Cows, Crops, and Critters
Newsletter

by the Southwest New York Dairy, Livestock, and Field Crops Program with Cornell Cooperative Extension in partnership with Cornell University and the five county region of Erie, Chautauqua, Cattaraugus, Allegany, and Steuben and their CCE Associations. To simplify information, brand names of products may be used in this publication. No endorsement is intended, nor is criticism implied of similar products not named. Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Changes occur constantly and human errors are still possible. These recommendations are not a substitute for pesticide labeling. Please read the label before applying pesticides.

By law and purpose, Cooperative Extension is dedicated to serving the people on a non-discriminatory basis. Newsletter layout and design by Katelyn Walley-Stoll.
Regardless of when your calving season occurs, manipulating the reproductive process of your cow herd can result in shorter breeding and calving seasons. Accordingly, more calves born earlier in the calving season result in an older, heavier, more uniform calf crop when you wean. Shortened calving seasons permit improvements in herd health and management such as timing of vaccinations and practices that add to calf value with less labor requirements (or at the very least concentrating labor efforts into a shorter time frame). Cows that are closer to the same stage of gestation can also be fed and grouped accordingly which facilitates a higher level of management.

Estrus synchronization can be used for natural mating or breeding by Artificial Insemination (AI). Synchronization protocols permit us to concentrate the labor needed for heat detection to a few days, and in some cases eliminate the need for heat detection when cows can be bred on a timed basis. Choosing an estrous synchronization protocol which can be used with AI or natural mating can be difficult as a number of synchronization methods are available. Traditional protocols are designed to mimic or control the corpus luteum on the ovary. Newer protocols have been designed to control ovulation and/or the follicular waves that occur on the ovary during the 21-day estrous cycle. Estrus synchronization systems vary in cost, labor required, and effectiveness. Management decisions regarding synchronization should be based on answers to the following questions:

1) Do you have adequate labor and facilities to successfully implement the management practices involved?
Most synchronization protocols will require at least two trips through the chute, plus at least one more if breeding by AI. Heat detection will require labor for several hours, twice a day to observe standing heats. Labor will be required to sort cows.

2) Do you have an AI technician available for the duration of time you will be AI breeding cows?

3) Cost of synchronization protocols can vary significantly. Is the cost justified?
Whatever method you determine best fits your operation, be sure to use the correct synchronization product at the recommended time and follow Beef Quality Assurance practices when administering the product.

4) Have you identified an AI sire(s) offering the genetic potential to increase your profit potential relative to your intended marketing endpoint or use of calves sired?
Use of AI permits us to get more cows bred to genetically superior sires for traits of economic importance to our operation’s production and marketing goals. Synchronization at the onset of breeding season, results in more cows having heats in the first 18 - 25 days of breeding season. Female's return heats will remain synchronized to a degree, which gives a second chance to AI each female in the early part of breeding season. Without any synchronization, herd managers are faced with a 21 days of continual estrus detection and typically only one opportunity for AI in most females.

Bottom Line: Estrus synchronization can be an important management tool to get cows settled as early in the breeding season as possible and get cows bred to bulls with highest possible genetic value. A defined breeding season is important to permit meaningful record keeping, timely management and profit potential. Maintaining a 60-to-75-day breeding and calving season can be one of the most important management tools for cow calf producers.

Mark Johnson, OSU Extension beef cattle breeding specialist, explains the process of heat synchronization in cow herds on SunUp TV from April 16, 2022. https://www.youtube.com/watch?v=2GFR5bqaoRls&list=PLglOSpVTcac6-pVMv08Eak78_7tJCuap&index=52 •

You don’t need to be using AI to reap the benefits of estrus synchronization; it can work with natural service, too!

Estrus synchronization can help tighten your calving window, resulting in a more uniform calf crop.
RFID tags are not required by law, but can be used as a means of official identification (required) when moving animals across state lines.

The use of RFID tags is a best management practice for those raising cattle, swine, and captive deer.

Radio frequency identification tags, commonly known as RFID tags, are one of the USDA-approved official identification tags for cattle, deer, and swine. While not yet required by law, the use of these tags is increasing, with the goal being to have all producers using them. This article shares some information on what these tags are, how they work, and how you can order them for free for your herd.

What is an RFID tag?
These tags are technologically very simple. They are a button tag that shares a unique 15 digit ID number that will follow the animal through its life. There are some non-official tags out there, but the official tag is what’s called an 840 RFID tag. This tamper-evident tag sports the US shield, a 15-digit number starting with “840″, the manufacturer’s logo, the statement, “Unlawful to Remove”, and an RFID chip embedded inside.

How does the tag work?
The individual number on the tag can be used by the producer for tracking in addition to standard ear tags. However, the tag number is also digitized on the RFID chip. This allows for quick identification of animals by officials using a quick scan should the animals need to be inventoried during a disease outbreak. By knowing where cattle are across the country and identifying cattle of unknown origin quickly, diseases can be contained rapidly, limiting spread to additional animals.

Who needs to use these tags?
NYS law states that all cattle moving across state lines should be permanently identified with a USDA approved ear tag. This can include an RFID tag. Even if not intending to move cattle out of the state, it’s good practice to begin using them in addition to standard farm ID tags. Tags are free from Ag and Markets, so besides adding a line in your cattle records for this additional identification number, there’s very little extra work needed on the producer’s end.

