



# U.P. Ag Connections Newsletter

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Agricultural News from MSU Extension and AgBioResearch

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I try every year to talk about drought management and to do it without jinxing the weather. Each of the last two years I have at some point discussed being worried about drought and making plans to deal with it before it was too late. Across much of the UP, we have had plenty of snow and rain, even to the point of complaints of making hay.

**National Drought Monitor** – The entire state map of Michigan is absent of any color indicating no drought. Most of the Midwest is absent of drought. The drought monitor is slow moving, meaning that it does not change rapidly. I have noticed that most of the US Forest Service signs are showing fire danger as high. Here in the western UP, it seems to be drying up nicely after mud season. There is something about this clay. It seems like a rain would really help, yet I could get stuck on about 20% of the space in the fields.

Continuing on the drought monitor, I just read a report that drought is limiting the country’s ability to grow the beef herd. Cattle prices continue to show no signs of backing off. High prices usually tell producers to increase production. In the beef business it usually takes a couple years to get more beef on the market. But currently, while the Midwest looks good from a drought standpoint, Missouri and North Dakota are the only two states of the top ten cow-calf states to look good from a moisture standpoint. The other eight are dealing with drought problems. I am not an economic forecaster, but it could be time to start expansion here in the UP and across Michigan.

Especially here in the UP and the Northern Lower we have real opportunities to capitalize on our grazing capabilities. Our land, especially from a rental standpoint is cheap enough to feed cattle cheaper on pasture. We particularly have the ability to stockpile grass cheaper than if we were in more concentrated crop production areas. Obviously, we cannot forget about how long we need to feed hay, but we do have opportunities to graze planted crops like winter rye. Tall cover crops like millet, corn, sunflowers and sorghum can help extend grazing into the winter even with significant snow.

**Michigan Cattlemen’s Summer Roundup** – The Michigan Cattlemen's Association will be hosting the 2026 Summer Roundup in Bad Axe MI on June 20<sup>th</sup>. This year the roundup will be a one-day event starting with tours of a feedlot and a large dairy operation. After lunch, there will be an educational session featuring discussion on polyfluoroalkyl substances (PFAS) and a producer panel made-up of

feedlot operators. The feedlot panel discussion will center on the challenges of finishing cattle with today's high cattle prices. The evening will conclude with dinner and an awards banquet. Participants can register at

<https://www.micattlemen.org/summer-round-up-2026>.



# Optimizing Health Qualities of Beef: MSU Scientists Analyzing How Nutrients in Beef are Impacted by What Cattle Eat

By Jack Falinski

Instead of answering, “Where’s the beef?” Michigan State University scientists are gaining a deeper understanding of what’s in the beef. A paper recently published by two MSU researchers highlights new data on how the nutrient composition and healthfulness of beef is impacted by what beef cattle feed on.



Jenifer Fenton, a professor in the Department of Food Science and Human Nutrition, and Jason Rowntree, the C.S. Mott Professor of Sustainable Agriculture in the Department of Animal Science, published their findings in October 2024 in [npj Science of Food](#).

Funded by the Greenacres Foundation, Fenton and Rowntree, whose work is also supported by MSU AgBioResearch, examined fatty acids and other organic compounds in grass-finished beef from cattle raised using rotational grazing methods, specifically studying whether analyzing the nutritional components in beef can lead to accurate predictions on what cattle were fed.

Being able to determine the feedstuff cattle ate — such as grass, supplemental feeds or grains — based on the nutrients found in beef could create an approach for how grass-finished beef can be authenticated.

Previous research of theirs published in 2022 in [Frontiers in Sustainable Food Systems](#) confirmed several nutritional benefits of grass-finished beef compared to grain-finished beef from cattle fed barley, oats or corn. Those benefits included less fat, more omega-3 polyunsaturated fatty acids (which support heart health) and a lower omega-6 to omega-3 ratio. Too high of a ratio can cause inflammation in the body and heighten disease risk.



