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Manage Winter Feed Supplies

Minimize winter feed costs by assessing nutrient contents of feeds and forages, determining the nutrient requirements of animals, and sorting animals according to nutrient needs.



Although corn is a good main ingredient for a cattle diet, it does not work as well as a supplement. [PHOTOS BY CORINNE PATTERSON]

Story by
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Winter 2004-2005 is well under way. While some producers are settling in with a solid plan to try to minimize feeding costs, others are scratching their heads, wondering what to do in the months ahead. If you happen to be one of the latter, don't lose heart. There are still many things you can do to maximize your operation's efficiency.

The first step to minimize winter feed costs is to take a long, hard look at your current program, says Kansas State University (K-State) Extension beef specialist Twig Marston. "You have got to know what your costs are," he says.

Cattle producers are in the business to make money, so it's vital for producers to keep an eye on costs and to avoid things that rust, rot or depreciate, he says. "If you want to minimize your winter supplementation, don't use those things that are going to break down. Don't use those things that cost you

\$2 a gallon to run. Keep that stuff to a minimum."

It's helpful, he adds, if producers can answer the following questions as they assess their programs.

What resources are at your disposal? In addition to hay, consider stockpiled pastures, cornstalks, wheat pastures or byproducts in your area and other possible feed resources.

"What needs to be really important about our inventory control is that when we start cows out on something like a stalk field, we want them to be out there for a while," Marston says. "There's no reason to put cows out on a stalk field, and then two weeks later have to bring them home and start feeding them. We need to know how to use those inventories and how to use those ingredients to make them last long enough to be worth our time."

Which animals need what? "If you've got 2-year-olds that are a little bit thin and a bunch of mature cows, which ones should get the good hay?" Marston asks. "Your 2-year-olds. Usually we save the premium- and medium-quality forages for growing cattle."

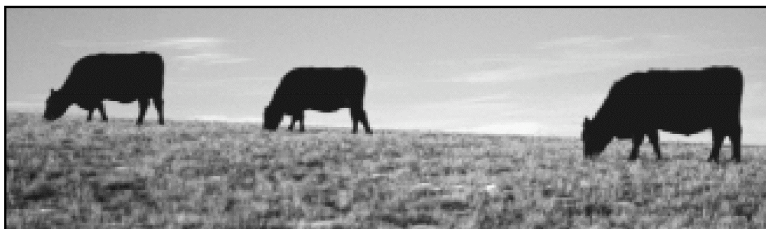
How much do I want left over? "We've got books and volumes of books written about what cows need to eat, how much they need to eat and all those kinds of things. The one thing we might consider this year is how much do we want left over?" Marston asks. "Do we want to have some emergency hay? How much grass do we need out there for good cover so those calves can nestle down and get out of the snow?"

Where or what is your next move? "Then you've got to decide what your next move's going to be," Marston says. "If we've got all these different options and opportunities out there, we need to take advantage of them," he continues. "But, there had better be a plan."

Digging deeper

"You have a cost associated with anything that you do," says animal scientist Doug Hixon, who is also head of the University of Wyoming department of animal science. "The more information you have on your nutritional analysis, the more accurate you can be in terms of meeting that animal's requirement and not overspending from the standpoint of furnishing nutrition."

Hixon says that producers can determine the nutritional value of their forages and then match them to the nutrient requirements of the animal or vice versa. However, he strongly suggests that producers



After producers assess the nutrient content of their feeds and forages and determine the nutrient needs of their animals, they should sort their animals by nutrient requirements, says Doug Hixon, head of the University of Wyoming department of animal science.

determine the nutrient requirements of their animals first, before they decide how to utilize their available forages.

“The first thing is to know the requirements of the animals you are dealing with, basically from an energy, protein, mineral and vitamin standpoint,” Hixon says. “Then secondly, what is it that you have available to meet nutrient requirements of those animals?”

In order to accurately answer these questions, Hixon recommends producers go the extra mile to have their forages tested. If crop residues, such as cornstalks, are being used in the diet, he says producers can normally use book values to determine their nutritional content.

“If you are dealing with hay or some sort of harvested forage, it’s probably money well-spent to have it analyzed so you’ll not have any guesswork involved in terms of what you have nutrientwise,” Hixon says. “If you have more nutrients there than what you need, there’s no sense in feeding extra and wasting it. On the other hand, if you are deficient, it’s important to know that, too.”

