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## Summary of grazing research on Kansas CRP land

### Abstract

Animal performance and net return per acre were examined for four CRP research sites in Kansas in 1994, 1995, and 1996. Both mowing and prescribed burning increased animal performance in 1994. Mowing was economically feasible on one of the four sites. Prescribed burning was economically feasible on three of four sites. Mowing and burning treatments were not repeated in 1995 or 1996. Net returns per acre for the site that was grazed with cowcalf pairs ranged from -\$8.55 to -\$25.54. For the sites grazed with stockers, net returns per acre varied from -\$18.67 to \$31.39. Net returns per acre for stockers averaged \$14.22 in western Kansas and \$16.93 in central Kansas. Based on this research, grazing stockers on post-CRP land appears to have more potential than grazing cow-calf pairs.

### Keywords

Cattlemen's Day, 1997; Kansas Agricultural Experiment Station contribution; no. 97-309-S; Report of progress (Kansas State University, Agricultural Experiment Station and Cooperative Extension Service); 783; Beef; Conservation Reserve Program; Cow/Calf grazing; Stocker grazing

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**SUMMARY OF GRAZING RESEARCH  
ON KANSAS CRP LAND <sup>1</sup>**

*M. R. Langemeier <sup>2</sup>, P. D. Ohlenbusch <sup>3</sup>, and R. D. Jones <sup>2</sup>*

**Summary**

Animal performance and net return per acre were examined for four CRP research sites in Kansas in 1994, 1995, and 1996. Both mowing and prescribed burning increased animal performance in 1994. Mowing was economically feasible on one of the four sites. Prescribed burning was economically feasible on three of four sites. Mowing and burning treatments were not repeated in 1995 or 1996. Net returns per acre for the site that was grazed with cow-calf pairs ranged from -\$8.55 to -\$25.54. For the sites grazed with stockers, net returns per acre varied from -\$18.67 to \$31.39. Net returns per acre for stockers averaged \$14.22 in western Kansas and \$16.93 in central Kansas. Based on this research, grazing stockers on post-CRP land appears to have more potential than grazing cow-calf pairs.

(Key Words: Conservation Reserve Program, Cow/Calf Grazing, Stocker Grazing.)

**Introduction**

Congress established the Conservation Reserve Program (CRP) in 1985. Program goals included the reduction of erosion, protection of the long-term productivity of the land, water quality improvement, enhancement of wildlife, reduction of sedimentation, reduction of surplus commodities, and income support for farmers.

The first CRP contracts expired in 1995. Holders of 1995 and 1996 contracts were given the option to renew, and a vast majority exercised that option. These renewed contracts will expire along with 1997 contracts in the fall of 1997, accounting for approximately two-thirds of the CRP contracts in Kansas. Alternative uses of post-CRP land have been given little attention. In response to a need expressed by contract holders, a research project was initiated to determine the effect of spring mowing or burning on grazing potential of Kansas CRP land. This report summarizes the grazing results from the project.

**Experimental Procedures**

An exemption was obtained from the Kansas Consolidated Farm Services Agency to establish haying and grazing studies on CRP land. Five haying and four grazing sites were established in eight counties in 1994. The location of grazing sites and use were Edwards County (cow/calf grazing), Greeley County (early-intensive grazing of heifers), Kearny County (season-long grazing of stockers), and Reno County (season-long grazing of stockers).

Each CRP site was divided into: 1) no treatment, 2) spring mowing, and 3) spring burning plots. Mowing and burning treatments were applied in 1994 but not in subsequent years. All animals were weighed and identified before being placed onto the plots and also weighed at the end of the grazing period. Data collected included days on grass, gain per head,

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average daily gain, gain per acre, and stocking rate (lb/acre) . Marketing decisions and days on grass were at the discretion of the producer.