“There’s variation in beef, yet we tend to put it under one umbrella,” Rowntree said. “I often say beef is healthy, but there’s nuance to it.”

Fenton said the omega-6 to omega-3 ratio in grass-finished beef is usually about 2-to-1. However, some samples her team previously collected had ratios as high as 28.3-to-1.

“How you feed the animal can change the omega-6 to omega-3 profile dramatically,” Fenton said. “Salmon is one example that gets talked about a lot. Farm-raised salmon when fed corn and soy contain higher amounts of omega-6 fatty acids compared to wild salmon, which contain more omega-3 fatty acids because they’re feeding on small fish that eat algae.

“The same concept is true for beef. When cattle are fed a high proportion of corn and soy, the beef has higher amounts of omega-6s relative to omega-3s. On the commercial project we did prior, we saw wide variations in the ratio from 2-to-1 all the way to 20-to-1 and more, but the beef samples should’ve all been close to 2-to-1 because they were purportedly grass-finished. So, we’ve been working to identify potential supplemental feeds that might explain the variation.”

For some farmers and ranchers who practice rotational grazing and produce beef labeled to be grass-finished, fresh forage isn’t always available for cattle due to snow cover and other seasonal interruptions. As a result, cattle are fed supplemental feeds such as hay, baleage (baled silage), soybean hulls and other diets.

The American Grassfed Association provides an approved list of supplemental feeds for cattle grown to produce grass-finished beef, but Fenton and Rowntree sought to provide evidence that could support ways to accurately authenticate grass-finished beef. They did this by observing differences among the fatty acids and acids and secondary metabolites in the beef they sampled and then predicted which feeds were fed to cattle based on the information they recorded.

Secondary metabolites refer to bioactive compounds that aren't associated with cell growth or development but play a role in how organisms function and survive in relation to their environment. Previous studies — including one funded partly by M-AAA and published by Fenton and Rowntree in 2023 in [Foods](#) — have demonstrated how secondary metabolites produced by plants responding to their environment have antioxidants and anti-inflammatory agents that can be transferred to cattle fed on grass.



Rowntree, who also serves as the co-director for the MSU Center for Regenerative Agriculture, said land management will continue to be an important research topic moving forward to ensure the feedstuff cattle eat and graze on is nutrient dense.

“There is a unique demand for understanding the nutrient density of the food we produce,” Rowntree said. “Our premise is that healthy soils equal healthy land, and healthy land equals healthy plants, animals and people. Understanding how management influences the nutrients in food is a growing and much needed area.”

For this project, Fenton, Rowntree and the team examined beef from four cattle groups at the MSU Upper Peninsula Research and Extension Center, with each group being fed different feeds and/or exposed to different environments. Group 1 fed on the pasture and was supplemented with hay. Group 2 fed on the pasture and was supplemented with baleage. Group 3 fed on the pasture and was supplemented with soybean hulls. Group 4 was confined and fed baleage and soybean hulls.

From the data, the team could predict what each group was fed with accuracies of 100%, 50%, 41% and 97%, respectively. Hay — based on its 100% accuracy prediction — was described in the paper as the “gold standard” to supplement with fresh forage for a reliable authentication of grass-finished beef. Likewise, the team could predict with a high degree of certainty which beef samples came from cattle fed solely forage- or feed-based diets.

Fenton said while a few differences among the samples confirmed certain supplemental feeds, such as hay, present more favorable characteristics in grass-finished beef than others, all the feeds they tested remain stable options to supplement with fresh forage.

“I think a farmer can feel assured that if they feed these byproducts at a rate similar to what was done in the study during the winter or at other points in time, the ones we’ve measured won’t greatly influence the omega-6 to omega-3 ratio,” Fenton said.

The next step of this research is currently underway as the team conducts similar tests to examine the nutritional profile of beef from cattle fed distillers grains. Additionally, Fenton said partners from Cal Poly Pomona, Chapman University and Utah State University are monitoring how metabolic genes change in response to what cattle eat, as well as the extent to which bioactive compounds from biodiverse pastures accumulate in grass-finished beef.

