

Future-Proof Your Cattle Management

Be proactive to ease the impact of changing weather patterns and rising temps

BY CLAIRE VATH

Rolling dunes, native prairie grasses and sandy soils stretch across more than 19,000 sq. mi. of north-central Nebraska. It's here, in the semi-arid Sandhills region, that fifth-generation rancher Mackenzie Johnston runs 400 head of cattle



with her parents on their 5,000-acre ranch.

"The sand doesn't hold moisture like other soils, so when it does get dry, it gets dry fast, and pasture conditions deteriorate quickly," Johnston says. In 2023, drought conditions forced the family to truck in hay from Des Moines, six hours away. That year was also the globe's warmest on record, according to the National Oceanic and Atmospheric Administration.

With shifting temperature patterns come weather extremes: stronger storms, flooding, wildfires and prolonged drought. These adverse events are making it more challenging to maintain herd health and production.

While predicting a hurricane or drought is a what-if game, producers can ease the impacts of changing weather with planning and practical strategies.

FORAGE AND FEED

Roughly 535,500 head of beef cattle graze the Sandhills region, according to the University of Nebraska-Lincoln Extension. But prolonged drought reduces the availability of quality forage. At the start of 2024, Johnston was optimistic about pasture conditions.

"We had a great spring with lots of moisture, and our pastures looked exceptional going into summer," she explains. "Then the rain turned off [in July], and we didn't have any substantial rainfall until October."

The Johnstons run Red Angus, with some Simmental and South Devon in the mix for heterosis. When things got dry in 2024, they made adjustments, such as feeding high-protein minerals.

"We also rotated through some of our summer pastures faster than we typically would as the



In the Nebraska Sandhills, Mackenzie Johnston and her family make it a priority to never overgraze, leaving a certain amount of grass in each pasture, so if a drought follows the next year they have at least a little grass for grazing.





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grass quickly became dry, brittle and lacking in nutritional value,” Johnson says. “Every year we leave a certain amount of grass in each pasture, never overgrazing, so if we do run into drought the next year, we’ll have a little something to go back to.”

Denise Schwab, Iowa State University Extension beef specialist, says it’s critical for producers to get a handle on forage quantity and quality as well as soil health.

When feed resources become a concern, it’s time to reevaluate grazing plans and forage needs.

“If we look at Midwest operations in the last 20 to 30 years, cows are getting bigger, but pastures are getting smaller,” Schwab adds.

In fact, the 2022 Census of Agriculture reported between 1997 and 2022, U.S. farms lost 75 million acres, with pastureland accounting for 88% of the total decline, whether due to urban or suburban expansion, conservation efforts or other alternative use.

WATER ACCESS

“Particularly in the last several years, it seems temperatures are getting more extreme,” says Christine Navarre, Extension veterinarian for the Louisiana State University AgCenter and the Louisiana Beef Quality Assurance coordinator, about the extended heat, unseasonable cold spells and periods of drought in her area. “This lack of predictability makes it a challenge

coming from a state that relies on grass for the cow-calf sector. Planning for feed and adequate water resources is important.”

On her own operation outside Baton Rouge, La., Navarre raises SimAngus cattle. The hot, humid climate, frequent rain and rich alluvial soils of the Mississippi Delta put the state at the forefront of unpredictable weather, from strong storms and hurricanes to tornadoes and drought.

“We can handle lots of rain and even flooding here, but drought is something our system isn’t set up to handle,” she says.

In both 2023 and 2024, heat advisories (temperatures 108°F or higher) and excessive heat warnings (113°F or higher) plagued south Louisiana in the summer months.

In 90°F temperatures, an average bull requires roughly 20 gal. of daily water intake, but animal type, production stage, diet and size also dictate water requirements. Due to the substantial amount of water cattle require each day, producers must plan to transport large quantities of fresh water or to move the animals to a more suitable location.

Navarre adds the proximity of shade to water is critical as well.

“We had a case where black cattle brought into the South didn’t move from the shade to the water trough but rather sat in the shade and died of dehydration,” she says.

Shaded water locations also

mean cooler water, which can help cattle maintain body temperature and encourage them to drink more.

“I have producers starting to cover water troughs,” she adds. “This keeps the water cooler, and it helps minimize algae growth.”

BREEDING PROGRAM

Genetics and breeding strategies, such as adjusted calving dates, can play a critical role in mitigating the effects of unpredictable climate conditions. In Louisiana and Florida, for example, some cattle producers are focusing their breeding programs on traits that enhance heat tolerance.

Smaller breeds or hybrids in general tend to fare better under heat-stress. Navarre suggests red cattle and selecting livestock that slick off early. She keeps a culling spreadsheet to track which cattle in her herd slick off, which have issues with hornflies and which outgraze others when it’s hot.

