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Southwest NY Dairy, Livestock and Field Crops Program

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CROPS COWS & CRITTERS newsletter

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

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For accommodations or accessibility concerns, please contact our specialists at least one week prior to the scheduled event. If you need information provided in a different format, call 716-640-0522.

Selecting Seed Varieties

By Katelyn Miller, Field Crop and Forage Specialist

As we round out corn season, it's time to look back at the passing season and think about seed selection for next year. Here are some tips to keep in mind to help you select seed that fits your operational needs.

Evaluate Return on Investment (ROI):

Yield potential is a desirable trait, but it's easy to place too much emphasis on it. When you think about the input costs needed to achieve high yields (seed, fertilizer, pesticides, etc.), profits may be slim. At the end of the day, the goal of selecting seed should be cost-effectiveness. Evaluating your ROI can help determine yield potential and the input costs for successful crop production.

Agronomic Traits:

Agronomic traits can have a direct impact on your crop. They can affect maturity, plant height, yield potential, and stalk strength.

Maturity:

Selecting the maturity that matches your growing season is crucial. Not only does the right maturity ensure proper crop maturation, but it can also be used as a management tool. Utilizing multiple maturities can help mitigate production risks and provides an opportunity to develop a harvest timeline.

Plant Height:

Corn plants can be of various heights presenting different management challenges and opportunities. Select what works best for your equipment capabilities and current pest management strategies.

Yield Potential:

Under specific conditions, yield can be affected by ear size, kernel count, and plant health.

Stalk Strength and Standability:

A strong stalk can support the weight of developing ears. Stalks with good standability are less likely to lodge, causing additional losses.

Environmental Conditions:

Pay attention to your local climate and weather conditions. Different factors will impact your seed selection. Factors include temperature, precipitation, soil type, and the length of growing season. Today, many varieties are bred or selected to enhance their ability to handle stressors including, but not limited to; extreme heat, drought, excessive rainfall, and cold/wet soils. Look back at previous seasons on your farm. Do you have frequent issues with weather extremes? Is planting delayed because your soil takes a long time to warm up? Think about this when selecting your seed variety.

Plan for Pests:

Pests are any living organism that may impact crop production. This includes insects, diseases, weeds, and much more. Consider these pest pressures that you find in your fields. Are there diseases you find year after year? Do you find yourself spraying insecticides for a pest often? Consider this when thinking about using Bt traits with your seed. Check out this handy Bt trait table for more information on trait packages: https://www.texasinsects.org/uploads/4/9/3/0/49304017/bttraittable_feb_2023.pdf. These traits can help manage disease and insects but be sure to rotate the Bt trait you are utilizing. Repeatedly using the same trait will increase the risk of resistance developing in the pest populations.

Paying attention to your current pest concerns is important, but it's also crucial to keep up with developing challenges. For example, tar spot is a new corn disease which entered NYS in 2021. This year, tar spot was identified in 11 New York counties, meaning that inoculum is locally present. With inoculum present, it's important to be prepared to reduce your production risk. Chat with your local seed representative to see if they have options available.

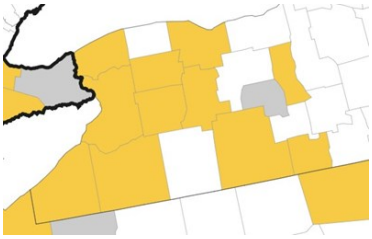

PHOTO CREDIT: https://corn.ipmpipe.org/tarspot/

PHOTO CREDIT: Katelyn Miller

Pulling these tips together will allow you to evaluate this past growing season and prepare for the next. One tool you can use to select seed varieties are the corn silage variety trails. They serve to evaluate how varieties perform in different locations and local climates. Look at how the varieties performed in a location like yours. Check out the 2023 variety trial data to help you make some selection decisions: https://blogs.cornell.edu/varietytrials/files/2023/11/2023-NY_VT-Corn-Silage-Hybrid-Evaluation-Report-11.10.2023.pdf.

When selecting seed, think about your ROI, agronomic traits, environmental conditions, and pests.

If you would like help evaluating the variety trials, or want to discuss the tips above, contact Katelyn Miller at 716-640-2047 or km753@cornell.edu.

Confirmed Spaces: Hazards of Manure Gases

Source: Confined space: Hazards of manure gases. (2012) Farm and Ranch eXtension in Safety and Health (FReSH) Community of Practice. Retrieved from https://ag-safety.extension.org/confined-spaces:-hazards-of-manure-gases/

The Occupational Safety and Health Administration (OSHA) defines a confined space as a space that:

- is large enough for a worker to enter and complete a task in,
- has limited or restricted means of entry or exit, and
- is not designed for continuous human occupancy.

Confined spaces on a farm or ranch in which manure handling may occur include manure pits, manure transfer pipes and deep gutters, transfer storage areas, and liquid manure spreaders. Farms and ranches continue to expand their operations to include larger manure handling systems. While these new systems are more efficient and reduce manual labor, farmers and ranchers must understand the hazards associated with working in and around confined spaces where manure is stored.

Gases inside Manure Storage Areas

The breakdown of manure is a biological process, and environmental factors such as temperature, humidity, and air flow can impact the release rate of gases produced during this process. High temperature, lack of air exchange, and humidity can increase the levels of manure gases that are produced and released. The following hazardous gases form naturally in manure storage areas and are difficult to detect because of their properties, impact on a person's sense of smell, and similarity to other odors on a farm or ranch:

- Ammonia is found in manure pits or aboveground tanks used for manure storage and has a strong odor that can irritate a person's eyes or respiratory system.
- Carbon dioxide is a colorless and odorless gas associated with animal respiration and manure decomposition. Carbon dioxide can replace the oxygen in a confined space. If you breathe in air that contains high levels of carbon dioxide, this gas can replace the oxygen in your bloodstream and may result in headaches, drowsiness, and death (after prolonged exposure). Carbon dioxide is heavier than air, so it can easily accumulate in low-lying areas of confined spaces.
- Hydrogen sulfide is a colorless gas that smells like rotten eggs at low levels but can overcome a person's sense of smell at levels of 100 ppm and higher. Exposure to hydrogen sulfide can cause eye and nose irritation, headache, nausea, and death (after prolonged exposure). Hydrogen sulfide is heavier than air, so it can easily accumulate in low-lying areas of confined spaces.
- Methane is a colorless and odorless gas produced during the decomposition of manure in storage. This gas is flammable and potentially explosive, especially when captured in foam that can form on the surface of stored manure. Methane is lighter than air, so it does not accumulate in low-lying areas of confined spaces.
- Handheld gas detection equipment should be used to monitor gas levels prior to entry into and while occupying confined-space manure storage areas. Some equipment used to detect manure gases is configured to measure oxygen level, explosive gases (methane), and toxic gases (hydrogen sulfide).