Where can I get tags?
NYS Department of Ag and Markets supplies free tags and tag applicators to farmers across NYS. Forms can be found by visiting https://agriculture.ny.gov/system/files/documents/2023/01/ai-489_order_form_producer_ear_tags.pdf We have also included a form on the following page that you can fill out, cut out, and send in to NYS Ag and Markets.
840 RFID Button Tags
- 15-digit, official, USDA-approved tags for US born animals
- Only 1 unique 15-digit number should be assigned to each animal
- Approved for cattle, deer, swine
- Approved official 840 RFID tags can come in many colors, sizes and styles. They must meet the following criteria:
  1. US Shield
  2. a 15-digit number starting with ‘840’
  3. Be tamper proof for one time use
  4. Bear the manufacturer’s logo
  5. Says “Unlawful to Remove” on tag
  6. Contains RFID chip
- Amount of Tags Requested: ________ tags (order in quantities of 10)
- RFID Tag Applicator Requested: Y / N

Metal NUES Tags
- 21P series, official, metal NUES tags
- Approved for cattle, deer, swine
- The 21P series is for producers. Livestock dealers should use 21M series tags on their personal cattle.
- Tag applicators for metal 21P NUES tags (style 49) are available through National Band and Tag Company https://www.nationalband.com/49-3/ or various vendors.
- Amount of 21P Tags Requested: ________ box (100 tags / box)

Option for DEER ONLY
- 21D series, official, metal NUES tags are slightly smaller than 21P tags—only farmed deer owners may order these
- For Deer only: amount of 21D Tags Requested: ________ box (100 tags / box)
- Tag applicators for metal 21D NUES tags are available from Ketchum Mfg. Co., Inc., plier #307 or 308 or various vendors.
Agreement with Receipt of Tags:

- These eartags are for use only at the premises below and may not be redistributed, shared, sold or traded to other producers.
- A record of eartag use must be kept for 5 years after eartags are applied. A spreadsheet will be provided with your tag order to assist in record keeping.
- Generally only 1 official ear tag is permitted for cattle.

Owner’s Name: ____________________________________________

Farm Name: ________________________________________________

Shipping Address (No P.O. Boxes): _____________________________

City, State, Zip: _____________________________________________

Physical Address of Farm: ____________________________________

Telephone: ___________________________ Date: ________________

Email: ____________________________________________________

Demographic Information Used for USDA Cooperative Agreement Reporting (please check one box per category):

- [ ] African American  [ ] Native American  [ ] Other  [ ] I prefer not to say
- [ ] With disabilities  [ ] Without disabilities  [ ] I prefer not to say
- [ ] Male  [ ] Female  [ ] Other  [ ] I prefer not to say

Producer Signature (required): __________________________________

Your signature indicates that you accept the terms of use and distribution of these tags (see above). A producer signed order form is required for each tag order from one farm, including any tag reorders. To receive your free ear tags, please complete this form and send it in by one of the following ways:

- FAX: 518-485-7773
- Email: daisupplies@agriculture.ny.gov
- Mail: NYS Department of Agriculture and Markets
  Division of Animal Industry
  10B Airline Drive
  Albany, NY 12235

Date Shipped: ___________ Initials: _______
COMING SOON -
New York Cash Rent and Custom Harvest Rates Survey

Farmers, agribusinesses, and community members are invited to participate in this first state-wide survey of its kind.

With research funds from New York Farm Viability, Katelyn Walley-Stoll is leading a statewide effort to collect valuable data on land rental rates by perceived quality and custom harvest rates for commonly sought services.

We’re incredibly grateful for these funds, the participation of our farmer steering committee, and the extension educators and specialists across the state who are a part of this effort.

The formal survey will be released soon with data collection efforts over the next couple of months.

Participating in the Dairy Farm Business Summary program is free, informational, and a great way to evaluate and benchmark your farm’s productivity.

To participate in DFBS, or to be included in our NYFVI research project, please contact Katelyn Walley-Stoll by calling 716-640-0522.
Inspection and performance maintenance on sprinklers, shade structures and cloths, fans and other ventilation systems, and water systems before the temperature rise.

It has been well established in the dairy industry that heat stress negatively affects all animals on the farm during the summer. Lactating cows experience fluctuations in fat and protein yields as well as lowered milk production and dry matter intake. Heat stress in dry cows leads to shorter gestation lengths, challenging transition periods, and reduced production in the subsequent lactation. Heat stress in calves and heifers affects growth rates and disease. It is essential to provide heat abatement to all animals on the farm, regardless of age group or stage of lactation. Heat abatement can be supplied in three ways: shade, air, and water.

Shade can be provided on pasture with trees or a shade structure. When shade is provided on pasture, it has been shown to decrease aggressive behaviors toward other animals and increase rumination, grazing, and resting time (Kendall et al., 2006; Vizzoto et al., 2015). Shade can also increase milk production when provided for lactating animals on pasture. There are several variables to consider when building shade structures: whether they will be permanent or moveable and the cost of materials. Some producers employing rotational grazing practices may want to move their shade from pasture to pasture. Many portable shade structures are built with a steel frame and can be pulled around pastures with equipment or are collapsible for easy transport. Mobile shade structures can be constructed with corrugated steel coverings or shade cloth. Shade cloths must be replaced every few years due to damage; corrugated steel may have a longer life than shade cloth. When summer is over, consider what will happen to your shade structures over the winter. If your system includes a shade cloth, it can be ripped or damaged by the weight of snow, so the shade cloth should be removed, or the structure should be collapsed before winter weather. If shade structures are left on pasture over the winter, they should be inspected in the spring to assess any damage and need for replacement. Shade cloths should also be inspected at the end of the summer season to assess damage due to birds.