Fenton said one area of research needing to be further explored, noting the team may investigate it in the future, is how human health is affected when eating beef from cattle fed different diets and how consumers choose among different beef products.

“We’d like to work toward taking the grass-finished beef with a nutrient profile favoring human health and then beef from conventionally fed cattle and feeding it to humans to see if there’s data that shows lower inflammatory markers or a more beneficial cholesterol profile between the two,” Fenton said.



## How to Save on Your Fertilizer Bill – GUPAA 2026 Annual Meeting Report

By Ben Bartlett, President of GUPAA (906) 439-5210

Did you know that most soils have over 1,000 pounds of N, P, and K even if your soil test says a lot less? That's what UP producers learned at the 48<sup>th</sup> GUPAA annual meeting held in Escanaba. The non-profit GUPAA, Growing UP Agricultural Association, was formed in 1978 to address concerns about agricultural research and then take those needs to Michigan State University. In addition, GUPAA often receives funds and serves as the fiscal agent for grants from MDARD or other organizations. It is the goal of GUPAA to be an umbrella organization for all UP agriculture and the voice of research and educational needs. You may feel you get your information from your local businesses but don't forget where they got the newest research. GUPAA wants to make sure that the needs of UP producers are included in research projects and educational efforts, so the information fits the UP's unique challenges and opportunities.



Back to the level of N, P, and K in your soils – Andrew Tucker of Nutrient Ag Solutions was the keynote speaker and offered new perspective on how we analyze the nutrient levels in our soils. The traditional system is a chemical analysis of nutrients that are available to the plants. But the soil also contains many nutrients that are not in plant available form. A newer way to consider the fertility of your soil is to add in the effect of the biological life in the soil that can make some of the unavailable nutrients in the soil available to the plant. More biological life – the more nutrients available to plants and the less fertilizer you need to apply. The new information on soil fertility made the GUPAA annual meeting time well spent.

GUPAA is strictly a member funded organization from producers across the UP. BUT, we need to hear from you so we can add your concerns and ideas to the messages we send to Lansing. Membership is only \$15 / year and most of those funds go to support the Ag for Tomorrow conference and for honoring an individual or organization that has provided dedication to UP Agriculture with the Distinguished Service to UP Agriculture award. This year's Service to UP Agriculture winner was Craig Knudson, long time Farm Bureau Advanced Regional Manager and Forestry Specialist. Your membership is vital to representing UP Agriculture so please send your membership dues to "GUPAA, UPREC, PO Box 168, Chatham Mi. 49816 or call 906-439-5114 for more info.

## USDA Opens Enrollment for Grassland Conservation Reserve Program

The U.S. Department of Agriculture (USDA) today announced that agricultural producers and private landowners can enroll in the Grassland Conservation Reserve Program (Grassland CRP) starting May 4, 2026, through May 29, 2026. USDA's Farm Service Agency (FSA) administers Grassland CRP, a voluntary working lands conservation program that enables participants to conserve grasslands while also continuing most grazing and haying practices.

[Grassland CRP](#) emphasizes support for grazing operations, plant and animal biodiversity, grasslands and land with shrubs and forbs under the greatest threat of conversion.

"Our Grassland CRP enrollment will be competitive just like our previous enrollment periods since we are very close to the 27-million-acre statutory cap," said FSA Administrator Bill Beam. "Grassland CRP is designed to strike a balance between the importance of continued agricultural productivity and prioritizing the stewardship of America's ecologically significant grasslands. USDA continues to put Farmers First by providing viable economic incentives while preserving working lands."

CRP is USDA's flagship conservation program, providing financial and technical support to agricultural producers and landowners who place unproductive or marginal cropland under contract for 10-15 years and who agree to voluntarily convert the land to beneficial vegetative cover to improve water quality, prevent

soil erosion and support wildlife habitat. The Continuing Appropriations, Agriculture, Legislative Branch, Military Construction and Veterans Affairs, and Extensions Act, 2026, extends FSA’s authority to administer CRP through Sept. 30, 2026.

