

GRAZING VALUE AND MANAGEMENT OF CRP LANDS

[J. Nelson](#) and [L. Tisor](#)

SUMMARY

Crossbred cow-calf pairs grazed on CRP acreage in South West North Dakota (Bowman County) for a period of 123 days from May to September. Cows gained 13.26 lbs./acre and calves gained 50.97 lbs./ acre on the seasonlong (SL) system. Gains on the Twice Over Rotation (TOR) system were 14.15 lbs./acre for cows and 47.0 lbs./acre for calves.

In 1993, the TOR system of grazing allowed cow gains of 17.3 lbs./acre and calf gains averaging 52.4 lbs./ acre. The SL cow gain averaged 14.6 lbs./acre while calf gains averaged 41.9 lbs./acre.

Hay production in 1995 averaged 1.91 tons per acre for the first cutting and 0.52 ton on the second cutting. The four year average hay yield from 1992 to 1995 averaged 1.38 tons per acre on the first cutting and 0.51 ton per acre on the second cutting. The overall quality of the hay has improved since 1992 when the first year's haying removed of dead material found in the hay the first year. This trial is due to continue for one more year and the results may change.

OBJECTIVES

The objectives of this study are to determine:

1. The floristic composition and structure of CRP lands and to note changes in floristic composition and structure due to grazing and haying over 5 years.

2. The production and utilization of CRP land vegetation under seasonlong and twice-over grazing.
3. The production and quality of hay from CRP lands.
4. The success of game and non-game wildlife species on CRP lands.
5. The erosion from CRP lands that have been variously grazed and hayed and to compare this with similar cropland.
6. The economic returns from grazing and haying CRP lands.

This trial involves several other research centers and government agencies. This report will only cover that information gathered by the Dickinson Research Center. A complete report entitled Conservation Reserve Program (CPR) Grazing and Haying Study by William Parker, Paul Nyren et. al. will be published.

MATERIALS AND METHODS

The fourth year of a proposed five year project to study the effects of haying and grazing on Conservation Reserve Program acres was conducted by the Dickinson Research Center in 1995.

Fifty seven pair of first calf crossbred (AXH) pairs were allotted to either a 131 acre pasture grazed for the entire season (SL) or to a set of three 75 acre rotation pastures (TOR). There were 22 pair on the seasonlong pasture and 35 pair on the rotation pastures. The cow-calf pairs grazed from May 25, 1995 to September 25, 1995, a period of 123 days. The cows rotated through the TOR pastures twice during the 123 day grazing period.

The stocking rate was 1.48 acres/AUM on seasonlong and 1.59 acres/AUM on rotation pasture.

Artificial insemination, was used prior to the start of the grazing period. Purebred yearling Charolais clean up bulls were turned with the cows on May 25, 1995 and remained with them until July 28, 1995, a period of 65 days.

The cows were individually weighed and body condition scored at the start, finish, and at intermediate dates based

on rotation times. Individual calf weights were collected at the same time. The TOR cattle started grazing in pasture #2, rotated to #1 and then to pasture #3, back to 2, 1, and finished in pasture #3. (see diagram). Animal performance and body condition scores (BCS) are shown in Table 1. Bull weights are not included in this report.

DISCUSSION

Results to date with both heifers and cow-calf pairs show satisfactory gains for both classes of cattle. The pastures contained a significant amount of alfalfa in the grass mixture which caused concern about the possibility of bloat. Therefore, during each of the four trial years, proloxalene (Bloat-Guard) has been mixed with the mineral mixture in an effort to reduce or prevent bloat. In 1993, one cow died of suspected bloat, although an autopsy could not confirm the cause of death.

Both the SL and TOR grazing programs have provided more than adequate forage at the stocking rates used to date. Forage quality deteriorates rather quickly after the first week of July. Late summer rains tend to revive the plant growth and add to the overall quality of the forage.