While shade looks straightforward in a barn, it is essential to consider where the sun shines into pens at different times of the day. Ideally, barns should be oriented east-west to prevent solar radiation from shining in (Tyson, 2017), but that is only sometimes possible due to land constraints and the direction of prevailing winds. If the sun is shining into the barn during hot summer days, adding a shade cloth to the side of the barn may be beneficial. This shade cloth could prevent cows from bunching at one end of the pen to be out of the sun’s reach. When putting a shade cloth on the sidewall of a barn, ventilation must be considered. Since a shade cloth could block ventilation, it should be movable and taken down when the sun is not shining into the barn; it should also be removed or rolled down before winter. Another option would be putting a shade cloth on the outside of the barn parallel to the ground to move the shade line out from the barn; this option may be preferable as it would not block any air exchange. Similar to shade clothes on pasture, they should be inspected regularly for bird damage.

Air exchange and velocity are paramount considerations for heat abatement when animals are housed in a barn. Providing animals with air exchange adequate for normal breathing and behaviors and enough air velocity to cool them during the summer is essential. Air exchange can be accomplished during the summer using tunnel or natural ventilation; circulation fans can increase air velocity. Fans and tunnel ventilation can only cool cows if functioning correctly, meaning maintenance should be performed to ensure this; dirty fans are less efficient. Spring fan maintenance should include cleaning all fan parts: blades, air inlets, motors, etc. All parts, including blades, belts, and cords should be inspected and replaced if damaged. The fan's manual from the manufacturer should also be checked to ensure proper lubrication (Huyser, ISU Extension and Outreach). The angle of fans should be considered when conducting fan maintenance. Your nutritionist or local extension educator may have an anemometer capable of measuring wind speed. Wind speed should be measured at cow lying and standing heights in stalls and standing height at the feed bunk. If wind speed is not at least five mph at lying and standing heights, fans may need to be reangled to a 15 to 20-degree angle (Tyson, 2017). Similar maintenance should be performed on exhaust fans in tunnel ventilation systems.

Water is arguably the most important form of heat abatement for cows during the summer. One of the best ways a cow can cool herself down is by drinking cold water. When water is hot, it does not cool cows as much or as long as when they drink cold water (Bewley et al., 2008). If possible, water tanks should be placed underneath a shade structure on pasture to keep water temperatures cool and encourage drinking behavior. Dairy cattle will drink five to six more gallons of water on a hot day (Jones et al. 1999), so enough water should be provided for all animals, meaning 2.5 to 3.5 inches of trough space per animal (Tyson, 2017). Water tanks should be checked on hot days to ensure they contain a steady supply of cold water.
and cool days to see if the refill rate is high enough or if cows are waiting for a drink. Additional tanks may be considered for the summer if the tanks are not refilling fast enough. Water tanks should also be checked regularly for cleanliness, as some animals may like to stand in water to cool down during the summer. Water tanks should be cleaned regularly to prevent the spread of disease on your farm. If cows are standing in waterers regularly during the summer, a guard rail could be added around the tank similar to a feed rail.

Water can also be utilized as a form of heat abatement through sprinklers/soakers. Not only can sprinklers increase milk production in lactating cattle, but they can also increase dry matter intake in all animals on the farm during heat stress (Igono et al., 1987). When sprinklers are located at the feed bunk, dairy cattle will spend an extra hour eating daily, offsetting some of the reduced dry matter intakes that come with heat stress (Chen et al., 2013). To perform spring maintenance, sprinkler lines, and sprinkler heads should be checked for debris and cleaned to ensure that water can flow out at an appropriate pressure. Debris may be a more prevalent problem if hard water is present on your farm. Pipes should also be checked for leaks and replaced if needed to conserve water.

In conclusion, heat abatement is essential for every dairy animal, but it is only beneficial if it works properly. Spring maintenance should be performed on the three critical forms of heat abatement: shade, air, and water. When a heat abatement system works correctly, it can improve dairy welfare and animal performance.

References:
Huyser, D. Pre-Season Fan Maintenance. Iowa State University Extension and Outreach.
According to the International Survey of Herbicide Resistant Weeds, there are currently 515 unique cases (site of action x species) of herbicide resistant weeds globally. This organization also reports that weeds have evolved resistance to 21 of the 31 known herbicide sites of action and 165 different herbicides.

One or more herbicide resistant weed species can be found in every state in the Northeast and are present in major crop production areas across the country. Herbicide resistant weeds are not new. In 1977, a population of triazine resistant common lambsquarter found in a New York corn field was the first confirmed herbicide resistant weed in the Northeast. The list of herbicide resistant weed cases throughout the Northeast continues to grow as time goes on. Populations of horseweed (marestail) with resistance to both glyphosate and acetolactate synthase (ALS) herbicides are rapidly expanding. Herbicide resistant Palmer amaranth and tall waterhemp are found in the Northeast with reported cases of populations resistant to glyphosate, atrazine, and ALS herbicides.