For each of the hazardous gases mentioned above, OSHA has identified safe exposure levels for humans. Table 1 outlines the acceptable exposure limits in ppm over an eight-hour period. The oxygen level in a given space should be between 19% and 23%.

Table 1: Acceptable Exposure Limits

Hazardous Gas	Acceptable Exposure Limits
Ammonia	50 ppm
Carbon dioxide	5,000 ppm
Hydrogen sulfide	10 ppm
Methane	1,000 ppm

One way to reduce levels of hazardous gases is to ventilate the manure storage area using a mechanical ventilation system that forces fresh air into the space, increasing the oxygen level and decreasing the levels of explosive and toxic gases. By using a specially designed positive-pressure mechanical forced-air ventilation system, you can reduce the buildup of dangerous levels of gas. Forcing fresh air through a fan into the storage area reduces the possibility of fire or explosion caused by explosive gas coming into contact with electric fan motors. Fans should be able to move a volume of air equal to one-half the volume of the empty manure storage area every minute. Use the ANSI/ASABE S607 standard, provided by the American National Standard Institute (ANSI) and American Society of Agricultural and Biological Engineers (ASABE), for guidance about ventilation capacity and ventilation time prior to entry and during occupancy. To avoid the failure of a critical ventilation system during a power outage, connect the system to a standby power source that is regularly maintained and tested.

While new manure handling systems are more efficient and reduce manual labor ...

...farmers and ranchers must understand the hazards associated with working in and around confined spaces where manure is stored.

Entering Confined-Space Manure Storage Areas

If possible, avoid entering confined-space manure storage areas. If entry is unavoidable, you should fully understand the risks of entering such a space and have an entry plan that outlines your actions.

Complete the following steps when entering and working in a confined-space manure storage area:

- Test the oxygen and explosive and toxic gas levels from outside the manure storage area.
- Prior to entry and during occupancy, use a positive-pressure ventilation system to ventilate the manure-storage area.
- Prior to entry, lock out all power sources other than the positive-pressure ventilation system to reduce the risk of stray electricity.
- Wear an adjustable body harness with a lifeline attached to a rescue and retrieval system and carry a portable gas monitor.
- Assign a second person to remain outside of the manure-storage area in case he or she must implement the rescue and retrieval system or get additional assistance.
- Maintain verbal and visual contact with the person outside the manure storage area. The person outside the storage area should not enter the area, even in the event of an emergency.
- Retest the air quality continuously during occupancy to monitor gas levels.

Additional Safety Recommendations

- Remember that youth under the age of 16 are prohibited from working in confined spaces.
- Post warning signs about the risks of confined spaces and gas hazards on or near all manure storage locations.
- Instruct family members and employees about the hazards associated with manure storage in confined spaces. Even though most agricultural operations are not covered under OSHA regulations for confined-space entry, confined spaces exist in production agriculture, and it is vital that every person associated with the farm or ranch receive training on the hazards.
- Prepare and document an entry plan for confined-space manure storage areas. Inform family members and employees about the plan.
- Provide annual training for family members and employees about the entry into and emergency procedures associated with confined manure storage spaces.
- Restrict access to confined spaces to authorized individuals. Remove temporary access ladders, and restrict access to permanent ladders.
- Be aware that personnel and animals may need to vacate the confinement building during manure storage agitation or pumping.
- Prohibit smoking in and around manure storage areas.
- Operate manure agitators below the surface of liquid manure to reduce the release of manure gases.

PHOTO CREDIT: Michigan State University

Original link source: https://ag-safety.extension.org/confined-spaces:-hazards-of-manure-gases/

Sources

- Confined spaces. (n.d.) United States Department of Labor. Retrieved from http://www.osha.gov/SLTC/confinedspaces/index.html.
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If entry into confined-space manure storage areas is unavoidable, you should fully understand the risks of entering such a space and have an entry plan that outlines your actions.

CROPS COWS & CRITTERS newsletter

It's a desirable time of year to empty manure storage before unfavorable conditions hit, but safety is the number one priority!

2022 National Beef Quality Audit Results

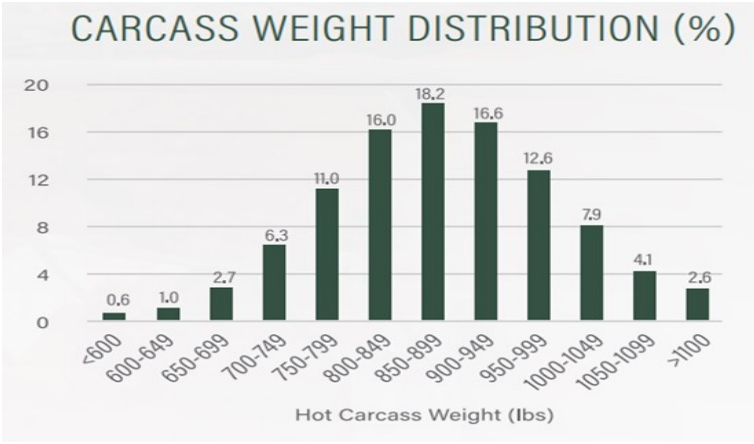
By Amy Barkley, Livestock Specialist

Prior to the implementation of the Beef Quality Assurance (BQA) program, there were a high level of condemnations of beef carcasses at processing facilities. This data was quantified in 1991, with $11.99 billion lost in economic opportunities, with inefficiencies costing producers and processors $458/head. Consumers were unhappy with the inconsistencies of the beef on the shelves, while processors were frustrated with deep bruises and tissue lesions from injections. The results of these audits were the basis for the development of the Beef Quality Assurance Program.

