

In times of limited pasture availability, feeding beef cows in confinement may allow some producers to hold their herds together while deferring grazing of pastures.

KEEP THE COWS

Can confining cows provide solution to drought?

by Troy Smith, field editor

There's nothing more welcome after a long dry spell than a slow, soaking, all-night rain. A lazy 2-inch (in.) rain event can prompt a happy dance from the most curmudgeonly of cow persons.

As this is written, plenty of producers are longing for more opportunities to cut a rug in the rain. The drought monitor map still shows that much of the United States endures abnormally dry conditions, with the most severe drought persisting in the West. Resulting reductions in range and pasture production make it a challenging time for cow-calf producers.

Destocking options

When faced with a drought-driven shortage of forage for grazing, the most direct solution is to reduce forage demand.

Destocking strategies might start with early weaning of calves, which should reduce cow nutrient requirements and ease consumption of grazed forage.

Reduction of cattle numbers might proceed with timely culling of open and late-bred cows, as well as the old, unsound and poorest-performers. Since mature bulls can consume up to 25% more feed than a cow, cull candidates may include bulls that aren't necessary.

It's been said producers who rely

primarily on grazed forages should not be so married to their cows that destocking is delayed too long to the detriment of their grazing resources. Herd numbers can be rebuilt rather quickly, but you can't simply buy back the health of damaged grasslands. It may take years for drought-stressed range and pasture to recover from prolonged overgrazing, so it's better to destock sooner rather than later — even if it means culling deeply.



Whether cows are confined all year or for just a portion of the year, it's typically most economical to limit-feed cows an energy-dense, protein-adequate diet, says Karla Wilke.

If destocking isn't an option

However, there is truth in the argument that a breeding herd representing many years or many decades of genetic improvement is not easily replaced. How, then, does a manager protect his or her grassland from overgrazing and hang on to the breeding herd — or the core of the herd at least?

That question has led producers to consider relocating cattle to leased pasture, which can be hard to find and expensive, particularly during widespread drought. Producers have also considered outside-the-box ways of managing their cow herds at home.

Feeding harvested feedstuffs to cows is not a novel idea, but creating total mixed rations (TMR) for cows kept in confinement is a notion that's foreign to many producers.

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However, University of Nebraska Cow-Calf and Stocker Management Specialist Karla Wilke says feeding beef cows in confinement may allow some producers to hold their herds together while deferring grazing of pastures.

According to Wilke, whether cows are confined all year or for just a portion of the year, it's typically most economical to limit-feed cows an energy-dense, protein-adequate diet.

Granted, it's easier to just provide supplemental feed to cows on pasture, but it won't relieve pressure on limited supplies of forage for grazing. Wilke says providing a protein supplement to grazing cows aids their digestion of low-quality forages, so forage consumption by the cows is likely to increase, and limited supplies of standing forage disappear faster.

Feeding a TMR to cows on pasture can make grazed forage last a bit longer. For example, Wilke says 1 pound (lb.) of a 30:70 blend of wet distillers' grains and ground crop residues can replace 0.22 lb. of grazed forage (all on a dry-matter basis). It's not a pound-for-pound replacement.

"You feed the cows, and they consume a little less grazed forage," Wilke says. "You can stretch your pasture, but only for a short time. If you wait too long to remove the cattle, the pasture still gets overgrazed."

On the other hand, confinement feeding can be a pasture-saving option.

Confined, but not 'confined'

It doesn't have to be done in a typical "feedlot" setting. Confinement feeding can be accomplished on harvested cropland, pivot irrigation system corners, winter feed grounds or, if necessary, a sacrifice pasture.

Cows can be fed in portable feedbunks or on the ground beneath a span of electric fence. Either way, allow a minimum of 2 feet (ft.) of feeding space per cow. If calves are present, allow another



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PHOTOS COURTESY KARLA WILKE, UNL

foot of space per calf to ensure they have adequate access to the feedbunk.

Ration options

Wherever cows are fed, producers should consider limit-feeding. That means the cows are fed an amount of feed that meets their nutrient requirements, but no more than enough.

"Data suggest that the most economical feeding strategy for beef cows in confinement is a limit-fed ration," she adds. "You're feeding a lot of calories in a relatively small volume of feed. Increasing the nutrient density of

the diet and limit-feeding helps reduce the costs."