This situation has prompted refinements to control recommendations for these multiple resistant annual broadleaf weeds in field corn, soybeans, and wheat. Triazine, glyphosate and ALS herbicides have played, and will continue to play, an important role in field corn weed control programs. However, effective control programs for these resistant strains will involve the use of crop rotation and cultivation along with herbicide rotation and/or use of herbicide combinations that include herbicides with different sites of action (SOA). The SOA is the location in the plant where the herbicide acts or has its effect on the plant. These practices will also delay development of weed populations to these and other herbicide groups.

The first line of defense for herbicide resistant weed management is knowing what weeds are present - proper identification and frequent monitoring of weed populations for early detection of any potential resistant weeds present. If resistant weed populations are identified early, it provides growers an opportunity to contain and minimize the spread to additional acres across the farm operation.

**START CLEAN, STAY CLEAN, CONTROL EMERGED WEEDS PRIOR TO PLANTING THE CROP**

This can be achieved by using either tillage or a preplant burndown herbicide. This reduces the risk of not controlling the weeds after the crop has emerged. Once the crop has emerged, many of our effective preplant burndown herbicides are no longer an option to use. Utilizing practices that maintain weedfree fields, such as the use of soil residual herbicides or inter-row crop cultivation, reduces the chances for additional weed seed production.

**MINIMIZE HERBICIDE SELECTION PRESSURE**

Minimizing herbicide selection pressure on the weed populations is an effective strategy to delay the development of resistance. Rotating herbicides with different sites of action and the use of tank mixes or sequential applications that involve herbicides with different sites of action are key elements in herbicide resistance management plans. Emphasis should be placed on using herbicides with different sites of action in the tank mix. For this strategy to work, there must be products with at least two different sites of action that are effective on the targeted weed.

To do this most effectively, everyone involved in decisions about weed management must have site of action classification for the herbicides readily available. The Weed Science Society of America (WSSA) has approved a numbering system to classify herbicides by their site of action (Mallory-Smith, C.A. and Retzinger, E.J. 2003. Revised classification of herbicides by site of action for weed resistance management strategies. Weed Technol. 17:605-619). In this system, a group number is given to all herbicides with the same site of action. Take Action has a very handy SOA(s) herbicide lookup tool app found at: iwilltakeaction.com/app.

**CROP ROTATION**

Crop rotation can be another effective herbicide resistant weed management tool. Planting different crops allows for rotation of herbicides with different sites of action, reducing the weed’s exposure to the same chemistry in consecutive years. Diversity of crops in the rotation that have different planting dates, uses, and harvest schedules can disrupt the weed life cycle and competitiveness. For example, perennial forages crops such as alfalfa and grasses suppress many of the annual weeds. Multiple harvests of these forage crops during the growing season prevents many of these annual weeds from producing any seeds. Planting a winter cereal crop or other fall-planted cover crop is an effective strategy to suppress horseweed growth. It works best if the crop is planted early enough to provide the necessary biomass to suppress the emerging horseweed.

**PREVENTION**

Prevention is the most overlooked weed management strategy. The easiest way to control weeds is to not let them get established on your farm or in your field.
Cleaning equipment to prevent the spread of weed seeds is an important weed control strategy. When harvesting a field with patches of resistant weeds, try to begin in the cleanest area of the field before harvesting the areas where the resistant weeds are present. If there are fields on the farm without resistant weeds, harvest those first and save the most infested fields for last.

Purchasing used farm equipment from other states or areas with known herbicide resistant weed, such as tall waterhemp and Palmer amaranth, is a documented way to import new weeds to the farm. To demonstrate how weed seeds can be moved via combines, Cornell Cooperative Extension North Country Regional Ag Team field crop specialists worked with a grower that recently purchased a used combine from Illinois. It has been previously documented that combines can contain approximately 150 pounds of biomaterial (chaff, grain, weed seed). Prior to its use on the farm, the combine was thoroughly cleaned, the biomaterial was screened multiple times, and weed seeds were sorted out individually by hand. Approximately 97 percent of the weed seeds collected from the combine were tall waterhemp, a weed currently not found on this grower’s farm.

Using diverse weed management techniques to prevent or slow the spread of herbicide resistant weeds is extremely important. Once herbicide resistant weeds become established on a farm it requires changes in management practices and weed control costs will be increased.

References
Hunter, M. 2020 Herbicide Resistance Management: Get to know herbicide sites of action. blogs.cornell.edu/whatscroppingup/2019/01/30/herbicide-resistance-management-get-to-know-herbicide-sites-of-action/

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**Region 9 Exam Schedule**

Please mail exam paperwork to the DEC Region 9 Headquarters at the address below:

NYSDEC Pesticides Management
700 Delaware Avenue
Buffalo, NY 14209

DO NOT mail exam paperwork to the DEC Region 9 Allegany office or the exam sites below. This will delay processing of your paperwork.

The following locations and dates are available for ALL exam types:

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*Please note: Dates and/or times of exams are subject to change.*
The Price Of My Accounting System Just Went Up! What Should I Do?
By Mary Kate MacKenzie, Cornell PRO-DAIRY, (article edited for length)

Farm managers need sound financial records to prepare income tax returns, obtain financing from lenders, analyze new investments, and make business decisions with confidence. A strong financial accounting system is foundational to the success of any farm. Every accounting system has its costs and benefits, and a farm manager must analyze both to select the best option for their business.