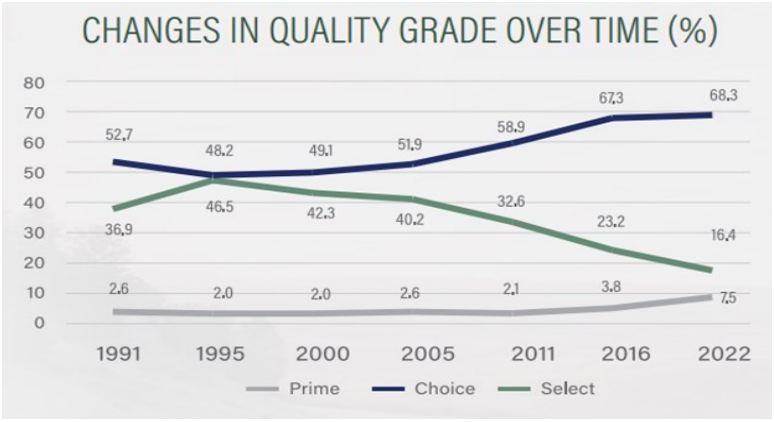
The National Beef Quality Audit takes place every 5 years and serves as a check on the industry to ensure that beef quality is continually improving. The data points for this most recent analysis were collected in 2022, and results analyzed in 2023. Two groups of data were collected: One was from large industry buyers (abattoirs to retailers). The second was data on the cattle themselves. The whole country is represented in this analysis, with 30,000 animals evaluated and 130 buyers represented.

Buyers were asked questions about perceptions and progress made in the industry. In 2022, buyers noted that the biggest threats to the industry are environmental concerns and animal activism. This can be addressed by farms taking part in climate conscious rearing including precision feeding and waste management. Animal activism can't be prevented, but farms can make sure they are doing the best for their animals while always being on the lookout for suspicious people and limit outsiders' ability to access their livestock. Over 50% of companies interviewed for this audit believe that animal handling encompasses the majority of animal well-being.

Quality of the nation's fed cattle is the best it's ever been. When looking at carcass traits, the average yield grade is now 3.3 vs 3.1 a year ago, where the increase means that animals are fattier than they were, though are more lightly muscled. This may be caused by finishing operations chasing the prime market. There was an increase in the number of prime and choice animals and corresponding marbling scores in 2022 vs 2016. Whole animals are now larger, as evidenced by hot carcass weights and bigger ribeye areas.



While more cattle are achieving higher quality grades (choice and prime), the increased fat thickness comes with an increase in hot carcass weight and worse yield grades (more 4s and 5s, where 3 is an animal that balances fat and muscle).



There was an increase in Choice and Prime grades, while Select decreased. This corresponds with the increase in both marbling and yield grade.

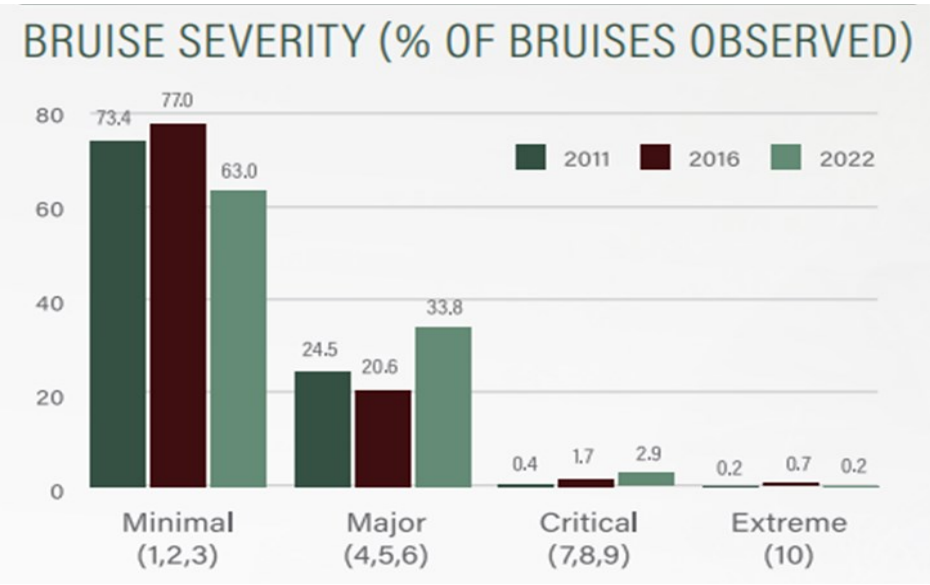
While there is more trim loss from fattier animals, the industry as a whole is doing a better job of recapturing some of its profit opportunities. Using 2022 pricing, there has been improvement overall from 1991 to today of $23.16 per animal, but from 2016 to 2022, there was a decrease in profit per animal of $11.33. This was caused in part by fewer animals making quality grade (not enough marbling) or yield grade (animals are too large). Gains were made from improved carcass weights. The loss in quality grade isn't because cattle aren't meeting high choice and prime (they are!) it's just that this number is calculated from a target quality goal, which is a goalpost that moves to a higher percentage at each audit. In 2017, the prime goal was 7.5% of all fed cattle. For the upcoming audit the prime goal will be 10%.

The Beef Quality Assurance Certification program is voluntary, low-cost, and administered by CCE educators across the state.

Do you haul cattle? CCE also offers BQA Transportation trainings throughout the state.

Unfortunately, some decreases in welfare were noted. There were 5% more animals that had issues either walking with limps or obvious discomfort as compared to 2016. This is attributed to larger cattle moving through the system and longer transportation times. Additionally, there was a 13.4% increase in the number of carcasses with bruising. Of those bruises, there was an increase in both major and critical bruising, decreasing minimal bruising (the mildest category) to 63% from 77%. There is a 1-10 pound cut loss for major bruises and greater than 10 pound loss for critical ones. Bruising is the highest it's been since the audits began.

