likely to dampen the increase in milk per cow.

Domestic sales for 2022 fell slightly below 2021. USDA is forecasting domestic sales for 2023 to increase and being higher than 2021. Operators of restaurants are optimistic for sales in 2023. If this materializes it would strengthen cheese sales. Retail prices of milk and dairy products should also decline some which would help sales.

Dairy exports reached a new record in 2022. USDA is forecasting a decline in exports for 2023. This is based on the fact that U.S. will face more competition for markets as milk production is improving in Western Europe and possibly New Zealand, the two leading dairy exporters, and slower growth in global demand. However, dairy exports in January on a milk-solids equivalent basis was 16% higher than last year. Dairy futures are not the best price forecaster. In early March Class III futures were in the $17’s and low $18’s first half of the year. While Class III was $17.78 in February Class III futures through June have increased to the high $18’s. Class III futures were in the $18’s to low $19’s for the second half of the year and have increased to the high $19’s. These current futures are much more optimistic than USDA’s latest forecast. USDA Class III forecast is $18.20 first quarter, $17.25 second quarter, $17.35 third quarter, $17.45 for fourth quarter and averaging $17.55 for the year compared to $21.94 for 2022. While neither dairy futures or USDA forecast may end up near what Class III prices will be both are possible. Higher Class III prices the second half of the year versus the first half seems likely as milk production is seasonally lower in the summer and early fall while building of butter and cheese inventories begin in preparation for seasonally high butter and cheese sales Thanksgiving through Christmas. Based on projected less than a one percent increase in milk production, a modest increase in domestic sales and dairy exports down slightly USDA’s price forecast seems too low. Dairy futures may also be too high unless milk production ends up lower than projected and domestic sales and or dairy exports end up higher than projected. •
Tools you can use to decide to grow or buy or sell hay.

Okay, now that I’ve justified the importance of this topic and grappled with the “Buy or Grow” decision, let me be actually helpful and give you some resources and ideas to improve your hay production business or purchases. There is no way I can say that there will ever be a correct answer for the decision to buy or make or sell hay. It’s so dependent on your farm’s unique situation, your goals and resources, etc. But, there are tools you can use to make sure you’re making the best decision for your farm.

Calculating your Cost of Production.

Cost of Production is a financial analysis tool for farms of all shapes and sizes to use to improve their decision making capacity and operate their farm business profitably. Cost of production is calculated by adding the costs associated with a certain farm enterprise (or production area), and dividing that by the total units of production over a designated time frame (usually a year). For hay production, you would look at costs like fuel, equipment maintenance, supplies and then divide it by the number of bales or total tons of hay you produced. At the end, you would be able to say “It cost me $45 to make a round bale this year”.

The main requirements to calculate a cost of production are good records, time, and motivation. Records should include incomes by value and production unit, expenses and their allocation towards different farm enterprises, an estimate of the value of management labor and skills, and inventories of assets that include feed, supplies, and animals. Successful farmers set aside our most limiting input - time - to perform financial analysis. Having sound numbers can often save you time at the most critical moments! The first time through calculating your cost of production can be frustrating, but the end result is rewarding and future calculations will go much more smoothly! Refer to the example provided for implementing this on your farm.

To put together a partial budget you can use an excel spreadsheet, a fillable form from the internet, or my super fancy (not really) example here. You state the decision and name your assumptions. You then identify ways that the proposed change will change your farm’s income by reducing costs or increasing revenues. Examples of where partials budgets are really helpful including equipment fixing vs. replacement, hay production vs. buying, market options, manure vs. fertilizer, and much more! Refer to the example provided today for more information.
A lot of times, I get a phone call that goes something like this:

Caller: Hi, I have hay to sell. How much should I charge?
Me: Hi. How much did it cost you to make it?
Caller: I’m not sure, what’s the average price around here?
Me: ..... [long pause].

Why the long pause? Using market prices to sell your hay direct isn’t a great tool.

Looking at Hay Market Prices.
Without knowing how much it costs you to make the hay, there is no guarantee that you’re not losing money if you set the price too low. Oftentimes, when I work with farms to see what their cost of production actually is, we find that the prices they’re selling hay for are actually less than their costs to produce the hay. In this case, they were essentially subsidizing their hay enterprise with their own labor, off-farm income, and shared fuel expense with other enterprises.