Over time, the relative costs and benefits of accounting systems change. Companies that develop accounting software regularly change program features and add new capabilities. They also adjust prices in pursuit of their own business goals. A farm’s accounting needs may also evolve in response to growth, diversification, or other changes to business operations or structure. A farm manager may wish to reevaluate their accounting system when facing any of these changes.

In recent months, I have received a flood of questions about changes to the price and cost structure of QuickBooks Desktop accounting software. In the past, a thrifty business owner could pay once to download QuickBooks Desktop and use it for years without additional fees by forgoing the annual upgrades. However, 2021 was the final year that Intuit made QuickBooks Desktop available for a one-time fee. Beginning in 2022, new QuickBooks Desktop releases are only available with an annual subscription. Additional fees apply for payroll and other add-on services. Business owners accustomed to getting years of accounting software use for a one-time fee are concerned about the higher annual cost, and some are exploring alternatives.

This article addresses the most common questions I have received from current QuickBooks Desktop users and presents a framework for accounting software decisions that can be applied more broadly.

How long can I continue using an older version of QuickBooks Desktop?
The answer to this question depends on which version you own, and which features you use. If you only use basic recordkeeping and accounting features, you may not need to upgrade. You can continue entering transactions and generating reports without issue. However, if you use an older version, you may have trouble sharing your company file with other QuickBooks users, like your accountant, who have the latest version.

Alternative Accounting Systems
If you are seeking an alternative to QuickBooks Desktop, QuickBooks Online is a natural option to consider. QuickBooks Online can automatically import transactions from bank accounts and credit cards, reducing time spent on manual data entry. You can use the following link to test drive a hypothetical company in QuickBooks Online for free without entering any personal information: https://qbo.intuit.com/redir/testdrive. If you are considering accounting systems beyond QuickBooks, many options exist. While not comprehensive, here is a list that may be useful in guiding your research. The first six programs, listed alphabetically, are specifically designed for farm businesses.

- AgSquared Farm Management Software
- CenterPoint Farm Accounting Software
- EasyFarm Accounting and Management Software
- Farm Biz or Ultra Farm Accounting Software
- FBS Systems Agricultural Software
- PcMars Farm Accounting Software

These three additional accounting programs are not farm-specific, yet they may be adequate for the accounting needs of some small farm businesses.

- GnuCash
- Quicken
- Wave

There is no Such Thing as a Free Lunch
It is important to remember that a “free” accounting system is not actually free. Recordkeeping and accounting work takes time, and that labor has a cost. If an owner does this work rather than an employee or an accounting firm, it can be easy to overlook the cost of their labor. However, farm owners have an infinite number of things they could do with their time if they were not sitting in front of a computer entering transactions. For this reason, it is critical to include the opportunity cost of owner labor when evaluating the true cost of an accounting system.

To make the best possible decision for your farm, be sure to consider the true cost of each accounting system and its potential benefits when comparing alternatives.

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Seedcorn maggot risk assessment

By Katelyn Miller, Field Crops Specialist, Southwest New York Dairy, Livestock and Field Crops Team

Seedcorn maggot (SCM) is a pest that was first introduced in the mid-1800s from Europe. Today, it is distributed throughout the United States and southern Canada. This pest impacts large-seeded crops such as corn and soybeans, creating feeding damage to germinating seed.

The seedcorn maggot life cycle begins with the adult fly, which resembles a house fly. The adults lay eggs in the soil early in the spring near food sites or in soil cracks. Because the flies lay eggs in specific locations, fields that are heavily manured or have newly terminated cover crops are favored. The maggots hatch and burrow into the seeds looking for food, creating damage that greatly reduces the chance of a healthy plant emerging, often times killing it. Damage is more severe during cool, wet springs because of delayed seedling emergence. Reduced plant stands will become evident approximately a week after plants begin to emerge.

Unfortunately, there are no rescue treatments for seedcorn maggot. When a field has been severely damaged by the pest, the only option is to replant. This makes preventing infestation the best practice. Partaking in cultural practices like planting when soil and moisture conditions favor quick germination helps to reduce damage to the crop. Management practices revolve around the use of neonicotinoids, which are insecticides chemically related to nicotine. Currently, neonicotinoids are under review for their effects on the environment and pollinators. At this time, seed can still be purchased with the neonicotinoid treatment already applied, but the insecticide has been reclassified as a restricted use pesticide. If you’re curious about which products have been re-classified, visit the DEC chemical database, which can be found here: https://www.dec.ny.gov/chemical/298.html#NYSPAD.

The New York State Integrated Pest Management (NYSIPM) Program is currently working with NYS Agriculture and Markets to evaluate alternative treatments for this pest. Simultaneously, the Poveda Lab with Cornell University is working on creating a prediction model for the pest that correlates to our Northeast climate. Research is designed to minimize the economic impacts of SCM damage by developing a predictive early season emergence model for the Network for Environment and Weather Application (NEWA) platform, which can be viewed here: https://newa.cornell.edu/. Data is being collected throughout the state for this model, with 9 locations here in Southwest, NY. At each location, there are two sticky traps placed 100 feet apart with a temperature probe. The traps were placed in the first week of April, and will remain until the middle of June, as this is the usual time the pest will attack corn. Every week during this time, the sticky cards are sent in and pest data is correlated to the weather data being collected. Once this research is completed, a new and improved model will be available to producers to help predict SCM emergence!