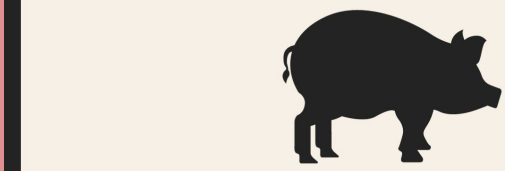
Bruise scores indicate the amount of tissue that is damaged and must be removed. Minimal bruising results in less than a pound of surface trim loss. Major is a loss of 1-10 pounds. Critical is more than 10 pounds of trim loss. Extreme is an injury so severe that the whole primal is lost. Over 50% of the carcasses surveyed were bruised.



What can producers do to improve their animal well-being and reduce losses from bruising? Decreasing the presence of horns in a herd, separating cattle by sex during transport, trailer design, cattle handling, and loading procedures can be all be addressed to help. At the time of this survey, the maximum space allotted per animal on a trailer was 12.5 sq ft and the minimum was 6.3 sq ft. BQA recommends 10 sq ft per 1,000 pounds of animal, so the tight quarters found in this survey is likely one of the causes of increased bruising. That said, the positives found are that there is a trend in the number of trailer loads of cattle offering the appropriate amount of space, and no cattle in the survey were hauled longer than 24 hours in a stretch. Haulers can attain their BQAT certification, which is a BQA training designed for those who haul cattle. This training goes through managing cattle through the transportation process to preserve quality.

To conclude, the past 6 years had some pros and cons. What's been made apparent is that there is still consumer loyalty and trust in the beef industry. However, with ever decreasing margins, farmers and transporters need to ensure the quality of their cattle from rearing to transport to ensure that they are getting the most out of their loads.

This article is based on information shared in the presentation by Michaela Clowser, Director of Producer Education at NCBA, on October 4, 2023. To listen to the original recording, visit https://www.youtube.com/watch?v=R4nxxhL-o6g&ab_channel=NewYorkBeefQualityAssurance
All images were taken from the 2022 NBQA Quality Audit Executive Summary, which you can find here: 143783_nbqa_executive-summary-2022_prf_low-res.pdf



DO YOU RAISE PIGS?

IF YOU DO, CONSIDER HELPING CCE!

This anonymous survey has been created to aid Cornell Cooperative Extension in their mission to provide research-based education for swine producers across the state. In addition to asking questions relating to the size and focus of your operation, we're also looking for programming suggestions that will be most helpful to you. For a paper copy of the survey or to complete the survey over the phone, contact Amy.

Amy Barkley, Livestock Specialist SWNYDLFC
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amb544@cornell.edu

Anonymous survey link:
https://tinyurl.com/CCESwineSurvey

Focus groups have indicated that consumer confidence is increased if beef packaging sports the BQA certified logo.

The industry trends show a decrease in Holstein steers and an increase of black-hided beef x dairy crosses.

The Importance of Testing Manure

By Patty Ristow, Quirine Ketterings, Dale Dewing, Peter Wright, and Karl Zaymmek of Cornell University
Forward by Amy Barkley, Livestock Specialist, SWNYDLFC

The time after harvest in the falls allows farms an opportunity to spread manure on agricultural fields to empty storages before winter and prepare fields for the spring growing season. As bunkers, lagoons, and storages are emptied, it is a good idea to test the manure for its nutrient value prior to or during spreading.

Manure nutrients vary quite a bit from season-to-season, farm-to-farm, and species-to-species. While there are published databases of manure nutrient values available to refence to calculate application rates, many come with the disclaimer of high variability. This is because even from a the same farm and species, there can be manure variances caused by age and stage of production of each animal group, diet, bedding volume and type, milk house liquid volume (dairy), amount of mortality and/or egg waste (poultry), storage time, and season. Some farmers need to bring in manure nutrients to meet their land needs. Manure that is brought in is subject to additional variables including housing system type, livestock strain or breed, management style, storage method (pit vs shed vs lagoon), removal frequency, storage conditions (temperature, humidity, use of fans or a belt drying system), use of phytases and other enzymatic compounds in the feed, and the use of implants.

While published manure values will get you in the ballpark for nutrient concentrations, testing for manure nutrients should be a part of a farm's nutrient management program. The following information on manure sampling, analysis, and interpretation is shared from Agronomy Fact Sheet #38 by Patty Ristow, Quirine Ketterings, Dale Dewing, Peter Wright, and Karl Zaymmek of Cornell University.

Accurate manure analyses are essential for proper nutrient management planning but manure analyses are only as good as the sample taken. Most manure testing laboratories request a pound or quart of sample and only a very small amount of this sample is analyzed to determine the nitrogen (N), phosphorus (P) and potassium (K) content. Yet, the results are used to determine the nutrients applied across the whole farm for the spreading season. This fact sheet is a guide for getting the most accurate N, P, and K quantities from your manure testing program.

Sample from the spreader

Sampling from the manure spreader gives the most accurate representation of what is actually applied to the field. It also avoids the dangers of personal injury associated with sampling manure storages.

Solid manure

Sample by scooping manure out of the spreader with a pitchfork, shovel or plastic container and avoid large pieces of bedding. Select 4-8 scoops from different places in the spreader, mix well, and draw a sample from this mixture. For daily spread operations sample from three different loads over course of a week or month to generate three independent samples for submission to the laboratory. Solids from piles or bedded packs are highly variable and each different section of the pile or pack should be sampled separately (3 samples per section).

Liquid and slurry manure

Samples should be taken as soon as possible after loading (unless the spreader has a well functioning agitator) . If a slurry storage (>6% solids) is not well-agitated prior to spreading the nutrient content can be highly variable. In these cases sample when manure is pulled from the top, middle and bottom portions of the storage (3 samples per section), or when the manure visibly changes in solids content. Keep logs that can show to which fields manure from each section of the storage was applied. Sludge that accumulates on the bottom of storages should be tested and spread as a separate manure source.

