



Ridin' Herd

► by Rick Rasby, Extension beef specialist, University of Nebraska

Distillers' grains as pasture replacement

As we discussed in last month's article, summer cow costs have increased for the cow-calf producer. Producers have asked for management techniques to reduce summer costs.

Distillers' grains an option

Distillers' grains provide a high-fiber energy source that does not have a negative interaction with forage digestion. In addition, distillers' grains (DG) apparently will be more abundant in the summer vs. fall and winter since, at least in Nebraska, the price seems to follow placement of cattle into feedlots (see Fig. 1). So, the price of distillers' grains should be less in the summer compared to fall and early winter.

The question becomes, can distillers' grains be fed to cattle grazing pasture, thereby replacing some of the vegetative forage with distillers' grains, allowing more cattle to be placed on a pasture and spreading pasture cost over more cows?

For the cow herd

Nebraska data would suggest that, on a dry-matter (DM) basis, 1 pound (lb.) of distillers' grains will replace between 0.4 and 0.6 lb. of forage. Because distillers' grains are about twice the energy value of forage, it

would be expected that 1 lb. of distillers' grains should replace close to 2 lb. of forage on a DM basis.

What may be occurring in this case is that both vegetative forage and distillers' grains are high-quality feeds and therefore highly digestible. They do not have to stay in the rumen very long to be digested. The end result is that rate of passage is high, and there is not much of a "fill" effect from feeding distillers' grains.

Because the primary objective is to replace forage with distillers' grains to maintain cow weight and condition — not necessarily to add weight — this management practice does not appear to be one to consider.

Yearlings

Nebraska and Kansas researchers have studied the performance and economics of yearlings fed distillers' grains while grazing pasture in the spring and summer.

At least in Nebraska, the supply of distillers' grains will triple or quadruple in the next few

years. In 2006, the price of distillers' grains at the plant ranged from \$70 to \$85 per ton. The price of grazing land (or rental cost) has increased steadily, and the average price across Nebraska for summer pasture in 2006 was \$27.31 per animal unit month (AUM; 680 lb. DM), or about \$80 per ton.

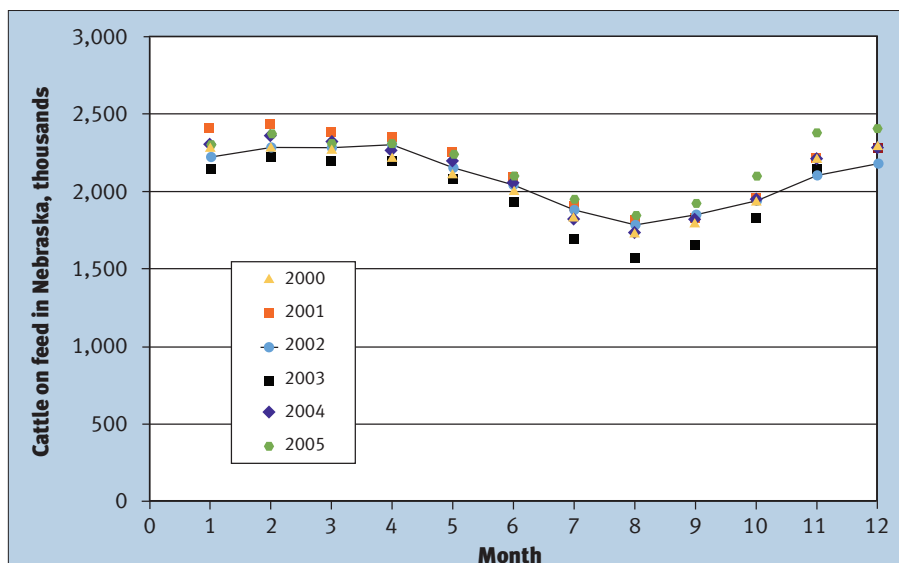
It was estimated that distillers' grains could be delivered to yearlings on pasture for about \$138 per ton. Using these values, distillers' grains would be about 166% the price of grass. However, distillers' grains have about 200% the energy value of grass. With these values, it would seem economical to supplement distillers' grains to yearlings on grass, especially if performance is positively influenced.

