

An Economic Winter Alternative

Strip-grazing standing corn with corn gluten feed offers a feeding option for winter.

Story by

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With unprecedented strength in corn prices, managing feed costs — which account for more than 50% of the variation in beef cow production profitability — is more important than ever. And winter feeding is generally the largest single expense.

The good news is a seven-year field demonstration study in Illinois confirms wintering cows on limit-fed, strip-grazed standing corn supplemented with small amounts of corn gluten feed (CGF) can be an economic alternative to other winter feeding programs.

“Overall, the system is quite cost-effective. Cows quickly adapt to the system and perform well,” reports Ken Nimrick, Western Illinois University beef cattle professor and beef producer from Stronghurst, Ill. Nimrick coordinated the research. The system was operated continuously each year through adverse weather conditions, including mud, ice, wind, extreme cold and as much as 20 inches (in.) of snow, with no problems.

“Management of the system is also relatively simple, with low labor and equipment demands,” Nimrick says.

The study

During the multiyear demonstration, various corn hybrids were planted in the field used for the research. Each year, six 30-in. rows were harvested through the field, and 12 rows were left standing. After the yield was determined, a row length was calculated to provide the expected number of cows with about 10 pounds (lb.) of corn grain per head per day. Cows were fed 5 lb. of corn daily for five days prior to starting on the strips.

An electric fence of polywire and fiberglass posts was moved daily during the project to provide cows with daily corn allotments. Cows received 3 lb. of wet corn gluten feed (WCGF) on a dry-matter (DM) basis during the first half of winter, and 4 lb. per day in late winter. The weekly allotment of corn gluten was fed three times per week to help reduce tractor and labor costs. Both commercial trace mineralized salt and feed-grade limestone were freely available. Cows also had access to corn crop residue at the rate of six cows per acre per month. Grazed fodder intake was about 7 lb. per head per day.

Daily feed cost was calculated valuing corn gluten at actual delivered price. Comparable costs of hay and silage feeding programs were calculated using yearly hay and silage prices. Nimrick says total daily feed costs in the standing corn

with corn gluten supplement ranged from 39¢ per day to 46¢ per day. Daily costs for the hay or silage program averaged \$1.26 per day and 93¢ per day, respectively. The cost to feed hay was nearly double that of limit-fed corn or stockpiled orchard grass in early to mid-gestation, and the limit-fed corn was more cost-effective than stockpiled orchard grass in late gestation.

Nimrick says time records were kept for labor and tractor hours and converted to costs. Machinery and labor costs were less for the limit-fed-corn system, averaging 5¢ per head per day compared to 14¢ per head per day for both the hay and silage system.

“Cow weights were taken at the beginning and end of corn grazing, and the cows gained weight each of the three years weights were measured,” Nimrick says. “Average daily gain (ADG) was 0.68 pounds and ranged from 0.46 to 1.10 pounds. This was in general agreement with previous work with limit-feeding grain-based diets to wintering cows.”

Results

Nimrick says subsequent conception rates were recorded and compared to benchmark herds in the Illinois Standardized Production Analysis (SPA) summaries. Conception rates averaged 93.4%, which was similar to the benchmark herds.

“Overall, target nutrient intakes were achieved, and nutrient requirements of gestating cows were satisfied during the project,” he says. “The cow performance was satisfactory, and we found that limit-feeding the corn-based diet had no detrimental effects on the cows’ conditions or the calf weaning weights.”

He was also pleased that the cows appeared to uniformly distribute waste over the grazed area, which eliminated the

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need for any cleanup and manure-hauling expenses.

The producer involved with the study has now achieved nearly year-round grazing for his brood cow herd, Nimrick reports. The operation uses small amounts of annual forages in the fall while some pastures are stockpiled. That strategy is followed by feeding corn crop residues until early winter, strip-grazing standing corn through the winter and then moving the cows from the strip-grazed corn to stockpiled tall fescue in mid-March.

“As a producer, you don’t want to box yourself into a paradigm as to your way of doing things,” Nimrick concludes. “Allowing cows to graze standing corn may allow further reductions in costs by eliminating harvest, transportation, drying and storage expenses for corn, and by reducing the associated labor and equipment expenses for feeding.”



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