Weather and grass condition were used to determine the length of the grazing season and stocking rates. In Edwards County, cow-calf pairs grazed for 144 days in 1994 ,168 days in 1995, and 130 days in 1996. In Greeley County, heifers grazed for 58 days in 1994, 74 days in 1995, and 79 days in 1996. The steers on the Kearny County plot grazed for 130 days in 1994, 103 days in 1995, and 94 days in 1996. In Reno County, steers grazed for 103 days in 1994, 141 days in 1995, and 112 days in 1996. Stocking rates ranged from 212 lb/acre to 267 lb/acre on the Edwards County site, from 175 lb/acre to 196 lb/acre on the Greeley County site, from 112 lb/acre to 156 lb/acre on the Kearny County site, and from 162 lb/acre to 169 lb/acre on the Reno County site. Stocking rates were adjusted on the sites to compensate for changes in forage production.

Budgets were used to estimate gross income, total cost, and net return per acre for each of the treatments. Monthly cattle price information was used along with month in, month out, weight in, and weight out to estimate gross income for each treatment and year. Per acre costs were estimated to be \$7.60 for mowing and \$2.00 for burning. Land ownership costs and the costs associated with fencing or developing a water source were not included. All other costs, including hired and operator labor, were taken into account. Thus, the net return per acre for each treatment and year represents the return to land and management.

## Results and Discussion

Table 1 presents animal performance and net return per acre for each CRP research plot. Animal performance in 1994 was enhanced by either mowing or burning. Stocker performance in 1994 averaged .33 lb/day higher for the mowed than for the no-treatment plots and .72 lb/day higher for the burned treatment. Calf performance (Edwards Co.) was only slightly higher on the mowed and burned plots. Average performance on the mowed plots over the 3 years of the study was from 2% to 5% higher than performance on the no-treatment plots. Average performance on burned plots was similar to that on the no-treatment plot at the Edwards County site but was from 6% to 38% higher at the three stocker sites.

A comparison of net returns per acre in 1994 can be used to determine the economic feasibility of mowing or burning CRP before grazing. Although mowing increased grazing performance on each site, it was economically feasible only on the Reno County site. Prescribed burning, on the other hand, increased grazing performance and was economically feasible on the sites in Greeley, Kearny, and Reno counties. The increase in calf performance on the Edwards County site was not large enough to justify either mowing or burning.

Average net returns per acre on the burned plots can be used to assess potential profitability of grazing CRP land. Because of low calf prices, net return per acre for cow-calf grazing averaged -\$16.81. The average net return for stocker grazing was \$14.22 on the two western Kansas sites and \$16.93 per acre on the central Kansas site. Based on this research, stocker grazing appears to have more potential than cow/calf grazing on post-CRP land.

**Table 1. Animal Performance and Net Return per Acre from Grazing on CRP Research Plots in Kansas**

Research Site and Treatment	1994		1995		1996	
	Average Daily Gain, lb	Net Return per Acre, \$	Average Daily Gain, lb	Net Return per Acre, \$	Average Daily Gain, lb	Net Return per Acre, \$
Edwards County: Cow-calf grazing. Calf performance shown						
No treatment	2.36	-8.55	2.20	-13.41	2.36	-20.28
Spring mowed <sup>a</sup>	2.44	-15.91	2.22	-11.78	2.48	-19.97
Spring burned	2.48	-9.79	2.12	-15.10	2.32	-25.54
Greeley County: Early-intensive heifer grazing						
No treatment	2.73	10.14	2.49	17.12	1.31	16.60
Spring mowed	3.07	6.77	2.21	12.89	1.39	18.10
Spring burned	3.47	15.45	2.27	13.96	1.22	13.50
Kearny County: Season-long stocker grazing						
No treatment	1.16	-13.18	1.61	8.00	1.57	12.01
Spring mowed	1.27	-18.67	1.60	7.61	1.57	13.83
Spring burned	1.93	-.05	2.10	17.88	1.96	24.58
Reno County: Season-long stocker grazing						
No treatment	2.01	5.68	1.15	-3.39	1.79	31.39
Spring mowed	2.55	8.99	1.24	-.81	1.44	24.31
Spring burned	2.65	16.10	1.39	2.47	1.68	31.21

<sup>a</sup>Mowing and burning treatments were applied in 1994 but not in subsequent years.