Sample annually or every major event

If there are no previous sample records, samples should be taken at least twice during the first year and then every spreading event. New York Concentrate Animal Feeding Operation (CAFO) regulations require sampling at least once per year and spreading event.

Submit three samples

Outliers happen in manure analyses. To make sure management plans are not being based on outlier analyses, it is recommended to take at least three samples and have them analyzed separately. The three manure analyses should be compared to identify outliers and if present, outliers should be discarded when determining average manure nutrient content.

Freeze the samples

Fill the plastic sample container provided by the laboratory 2/3rds full. Keep the samples cool until they can be put in a freezer to slow down microbial activity. After the three samples are frozen, send them to the laboratory. It is best to mail samples early in the week to avoid thawing in the post office.

Manure nutrients vary highly, and testing them can help you achieve your nutrient management goals.

For copies of the fact sheets listed in this document, contact Amy Barkley.

What to analyze?

A manure sample should at a minimum be analyzed for:

- Total Kjeldahl nitrogen (TKN)
- Ammonium nitrogen
- Total phosphorus
- Total potassium
- Percent solids
- Bulk density

Interpreting the analysis

Manure analyses can be reported in many different ways. Useful conversion factors from test results reported "as is" are:

- Lbs/ton = % * 20
- Lbs/ton = ppm * 0.002
- Lbs/1000 gallons = % * 83.4
- Lbs/1000 gallons = ppm * 0.00834
- Lbs/1000 gallons = 0.24
- lbs/ton Lbs/ton = 4.17 lbs/1000 gallons

Most manure test results are reported "as is" or on a wet basis. If reported on a dry basis, "As-is" = (dry weight / % solids) * 100

To determine manure N credits, both the ammonium-N and the organic-N content of the manure should be known, in addition to method and timing of application. For guidance in determining N credits from manure see Factsheet #4: Nitrogen Credits from Manure. To determine fertilizer equivalents of manure P and K values should be reported in P2O5 and K2O. To convert: P2O5 = P x 2.27 and K2O = K x 1.2

Using the results

Nutrient planning and fertilizer reduction

Accurate manure analyses taken annually allow a planner to use a 3-year running average or the prior year analysis for accurate planning of current-year manure applications. If the nutrient needs of the crop are known, and the spreader is calibrated, manure N, P and K can be applied with sufficient accuracy to meet crop needs and reduce the need for fertilizers. For guidance on manure spreader calibrations see Factsheet #18: Manure Spreader Calibration.

Manure Value Estimates

Accurate manure analyses allow for calculation of the fertilizer replacement value of a manure application (Table 1). Manure value estimates can be combined with fertilizer application costs for hauling distance break-even analyses or compared with manure handling operational and ownership costs to negotiate the terms of a manure export agreement. For more information on valuing the nutrients in manure see Factsheet #61: Valuing Manure N, P and K Applications.

Table 1: Accurate manure analysis allows for calculation of the economic value of manure (an example).

	Manure nutrient (lbs/1000 gallon)	Manure value ($/1000 gallon)†
Ammonium-N	8.45	$ 4.23
Organic-N	2.50	$ 1.27
P_2O_5 equivalent	7.13	$ 4.28
K_2O equivalent	21.21	$ 14.85
Total value		$ 24.62
Total value	10,000 gallons/acre	$ 246.22/acre
Total value	5000 gallon spreader	$ 123.11/load

† Nutrients were valued at $0.50, $0.60 and $0.70 per pound of N, P_2O_5 and K_2O respectively.

Tracking Farm Management Impacts

Testing and recording annual manure analyses can increase your understanding of the nutrient content of the manure and impacts of management changes (Figure 3)

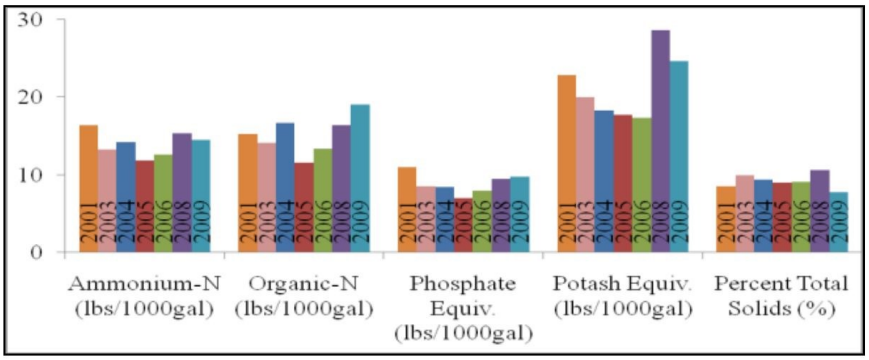


Figure 3: Accurate manure analyses allow managers to track impacts of management changes over time.

Disclaimer This fact sheet reflects the current (and past) authors' best effort to interpret a complex body of scientific research, and to translate this into practical management options. Following the guidance provided in this fact sheet does not assure compliance with any applicable law, rule, regulation or standard, or the achievement of particular discharge levels from agricultural land.
If you would like to learn more about manure nutrients or to discuss how to interpret your results, reach out to Amy or Katelyn whose contact information is below.

Amy Barkley
Livestock Specialist
amb544@cornell.edu
716-640-0844

Katelyn Miller
Field Crop Specialist
km753@cornell.edu
716-640-2047

USDA Provides $3 Billion to Commodity and Specialty Crop Producers Impacted by 2022 Natural Disasters

Provided by the United States Department of Agriculture and adapted by Katelyn Walley, Farm Business Management Specialist

The U.S Department of Agriculture (USDA) will provide more than $3 billion to commodity and specialty crop producers impacted by natural disaster events in 2022. Eligible impacted producers can apply for financial assistance through the Emergency Relief Program (ERP) 2022. The program will help offset the financial impacts of crop yield and value losses from qualifying disasters occurring in 2022.

Background

On Dec. 29, 2022, President Biden signed into law the *Disaster Relief Supplemental Appropriations Act, 2023 (P.L. 117-328)* that provides about $3.7 billion in financial assistance for agricultural producers impacted by eligible natural disasters that occurred in calendar year 2022.