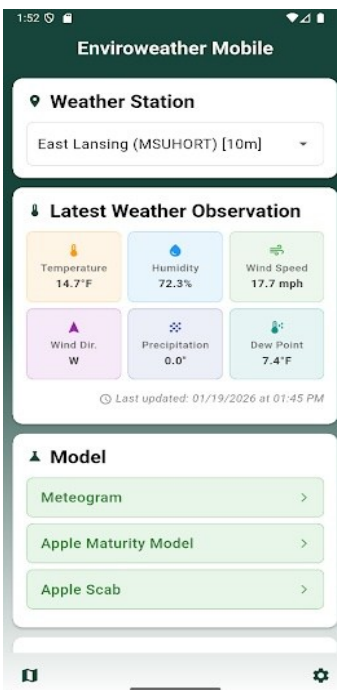
Currently, more than 26.2 million acres are enrolled in CRP, with nearly 10.3 million acres in Grassland CRP. FSA recently closed the enrollment period for General CRP and Continuous CRP closes May 1, 2026. FSA is reviewing submitted offers and will announce accepted offers at a later date. Due to the 27-million-acre statutory cap, only 1.9 million acres are available for all CRP enrollment this fiscal year.

Producers and landowners interested in participating in CRP should contact their [local FSA county office](#) before the May 29 deadline.



## MSU AgBioResearch Launches Enviroweather Mobile App to Support Michigan Growers

By Jack Falinski



Michigan State University AgBioResearch, in partnership with the Michigan State Horticultural Society (MSHS), is proud to announce the launch of Enviroweather Mobile, the mobile app for MSU’s weather-based information system supporting farmers and growers throughout Michigan.

[Enviroweather](#) has helped Michigan producers make informed decisions related to pest control, plant production and natural resource management since 1996.

With funding support from Project GREEN, Michigan’s plant ag collaborative housed at MSU and made up by MSU AgBioResearch, MSU Extension, the Michigan Plant Coalition and Michigan Department of Agriculture and Rural Development (MDARD), Enviroweather stations can be found today across 99 sites in Michigan, collecting information on temperature, rainfall, humidity, dew point, wind direction, soil conditions and more for the state’s plentiful and diverse ag regions.

Up until now, however, data gathered by the tool could only be accessed reliably from a desktop using a web browser. Enviroweather Mobile changes that. Producers can now easily access real-time data to inform decision-making while working in the field.

“Farmers and growers are at the heart of everything MSU AgBioResearch does,” said George Smith, director of MSU AgBioResearch. “Since its creation, Enviroweather has been a game-changing tool to assist in the needs of our state’s producers. The deployment of Enviroweather Mobile represents our team’s dedication to always looking at what can be improved. I couldn’t be more excited for how this resource will further support the people who are helping put food on our tables.”

In addition to the data collected on weather, Enviroweather provides insightful models that contribute to strategies for controlling pests and pathogens, ranging from fire blight in apples and cherry leaf spot to seedcorn maggots threatening vegetables such as corn, soybeans and cucurbits.

“Farmers are on the go more than ever,” said Ben Smith, executive director of the Michigan State Horticultural Society. “Quick access to updated weather information, as well as pest and disease models, is critical to making good decisions. Enviroweather Mobile will allow growers easy and complete access to the power of Enviroweather wherever they can find a cell phone signal. Better decisions around weather and pest and disease control will lead to more efficient and successful farms.”

The development of Enviroweather Mobile was made possible with funding support given by Project GREEN and MDARD’s Specialty Crop Block Grant Program. Led by MSU graduate student Dao Chi Lam, the MSU AgBioResearch Research Evaluation and Data Analytics team spearheaded the app’s design. Download Enviroweather Mobile for free on the [Apple App Store](#) or [Google Play](#).

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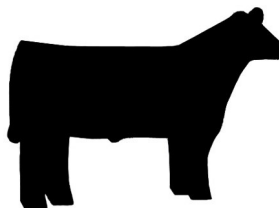
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