



Northeast Missouri

Ag Connection

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Feeding Cattle in Winter Months

Hay remains an expensive feed source for beef cattle operations. Feeding costs have increased significantly in recent years, with estimates ranging from approximately \$3.44 per cow per day in 2022 to \$4.59 per cow per day in 2023. At an average feeding cost of \$4 per cow per day, a herd of 40 cows will require approximately \$14,400 in feed expenses during a 90-day winter feeding period. Reducing hay feeding by just 30 days can lower costs by nearly \$5,000, highlighting the value of extending grazing opportunities whenever possible.

One of the most effective and traditional methods for reducing winter feed costs is stockpiling tall fescue. This practice involves grazing or clipping pastures during the growing season, applying nitrogen fertilizer, and allowing forage to accumulate for late fall and winter grazing. Stockpiled tall fescue often contains approximately 12.5% crude protein and 59.5% neutral detergent fiber (NDF), compared with typical fescue hay at 7.5% crude protein and 65.3% NDF. These differences translate to improved forage quality and reduced reliance on harvested forages.

Planning ahead is essential for successful winter feeding. Producers should calculate the herd's daily and seasonal forage needs before winter begins. For example, 20 cows consuming 30 pounds of dry matter per day require 600 pounds of forage daily, or approximately 60,000 pounds over a 100-day feeding period. An accurate inventory of pastures, stored feeds, and available supplements helps identify shortages before becoming critical.

Winter annual forages can provide additional grazing opportunities and help stretch stored feed supplies. Oats are commonly seeded at 80 to 100 pounds per acre, while cereal rye, wheat, triticale, and barley are typically planted at 90 to 120 pounds per acre. Annual ryegrass is often planted at 20 to 30 pounds per acre. Brassicas, including turnips and radishes, can also contribute to winter grazing systems. These crops are generally planted in mid- to late-August at rates of 2 to 5 pounds per acre and should be grazed before January. However, brassicas should make up less than 50% of the total diet because of low fiber and mineral content and the potential risks of bloat and acidosis. Adequate forage residue should remain after grazing to maintain stand productivity. A combination of oats, cereal grains, ryegrass, and brassicas can help distribute forage production across multiple seasons, creating a more resilient grazing system and reducing the number of days hay must be fed.

Not all hay provides the same nutritional value. Hay quality can vary significantly depending on forage species, plant maturity, weather conditions during harvest, fertility programs, and storage methods. Because forage quality cannot be accurately determined by appearance alone, routine forage testing is an important management tool. Producers are encouraged to collect representative samples from each lot of hay and submit them to a forage analysis laboratory.

Forage testing measures important nutritional characteristics including acid detergent fiber (ADF), neutral detergent fiber (NDF), fat, nitrogen, minerals, and potential anti-quality factors such as nitrates. These measurements are used to calculate values such as crude protein, total digestible nutrients (TDN), net energy, relative feed value (RFV), and relative forage quality (RFQ). Understanding these values allows producers to better match feed resources with livestock nutrient requirements.

As forage plants mature, yield generally increases but nutritional quality declines. Mature forages typically contain more stems, fiber, and lignin while having lower protein, digestibility, and energy levels. Consequently, animal performance and forage intake often decrease as forage maturity increases. In general, higher values for crude protein, TDN, RFV, and RFQ indicate better forage quality, while lower ADF and NDF values are preferred because they support greater intake and energy availability. When forage quality is inadequate, supplementation may be necessary. Proper supplementation can improve energy and protein intake while making efficient use of available feed resources.

Monitoring body condition is another important component of winter feeding management. A one-unit increase in body condition score represents approximately 7% of a cow's body weight. For example, a 1,200-pound cow with a body condition score of 5 would need to weigh approximately 1,284 pounds to reach a body condition score of 6. Regular body condition evaluation can help identify nutritional deficiencies before negatively affecting reproductive performance and herd productivity.

Feed waste should also be considered when evaluating winter feeding costs. Research has shown that hay feeder design can significantly influence waste levels. Cone-style

feeders resulted in approximately 3.5% hay waste, compared with 6.1% for ring feeders, 11.4% for trailer feeders, and 14.6% for cradle feeders. Selecting efficient feeding equipment can generate meaningful savings throughout the feeding season.

Additional factors that can affect winter feeding success include mold in hay, storage losses, fescue toxic endophyte issues, weeds in harvested forage, and excessive moisture which can lead to heating and spoilage. Feeding forage by weight rather than volume is recommended to account for moisture variation and ensure consistent nutrient delivery.

In years when forage supplies are limited, herd evaluation may also be necessary. Open cows, structural or udder problems, poor disposition, or cows that consistently fail to generate enough calf value to cover maintenance costs may be candidates for culling. Early and strategic destocking decisions can help conserve feed resources and improve overall herd efficiency.

Ultimately, successful winter feeding begins long before the first frost. Careful planning, forage testing, grazing management, and informed supplementation decisions can help producers control costs, maximize forage utilization, and maintain productive cattle herds throughout the winter months.

For more information, contact an MU Extension Livestock Specialist.

Source: [Chrisee Brandl, field specialist in livestock](#)

Call Before You Dig

A successful fall food plot begins Underground utility lines and pipelines make daily life more comfortable and convenient but not locating those lines prior to digging or performing deep tillage can result in expensive and even deadly consequences. Something as simple as digging a posthole or performing deep tillage in a farm field could leave the entire neighborhood without internet or phone service. Even worse, striking a pipeline could result in an explosion and the loss of lives.

The Pipeline Ag Safety Alliance (PASA) and Missouri One Call provide guidance for farmers and ranchers who are planning to do any digging or deep tillage in an area where there could be underground utilities.

