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Abstract

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.

Disciplines

Agricultural Science | Agriculture

Intensive Rotational Grazing of Steers on Highly Erodible Land at the Adams County CRP Project, 2003

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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 January 30 and February 1, 2003, at sale barns near Corning, IA. They were grown at the Armstrong farm near Lewis, IA, until April 25 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 one day to become accustomed to electric fencing. A free choice complete mineral with the additive Gain Pro® was available at all times on pasture. Mineral consumption averaged 3.9 ounces/head/day costing \$0.07.

The pasture included 74.8 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 gamma grass, big bluestem and Indian grass) and 2 acres of Kura clover and cool-season grass (primarily smooth brome grass). The grass-legume paddocks are interseeded with legumes every third year to enhance the sward's legume component. Commercial fertilizer was not

applied to any of the paddocks in 2003. Water was accessible for all of the paddocks.

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

Ninety-eight steers were weighed July 9, 2003, and 47 of the heaviest were sold at that time. The remaining 51 steers were returned to pasture until they were sold August 21, 2003.

Results and Discussion

Pounds of gain/acre and daily gain/steer were lower in 2003 than in the previous two years but were better than the seven-year average. However 2003 was the most profitable year ever for the steer grazing project, due primarily to strong prices when the steers were marketed. The first market group averaged 877.8 points and was sold July 9 for \$86/cwt. The second group was sold August 21, averaging 849.8 pounds for \$92.50/cwt. Refer to the tables following the text for details.

Assuming pasture with fencing and water improvements costs \$60/acre, the cost of gain on pasture was \$43.67/hundredweight.

Rotational grazing management was practiced in an effort to achieve maximum animal gains. The steers were moved to a fresh paddock 86 times during the 118-day grazing season. The average resting period between grazing cycles on a paddock was 43 days. Most paddocks were grazed three times during the grazing season. Six big round bales of grass hay were fed to supplement drought stricken pasture

Acknowledgments

The work of the Southern Iowa Forage and Livestock Committee in planning and carrying out this project, and the daily care given by herdsman Phil Anstey, are greatly appreciated.

Table 1. Performance by market group.

Group	No.	Days	Starting wt.		Ending wt.		Gain		ADG
			Total	Ave.	Total	Ave.	Total	Ave.	
Sold July 9	47	75	33,118	704.6	41,255	877.8	8,137	173.1	2.31
Sold Aug. 21	51	118	32,442	636.1	43,340	849.8	10,898	213.7	1.81
Combined	98	97.4	65,560	669.0	84,595	863.2	19,035	194.2	1.99

Table 2. Summary of steer grazing project by years, 1997–2003.

Item	Year							Avg.
	1997	1998	1999	2000	2001	2002	2003	
Total number of acres grazed	64.6	64.6	64.6	64.6	75.8	74.4	74.8	69.1
Date grazing started	5-3	5-2	4-24	4-24	4-27	4-17	4-25	4-25
Number of steers at start	76	75	76	88	95	98	98	86.6
Avg. beginning weight	633.9	605.9	622.7	613.3	592.9	597.6	669.0	619.3
Beginning stocking rate, steers/A	1.18	1.16	1.18	1.36	1.25	1.32	1.31	1.25
Number of steers sold mid-season	51	0	0	46	60	65	47	38.4
Avg. start wt. of steers sold mid-season	656.5	N/A	N/A	655.2	618.5	618.8	704.6	650.7
Avg. end wt. of steers sold mid-season	845.1	N/A	N/A	765.7	812.8	834.2	877.8	827.1
Date of mid-season removal	8-5	N/A	N/A	6-17	7-7	7-10	7-9	7-10
No. of steers grazing to season's end	25	75	76	42	35	32	51	48.0
Avg. start wt. of steers sold at season's end	587.9			567.5	549.0	554.4	636.1	589.1
Avg. end wt. of steers sold at season's end	837.7	808.3	829.7	790.6	817.4	853.8	849.8	826.8
Date of grazing season's end	10-10	8-19	8-16	8-29	9-5	9-19	8-21	9-03
Ending stocking rate, steers/A	0.39	1.16	1.18	0.65	0.46	0.43	0.68	0.71
Total steer gain, lbs.	15,862	15,182	15,732	14,453	21,056	23,581	19,035	17,843
Pounds of steer gain per A	246	235	244	224	278	317	254	257
Avg. daily gain per steer	1.80	1.86	1.82	1.83	2.12	2.26	1.99	1.95

Table 3. Economic summary of the 2003 steer grazing project.

Cost of 98 steers, 65,560 lbs. @ \$0.90 delivered 4-25-2003	\$59,004.00
Interest @ 6.75%	\$1,042.09
Labor	\$642.00
Mineral supplement	\$677.12
Seed	\$344.40
Pest control	\$294.35
Machine rental and fuel	\$190.30
Implants	\$137.50
Vaccines	\$115.25
Hay, 7,500 lbs. @ \$40/T	\$150.00
Trucking	\$150.00
Check-off	\$98.00
Total variable costs	\$62,845.01
Sale value of 47 steers, 41,255 lbs. @ \$0.86	\$35,479.30
Sale value of 51 steers, 43,340 lbs. @ \$0.925	\$40,089.50
Return to land and management	\$12,723.79