For the average commercial producer the most common mistake is not feeding the right amount of something, Marston says.

“I think most of them have a pretty good concept of what cows need, what nutrients are short and what it takes to balance a diet,” Marston says. “Maybe they know they need a half a pound or a pound of protein, but they don’t do a very good job a lot of times of measuring that. They’ll count how many times the cake feeder auger revolves, and then they’ll use that for an estimation of weight, which is pretty good, but it’s not as good as a set of scales.”

Unfortunately, many times producers feed only inventory, which means they are measuring by volume and not by weight, Marston says. “They measure by bales or buckets, and they don’t measure by pounds or percentages, which makes their feeding systems more inaccurate.” Feeding by volume can also waste feed, which increases expenses.

Although Hixon recommends forage testing, he also realizes that it is not always possible. He reminds producers to keep in mind that a mature cow will eat approximately 2% of her body weight in dry matter.

“Use that rule of thumb and feed accordingly an appropriate amount of dry matter,” he says. “Then continue to watch the body condition.”

“Their body condition score (BCS) is a reflection of what we have done to those cows,” Marston says. “They’re trying to tell us what we need to do when we think of minimizing, maximizing or optimizing our feeding

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programs.” (For tips on how to score cattle relative to body condition, visit www.cowbcs.info.)

After producers assess the nutrient content of their feeds and forages and determine the nutrient needs of their animals, they should sort their animals by nutrient requirements, Hixon says.

For example, he recommends separating 2- and 3-year-olds from mature cows. They are still growing as well as reproducing, he says, adding that producers should also separate their yearling heifers from their bred cows.

Making a plan

In addition to sorting cattle into feeding groups, producers can utilize a

wide variety of resources, such as crop residues, nontraditional forages, byproducts and supplements.

Marston cautions producers, however, that the nutritional value of some crop residues, specifically cornstalks, isn't what it used to be 20 years ago.

“There's not near the corn drop we used to get,” he says. “But if you're going to utilize something, it's always going to be

cheaper to let the cow eat it herself.”

Another variant on turning cows out on cornstalks is occurring in Nebraska. In some areas, producers are not harvesting their corn at all. They are instead fencing it off so their cows can eat it, Marston says.

Another option in the High Plains is wheat pasture, Marston says. “Wheat pasture is kind of our premium forage.



“If you always run with book value, you never know if you are really overfeeding or underfeeding,” Marston says. “You're just making the best guess you can with other people's results. When you forage-test your own feed, then you can customize to your management system and your operation. And that's a big advantage.” [PHOTO BY SHAUNA ROSE HERMEL]

How cattle digest corn

Although corn is a good main ingredient for a cattle diet, it does not work so well as a supplement because of the way the rumen microbes digest it, says Twig Marston, Kansas State University Extension beef specialist.

“Those rumen microbes are breaking down forage,” he says. “The cow doesn't break down the forage. The rumen microbes do.”

Marston says there are different ways to categorize the microbes, or “bugs,” in the rumen, but one easy way is to classify them as cellulose-digesting or starch-digesting microbes. Cellulose-digesting microbes break down forages, while starch-digesting microbes break down cereal grains or starch molecules. The way the microbes work is to reproduce themselves. They don't grow as they eat, they reproduce.

“A starch-digesting microbe is like a sprinter,” he explains. “It can

The reason for this is its abundance. People understand how it grows and how to manage it.

"You can use it on so many different kinds of animals as well," he continues. "You can grow calves on it. You can develop replacement heifers on it. And you can use it as a green-forage supplement for cow herds. It fits in more than one segment of the industry."

Another popular choice for cattle diets is corn, Marston says, acknowledging that it is the mainstay of growing cattle diets. However, as cattlemen trying to balance cow herd diets, corn may not complement the low-quality forages cattlemen try to utilize.

"We're trying to use the cheapest feedstuffs we can get our hands on," Marston says. "So, that usually makes us forage-based — and low-quality forage at that. So we've got to find things that balance the nutrient profile of that low-quality forage."