- Notify – Call 811 three working days prior to beginning work. Be prepared to provide the following information:

- Start date
- Contact information
- On-site contact information
- Type of work being done
- Type of equipment being used

- Who the work is being done for
 - Will trenchless excavation or explosives be involved
 - Depth of digging
 - County, city and nearest roads to the site
 - Where on the property the utilities need to be located
- Wait – for three working days to begin work.
 - Confirm – Confirm all utilities have responded. If not, call again.
 - Dig – Once all utilities have responded, digging can begin. Always excavate carefully in areas where utilities are located. Hand digging is required within two feet of all utility marks. If the marks are no longer visible because of time or weather, call again and request a remark.

If a pipeline leak is suspected, leave the area immediately and avoid any activities that might cause sparks. Once clear of the area, call 911 and notify the pipeline company. According to the PASA, pools of liquid, blowing dirt, hissing sounds, vapor clouds, gaseous odors, bubbles in standing water, dead vegetation and frozen soil or ice next to pipelines are all signs of a pipeline leak and should be treated as an emergency.

Visit www.PipelineAgSafetyAlliance.com for more information.

Source: [Valerie Tate, field specialist in agronomy](#)

Cattle Disease that Causes Anemia Spreading in Missouri

University of Missouri Director of Veterinary Extension Craig Payne urges cattle producers to watch for signs of disease associated with *Theileria orientalis* (ikedai), a protozoal organism recently detected in Missouri.

This organism, which primarily affects cattle, infects red blood cells. The immune system attacks the infected cells, resulting in anemia. The disease is primarily spread by the invasive Asian longhorned tick.

It was first diagnosed in a cow-calf herd in Virginia in 2017. The first Missouri case was detected in Howell County in June 2023. Payne says that by the end of June 2024, there were 10 counties in Missouri where cattle tested positive. As of Oct. 1, 2025, that number is up to 48.

Payne notes the Missouri Department of Agriculture has an updated map showing the counties where the disease has been confirmed. <https://tinyurl.com/MDA-disease>.

With mild infections, cattle may show elevated temperature, depression and pale

mucous membranes. With severe infections, they can show severe depression, and the mucous membranes around eyes and the vulva appear jaundiced with a yellow tinge. Pregnant animals may abort, and animals will lose body condition.

Most cattle that become infected never show symptoms, and death loss rates are typically less than 5%. However, Payne notes that some herds experience much higher rates of illness and death loss than is reported in the literature.

Symptoms sometimes confused with anaplasmosis

The symptoms are similar to those of anaplasmosis, says Payne. A key difference is that anaplasmosis symptoms are rarely seen in cattle less than 2 years old, but symptoms associated with *Theileria* can be seen in both calves and adults.

Disease is transmitted several ways

The main route of transmission is through the Asian longhorned tick, an invasive species found in at least 23 states. The tick acquires the protozoa while feeding on an infected animal and later transmits it to other animals through its saliva. Other insects, such as lice, biting flies and other tick species may be involved in transmission as well.

Blood-contaminated equipment can also transfer the organism from infected to uninfected animals. This would include needles and dehorning, castration and tagging equipment.

Once infected, symptoms appear in 1-8 weeks.

Carriers for life

Infected animals will become lifelong carriers of the organism but are unlikely to show symptoms of disease again. Payne recommends discussing with your herd veterinarian whether it's best to keep or cull these carriers.

Management: Treatment, prevention and control

There are no antibiotics available in the U.S. labeled to treat or control *Theileria*. Tetracyclines, which are commonly used to treat and control anaplasmosis in cattle, do not appear to be effective against this disease. Recommendations for managing clinical cases include minimizing stress and providing supportive care.

There are currently no vaccines available to prevent the disease, says Payne. The best option is to control Asian longhorned tick populations. Payne recommends a Virginia Cooperative Extension publication, *Managing the Asian Longhorned Tick: Checklist for Best Management Practices for Cattle Producers* <https://tinyurl.com/VA-publication>

Payne also recommends quarantining and treating new animals for ticks. In herds where the disease is already present, changing needles between animals and disinfecting equipment that may be blood-contaminated is good standard practice.

Finally, seek guidance from your veterinarian, who can recommend the best strategy for

preventing or controlling the disease in your herd, says Payne.

Resources: MU Extension publication “Theileria orientalis: An Emerging Cattle Disease in Missouri,” available free online at <https://extension.missouri.edu/publications/g2113>.

The Missouri Department of Agriculture has confirmed Theileria orientalis in 48 Missouri counties as of Oct. 1, 2025. The first case in Missouri was confirmed in Howell County in 2023. Missouri Department of Agriculture map of cases <https://tinyurl.com/MDA-disease>

Source: *Linda Geist, writer MU Ag & Environment Extension*

Brazil Swine Specialist to Speak Online

The October Pearls of Production session will be led by Lidia Arend, a swine reproduction specialist from Brazil with Topigs Norsvin. She is recognized for her work advancing sow fertility, reproductive management and her productivity.

Event Details

Date: Oct. 28 @ 12:00 p.m. CDT

Location: Zoom

Registration: <https://pears.io/events/mu/9151/>

For more information email hconrow@missouri.edu.

Source: [Heather Conrow, field specialist in livestock](#)

Newsletter Changes

The format of the newsletter will look slightly different starting this month. The software used to create this newsletter (Microsoft® Publisher) is being discontinued by Microsoft®. It may take a few newsletters to adjust and improve. Thank you for your patience.

For more information, please contact your MU Extension Center.

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