If you would like to be involved in this project in the future, reach out to Katelyn Miller at 716-640-2047 or km753@cornell.edu.

May 2023 - 13
The return of an age-old practice is gaining in popularity within the dairy farming community with the rapid and increasing adoption of automated milking systems (AMS) – feeding part of the concentrate ration during milking. AMS farms routinely feed concentrate at the milking robot to incentivize cows to go voluntarily to the milking robots. However, concerns and questions about the amount provided, nutritional composition, physical form, and how it affects overall feed efficiency, health, and the economics of the system arise and need to be addressed.

In the AMS, the number of times cows visit the robot is defined by the management strategy and lactation phase. The most common way to reach the goal of visits per day is by luring cows to the box with concentrate feedings. The amount fed to the cows is predefined and can change from cow to cow, allowing for an individualized nutritional plan to some extent.

In parallel, there is a rising interest in the "precision feeding" concept, which would consist of an effort to provide the exact nutrient requirements of individual cows in a herd. Precision feeding could be explored in AMS by adjusting the concentrate allowances based on particular cow performance. Spaced feedings throughout the day could be an alternative to avoid nutritional problems.

What do we know about feeding part of the concentrate separated from the diet?

The physical form of the concentrate:
The current recommendation and most used concentrate form is a pelleted version. Reasons for this include:
- Palatability and cows' preference
- Reduce waste and leftovers in the bowl.
- Easy handling
- Higher intake per minute

The downside of using pellets includes a higher cost associated with a pelleted diet and limited opportunity to use feeds produced on the farm and by-products. Producers are already experimenting with alternatives to pellets, using simpler feed ingredients such as meals or farm-made processed grain mixtures. However, recent research from Canada observed that concentrate form (using steam-flaked barley to replace pelleted barley) affects milking behavior even when performance is not affected, suggesting that potential losses in performance can happen depending on the stage of lactation and traffic flow. The researchers concluded that using a pelleted concentrate in AMS is the best option to encourage voluntary visits to the system and reduces the time associated with nonproductive behaviors.

How much concentrate?
The main challenge when it comes to the milking frequency in AMS is that, in addition to the best nutrition strategy to achieve this goal, other aspects such as the social structure of the herd, barn design, traffic, productivity, and health condition of the cows also play a role. Maximizing the milking frequency of the right cows and minimizing the need for fetching cows is the main goal of using concentrates as treats on the AMS box. On the other hand, opportunities exist to feed cows more precisely based on their needs, potentially increasing profitability. The best strategy will be farm-dependent, but we will discuss some of the ups and downsides of each strategy below.

The Canadian survey in 2013 reported an average of 9 lbs. of pellets offered in the milking robots daily. However, it can vary from 2 to 25 lbs. depending on the system (i.e., Free-flow or guided flow). Swartz and colleagues (2022 – ADSA presentation) reported an average of 12 lbs. of concentrate fed in the robots for 38 farms located in Minnesota and Wisconsin. The amount fed to the robots ultimately defines the nutritional density of the PMR (partial mixed ration). The variability of milk production and lactation stages in the same pen imposes a challenge since greater amounts of concentrate are fed in the robots for high-producing cows in an attempt to avoid overfeeding cows that produce less milk. In addition, most AMS systems only have a single bin for storage and delivery of concentrate to cows in certain barns or pens. Under this situation, the only possibility to adjust cows' diets to their requirements is the amount of concentrate each cow is entitled to consume daily. Thus, cows receive different amounts of concentrate but with the same composition, which could result in an imbalanced nutrient supply as milk yield deviates from the yield nutritionist used to formulate the feed supplement.

What is observed in most of the studies evaluating different amounts of concentrate feeding in the robots is that the increase in concentrate is accompanied by increased...
variability in concentrate intake. Especially when cows go voluntarily to the AMS, daily variations in milking frequency can occur. If the milking frequency decreases, the amount of concentrate the cow can consume in the AMS will also decrease – since there is a limited concentrate allowance delivered per minute during milking. Moreover, research shows a constraint in the capacity of eating concentrate offered during milking. On average, cows are milked three times a day and spend around 6.8 minutes at the box; since cows can eat about .7 lbs. of pellets per minute, the maximum amount of pellets a cow would be able to eat per day would be around 15 lbs.

Another less discussed point is that, when feeding more concentrate in the robots, nutritionists need to account for intake variability and substitution effect (e.g., the amount of PMR that cows will not consume when more concentrate is fed compared to a cow provided less concentrate).

Reducing the amount of concentrate feed on the robot box and maximizing nutrient intake from PMR can be a good and economic strategy when feeding a more homogenous group of cows and/or when the concentrate costs are high. Halachmi and colleagues (2005) compared milking frequency when limiting concentrate delivery at each milking to 2.64 pounds versus a maximum allowance of 15.4 pounds/d. They reported no differences in the number of voluntary visits to the AMS. Similarly, Bach and colleagues (2007) compared a concentrate allowance of 6.6 or 17.6 pounds/d and reported no differences in the number of daily visits to the AMS. Research hypothesizes that producers may have more flexibility to use other feed forms without compromising visits to the AMS or production parameters when offering lower quantity concentrate. It is important to highlight that more data is needed in the literature to support this hypothesis.