"Almost always the first limiting ingredient is digestible intake protein (DIP)," he continues. "So then we look at the best supplement to get cows to utilize those low-quality forages."

Although corn is a wonderful main ingredient for a cattle diet, Marston says it should not be used as a supplement because it does not have a good balance of DIP to total digestible nutrients (TDN) (see "How cattle digest corn").

"We can rob the rumen microbes of some of the essential nutrients they need to break down those forages," he says. "So, it can actually hurt us to use the

wrong amount of corn in a ration on a set of cows."

Staying on course

"If you're going to minimize your feeding costs, you don't want those cows that are not productive," Marston says. "That's the No. 1 rule. Don't feed something that isn't making you money. Twenty percent of your income is going to

come from the cull cow side of your operation. So you've got to maximize those values as you do that."

Marston recommends culling the Four O's — cows that are open, old, ornery or oddball.


Open cows. "They're the most nonproductive beasts you can have on the place," Marston says. "But if you're thinking about getting rid of those open

cows first, the one thing you want to make sure is you give every one of those cows a chance to get bred before you get too tough."

Old cows. "After about 10-13 years, they're going to drop off in milk production," he says.

Ornery cows. "Life is too short to put up with them," Marston said at a Dec. 2,

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do things in a hurry, and when it does it can take in protein and the different nutrients to try to digest those to turn them into things the cow can use."

Steady and slow, cellulose-digesting bacteria are more like marathon runners, Marston says. It takes them longer to break down material.

"If we short the rumen of a nutrient, the microbes that have the fastest pace get the first chance at it," Marston says. "They'll use it all up, and they don't leave anything for the cellulose-digesting bacteria to use. So, the cellulose-digesting bacteria just sit in the rumen and wait. They don't work."

"If it's just sitting there, the cow can't bring in more forage because she's not breaking it down," he concludes.

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2004, beef cattle presentation in Junction City, Kan. “Just like I’m here at this meeting tonight, who do you think is doing my chores at home? My wife. And she’s not going to put up with nothing that’s ornery, except me.”

Oddball cows. “With the kind of marketing we are starting to see now,

people are trying to put uniform groups of calves together,” Marston says.

“Uniformity plays a big importance on the price you’re going to receive. So, you need to think about getting rid of those oddball cows — those cows that calve too late, those cows that might be the wrong color, those cows that are horned vs. polled and maybe those cows that are tall vs. short. Oddballs can get you in trouble.”

Early weaning

In addition to culling, early weaning can have a place in a management program designed to minimize winter costs, Marston says. “I’m not a big advocate of weaning early, but if we’re short of forage, weaning early is a good deal.

“We did an early wean trial last year at K-State, and we weaned on June 25 and Oct. 5. The cows we weaned on June 25

weighed 120 pounds (lb.) more than the cows we weaned on Oct. 5,” he continues. “So, if you need to conserve or reduce supplementation, you can do that with stored energy through weaning.”

There are lots of options out there for minimizing winter feed costs. If you are still concerned about your program, stop scratching your head and start sharpening your pencil. Remember that your cattle are your business, Marston says. No matter how much you like having them around, they still have to make you money.

“One of the situations we get into is people start making excuses for their cattle when they need to look at the production efficiency of their unit,” Marston says. “A typical one is when we turn a business set of cattle into a set of pets. Then, you start making excuses for them, which decreases the efficiency of your production.

“The cows have got to work for a living,” he says.



Three basic supplementation programs

To help producers categorize forage situations, Kansas State University Extension beef specialist Twig Marston offers the following terms and advice for three common supplementation scenarios:

Abundant forage. Producers should increase the amount of existing forage intake and digestibility by offering a supplement. “If you’ve got a lot of something and the cows just can’t eat enough, you ought to supplement a little bit of something better,” Marston says. “And they’ll eat a lot more.”

Adequate forage. Producers should add something to the existing forage, which will have no effect on the cows’ intake or digestibility. “If you’ve got medium- or high-quality forage, but you just can’t get them to eat any more of the stuff, you need to add something on top of that grass, hay or forage,” Marston says.

Inadequate forage. Producers should reduce the number of animal units on the existing forage and offer a substitute forage. “It’s substitution,” Marston says. “We try to feed something to get them to eat less of what we’ve got out there.”