

# Fall-Calving Beef-Cow Herd Grazing Demonstration at the CRP Research and Demonstration Farm Near Corning, Iowa—2006

Chris Nelson, education director  
Adams County Extension

Rick Sprague, Adams County district  
conservationist, NRCS

Brian Peterson, grassland  
conservationist, NRCS

Bill Bartenhagen, Adams County FSA director

John Klein, project manager, NRCS

Mike Olive, herdsman

## Introduction

The CRP research and demonstration project is managed by the Southern Iowa Forage and Livestock Committee to study alternatives to row-crop production on highly erodible land. This was the second year to demonstrate rotational-grazing with fall-calving beef cows as one of those options. This report details the process and results of the 2006 demonstration and compares it with the production and experience in 2005.

## Materials and Methods

A grazing demonstration with fall-calving beef-cows was conducted at the Adams County CRP Research and Demonstration Farm near Corning, IA in 2005 and in 2006. In 2006, sixty fall-calving cows were delivered to the Adams County CRP Farm on April 25. The cows in this demonstration were privately owned, Angus/Tarentaise crossbred cows. They were weighed, pregnancy-checked, vaccinated, and poured at their home farm six miles west of Red Oak, IA the day before being delivered to the CRP Farm near Corning, IA. The average Red Oak weight of the cows was 1,210 lb with an average body condition score of 4.8 (Table 1). Cows were delivered to a holding pen in the north grazing system at the CRP Farm in the morning. A 1,500-lb round bale of grass hay was placed in the pen to keep the cows calm

while adjusting to their new surroundings and the electric fence perimeter. After noon on the same day, the cows were turned into the adjoining paddock to begin the intensive rotational grazing routine for the next 170 days.

The paddock system used for grazing these cows is 102.1 acres of mostly highly erodible, steeply-sloping soils and includes 27 paddocks divided by electric fence. Seventy-six acres of the system were used for intensive rotational grazing demonstrations with yearling steers for 11 years. The original system consisted of 65 acres of cool-season grass and legume paddocks and 11 acres of other forage paddocks. The other forage paddocks include four paddocks of warm-season grasses and one of Kura clover. Tall fescue and red clover are the predominant grass and legume species in the majority of cool-season grass paddocks. Big bluestem and Indian grass are the predominant warm-season grasses in the four other paddocks. There is also one paddock of eastern gamma grass.

On the north end of the land in the original system area, there are 27.6 acres of warm-season grasses in an adjacent “wildlife and grazing” study. These acres are divided into four paddocks and were also used in the fall-calving demonstration in 2006. Water was accessible from all paddocks.

Three rules guided grazing management in 2006: 1) during each grazing cycle, graze no more than half of the standing forage in a paddock; 2) rest each paddock for approximately 30 days before grazing the paddock again; and 3) no grazing on the wildlife paddocks until after July 1. No supplementary feed other than a free choice mineral was fed to the cows once rotational grazing had begun.

Cattle were moved 110 times to a fresh paddock during the 2006 grazing season.

### **Results and Discussion**

During the grazing season of 2006, rainfall was well below normal at the CRP Farm. Comparing the rainfall average collected in two rain gauges at the farm with the Corning Hospital weather station historical data, rainfall was 8.72 in. below normal from May through October. Despite these dry conditions, the cows gained both weight and condition in this intensive rotational grazing system (Table 1). Also, the herdsman ended the season with a 100% calf crop. Fifty-two cows and their 54 calves were shipped home from the CRP Farm on October 12. On the same day, six more cows were shipped home without calves. Five were still pregnant and one was open. One other cow was lame when she came off the truck and was shipped home on May 19. Another cow got sick prior to calving and was sent home on September 19. She had a healthy calf on September 26 and then recovered. The average ending cow weight on October 12 was 216 pounds heavier than the delivery weight on April 25 although all but six had calved and were nursing, and the grazing season had been dry. At the end of the demonstration, the cows were in excellent condition with an average body condition score of 7.1. This compares with a score of 4.8 at the beginning of the season.

Cows were bred to start calving September 1, 2006. The first calf was born on July 23rd. The second cow calved August 20. Calving season in a rotational grazing system brings the challenges of the daily movement of cows and new babies. During calving, close-up cows were kept as accessible to the barn and corral facilities as possible in case of calving difficulties. Calving difficulties were limited in 2006. There were three sets of twins born, with one twin calf sent home early. One cow lost a calf, one cow was sent home and died, and one cow was open. The final count at the end of the

demonstration was 55 calves from 55 cows with 5 left to calf.

This fall calving demonstration was started at the request of the Southern Iowa Forage and Livestock Committee. Fall-calving herds of beef cows are not new to the Midwest, but are much less common than spring-calving herds. The need for a year-around supply of good feedlot cattle in the area is a main reason for demonstrating fall calving. Other good reasons for considering a fall-calving beef cow herd include, spreading the costs of equipment and bulls over more cows, utilizing labor during a slower time of the crop year, calving during a warm and dry time of the year, and sale of calves during a high demand time in the spring. Negative aspects of fall calving include the increased stored feed costs that are incurred in feeding lactating cows during the winter and possibly a lower rebreeding percentage during the winter.

A complete economic analysis of the 2006 fall-calving herd and project at the Adams County CRP Research and Demonstration Farm is not possible this year. However, some numbers for discussion are included in Table 2. The pasture rent paid by the cow owner in 2006 was \$0.85/cow/day of grazing. The beef produced in this grazing project in 2006 was calculated to be 16,195 lb. Putting the values of \$.50/lb of cow beef and \$2.00/lb of baby calf weight, grazing this fall-calving herd produced \$19,370 gross income on 102.1 acres of grass or \$189.72/acre. Certainly, there are a lot of expenses and risks with this production, but it does give some numbers to consider for using highly erodible land of southern Iowa.

### **Acknowledgments**

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**Table 1. Summary of fall-calving beef cow production in 2005 and 2006.**

Item	2005	2006	Average
Number of cows	55	60	57.5
Number of acres grazed	76	102.1	89.1
Stocking rate cows/acre	.72	.59	.66
Date grazing started	5/03/05	4/25/06	4/29
Date grazing ended	10/13/05	10/12/06	10/13
Number of days grazed	163	170	167
Animal days of grazing	8,344	10,200	9,272
Animal days grazing/acre	109.8	99.9	104.9
Average beginning weight	1,211	1,210	1,211
Average beginning condition score	5.8	4.8	5.3
Average ending weight	1,335	1,426	1,381
Average ending condition score	6.3	7.1	6.7
Total cow gain	6,801	8,680	7,741
Gain per cow (pounds)	124	216	170
Gain per animal day	.76	1.27	1.02
Pounds of cow gain/acre	89.5	85.0	87.3
Live calves born	51	55	53
Pounds of live calve produced	5710	7515	6613
Average calf weight produced	112.0	139	126
Pounds of production (cow and calf)	12,511	16,195	14,353
Pounds of production/acre	164.6	158.6	161.6

**Table 2. Producer economic summary of grazing fall-calving cows in 2006.**

Item	Amount (\$)
<u>Income</u>	
Value of cow gain ( $\$.50/\text{pound} \times 8,680$ )	4,340.00
Value of calf gain ( $\$2.00/\text{pound} \times 7,515$ )	<u>15,030.00</u>
Total income	19,370.00
<u>Expenses</u>	
Pasture rent (60 head $\times$ $\$.85/\text{day} \times 170$ days)	8,670.00
Total expenses	<u>8,760.00</u>
Net profit	10,610.00