

# Grazing Circles

Cornstalks make winter forage for cows or calves.

by Troy Smith



**N**atives like to think of Yuma County as the garden spot of the High Plains. Near the northeast corner of Colorado, the area produces cattle, grain and hay, along with an assortment of fruits and vegetables. The soil is fertile, but precipitation — usually less than 16 inches (in.) annually — is a limiting factor. At least it was before irrigation.

“There has always been wheat grown here. And Yuma County raises a lot of potatoes, onions and several varieties of edible beans. We’ve got some pretty big dairies, too, but a lot of beef herds,” offers Angus breeder Kenny Rogers. “And they say irrigation made this one of the top corn-producing counties in the nation.”

With their Wagon Wheel Ranch headquarters located near the county seat of Yuma, Rogers and his family manage about 400 registered females on the rough and rolling grasslands south of town. Cultivated land includes several center-pivot irrigation systems, which are rented to area corn farmers. Rogers makes use of the corn residue as winter forage for the cow herd. Cornstalks represent a resource that’s hard to ignore.

“We use a fairly intensive rotational grazing system during the summer, which pretty well uses our grass. We really don’t have any winter range,” Rogers says. “We’ve

got to park those cows somewhere, and cornstalks are a cost-effective resource — unless we get too much snow.”

A few years ago, a circle of stalks could be had for \$800. However, with out-of-the-area cowmen seeking winter forage and local feedlots wanting stalks for stocker calves, competition has driven up rental rates. Rogers says most cornstalk circles rent for \$1,000-\$1,200, or about \$8-\$10/acre. The price varies, depending on whether a field has stock water or must have water hauled to the site.

## Managing the system

“Hauling water is a lot of work, and since very few fields are fenced, you’re going to spend some time stringing hot wire,” Rogers adds. “But cornstalks generally work well for us. When hay is high-priced, it’s definitely a good deal.”

Rogers weans calves right before corn harvest and moves cows to stalks just as soon as the first pivot is picked. He keeps the heifers separate from the mature cows so each group can be supplemented according to their needs. Just as he rotates through summer pastures, Rogers moves each group from one field to the next. The cattle glean residual grain, leaves and husks more uniformly that way and consume a more constant intake of energy and available protein.

Early on, mineral and salt are the only extras offered. Particularly during the last trimester of gestation, however, Rogers does provide protein supplement. Range cubes have been used most often, but last year he felt lick tubs were a better value.

Winter can inflict limits on the value realized from crop residues. Some loss of feed quality occurs due to trampling, and losses certainly increase under wet conditions. Snow impedes grazing, but Rogers is reluctant to start feeding hay too soon.

“As soon as you do, the cows get lazy and expect to be fed,” he explains. “I try to wait for as long as possible, but if the snow is deep and looks like it’s going to be around for a while, I start hauling hay.”

## Fodder for stockers

Al Svajgr also enjoys open winters that allow cornfield residues to contribute about two-thirds of the volume of feed consumed by his growing calves. Based in Nebraska’s Dawson County — another agricultural cornucopia — the Cozad-area cattleman buys several thousand head of 500-pound (lb.) heifers each fall. The heifers are wintered on cornstalks, spayed and sent back to grass for a short summer grazing period before finishing.

Svajgr reports rental rates for cornfields as fairly constant, costing about \$5/acre. He fences the fields and provides water in nearly every case.

“We usually stock the fields at five calves per acre for a 60-day period. And with the right supplementation, the cattle do very well. We shoot for a daily gain of about 1.4 pounds, supplementing the corn residue with ground alfalfa, a little silage, vitamins and minerals. We’ll add some corn to the ration if there isn’t much residual grain in the field,” Svajgr explains. “Corn residue is a good value. On average, for every dollar spent on cornstalks, we get about five in return.”

Some producers and researchers have questioned whether cornstalk grazing fits a program for backgrounding calves, citing the poor nutritive value of the forage. University of Nebraska animal scientist Terry Klopfenstein insists the economics are favorable, but the nutritional and management aspects of stalk grazing by calves must be considered.