ERP 2022 covers losses to crops, trees, bushes and vines due to qualifying, calendar year 2022 natural disaster events including wildfires, hurricanes, floods, derechos, excessive heat, tornadoes, winter storms, freeze (including a polar vortex), smoke exposure, excessive moisture, qualifying drought and related conditions.

ERP 2022 program benefits will be delivered to eligible producers through a two-track process. FSA intends to make both tracks available to producers at the same time. This two-track approach enables USDA to:

- Streamline the application process.
- Reduce the paperwork burden on producers.
- Proactively include provisions for underserved producers who have not been well served by past emergency relief efforts.
- Encourage producer participation in existing risk management programs to mitigate the impacts of future severe weather events.

It's important to note that disaster-impacted producers may be eligible for ERP 2022 assistance under one or both tracks. To avoid duplicative benefits, if a producer applies for both tracks, the Track 2 payment calculation will take into account any payments received through Track 1.

ERP 2022 Application Process – Track 1

ERP 2022 Track 1 leverages existing federal crop insurance or Noninsured Crop Disaster Assistance Program (NAP) data as the basis for calculating payments for eligible crop producers who received indemnities through these risk management programs. Although FSA is sending pre-filled ERP 2022 Track 1 application forms to producers who have crop insurance and NAP data already on file with USDA, producers indemnified for losses resulting from 2022 natural disasters do not have to wait to receive the application before requesting ERP 2022 assistance. Effective Oct. 31, 2023, producers can apply for ERP 2022 benefits whether they have received the pre-filled application or not. Receipt of a pre-filled application is not confirmation that a producer is eligible to receive an ERP 2022 Track 1 payment.

USDA estimates that ERP Track 1 benefits will reach more than 206,000 producers who received indemnities for losses covered by federal crop insurance and more than 4,500 producers who obtained NAP coverage for the 2022 crop year.

ERP 2022 Application Process – Track 2

Track 2 is a revenue-based certification program designed to assist eligible producers who suffered an eligible decrease in revenue resulting from 2022 calendar year disaster events when compared with revenue in a benchmark year using revenue information that is readily available from most tax records. In cases where revenue does not reasonably reflect a normal year's revenue, Track 2 provides an alternative method for establishing revenue. Likewise, Track 2 affords producers of crops that are used within an operation and do not generate revenue from the sale of the crop a method for establishing revenue for the purpose of applying for ERP 2022 benefits. Producers are not required to submit tax records to FSA unless requested by the County Committee if required for an FSA compliance spot check.

Although not required when applying for ERP 2022 Track 2, applicants might find the following documents useful to the process:

- Schedule F (Form 1040)
- Profit or Loss from Farming or similar tax documents for tax years 2018, 2019, 2022 and 2023.

Track 2 targets gaps in emergency relief assistance for eligible producers whose eligible losses were not covered by crop insurance or NAP including revenue losses too small (shallow loss) to be covered by crop insurance.

Producers interested in applying for ERP 2022 Track 2, should contact their local FSA county office. Additional reference resources can be found on FSA's emergency relief website. https://www.fsa.usda.gov/programs-and-services/emergency-relief/index.

USDA is providing funds to farms who were impacted by wildfires, hurricanes, floods, derechos, heat, tornadoes, winter storms, freeze, smoke exposure, moisture, drought, and relating conditions in 2022.

To apply, or for assistance with meeting the eligibility criteria and evaluating which application pathway is right for you, reach out to your local Farm Service Agency county office.

Additional Required Forms

For both ERP 2022 tracks, all producers must have certain required forms on file with FSA within 60 days of the ERP 2022 deadline. Producers can apply for ERP 2022 starting Oct. 31, 2023. The application deadline has not yet been determined and will be announced at a later date. If not already on file, producers can update, complete and submit required forms to FSA at any time.

Required forms:

- Form AD-2047, Customer Data Worksheet.
- Form CCC-902, Farm Operating Plan for an individual or legal entity.
- Form CCC-901, Member Information for Legal Entities (if applicable).
- Form FSA-510, Request for an Exception to the $125,000 Payment Limitation for Certain Programs (if applicable).
- Form CCC-860, Socially Disadvantaged, Limited Resource, Beginning and Veteran Farmer or Rancher Certification, if applicable, for the 2022 program year.
- A highly erodible land conservation (sometimes referred to as HELC) and wetland conservation certification (Form AD-1026 Highly Erodible Land Conservation (HELC) and Wetland Conservation (WC) Certification) for the ERP producer and applicable affiliates.

Most producers, especially those who have previously participated in FSA programs, will likely have these required forms on file. However, those who are uncertain or want to confirm the status of their forms can contact their local FSA county office.

Future Insurance Coverage Requirements

All producers who receive ERP 2022 payments must purchase crop insurance, or NAP coverage where crop insurance is not available, in the next two available crop years as determined by the Secretary. Purchased coverage must be at the 60/100 coverage level or higher for insured crops or at the catastrophic coverage level or higher for NAP crops.

More Information

ERP 2022 eligibility details and payment calculation factor tables are available on the emergency relief website, in the ERP Track 1 and ERP Track 2 fact sheets and through your local FSA county office.

USDA NE Climate Hub Dairy Climate Adaptation Fellowship Program

Climate change is reshaping the landscape of agriculture, bringing challenges such as extreme rainfall and flooding, increased pest pressure, and drought to dairy farms in NY and the Northeast. But it also provides opportunities for farms to become Climate-Smart, resilient, and sustainable. The Dairy Climate Adaptation Fellowship (CAF) Program will empower farmers and their agricultural advisors to gain a better understanding of the climate impacts affecting their farms now, and in the future, and develop a farm-specific plan to address climate change.

The Dairy Climate Adaptation Fellowship program will begin in Winter 2024. This cohort-based learning opportunity is for farmers and agricultural advisors in the Northeast who are interested in climate change adaptation and mitigation strategies and planning, as well as peer-to-peer networking and support. Pairs of dairy farmers and their agricultural advisor from New York, Vermont, and Maine are eligible to apply.

