

Utilizing an Extended Grazing Period to Increase the Net Value of Cow/Calf Enterprises*

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Research Summary

Preliminary data suggests that dry beef cows can be maintained with dietary supplementation on stockpiled native range or fields of corn (either stover or unharvested) in the Northern Great Plains during late fall and early winter. Economics of these wintering systems will be largely dependent upon appropriate stocking rates and level and composition of required daily supplementation.

Introduction

Cost associated with winter feeding the cow herd is a major expense (approximately 38% of the total production costs) associated with cow/calf operations in North Dakota. Procurement and feeding of harvested forages account for a large portion of this total expense. Reducing the use of harvested forages while maintaining cow performance could substantially lower overall operating costs of beef production and increase profitability of cow/calf enterprises. Lengthening the grazing period and/or reducing a reliance on harvested forage has been suggested as one method for reducing winter feeding costs.

Western North Dakota has a variety of forages that could be utilized by grazing cows in late fall and early winter when daily nutrient demands are relatively low. Two of the more noticeable of these are stockpiled perennial forage (ungrazed forage that is allowed to accumulate for support of grazing at a later date; Forage and Grazing Terminology Committee, 1992) and annually-seeded forages. However, a deficit of one or more dietary nutrients may limit the effective utilization of these forages by dry, pregnant cows. Providing small quantities of an appropriately formulated dietary supplement to animals consuming lower quality forages has been shown to be an effective mechanism for improving animal performance by enhancing forage utilization (digestibility and/or intake).

As grain producers contemplate the benefits of crop rotations, cow/calf operators can provide a viable, local market for alternative crops and co-products. This interaction, in many cases, would establish a floor price on a potential feedstuff that otherwise may have little marketable value. Besides being able to use fibrous residues, cows also offer the potential for using alternative grains and grain co-

products as base ingredients in supplement formulations. Historically, a marriage between crop and beef producers has been mutually beneficial.

Data from other Great Plains states suggest that extending the grazing season, with appropriate supplementation regimes, is an effective mechanism for reducing the winter feeding costs and increasing profit potential of beef cow operations. Appropriately formulated supplements, utilizing locally available feedstuffs, seem key to the success of these endeavors. Data from the Northern Great Plains regarding the composition and availability of forage and grazing animal performance during the late fall and early winter period is limited. Data specific to North Dakota is severely limited. The generation and distribution of this type of information are essential if the cow/calf producers of North Dakota are to continue to operate in the increasingly competitive environment present in the beef industry today.

Objectives

- i. Determine whether late fall/early winter grazing and supplementation is a feasible mechanism for reducing winter feeding costs and increasing the net value of the cow/calf enterprise.
- ii. Determine whether either energy or protein is the first-limiting nutrient for beef cows grazing stockpiled perennial forage in late fall and early winter grazing.
- iii. Determine whether type of corn seeded affects beef cow performance while grazing unharvested corn in late fall and early winter.

Progress Report

In the fall of 1999, pregnant cows were separated into three treatment groups. Groups 1 and 2 grazed either stockpiled native range (NR) or corn fields (CO) until the end of grazing when groups were then moved into a dry-lot facility. Group 3 was managed in a dry-lot facility throughout the experimental period (2Nov98 to 01May00). Cows grazing NR or CO received 0.91 kg/day of a 32% protein supplement fed 3 times a week. When fed in dry-lot, cows were fed mixed hay, corn silage and/or minerals to meet or exceed nutrient requirements for pregnant cows expected to calve in a body condition score (BCS) of 6. CO pastures were stocked at 0.39 ha/cow. Initial forage availability in NR pastures averaged 1,192 kg/ha. NR pastures were stocked at 3.6 ha/cow (51.2 kg dry matter/cow/day). Grazing of CO and NR ended on 14Dec99 (42 days) and 25Jan00 (84 days), respectively. Initial weight of cows in CO, NR and DL averaged 603, 616, and 556 kg. Interim weight and average daily gain were 625 kg and .53 kg/d for CO cows after 42 days of grazing and 637 kg and .19 kg/d for NR cows after 84 days of grazing. Final weights and overall average daily gain for the CO, NR and DL were 637 kg, 0.39 kg/d; 692 kg, 0.39 kg/d; and 660 kg, .34 kg/d, respectively. A final report of years 1 and 2 is currently being compiled and a summary of that analysis include next year's progress report.

In 2000, cattle that were to graze native range were weighed and body condition score in mid October and allotted to treatments on November 2. Serious complications were encountered with the automated feeding wagon that was to be used in delivering supplements in this study. Specific experiment was terminated this year due to a lack in ability to consistently delivery of supplemental treatments on

November 29. Cows were maintained on winter pastures and group fed an equal mixture of three supplements at a rate of 3 pounds of total supplement per head per day three times weekly (7 pounds of total supplement per head per feeding). Rate was increased to 4 pounds per head per day on January 3, 2001, to counteract abnormally cold weather experienced in the preceding November and December. Despite weather conditions (below normal temperatures and excessive snow cover), body condition scores did not reach the level necessary to require early removal of cattle from pastures. Cattle will remain on pastures until January 31, 2001. An individual feeding facility will need to be constructed in the summer of 2001 to accommodate the continuation of this study. Experiment will need to be replicated in winters of 2001-2002 and 2002- 2003 to achieve desired replication. This should not interfere with a final report being prepared by May of 2003.

Literature cited

None

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