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Abstract

Two rotational-grazing systems have been demonstrated on CRP land near Corning, Iowa, annually from 1991 to 2000. This report summarizes the 2000 production data. A 13-paddock intensive-rotational grazing system and a 4-paddock rotational grazing system were established in 1991 to show economically feasible grass alternatives to row crops and CRP for steeply sloping (9-14% slope), highly erodible land (HEL).

Disciplines

Agricultural Science | Agriculture

Rotational Grazing Demonstrations with Beef Cows on CRP Land in Adams County

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Introduction

Two rotational-grazing systems have been demonstrated on CRP land near Corning, Iowa, annually from 1991 to 2000. This report summarizes the 2000 production data. A 13-paddock intensive-rotational grazing system and a 4-paddock rotational grazing system were established in 1991 to show economically feasible grass alternatives to row crops and CRP for steeply sloping (9-14% slope), highly-erodible land (HEL).

Results and Discussion

On the 13-paddock grazing system in 2000, 25 crossbred calves nursing crossbred dams gained 2.20 pounds per head per day for 140 days (Table 2). The stocking rate on this grazing system was 1.38 acres per cow-calf pair compared with a 10-year average rate of 1.59

acres per cow-calf pair. Cattle numbers were increased in 2000 because prior to the grazing season, the systems had been judged to have easily handled past stocking rates. Calves were fed no creep. Grazing began on April 21 and ended on September 12. Cattle were rotated to a fresh paddock every day or two throughout the season. Total calf production per acre in 2000 was 224.86 pounds. This was higher than the 10-year average of 213.02 pounds per acre for the 13-paddock system despite a rainfall deficit of 7.99 inches from April 1 to September 30 (Table 1). Cows on this system lost 11 pounds on the average and .30 in condition score during the summer.

Grazing also started on April 21, 2000, on the nearby 4-paddock system (Table 3). The stocking rate with 14 cow-calf pairs was 1.60 acres per pair. The 4-paddock system produced 205.00 pounds of calf gain per acre with the calves gaining 2.30 pounds per day for 140 days. Because of the extreme dry summer, cows gained little weight in 2000 and ended up losing .20 in condition score on this system. No hay was produced or fed from either system in 2000 (Table 4).

Table 1. Precipitation at Corning, Iowa, 2000 (inches of rainfall) - 2 locations.

Month	Normal 1961-1990	Corning Hospital 2000	Deviation from Normal 2000	CRP Farm (2 sites averaged) 2000	CRP Farm Deviation 2000
January	.88	0.20 (3 events)	-0.68	NA	NA
February	.84	1.97 (7events)	+1.13	NA	NA
March	2.34	1.34 (3 events)	-1.00	NA	NA
April	3.33	1.41 (9 events)	-1.92	NA	NA
May	4.41	1.93 (6 events)	-2.48	NA	NA
June	4.54	6.82 (10 events)	+2.28	NA	NA
July	4.45	4.34 (11 events)	-0.11	NA	NA
August	4.68	1.93 (9 events)	-2.75	NA	NA
September	4.69	1.68 (3 events)	-3.01	NA	NA
October	2.70	1.72 (9 events)	-0.98	NA	NA
November	1.99	2.01 (5 events)	+0.02	NA	NA
December	1.22	1.14 (12 events)	-0.08	NA	NA
ANNUAL	36.07	26.49	-9.58	NA	NA

Table 2. Adams County CRP Project 13-paddock grazing system production data with cow-calf pairs. 1993-2000 yearly data plus a 10-year average for the system.

Year	1993	1994	1995	1996	1997	1998	1999	2000	10 Year Avg. (1991-2000)
Acres in system	34.6	34.60	34.60	34.60	34.60	34.60	34.60	34.60	34.60
No. of pairs	21.00	21.00	21.00	21.00	21.00	21.00	22.00	25.00	21.80
Pairs / Acre	0.61	0.61	0.61	0.61	0.61	0.61	0.64	0.72	0.63
Acres / Pair	1.65	1.65	1.65	1.65	1.65	1.65	1.57	1.38	1.59
Days Grazed	144	155	147	160	141	145	156	140	148
Calf Beg. Wt. (lbs.)	147.10	147.80	129.20	157.62	131.67	126.14	126.00	134.00	137.44
Calf ADG	2.35	2.37	2.36	2.26	2.41	2.23	2.20	2.20	2.29
Avg. Calf Gain	338.80	366.91	346.40	360.86	336.71	322.71	343.60	310.30	338.77
Calf Gain / A	205.63	222.69	210.20	219.02	204.40	195.87	218.85	224.86	213.02
Cow Beg. Wt. (lbs.)	1145.67	1187.40	1084.50	1150.48	1107.90	1086.38	1166.00	1184.00	1139.04
Cow Wt. Chg.	13.40	74.70	92.60	66.00	56.81	109.71	52.80	-10.70	60.42
Cow Cond. Chg.	0.30	0.20	0.86	0.57	0.39	0.45	0.70	-0.30	0.36
Cow Days / A	87.40	94.08	89.20	97.11	85.58	88.01	99.19	101.16	92.94

Table 3. Adams County CRP Project 4-paddock grazing system production data with cow-calf pairs. 1993-2000 yearly data plus a 10-year average for the system.

Year	1993	1994	1995	1996	1997	1998	1999	2000	10 Year Avg. (1991-2000)
Acres in system	22.4	22.40	22.40	22.40	22.40	22.40	22.40	22.40	22.40
No. of pairs	13.00	13.00	13.00	13.00	13.00	13.00	13.00	14.00	13.30
Pairs / acre	0.58	0.58	0.58	0.58	0.58	0.58	0.58	0.63	0.59
Acres / pair	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.60	1.69
Days grazed	144	155	147	160	141	145	143	140	146
Calf beg. wt. (lbs.)	143.38	159.80	135.20	162.23	139.08	114.08	114.00	142.00	138.72
Calf ADG (lbs.)	2.38	2.50	2.38	2.28	2.29	2.18	2.33	2.30	2.33
Avg. calf gain	342.70	387.53	350.20	365.15	322.62	316.38	333.50	328.00	341.67
Calf gain / acre	198.89	224.91	203.20	211.92	187.23	183.62	193.90	205.00	203.38
Cow beg. wt. (lbs.)	1155.00	1172.60	1082.30	1152.54	1118.31	1050.23	1196.00	1175.00	1137.75
Cow wt. chg.	36.50	83.90	119.20	97.00	76.77	111.00	13.70	15.00	68.52
Cow cond. chg.	0.50	0.20	0.38	0.46	0.46	0.54	0.50	-0.20	0.31
Cow days / acre	83.57	89.96	85.30	92.86	81.83	84.15	82.99	87.50	87.07

Table 4. Hay production and use, Adams County CRP Farm, Large round bales.

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	10 Year Average
13-Paddock System											
Produced	9	9	0	0	11	26	6	10	0	0	7.1
Fed	8	16	9	0	4	10	6	4	4	0	6.1
Net Hay Production	+1	-7	-9	0	+7	+16	0	+6	-4	0	1.0
4-Paddock System											
Produced	11	3	0	0	0	0	0	12	18	0	4.4
Fed	0	14	7	1	4	7	0	1	4	0	3.8
Net Hay Production	11	-11	-7	-1	-4	-7	0	11	14	0	0.6