Applications for the Dairy CAF are due by 11:59 PM on November 11, 2023.
Apply here:
https://umaine.qualtrics.com/jfe/form/SV_3jU0DiB2wo3Hhhc

The program will consist of 8 weeks of training (online) with office hours, followed by farmer field day events held in the summer of 2024. Farmers that complete the training and develop an adaptation or mitigation plan for their farm, to be shared with other farmers (increasing peer-to-peer learning and adoption of Climate-Smart Agriculture practices), will receive up to $800 upon completion of the program. For more information and a description of the program, please visit our website.

If you have questions related to the program or application process, please do not hesitate to contact Sara Kelemen by email (sara.kelemen@usda.gov).

If you're interested in participating, please don't hesitate to contact any of our team. We'd be happy to help walk you through the process and connect you with campus to apply.

Dairy CAF is a collaboration between the USDA Northeast Climate Hub and Cornell University.

Evaluating Feeding Management to Boost Cow Productivity

By Camila Lage, Dairy Management Specialist

Have you ever heard the saying, "You can't manage what you can't measure"? Well, I had, and not too long ago, a firsthand experience that reinforced it. Last March, I sought guidance from my dietitian, Carla, to help me refine my eating habits. She prescribed me a diet plan, and I was excited to implement it. However, as weeks passed, I noticed clothes fitting more snugly, and I felt heavier. I couldn't understand it. I had diligently followed the diet plan, consisting of all the right foods. I scheduled a new consultation and shared my weight gain concerns with Carla. She did not seem concerned and asked me to do something seemingly simple - use a kitchen scale and a food app to track everything I consumed. Over the next few weeks, I logged every meal, snack, and drink. Not surprisingly, I had followed the plan, but **my portion sizes were WAY OFF**. I had been underestimating the quantity of what I was eating. "Eyeballing" my portion sizes tricked me. This experience was a humbling reminder that even someone studying animal nutrition and feeding management for so long can overlook the importance of accurate measurements.

But what does this have to do with cows?

Similarly, in my experience, even the more experienced feeders can be deceived by gradual shifts in forage composition, equipment wear, and other factors. We often say that there are three diets on a farm:

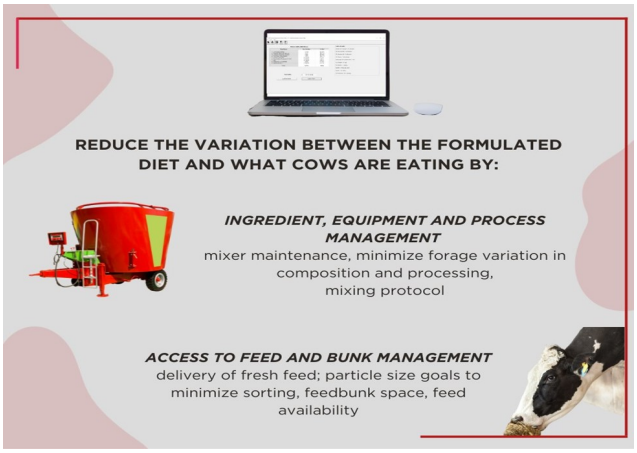
1)**The formulated:** Formulated by the nutritionist with available ingredients to meet cows' requirements.

2) The mixed and delivered diet: Subjected to daily variation due to human error, equipment problems, daily forage variations, weather, and other issues. If following best practices in feeding management, it should be as similar as possible to the one formulated.

3) The Diet Consumed by Cows: Like humans, cows also have preferences when it comes to eating. If the TMR is not well mixed or cows can sort it out, the composition of the diet consumed by each cow will vary. In addition to not being sortable, for cows to eat the formulated diet, they also need good access to the feed bunk, fresh feed, and feed they can reach available for at least 22 hours/day.

Our goal is to minimize the variation between those three diets, and the best way to evaluate it is to perform a systematic assessment of the feeding process. This can be done periodically (perhaps annually or as necessary) when you are training a new feeder or whenever you think there is a problem with the feeding management. This is often called a feeding assessment, which encompasses having an outside person observe and evaluate various aspects of feeding management and cow productivity, including infrastructure, equipment, feeding ingredients, feed bunk, and cow behavior.

The main points that can affect optimal feed management and that are evaluated on feed assessments include:



Minimizing the variation between the formulated diet, the one mixed by the feeder, and the one eaten by the cow.

Feed mixer equipment maintenance: Regularly assessing TMR mixer equipment is very important, as minor issues like worn parts and dull knives can impede proper forage processing and mixing. Dairy farms should institute regular maintenance programs, typically after around 500 loads.

Feeding consistent forages: Forage within a bunker silo varies. To minimize this variation, forages should first be defaced (starting from the bottom and working up), then pushed into a central pile with the loader bucket and mixed with the bucket. Forages should be premixed before feeding or collecting a sample for analysis. Moldy and rotting feed and hay can cause indigestion and reduced intake. Avoid the feeding of spoiled feed. However, keep in mind that the feeder's safety is always a priority. If taking out all bad feed means putting someone at risk, it must be reevaluated.

Hay /straw quality and processing: Hay and straw should be processed to less than 2" to minimize sorting. If evaluating it with the Penn State Particle Size Separator, a reasonable distribution of straw would be approximately 1/3, 1/3, and 1/3 on the top screen, middle screen, and pan. Processing them before loading is best to ensure the correct particle size distribution.

Load size, position, and level of the mixer during mixing: Using the mixer at 70% capacity is ideal to ensure proper mixing. Overloading can increase shrinkage because feed can be spilled

Even the more experienced feeders can be deceived by gradual shifts in forage composition, equipment wear, and other factors.

There are three diets on a farm: The formulated, the mixed and delivered, and the diet consumed by cows.

out, but it can also reduce mixing efficiency. Observe the mixer's action. The feed should be actively moving in all visible areas of the feed load. In addition, make sure the mixer is leveled. When loading the mixer, ensure you are targeting the loader bucket for the center of the feed mixer. This assists in uniform feed distribution.