A variety of commodity feedstuffs can be used to develop cow rations. Roughages, such as low-quality hay, wheat straw or baled cornstalks, can serve as the basis of a ration, augmented with ingredients such as byproduct feedstuffs or silage. Choices typically depend on the nutrient content, local availability and price of individual ingredients.

Wilke says cow diets composed of ground cornstalks and wet distillers' grains are popular where the wet product is available and economical. Where it is not,

alternative protein sources might include dry distillers' grains, soy meal, fish meal, a urea-molasses mix or alfalfa.

"Compare alternative feedstuffs for cost per pound of nutrient on a dry-matter basis. Nothing is cheap, but there sometimes are less-expensive alternatives," says Wilke, noting the cost of certain ingredients can fluctuate seasonally. "Stocking up when prices are lower can help keep ration costs down."

She reminds producers to consider the handling characteristics of various feedstuffs, because ease of

Calving in confinement

When confining cows to get through a drought, sometimes calving on pasture is still an option. When it's not, confinement can complicate calf health management.

Colostrum transfer from cow to calf is important, says University of Nebraska Veterinarian Lindsay Waechter-Mead, calling it the first line of defense for newborn calves. At birth, calves have no immune system and ingestion of colostrum or "first milk" provides the passive transfer of antibodies, fat, protein, and vitamins A and E.

Limit-fed cow nutrition must be sufficient for cows to maintain adequate body condition, and their nutrient requirements increase rapidly during late gestation, Waechter-Mead says. She emphasizes the direct relationship between the cow's body condition and her ability to produce high-quality colostrum.

The deeper the mud and muck, the dirtier cow udders become. According to Waechter-Mead, dirty

udders can compromise calves by inhibiting passive transfer of antibodies and by increasing exposure to pathogens.

"Pen maintenance is important," she stresses. "Clean high-traffic areas often. If calf hutches are used, they should be moved frequently and the areas cleaned, and make sure they are well-ventilated."

To reduce opportunity for the spread of pathogens from older calves to younger calves, Waechter-Mead recommends adapting the Sandhills Calving System to the confinement setting. "Dilution is the solution to pollution," she explains.

Accordingly, heavies (cows that have not calved yet) are periodically removed from among cows that have already calved. Waechter-Mead recommends moving remaining heavies to a separate and clean pen every 10 to 12 days. The resulting pens of pairs segregated by calf age should be kept separate and not commingled until the youngest calves are at least 4 weeks of age.

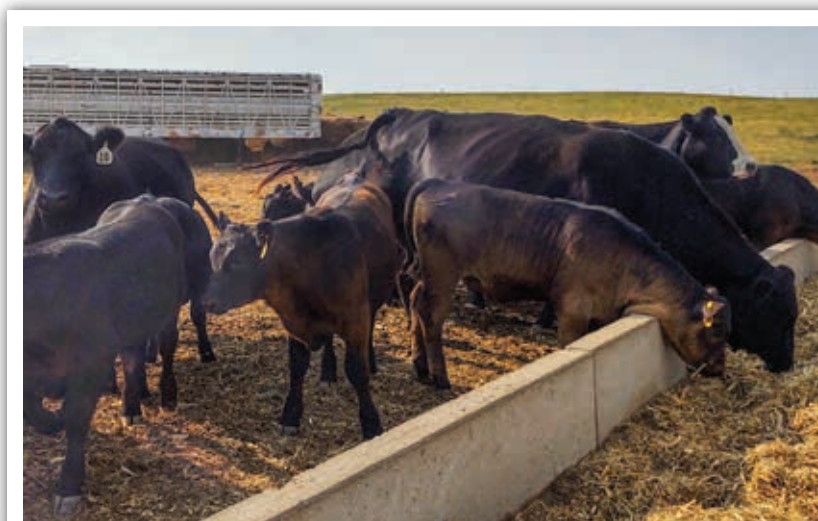
handling can affect an ingredient's ultimate cost. Cost-conscious managers may also want to include an ionophore in cow diets to improve feed efficiency.