In eight grazing experiments that were summarized, yearling performance when calves were supplemented with 4.0 lb. (90% DM and 0.42% of body weight) or 7.5 lb.

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Fig. 1: Availability of distillers' grains

In Nebraska, the price of distillers' grains seems to follow placement of cattle into feedlots.



Source: National Agricultural Statistics Service (NASS), Nebraska Department of Agriculture.

(90% DM and 0.92% of body weight) distillers' grains, daily gains were increased 0.53 lb. and 0.89 lb. per day compared to the unsupplemented group.

Subsequent feedlot performance was not influenced by supplementing distillers' grains to yearlings grazing pasture.

In another six-trial summary, it was demonstrated that for each 1.0 lb. of distillers' grains, forage intake decreased by 0.5 lb.

To give you some particulars of the experiments, one experiment was conducted

in southeast Kansas on smooth bromegrass pasture, one in the Kansas Flint Hills, three on smooth bromegrass at the University of Nebraska-Lincoln (UNL) Agricultural Research and Development Center near Mead, Neb., two on Sandhills upland range near Stapleton, Neb., and one on upland range at the Gudmundsen Sandhills Laboratory near Whitman, Neb. Three of the experiments were conducted with yearling heifers, and five were conducted with yearling steers.

Lengths of trials ranged from 54 days to 196 days. Distillers' grains were supplemented at levels approximately 0.5% and 1.0% of body weight. Average body weight of the

yearlings at the start of the grazing season was 638 lb. and ranged from 437 lb. to 811 lb.

Daily gains of non-supplemented cattle averaged 1.60 lb. per day and ranged from 1.08 lb. to 2.31 lb. per day. By feeding distillers' grains at 0.48% of body weight, ADG increased to 2.13 lb. per day, and feeding at 0.92% of body weight increased ADG to 2.49 lb. per day.

The response in ADG for each 1% of body weight supplementation was 0.95 lb. and 0.99 lb. It was estimated distillers' grains could be delivered to the cattle for about \$120 per ton (0.06¢ per lb.), and daily feed costs were 0.24¢ and 0.45¢ per day at 4 lb. distillers' grains per day and 7.5 lb. distillers' grains per day,

respectively. The economic return for each \$1 spent on distillers' grains was from \$1.41 to \$1.94.

In another experiment, summer- and fall-born steers and heifers grazed native summer Sandhills range and had *ad libitum* access to pelleted dried distillers' grains (DDGs) in a creep feeder for 54 days of a 63-day grazing period. Intake of DDG averaged 11 lb. DM per day, and ADG was greater for the creep-fed group (2.8 lb. per day) compared to the nonsupplemented group (1.9 lb. per day).

In these experiments, calf performance in the feedlot was not influenced by whether they received distillers' grains while grazing spring and summer pasture. In the experiment where

calves received the pelleted creep or not, the supplemented calves spent 14 fewer days in the feedlot and had a slight advantage (trend) in percent grading USDA Choice.

Final thought

Using distillers' grains to substitute vegetative forage in pasture for cows doesn't look all that promising because the substitution rate is not very high. However, for yearlings the substitution rate may not be all that important because of enhanced performance for supplemented calves.

It all boils down to the costs of distillers' grains, labor and delivery. Distillers' grains are an excellent energy and protein source, but

keep in mind fat, phosphorus (P) and sulfur (S) need to be managed. In addition, for a cow-calf enterprise, timing is the key to purchasing distillers' grains to be used as a feed resource.



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Editor's Note: "Ridin' Herd" is a monthly column written by Rick Rasby, professor of animal science at the University of Nebraska. The column focuses on beef nutrition and its effects on performance and profitability.