

More Beef, Less Expense

Story by

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Beef cattle farmers know all too well that winter feeding takes a big bite out of their ruminants' maintenance budget. The good news is that alternative feeding methods can reduce the total cost of raising cows without affecting productivity.

Steven Loerch, a researcher with the Ohio Agricultural Research and Development Center (OARDC) in Wooster, shared the news with visitors during the Agricultural Systems and the Environment Field Day last summer at the North Appalachian Experimental Watershed near Coshocton.

The event was sponsored by the U.S. Department of Agriculture (USDA) and OARDC, which is the research arm of the Ohio State University (OSU) College of Food, Agricultural and Environmental Sciences.

During the past three winters, Loerch tested three different feeding systems, comparing their costs and their effects on the growth and reproduction of cows.

"We used round-baled grass hay, whole corn and stockpiled pasture," Loerch said. "Cows on all three wintering systems gained about the same weight from October to mid-February and maintained similar body condition scores (BCS). The calves' weights at birth and during the summer, as well as conception rates, were also very similar."

Very similar, indeed. Except for the price.

Where the dollars are made

Hay is the most commonly used winter feed for beef cattle — but it's also the most expensive. Each cow requires a daily intake of 40 pounds (lb.) of hay, which amounts to \$1.61 if hay is priced at \$80 per ton.

At \$2 per bushel (bu.), or \$71 per ton, corn is not only cheaper than hay, but it boasts a much higher energy value. According to Loerch's research, a daily diet consisting of 12 lb. of corn, 4 lb. of hay and 2 lb. of a protein-and-mineral supplement provides the same number of calories as 40 lb. of hay — at a cost of only 84¢.

"Corn grain is the least expensive harvested source of digestible energy per unit available to producers in Ohio," Loerch

explained. "Because hay only has about half the energy value as corn grain, the breakeven price for hay on an energy basis would be approximately \$40 a ton. So, unless you can get hay for \$40 a ton or less, your most economical choice is corn."

Whole-shelled — not ground — corn is recommended for this feeding method. Previous OSU research has shown that whole corn works better when the daily intake of hay per cow is limited to 5 lb. or less. Whole corn delays fermentation and provides energy all day long, so the animals need to be fed only once a day.

"If corn is used to provide most of the energy, then the intake has to be restricted so the cows don't get fat," Loerch pointed out. "It takes four or five days for the animals to get used to the new diet and to not having food available all through the day. It is important to keep the cows in a securely fenced area and make sure that bunk space is adequate so that all of them get their share of food."

Cattle on this corn-based nutrition program also need to be fed a small amount of hay, since forage is essential to maintaining a healthy rumen. Also necessary is a supplement containing ground corn, soybean meal, urea, limestone, dicalcium phosphate, and other minerals and vitamins.

Winter stockpiles

Loerch also tested the profitability of stockpiled pasture as a winter feeding system.

"We had 31 cows grazing 34 acres of stockpiled orchard grass," Loerch said. "The pastures were fertilized with ammonium nitrate on August 1 and set aside until the trial began on October 27. Forage was depleted by mid-February, after which the cows were put on the corn-based diet. They were also fed corn during days of snow cover, approximately 14 days each winter."

According to Loerch, it costs about 43¢ per day to maintain a cow on pasture.

"The value of pasture is about \$53 per acre," Loerch said. "If you have other uses for your pasture that will generate more money than that, then stockpiling forage is not the best option. Otherwise, it's the cheapest winter feeding method available."



About 50 people, mainly farmers and soil and water conservation specialists, attended the Coshocton field day. Other topics of interest included the positive effect of conservation tillage (no-till) and earthworms on soil and water quality, pasture water quality and carbon sequestration, and the use of lysimeters to evaluate water quality in different soil conditions.



Editor's Note: This article was supplied by the Ohio State University College of Food, Agricultural and Environmental Sciences News and Media Relations. Many land-grant universities conduct similar field days to present research findings to producers. Contact your local Extension office or the agricultural information department at the land-grant university near you to inquire about scheduled field days for 2003.