Composition of the concentrate:
Using more than one feed bin to deliver concentrate to the robots is becoming more common. Having more than one concentrate available to feed cows milked in the same pen or robot allows nutritionists to formulate, using one PMR, diets that can meet cow's requirements with more precision even when the milk production has greater variability within the same pen or when it is of interest have diets to attend different physiological needs (e.g., fresh cows vs. other lactation stage cows). On a more precise feeding note, an interesting strategy is to formulate one protein and one energy concentrate and feed them to cows at different proportions and quantities according to milk yield, BW, stage of lactation, and even milk components to meet their requirements.

As more research and data become available, new tools will be created to improve herd performance, efficiency, and profitability in AMS and conventional systems. However, we should remember that to take advantage of the full potential of precision feeding, the other aspects of farm management need to be in place. Therefore, if a herd has management problems, adopting precision technologies is unlikely to solve them.

Cows under AMS eating Partial Mixed Ratio (PMR).
Dairy Market Watch
April 2023

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

Dry Products: As a large industry conference looms, marketers relay some quieter trading on both the seller and buyer sides of the dairy powder markets. Some directional tones can shift, as many industry participants plan to meet in person early next week. Low/medium heat nonfat dry milk (NDM) prices moved lower in the Central region, while prices were mixed in the West. Demand remains in a quieter mode, but there are ample amounts of condensed skim available. Buttermilk powder prices moved lower in most facets this week. Soft demand and generally available supplies are keeping markets in check.

Cheese: Milk supplies continue to grow in many areas of the U.S., as bottling demand has begun to ebb ahead of school breaks. This factor has cheesemakers suggesting milk supplies are widely accessible. Cheese production is naturally busy, despite a little more irregular downtime reported this spring. Cheese demand is mixed, but process/barrel cheese is viewed as more available than a number of cheddar and/or Italian varieties.

Butter: Cream volumes are available in the East and West, and some contacts in the West report volumes are outpacing current butter production needs. s. Butter production is strong in the West and East. Some eastern butter makers say they are operating churns seven days a week. Loads of butter are available in the Central and West. Contacts in the East report butter inventories vary across manufacturers and different locations.

Fluid Milk: Milk output is strong to steady throughout the country. Parts of the Northeast got frost and freezing overnight, and Arizona had temperatures into the lower 90s, but impacts to milk production were minimal. Class III spot load purchases and sales are reported at $11 to $4 below Class prices. Milk volumes for processing needs are available to meet current demand. being.

March’s $/Gallon (Albany Price) dropped to $1.67. This is a continuing downward trend that will likely trigger DMC payments for participating farmers.

Dairy Commodity Markets (Excerpt from USDA Dairy Market News – Volume 90, Report 16, April 21st, 2023)

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<th>Month</th>
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Milk Class Prices

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Milk Component Prices

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Jamestown, NY | Albany, NY | Albany $/gal. to farmer
| $24.92 | $25.52 | $25.42 | $26.03 | $26.34 | $25.81 |
| $25.42 | $26.03 | $26.34 | $26.87 | $24.72 | $25.81 |
| $25.83 | $26.43 | $26.43 | $27.21 | $25.81 | $25.81 |
| $25.79 | $25.79 | $25.42 | $26.03 | $26.03 | $25.81 |
| $24.27 | $24.27 | $24.27 | $24.87 | $24.87 | $24.87 |
| $23.67 | $23.17 | $23.17 | $23.67 | $23.67 | $23.67 |
| $23.12 | $23.12 | $23.12 | $23.12 | $23.12 | $23.12 |
| $20.71 | $20.71 | $20.71 | $20.71 | $20.71 | $20.71 |
| $19.60 | $19.60 | $19.60 | $19.60 | $19.60 | $19.60 |
| $18.78 | $18.78 | $18.78 | $18.78 | $18.78 | $18.78 |
| $18.38 | $18.38 | $18.38 | $18.38 | $18.38 | $18.38 |

March Utilization (Northeast): Class I = 29.4%; Class II = 24.9%; Class III = 28.7%; Class IV = 17.0%.

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 Market Watch is an educational newsletter to keep help producers stay informed of changing market factors affecting the dairy industry.
Milk production compared to a year ago has slowed. Milk production was 1.4% higher in January, 1.1% in February and just 0.5% in March. Since December of last year, the number of milk cows has been increasing month to month. By March cow numbers increased by 29,000 head. March cow numbers were 31,000 higher than a year ago, an increase of 0.3%. Milk per cow did poorly with March just 0.1% higher than a year ago.

Despite milk production increasing just 0.5% in March the April Class III price will only increase about $0.50 from $18.10 in March to $18.60 in April. The May Class III price will decline to about $17.50. Cheese prices have weakened a lot since March. The 40-pound block cheddar cheese was as high as $2.10 per pound in March but has trended lower in April to now $1.76. Cheddar barrels were as high as $1.9625 per pound in March and also trended lower in April to now $1.16. Cheddar cheese production has been rather strong with February production up 5.6% from a year ago and total American cheese production up 2.4%. But while February stocks of American cheese remained relatively high they were 2% below a year ago.

Butter was as high as $2.41 per pound in March. During April Butter ranged from $2.32 to $2.4025 per pound. Nonfat dry milk was as high as $1.18 per pound in March. During April nonfat dry milk ranged from $1.12 to $1.16 per pound. The March Class IV price was $18.38 but April will be lower near $17.95 and May near $17.70.