Pasture arrangement on Sec. 26 and 35-130-102

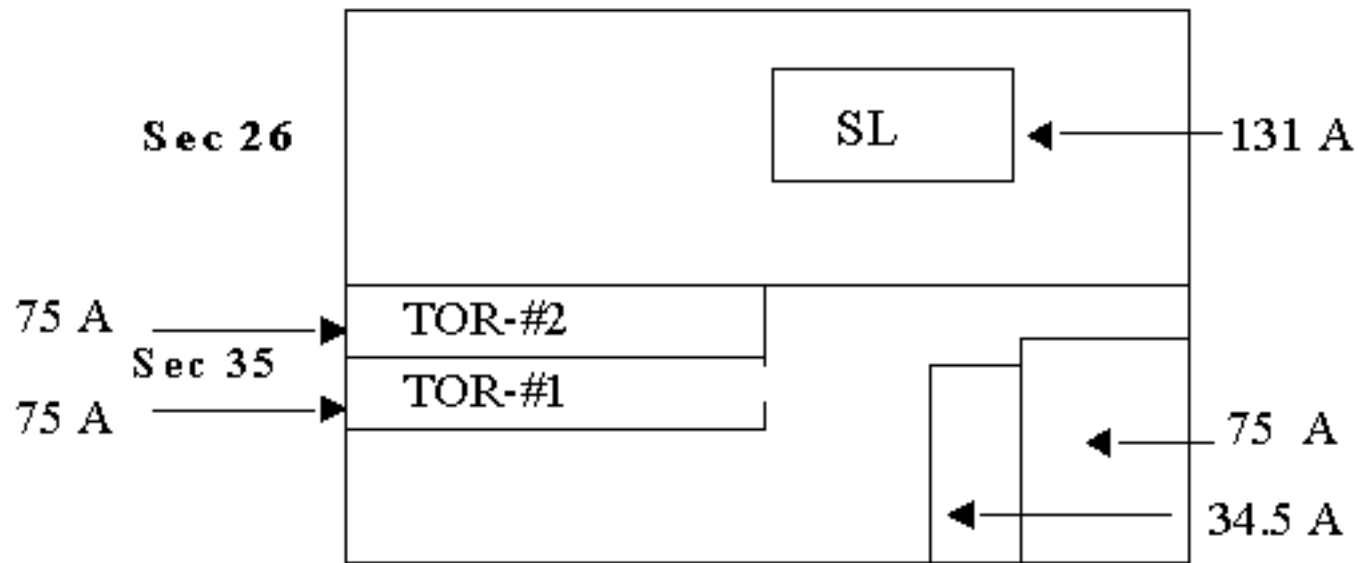


Table 1: Cow And Calf Performance Grazing CRP Pastures in 1995.		
-	Seasonlong SYSTEM	TWICE OVER ROTATION
Pasture Size--Acres	131	131
No. of Pairs	22	35
Days Grazed	123	123
Stocking Rate Acres/AUM	1.48	1.59
AUMs/Acre	0.68	0.63

Date	Cow Wt.	Period Gain	ADG	BCS	Cow Wt.	Period Gain	ADG	BCS
May 25	1091.7	-	-	6.27	1101.7	-	-	6.34
June 15	1012.7	-18.95	-0.9	6.39	1074.3	-27.4	-1.31	6.51
July 5	1067.6	- 5.18	-0.26	6.61	1079.5	5.2	0.26	6.54
July 28	1153.1	85.5	3.72	6.5	1171.0	91.4	3.98	6.5
August 14	1158.9	5.86	0.34	6.48	1170.2	-0.8	-0.05	6.43
Sept. 8	1184.1	25.23	1.01	6.34	1199.2	28.9	1.16	6.47
Sept. 25	1170.6	-13.5	0.79	6.27	1192.7	- 6.43	-0.38	6.56
Total Gain	78.90				91.00			
Gain/Acre	13.25				14.16			
Gain/Acre/Day	0.64				0.74			

Date	Calf Wt.	Period Gain	ADG	Calf Wt.	Period Gain	ADG
May 25	215.1			205.9		
June 15	263.3	48.2	2.3	253.6	47.7	2.27
July 5	319.1	55.8	2.54	304.6	51.0	2.55
July 28	380.8	61.7	2.59	373.5	68.9	3.0
August 14	423.3	42.5	2.57	409.8	36.3	2.13
Sept. 8	480.2	56.9	2.5	477.8	68.0	2.72
Sept 25	518.6	38.4	2.47	508.0	30.2	1.77
Total Gain	303.50			302.10		
Gain/Acre	50.97			46.99		
Gain/Acre/Day	2.50			2.41		

Table 1a. Two year combined results of cow-calf pairs grazing CRP pastures						
	Seasonlong System			Twice Over Rotation		
	1993	1995	Ave.	1993	1995	Ave.
Cow gain/hd	112.60	78.90	95.75	111.40	90.97	101.19

Cow gain/acre	14.62	13.26	13.94	17.32	14.15	15.74
Cow ADG	0.88	0.64	0.76	0.87	0.74	0.81
Calf gain/hd	322.60	303.50	313.05	336.60	302.14	319.37
Calf gain/acre	41.86	50.97	46.42	52.37	47.00	49.69
Calf ADG	2.52	2.47	2.50	2.63	2.46	2.55
Combined gain lbs. Per acre	56.48	64.23	60.36	69.69	61.15	65.42

Table 2. Two year average performance of bred yearling heifers grazing CRP acreage.						
	Seasonlong System			Twice Over Rotation		
	1992	1994	Ave.	1992	1994	Ave.
Acres	131	131	131	225	225	225
Number	24	30	27	52	56	54
Days	125	127	126	125	127	126
Gain/hd	226	164	195	199	186	192.5

Ave. Daily Gain	1.81	1.29	1.55	1.59	1.47	1.53
Gain/acre (lbs.)	41.45	37.52	39.49	45.93	46.39	46.16

Table 3. Hay Yield on CRP Acreage in 1995				
		1st Cutting	2nd Cutting	Total
	July 5	Sept. 8		
Acres	34.5	34.5		
Bales	139	38		177
Ave. Wt	950	950		950
Tons	66	18		84
Tons/Acre	1.91	0.52		2.44
Return/acre at \$45/T	85.95	23.47		109.80

Table 3a. Four Year Results of Hay Production on CRP Acres South of Bowman, ND.					
Yield per acre--tons	1992	1993	1994	1995	Ave.

1st Cutting	2.00	0.80	0.80	1.91	1.38
2nd Cutting	0.87	0.63	0.00	0.52	0.51

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