Mixer auger speeds & Hay restrictor plate settings: Regardless of the type of mixer, TMR consistency will be enhanced when the auger speed is increased. Restrictor plates force the TMR closer to the drill, improving the cutting action of knives. However, they also decrease the mixing action within the mixer. If the mixer is not used to process forage, the restrictor plates can be set out on most mixer wagons.

Loading sequence: In general, lower density and large particle feeds (straw, hay) is loaded first, followed by dry grains, wet by -products, haylage, corn silage, and liquids. Haylage can be loaded first if clumps are present, and a longer mix time is desired to break it down. However, the best way to break down haylage clumps is with a defacer. If liquid is added, it should last so they are dispersed over the central half to two-thirds of the mixer.

Mix time after the last ingredient: Utilize a timer to monitor the mixing time, as most mixers require about 4 minutes at full power (1700 to 2000 RPM engine speed) for proper mixing.

Evaluating TMR mixing and consistency: Ten TMR samples should be collected equally spaced along the feed bunk to evaluate proper mixing and TMR particle size distribution. TMR samples are run through the Penn State Particle Separator (2 screens and pan) as recommended. The particle size distributions are graphed, and the coefficient of variation for each screen and the pan is determined. We aim for the coefficient of variation (CV) to be less than 2.5% for the middle screen and pan. The top screen often has much less material, so having a small CV can be more challenging. The recommended distribution of particle size (percent remaining on each screen) for TMR samples is shown in the table below. However, check with your nutritionist for the individual recommendations for your farm.

Feed Bunk Management: The delivery of fresh feed is the biggest drive to cow feeding. Research shows a benefit to coordinating new feed delivery with a return from the milking parlor. Feeding cows more than once a day and frequent feed push-ups can also improve intake patterns.

Scheme showing ideal loading order


Example of the use of the Penn State Particle Size Separator

Screen	Pore size (inches)	Particle size (inches)	TMR
Upper sieve (19 mm)	0.75	> 0.75	6-10% or more
			3 to 6%, focus on total NDF and forage NDF
Middle Sieve (8 mm)	0.31	0.31 to 0.75	30-50%
Bottom Pan		< 0.31	30-40%

Recommended distribution of particle size (percent remaining on each screen) for TMR samples

Source: file:///C:/Users/cd546/Downloads/guidelines-and-graphing-paper-for-2-sieve-particle-separator.pdf (accessed on 10/20/2023)

Supporting dairy producers in enhancing their competitive edge is a priority for nutrition teams across the United States. Since feed costs constitute nearly half of the expenses on dairy farms, effective feeding management is crucial, particularly during elevated commodity prices. Different companies and independent nutritionists offer farm audits to farmers. Alternatively, your local dairy extension can also help you with it.

These evaluations result in good information across different feeding areas. The subsequent report identifies operational bottlenecks and opportunities for improvement on the dairy farm. Furthermore, the evaluators offer recommendations for short-, medium--, and long-term strategies, fostering improved practices across the dairy industry.

For additional information or to discuss how to evaluate your feeding program, please do not hesitate to contact Camila Lage at cd546@cornell.edu or 607-422-6788.

Feeding assessments encompass having an outside person observe and evaluate various aspects of feeding management and cow productivity, and it is usually done periodically or as needed.

CROPS COWS & CRITTERS newsletter

Different companies and independent nutritionists offer farm audits to farmers. Also, your local dairy extension could help you with it.

Attention Dairy Producers and Beef Farmers in NYS, and those advisors who work with them!

A lot has changed in the beef x dairy industry in NYS since the last Cornell survey in 2021. Your responses to this survey will help Cornell Cooperative Extension Regional Dairy Specialists Margaret Quaassdorff and Betsy Hicks to better understand the management practices of and resources needed by NY farmers in this growing market.

Your insight is requested to help maintain the viability of the Beef x Dairy Industry in New York State.

Take the survey here:
https://cornell.ca1.qualtrics.com/.../SV_5yxP0IqJPncmb78

Who should take this survey?

- Dairy Farmers in New York using (and not using) beef sires in their dairy herd
- Farmers purchasing and growing beef x dairy cattle
- Farm advisors and consultants assisting farmers with beef x dairy cattle decisions
- Even if you have not used beef sires in your dairy herd, you are still encouraged to take our survey to fully quantify the usage of beef sires in NYS.

Questions about this survey?
Contact Camila Lage!

Camila Lage
607-422-6788
cd546@cornell.edu

2024 Needs Assessment for Cornell Cooperative Extension's Southwest New York Dairy, Livestock, and Field Crops Program - We Need Your Help!

Our program first began in 2019 when the Cornell Cooperative Extension Associations of Allegany, Cattaraugus, Chautauqua, Erie, and Steuben Counties came together to offer high-quality, specialized programming to the region's dairy, livestock, and field crops producers. As we look ahead to the new year, we would like to survey the community and learn more about the topics you're most interested in hearing from us about.

Please consider completing this survey to share your anonymous feedback. You can:

1. **Complete this form and mail to: CCE SWNYDLFC, c/o Kelly Bourne, 5435 Co Rd 48, Belmont, NY 14813.**
2. **Complete this form online by visiting our website and scrolling down to "Announcements" (swnydlfc.cce.cornell.edu).**
3. **Complete this form and text a photo of it to 716-640-0522 (Katelyn Walley).**
4. **Call any of our team specialists, listed on page 2, to chat over the phone or request a site visit.**

Please describe your farming operation or agribusiness. What is something that you've recently accomplished or changed that you're proud of?

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What types of service or resources from CCE do you find the most valuable? This could include workshops and trainings, newsletters, email updates, on-farm and phone consultations, research, webinars, and more.

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What are the biggest challenges your farm is facing? What do you think are the biggest challenges that the industry or your farm neighbors are facing?

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What types of programming, resources, or research would you like to see from our team?

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Is there anything else you'd like to share with our program?

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Your time spent providing feedback for our program will help us to adapt to regional needs and create effective programming, research, and resources.

CROPS COWS & CRITTERS newsletter

We're currently looking for members of the region who are interested in serving on our Advisory Committee. Please call Katelyn Walley-Stoll at 716-640-0522 if interested.

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