It is assumed that the nutritive value of residue is low because the corn plant is mature at harvest. According to Klopfenstein, that is true for all plant parts except the husk. Certainly,

►Above: As a rule of thumb, 1 acre of irrigated cornstalks will carry a cow for two months. Dryland stalks have about half as much carrying capacity. PHOTO BY SHAUNA HERMEL, COURTESY OF BEEF MAGAZINE

residual grain is the highest quality feed component available in the field, but husk is both digestible and palatable. Leaf is palatable, but not as digestible as husk. Stem and cob are low in digestibility and palatability.

### Nutritional value

“Residual grain is a critically important factor. While the amount varies widely, depending upon date of harvest, plant lodging and combine efficiency, the average amount left in the field is 4.2% of the corn yield,” Klopfenstein says.

That amounts to 1.9 lb. of corn dry matter per bushel of yield. Dry-matter values for leaves and husks are 7.5 and 4.6 lb., respectively. If there is minimal mud, and therefore minimal trampling, he estimates that 80% of the corn, leaves and husks can be consumed. That would provide 0.8 day of grazing for a calf, or 0.4 day for a cow, per bushel of corn produced.

Irrigated corn generally has about twice the amount of leaf and husk as dryland corn. The leaf and husk are consumed gradually, but the grain is consumed in 30-40 days, depending upon stocking rate. Calves are inexperienced and require a few days to learn to find and eat down corn, so maximum grain intake may not occur for 10-20 days.

Digestibility of the stalk field diet is high when cattle are first turned in, but it declines as the animals selectively graze the most digestible parts. Klopfenstein says the only way to minimize the decline in nutritive value is to strip graze individual fields or to rotate cattle through a series of fields so they periodically gain access to ungrazed residue.

While experienced calves might select a diet containing 45% grain, experienced beef cows may overconsume grain. When large amounts of grain remain in the field, strip grazing, rotation strategies or limiting the grazing time per day will help minimize acidosis and founder due to overconsumption.

“Seasonal intakes for cows grazing stalks are opposite the cows’ needs during gestation. Her needs increase with time, while her energy intake is declining,” Klopfenstein warns. “The cow has tremendous ability to store energy, but a more constant supply would be preferred and can be accomplished by strip grazing, or grazing small areas with

relatively large numbers of cows, in rotation, rather than grazing large areas with no rotation. At a stocking rate of 0.5 acre per

cow per month, researchers have obtained gains of 40 pounds in 56 days by strip grazing, compared to 20 pounds by continuous grazing.”

As a rule of thumb, 1 acre of irrigated cornstalks will carry a cow for two months. Dryland stalks have about half as much carrying capacity. Lower stocking rates increase the amount of available feed per animal and weight gains, but more total acres are required. The more feed available, the more selective cattle can be, and diet quality is better.

### Supplements

Grain supplies protein, as well as energy, but nearly 60% of the protein in the grain escapes rumen digestion, while the proportions of escape protein from residues are less. Because the cost of supplement represents a significant expense, it is important to use supplements effectively.

Calves respond to supplements of escape protein as well as rumen-degradable protein. Up to 0.36 lb./day of escape protein is required to maximize gain, with distillers’ grains being a good source. However, while escape protein supplement produces more gain, the gain may not be economical, especially if the calves have the opportunity to make compensatory gain on grass.

The protein requirement for cows during gestation is much less than for calves and primarily calls for rumen-degradable protein to meet the needs of rumen microorganisms. Little or no protein supplement may be needed during the first half of the grazing period on a specific field. Then, protein blocks, liquids and inexpensive products, such as sunflower meal, are acceptable supplements. Alfalfa is a good source of protein and energy during heavy snow cover, if price is appropriate.

On the matter of snow cover, Klopfenstein says amounts of up to 5 in. are not likely to reduce grazing. Don’t be in a hurry to haul extra feed. Once you start, calves may be most likely to stop grazing and wait for the hay wagon, but cows will get lazy, too.

“It isn’t possible to make good management decisions until cattle performance goals are clearly identified,” Klopfenstein says. “Dry cows grazing stalks will gain weight depending upon how they are managed and supplemented. Those in good body condition may not need to gain, while thin cows definitely would. Cows still nursing calves would also need to be treated better because of the higher requirements of lactation. Replacement heifers should be gaining weight.”

