Corn for cows:

Feed a Little or a Lot

It is often available and an economical source of energy for cows, but feed corn with caution. Supplement forage with a little bit, or make corn your primary feed ingredient. Anything in between could be counterproductive.

by ***Troy Smith***

PHOTOS BY SHAUNA ROSE HERMEL

►South Dakota State University Extension beef specialist Cody Wright says corn can be an economically viable alternative when the availability of standing or harvested forages is limited. But feeding corn to cows requires careful management if producers are to achieve the desired economy and animal performance.

Few things test a cow-calf producer's mettle more than an extended period of extremely dry weather. This year's drought gripped a large section of the Western and Midwestern United States, putting a real squeeze on forage resources. In some areas, a lack of sufficient precipitation has pressured producers for two or three years. Faced with short pastures, tight supplies of harvested forage and climbing hay prices, drought-stricken producers wrestled with hard decisions, including weaning calves early, reducing cow numbers and finding alternative sources of feed.

Near Owanka, S.D., Dean Nachtigall and his wife, Margaret, decided a year ago to use corn to stretch their limited forage supplies. Thanks to an open winter, the Nachtigalls' commercial Angus cows had access to some winter range, which they supplemented with corn fed on the sod. At the time, the corn's price, on a per ton basis, was comparable to that of hay. However, corn contains nearly twice the energy or total digestible nutrients (TDN) of prairie hay.

"We fed 6 pounds of corn and a pound of cake (high-protein range cubes) while the cows were on winter range. We started switching over to hay as the corn pile ran low and had the cows on just hay and cake a couple of weeks ahead of calving time," Nachtigall explains.

Satisfied with the resulting condition of the cows, and the economics, he says corn and cake will likely fill the forage gap again.

Figuring the economics

"We're looking at $100 a ton, or more, to buy extra hay, so we'll continue to use corn to make the most of what grazing or hay we have," Nachtigall adds.

Most years, grazing the range and supplementing with cake provide early-winter fare for Casey Trask's cow herd, with little hay fed until January. Last winter, however, the Creighton, S.D., cattleman knew his hay supply wouldn't last until green grass. Supplementing with corn looked cheap compared to buying additional hay at elevated prices.

"I bought ear corn from a neighbor. It ended up costing about 30¢ a day per cow," Trask says. "I weighed a loader bucketful so we could keep track of what we were feeding, and fed it with a manure spreader with the beaters disconnected. I just fed it on the ground, and the cows cleaned it up pretty well. There wasn't much waste."

Trask fed about 5 pounds (lb.) of ear corn daily, plus ¾ lb. of protein supplement and 10 lb. of oat hay. On that diet, his cows gained weight, increasing 1-1½ body condition scores (BCS) in 60-70 days.

South Dakota State University (SDSU) Extension beef specialist Cody Wright says corn can be an economically viable alternative when the availability of standing or harvested forages is limited — and especially when the cost of low- to medium-quality hay reaches $80-$100 per ton. And in many areas, corn is the most readily available source of supplemental energy. But feeding corn to cows requires careful management if producers are to

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achieve the desired economy and animal performance.

Manage it carefully

According to Wright, research has shown that the addition of corn to a forage-based diet can depress forage intake and digestibility, because increased levels of starch (from the corn) alter rumen microflora and the fermentation process. The effect of corn supplementation on cow performance may be dependent on the level of protein in the diet. Supplementation with a readily degradable protein source may reduce or even eliminate corn's negative effect on fiber digestibility and improve performance.

There are no easy answers as to what levels of corn and protein should be fed. Factors such as forage quality and availability, costs of corn and protein, and producer goals must be considered.

Wright says that by mid-summer, many drought-affected producers were scrambling to find harvested forage, including Conservation Reserve Program (CRP) hay, straw and baled crop residues. If the goal is to winter cows on these relatively low-quality forages, additional energy can be added to the diet with corn.

However, to maintain maximum forage utilization, Wright advises feeding corn in amounts no greater than 0.25% of cow body weight. This equates to 2.5 lb. of corn per day for a 1,000-lb. cow, 3 lb. for a 1,200-lb. cow, and 3.5 lb. for a 1,400-lb. cow. These recommendations are based on whole-shelled corn. Ear corn can be supplemented at slightly higher levels: 2.75, 3.25 and 3.75 lb. per day for 1,000-, 1,200- and 1,400-lb. cows, respectively.

"You can add energy by feeding 3 or 4 pounds of corn, but feeding more might actually decrease the availability of energy from forage," Wright explains. "And depending on forage quality, as well as the stage of production and body condition of the cows, supplemental protein may also be required. Analysis of forage for nutrient content tells you what you have and what you need."

A little or a lot?

Some producers may be able to supplement hay by feeding a little corn, while others might want to consider feeding a lot of it. If forages are severely limited, grain can be substituted for forage as the primary energy source. This means putting cows on a limit-fed high-concentrate diet. For example, a winter cow ration might include up to 12 lb. of shelled corn, a protein supplement and only a few pounds of hay to stimulate the rumen. A nutritionist can assist with balancing the rations appropriately for cow maintenance or weight gain. A nutritionist also may recommend the addition of an ionophore to the ration.

Wright warns that limit-feeding of cows is not for everyone. It takes more management and labor. Adequate facilities and equipment will be needed, including enough feedbunks to allow about 30 inches (in.) of bunk space per cow.

Along with the ability to store and deliver feed, this strategy usually requires a drylot or sacrifice pasture with secure fences. Limit-fed cattle receive a ration designed to meet nutritional requirements, but the minimal forage content means a reduced volume of feed that may not satisfy their appetites. Dissatisfied cattle often will test fences.

"Given the high level of concentrate in the diet, more management is required to ensure consistent feed intake and to watch for signs of digestive disturbances. Erratic feed consumption could have many negative consequences, including acidosis, bloat and reproductive failure," Wright warns. "But limit-feeding corn appears to be a nutritionally and economically viable alternative to hay during winter months.

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