Looking ahead it seems likely that the Class III price will be in the $17’s through June and returning to the $18’s for the second half of the year. This is based on the forecasted level of milk production, domestic sales, and dairy exports. Higher feed prices until at least the new 2023 crop and lower milk prices have tightened operating margins that will impact cow numbers and milk per cow. USDA forecasts the average number of cows for the year to be unchanged from 2022 and a 1.0% increase in milk per cow netting just a 1.0% increase in milk production. Domestic sales of milk and dairy products are forecasted to increase nearly 2%. USDA forecast dairy exports to fall below the record last year due to price competition from increased milk production in the EU-27 plus the United Kingdom and New Zealand, uncertain China demand and uncertain global economy. However, the US Dairy Export Council expects the milk solids equivalent volume could still increase 1.5% compared to the 5% increase in 2022. So far this year the milk solids equivalent volume was 16% higher in January from a year ago but up just 0.8% for February. Compared to last year, February exports of nonfat dry milk/skim milk powder and cheese were flat with butterfat and dry whey products lower. Thus, the February increase in exports was almost entirely due to a 32% increase in lactose exports.

Class III futures have weakened but still has Class III in the $19’s from August to the end of the year. With a little weaker milk production, increased domestic sales and dairy exports holding Class III in the $19’s is very possible the last quarter of the year. USDA’s latest forecast has Class III strengthening slowly from $18.15 second quarter, to $18.20 third quarter, to $18.25 fourth quarter.

USDA’s latest forecast has Class III strengthening slowly from $18.15 second quarter, to $18.20 third quarter, to $18.25 fourth quarter.
The U.S. Department of Agriculture’s (USDA) Farm and Food Workers Relief Program (FFWR) provides a one-time $600 payment for expenses incurred by frontline farmers and meatpacking workers due to the COVID-19 pandemic.

### ABOUT

**FARM AND FOOD WORKERS RELIEF (FFWR) PROGRAM**

Frontline farm workers and meatpacking workers who incurred expenses preparing for, preventing exposure to, and responding to the COVID-19 pandemic can apply for a one-time $600 relief payment through Pasa Sustainable Agriculture and other approved USDA partners.

### ELIGIBILITY REQUIREMENTS

**WHAT FRONTLINE WORKERS ARE ELIGIBLE?**

**FIELD WORKERS**

Employees engaged in planting, tending, harvesting crops; post-harvest activities such as packing, grading, and sorting; and operating farm machinery on crop farms.

**LIVESTOCK WORKERS**

Employees tending livestock, milking cows, or caring for poultry, including operating farm machinery on livestock or poultry operations.

**MEATPACKING WORKERS**

Employees engaged in livestock slaughter, meat or poultry processing, and packaging.

### LOCATIONS

If you were a frontline farm worker or meatpacking worker who lived or worked in any of the following 14 states between January 27, 2020 until the end of the COVID-19 public health emergency is declared, you may be eligible to apply for a relief payment through Pasa Sustainable Agriculture:

- Connecticut
- Delaware
- District of Columbia
- Maine
- Maryland
- Massachusetts
- New Hampshire
- New Jersey
- New York
- Ohio
- Pennsylvania
- Rhode Island
- Vermont
- West Virginia

### ADDITIONAL INFORMATION

- There is no cost to apply.
- Relief payments will remain available until funds are exhausted.
- Relief payments are not a loan and recipients will not be taxed.

- Immigration status is not one of the eligibility criteria.
- Applicant information is confidential. It will not be shared with the USDA nor any other state or federal agency.

### WHAT IS NEEDED TO APPLY?

**ACCEPTABLE PHOTO IDENTIFICATION, SUCH AS:**

- State-issued driver’s license or identification
- Consular- or government-issued identification (foreign or domestic)
- H2A Visa or H2B Visa
- Employer-issued identification

**ACCEPTABLE PROOF OF EMPLOYMENT, SUCH AS:**

- W-2 tax form
- Pay stub
- Employment contract
- Letter from an employer
- H2A Visa or H2B Visa

### CONTACT US FOR SUPPORT

**PHONE (toll free)**

Representatives are available to review eligibility requirements, answer your questions, and help process your application.

- (833) 469-3397
- Monday- Thursday: 9am - 8pm ET
- Friday: 9am - 4pm ET
- Sunday: 4pm - 8pm ET

**EMAIL**

support@pasafarming.org

**TEXT PROGRAM**

Text “FFWR” to (833) 469-3397 for support

Spanish

APLICA EN FARMWORKERS.COM O ESCANEA EL CÓDIGO QR

TAMBIÉN PUEDES APLICAR VÍA TELEFÓNICA LLAMANDO AL (833) 469-3397

All details about eligibility and other matters can be found at the Pasa site, but it is minimal, consisting of photo identification and proof of employment.
THANK YOU TO OUR SPONSORS!
WE APPRECIATE YOUR SUPPORT.
Our cover photo this month is from Katelyn Miller’s 2023 Shop Talks: Managing In-Field Variability, held on April 11th, 2023. We’re grateful for our farm hosts, Telaak Farms in Cattaraugus County, and our speaker, Joe Lawrence from Cornell PRO-DAIRY.

If you’re interested in hosting us in the Fall, please reach out to Katelyn Miller by calling 716-640-2047.