

Use of Distillers Grains in Beef Cows Grazing Cornstalks-A Demonstration Project

A.S. Leaflet R2188

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Introduction

Feed co-products from the ethanol industry are readily available in the state of Iowa and are a high protein and energy product. Cornstalk grazing is utilized by Iowa cow-calf producers each year in the fall according to ISU-IRM-SPA records at the rate of 1.9 acres per cow with a grazing period length of approximately 45 days. Extending this cornstalk grazing period would assist producers in lowering their total annual feed cost.

Material and Methods

This demonstration project involved using both Angus and Simmental spring calving females from the ISU beef teaching unit. Sixty seven non-lactating, mid-pregnancy females ranging in age from 2 to 12 years were used in this demonstration project. Eighty acres of fall harvested cornstalks were split into three paddocks of approximate equal size. Grazing of the cornstalks was initiated on October 11, 2006 on the first paddock with entry into the second and third paddock occurring on October 23 and November 7, respectively. Cows were allowed access to the prior paddocks as the grazing trial went along. All cows were weighed and body condition scored using the 9 point system at the beginning and ending of the grazing trial.

Modified distillers grains with solubles (MDGS) was utilized as a supplement source. The amount of MDGS to supplement was determined by utilizing the NRC requirements for beef cows in mid-gestation and non-lactating. Because producers indicate a lack of labor availability it was decided to look at supplementation only 3 times per week, thus the schedule was supplementation on Monday, Wednesday and Friday. However, during the first three days of grazing cows were started on 6 lbs of MDGS and worked up to 12 lbs. Then supplementation at a level of 18 lbs at each feeding was done on the aforementioned schedule. Cows were fed along an electric fence with a

feeding wagon to prevent an undue amount of tromping into the dirt and defecation on the feed.

Results and Observations

Cows started on the MDGS supplement easily with the exception of three cows which refused consumption for the first two days. There were no observed digestive upsets and after a few days the cows were aggressive in their feeding pattern.

Stocking rate was 1.2 acres per cow for a 41 day period or .03 acres per head per day. Significant rainfall occurred during the first 10 days of the grazing, thus considerable cornstalk contamination took place. This necessitated somewhat earlier movement into the second paddock than planned.

During the 41 day grazing period a total 19,200 lbs of MDGS was fed for an average daily as fed intake of 7.0 lbs. The MDGS utilized from the Beef Nutrition Farm was purchased in three different loads and had a range in dry matter content of 52.67% to 62.45%. Therefore, total MDGS dry matter intake averaged just under 3.9 lbs per cow daily. However, keep in mind this MDGS was offered on Monday, Wednesday and Friday, therefore, the average MDGS dry matter fed on each of those days was 9.03 lbs.

Table 1 summarizes body weight changes and body condition score for all ages in the group. On average all females maintained both body weight and condition score. However, it should be noted that two year old females while maintaining weight had a numerical lower body condition score at the end. Three of the 15 heifers lost one body condition score while one heifer gained a score and the remaining did not change during the 41 days. All other age groups tended to maintain weight and body condition score.

Implications

Using distillers byproducts can stretch corn stalk grazing days. This may be a more economical method of feeding cows in the early winter period. This project successfully demonstrated that distillers can be used to supplement grazing cows to meet their protein and energy needs.

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Table 1. Weights and body condition scores by age group for beef cows grazing cornstalk and being supplemented with MDGS.

Variable	All ages	2 year olds	3 year olds	4 year olds	Mature cows
No. head	67	15	9	8	35
Start weight	1450.4	1277.3	1367.8	1410.0	1555.1
Start BCS	6.36	5.47	6.22	6.13	6.83
End weight	1455.5	1278.0	1376.7	1430.0	1557.7
End BCS	6.36	5.33	6.44	6.38	6.77
Weight change	5.1	.7	8.9	20.0	2.6
BCS change	0.0	-.13	.22	.25	-.06

Summary

In a demonstration project, sixty seven purebred Angus and Simmental cows averaging 1450 lbs were supplemented with modified distillers grains with solubles (MDGS) while grazing cornstalks in October and November. The cornstalk was divided into three equal paddocks and stripped grazed. Using a supplementation schedule of Monday, Wednesday and Friday, cows were fed an average of 16.3 lbs of MDGS

or 9.0 lbs of dry matter at each feeding. Cows maintained body weight and condition score during this 41 day demonstration project.

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