

Intensive Rotational Grazing of Steers on Highly Erodible Land at the Adams County CRP Project, 2002

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Introduction

The CRP Research and Demonstration Project was organized by the Southern Iowa Forage and Livestock Committee to study alternatives to row crops on highly erodible land. The steer grazing enterprise has been studied since 1994.

Materials and Methods

Ninety-eight native southwest Iowa steers were purchased between February 5 and 18, 2002, at sale barns near Corning, IA. They were grown at the Armstrong farm near Lewis, IA, until April 17 when they were delivered to the CRP project farm near Corning. Before going to pasture they were weighed, vaccinated for viral diseases, wormed, implanted with Component TE-G/Tylan® and then put in dry lot for two days to become accustomed to electric fencing. Free choice complete mineral with the additive Gain Pro® was the only supplemental feed offered on pasture. Mineral consumption averaged 3.15 ounces/head/day costing \$0.055. The pasture included 74.4 acres divided into 34 paddocks with electric fencing. Tall fescue and red clover were the predominant species, but the system also included approximately 11.1 acres of warm-season native grasses (eastern gama grass, big bluestem, and Indiangrass) and two acres of Kura clover and cool-season grass (primarily smooth brome grass). Commercial fertilizer was not applied to any of the pasture ground. Water was accessible from all the paddocks.

Two rules guided the grazing management: 1) During each grazing cycle, graze no more than half the forage available when the animals began grazing the paddock; and 2) Let each paddock rest approximately 30 days between grazing cycles.

Ninety-seven steers were weighed July 10, 2002, and 65 of the heaviest were sold at that time. The remaining 32 steers were returned to pasture until they were sold September 19, 2002.

Results and Discussion

The average daily gain per steer was 2.26 lbs, higher than any other year in the 9-year history of steer grazing at the CRP project. The 97 steers gained a total of 23,581 pounds. If the rental value of the pasture with its water and fencing improvements is assumed to be \$60/acre, the cost of gain on pasture was \$35.99/cwt. There were 108 moves from one paddock to another during the 155-day grazing season. Most of the moves (69.7%) followed only one day of grazing in the vacated paddock. Table 1 summarizes the growth performance of each marketing group and both groups together. Table 2 presents a summary of the steer grazing project at the CRP Research and Demonstration farm from 1997–2002. Table 3 reports economic performance in 2002. The beginning and final values of the steers were calculated using weights taken at the farm and prices supplied by the Southern Iowa Forage and Livestock Committee.

Acknowledgments

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Table 1. Performance by marketing group.

Group	No.	Days	Starting wt.		Ending wt.		Gain		ADG
			Total	Avg	Total	Avg	Total	Avg	
Sold July 10	65	84	40223	618.8	54224	834.2	14001	215.4	2.56
Sold Sept. 19	32	155	17742	554.4	27322	853.8	9580	299.4	1.93
Combined	97	107.4	57965	597.6	81546	840.7	23581	243.1	2.26

Table 2. Summary of steer grazing project by years, 1997–2002.

Item	Year						Avg
	1997	1998	1999	2000	2001	2002	
Total number of acres grazed	64.6	64.6	64.6	64.6	75.8	74.4	68.1
Date grazing started	5-3	5-2	4-24	4-24	4-27	4-17	4-26
Number of steers at start	76	75	76	88	95	98	84.7
Avg beginning weight	633.9	605.9	622.7	613.3	592.9	597.6	611.1
Beginning stocking rate, steers/A	1.18	1.16	1.18	1.36	1.25	1.32	1.25
Number of steers sold midseason	51	0	0	46	60	65	37.0
Avg start wt. of steers sold midseason	656.5	N/A	N/A	655.2	618.5	618.8	637.3
Avg end wt. of steers sold midseason	845.1	N/A	N/A	765.7	812.8	834.2	814.4
Date of midseason removal	8-5	N/A	N/A	6-17	7-7	7-10	7-10
No. of steers grazing to season's end	25	75	76	42	35	32	47.5
Avg start wt. of steers sold at season's end	587.9			567.5	549.0	554.4	564.7
Avg end wt. of steers sold at season's end	837.7	808.3	829.7	790.6	817.4	853.8	822.9
Date of grazing season's end	10-10	8-19	8-16	8-29	9-5	9-19	9-05
Ending stocking rate, steers/A	0.39	1.16	1.18	0.65	0.46	0.43	0.71
Total steer gain, lbs	15,862	15,182	15,732	14,453	21,056	23,581	17,644
Pounds of steer gain/A	246	235	244	224	278	317	257
Avg daily gain/steer	1.80	1.86	1.82	1.83	2.12	2.26	1.95

Table 3. Economic summary of the 2002 steer grazing project.

Cost of 98 steers, 58,583 lbs @ \$0.93 delivered 4-17-02	\$54,482.19
Interest @ 7%	\$1099.04
Labor @ \$8/hr.	\$670.80
Mineral supplement	\$588.76
Trucking	\$549.00
Pest control	\$331.90
Seed	\$263.09
Machine rental and fuel	\$187.05
Implants	\$140.88
Check off	\$97.00
Vaccines	\$95.00
Total variable costs	\$58,504.71
Sale value of 97 steers, 81,546 lbs. @ \$0.78	\$63,605.88
Return to land and management	\$5,101.17