Mineral balance

Wilke's Nebraska Extension colleague, Beef Systems Specialist Mary Drewnoski, says certain mineral and vitamin concerns should be considered when feeding cows in confinement. Whenever low-quality forages are the basis of cow diets, cattlemen should be conscious of mineral supplementation. Particular attention is warranted when rations include distillers' grains, which typically have a high phosphorus content and may also be relatively high in sulfur.

"Additional calcium is needed to balance the phosphorus, and additional copper is needed to balance the sulfur," explains Drewnoski. "That's why commercial 'coproduct balancer' mineral mixes are promoted as having high calcium and copper, but they often fall short on magnesium."

According to Drewnoski, high levels of sulfur in the diet also may interfere with absorption of



Calf health is the biggest concern if cows in confinement are consuming diets low in vitamin A. Feedstuffs that are brown in color — not green as grass — are typically poor sources of vitamin A, so cows fed rations based on harvested forages need supplementation.

magnesium. A deficiency of magnesium can result in the condition often referred to as grass tetany.

"I know it sounds funny when cows are being fed in confinement and are not on grass, but it's related to the sulfur's interference with magnesium absorption. When distillers' grains are used at high inclusion rates, a mineral mix that's high in magnesium is needed," states Drewnoski. "It may be necessary to get a custom-formulated product to get the minerals right and avoid antagonisms."

While it is an uncommon occurrence, producers feeding diets that include silage should also be aware of the potential for manganese deficiency. Drewnoski notes silage can be contaminated with some dirt during harvest, and the amount of dirt present and its relative iron content may be of concern. This is because the ensiling process converts the iron to an available form that, when absorbed by the cow, can interfere with manganese absorption. Calves born to manganese-deficient cows can be weak and have joint problems.

For a detailed look at the Sandhills Calving System, refer to "The Sandhills Shuffle" article in the March 2004 *Angus Beef Bulletin*, which is available online at <https://bit.ly/0222ABB-SHC>.

Waechter-Mead offered other tips, including creating "calf escapes" or creep areas in an adjacent pen or even in a tree row. Options include installing creep gates or by simply raising the bottom fence wire so calves can duck under it. The idea is to allow calves access to a clean area inaccessible to cows. Creep feeders might also be placed in such areas.

Another practice some producers find useful is planting annual forages in confinement lots while such areas are unoccupied. It provides for a cleaner environment and some forage for grazing. However, Waechter-Mead says producers should be mindful of nitrate and prussic-acid concerns and manage such forages accordingly.

To dive deeper into any of these topics, search back issues of the *Angus Beef Bulletin* by keyword at <https://www.angus.org/Media/Advertising/BackIssues/ABB>.



PHOTO BY SHAUNA HERMEL

Pen maintenance is important if cows are calving in confinement. Clean high-traffic areas often, or consider using a variation of the Sandhills Calving System.

"The best thing to do is test silage for iron. If it contains 200 parts per million (ppm) or more, higher amounts of manganese need to be fed," says Drewnoski.

Calf health is the biggest concern if cows in confinement are consuming diets low in vitamin A. Feedstuffs that are brown in color — not green as grass — are typically poor sources of vitamin A, so cows fed rations based on harvested forages need supplementation. A newborn calf has no vitamin A stores, so its initial source is the colostrum of its dam. A dam that is deficient will provide little vitamin A to her calf, which could compromise the calf's immune system.

Wilke notes that managing cows in confinement on limit-fed diets is compatible with reproduction. Confinement may actually simplify implementation of estrous synchronization and artificial insemination (AI) protocols. When bulls are confined with cows, producers should allow an additional 2 ft. of feeding space per bull present.

Producers keeping cow-calf pairs in confinement will observe how quickly young calves begin to eat feed alongside their dams. Wilke warns, however, that cow diets based on low-quality roughages are far from ideal for very young calves, and calves don't compete well for their share of limit-fed rations. She suggests producers think about preparing an appropriate TMR that can be creep-fed to calves.

Intermittent confinement of cows may be an option for some operators, Wilke says. Crop residues are a valuable and often underutilized grazing resource. Planting crop ground to annual forages can provide for periods of grazing, alternating with periods of confinement, and allow deferment of drought-stressed perennial pasture or range. |

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