“I also think we need to pay attention to our very large cows,” Schwab adds. “We need to select bulls that have milk expected progeny differences [EPDs] that match



PHOTO: JENNIFER VIMMERSTEDT

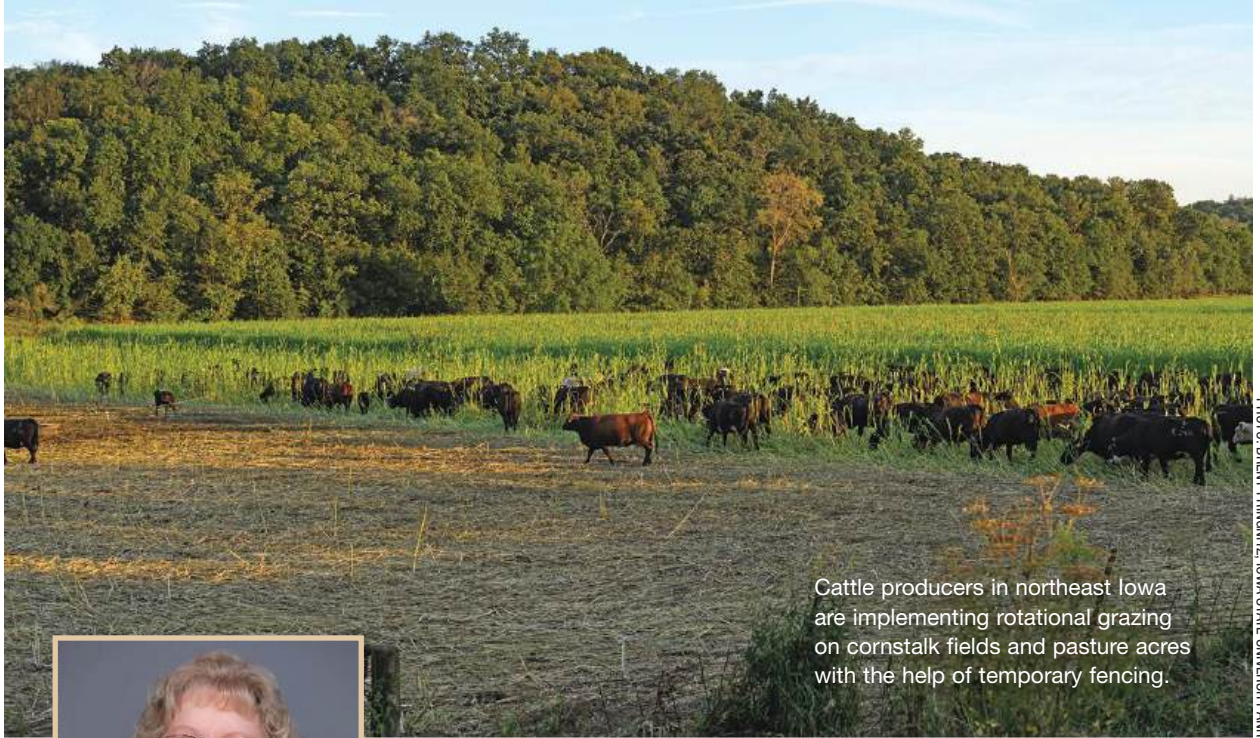


PHOTO: BRENT PRINGNITZ, IOWA STATE UNIVERSITY/ANR

Cattle producers in northeast Iowa are implementing rotational grazing on cornstalk fields and pasture acres with the help of temporary fencing.



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our environment, and we need to put some emphasis and selection pressure on more moderate milk EPDs — especially on the heifer selection side.”

INFRASTRUCTURE INVESTMENT

In Schwab’s northeastern portion of Iowa, producers depend heavily on cattle grazing cornstalks.

“If we can start to implement rotational grazing on cornstalk ground, we can stretch quality and supply,” she says. The key is building infrastructure, including fences and accessible water systems.

“Since we purchased this ranch about 20 years ago, my dad has done his best to implement preventative measures to prepare for drought conditions,” adds Nebraska’s Johnston.

These investments include cross-fencing large portions of pasture with high-tensile fencing to allow for rotational grazing.

“We have two pivots under rotational grazing,” she says. “In a dry year we have run yearlings on irrigated grass and feed hay. Then in the fall, we wean calves on those pivots. Those pivots truly keep the wheels turning on the ranch.”

Schwab advises producers to learn how to grow winter and summer annuals in a good year, so when a dry year comes along they have experience and practice.

HERD HEALTH

Climate stress, such as soaring heat or ongoing drought, can compromise a herd’s immune function, increasing susceptibility to diseases.

“Management plays such a huge

role in health,” Navarre emphasizes. “If you’re just using your vet to palpate cows and vaccinate, you’re missing an opportunity for security, the economics of your management plan and a more resilient herd.”

She recommends partnering with a veterinarian to help monitor herds for signs of heat stress, dehydration and disease outbreaks. Up-to-date vaccine schedules and proactive parasite management also help reduce health risks.

Adapting to unpredictable weather requires a proactive, multifaceted approach. Planning for forage and feed needs, enhancing nutrition, selecting resilient genetics, investing in infrastructure and prioritizing herd health will help ensure the long-term productivity of your herd and operation. ✓