That being said, knowing market prices can help you benchmark your prices and decide if buying hay might be a better route for you. There are a few different ways I check on market prices for our region. I’ll ask my farm neighbors, local CCE office, local crop places, etc. along with paying attention to the “side of the road” advertised prices. This gives you a hyper-local idea, but can oftentimes be way too low! Other places I look for market prices are using NASS Quick Stats, AMS Hay Market Reports, Auction reports from New Holland, PA and various classified sites (allhay.com and Grassroots in particular).

Recordkeeping and Risk Management.
Okay – hopefully I’ve convinced you that having good records is a great way to determine your cost of production, put together partial budgets, and make financial decisions for your farm. To keep sound financial records, you should set up a record keeping system that works for you (ledger, notebook, excel spreadsheet, QuickBooks, etc.) and monitor the incomes and expenses of the farm. You can also record and track transactions by enterprise to further mark what went towards hay production. You should also keep production records. This includes yield by field by cutting and harvest dates, quality, inventory, and sales records.

Don’t forget – you can insure your hay ground with crop insurance. The Pasture, Rangeland, and Forage Insurance Policy makes payments when area-based rainfall amounts fall outside of specified ranges and offers subsidized premiums. Losses are triggered when precipitation levels fall below average for the index interval for your region, and the losses are automatic – you don’t need to submit any paperwork and you can postpone premium payments until after the season. You can use RMA’s Agent Locator Tool to find a crop insurance agent near you.

Conclusion.
The long awaited conclusion. If you’ve made it this far, it’s not that much harder to calculate your hay operation’s cost of production! If you realize that you don’t have the records you need to do this calculation, set yourself up for success now ahead of this coming season. For assistance, reach out to your local Farm Business Management Specialist. While producing hay on farm, selling hay, or buying hay is a rough decision unique to each operation, it doesn’t have to be guesswork!

For more information about farm diversification, contact Katelyn Walley-Stoll at 716-640-0522. This article was written as part of Cornell Cooperative Extension’s “Diversifying Your Dairy” initiative. This material is based upon work supported by USDA/NIFA under award number 2021-70027-34693.
**Still Time To Respond To The 2022 Census of Agriculture:**
**USDA to follow up with producers who have not yet responded**

_By Alexandra Nseir, United States Department of Agriculture_

Farmers and ranchers still have time to be counted in the 2022 Census of Agriculture, according to the U.S. Department of Agriculture’s (USDA) National Agricultural Statistics Service (NASS). Although the deadline for submitting the ag census has just passed, NASS will continue to accept completed census questionnaires through the spring to ensure all farmers and ranchers take advantage of the opportunity to be represented in the widely used data.

“We thank everyone who has completed their census to date. Since data collection began last fall, over a million ag census recipients across the country have returned their questionnaires, ensuring their operations and communities are represented,” said NASS Administrator Hubert Hamer. “We want all producers to use their voices to help shape the future of American agriculture. Census data inform decisions about policy, farm and conservation programs, infrastructure and rural development, research, education, and more. The stronger the response, the stronger the data. It’s not too late for farmers to be heard through the ag census, which occurs only once every five years.”

NASS will continue to follow up with producers through the spring with mailings, phone calls, and personal visits. Farmers and ranchers are encouraged to complete their ag census either online at agcounts.usda.gov or by mail as soon as possible. The online questionnaire is accessible on desktop, laptop, and other mobile devices.

Federal law under Title 7 USC 2204(g) Public Law 105-113 mandates that everyone who received the 2022 Census of Agriculture questionnaire complete and return it, even if they are not currently farming. The same law requires NASS to keep all submissions confidential, use the information for statistical purposes only, and publish aggregate data to prevent disclosing the identity of any individual producer or farm operation.

NASS will release the results of the ag census in early 2024. To learn more about the Census of Agriculture, visit nass.usda.gov/AgCensus. On the website, producers and other data users can access frequently asked questions, past ag census data, special study information, and more. For highlights of these and the latest information, follow USDA NASS on Twitter at @usda_nass.

Complete your ag census online at: agcounts.usda.gov. Your response is required, and the USDA is extending their inclusion period.

If you have any questions, contact USDA by calling 1-800-727-9540 or emailing askusda@usda.gov.
THANK YOU TO OUR SPONSORS!
WE APPRECIATE YOUR SUPPORT.
Our cover photo this month is from the Bovine Reproduction & Artificial Insemination Training that took place on March 7th & 8th. Featured is SWNYDLFC’s Dairy Management Specialist, Camila Lage. Shown here are all of the class coordinators and participants. For more information or to participate in a future training course, please contact Camila by calling 607-422-6788 or emailing cd546@cornell.edu