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Chris Nelson  
*Iowa State University*

Rick Sprague  
*Natural Resources Conservation Service*

Russell Bredahl  
*Iowa State University*

Brian Peterson  
*USDA Natural Resource Conservation Service*

William Bartenhagen  
*Farm Service Agency*

*See next page for additional authors*

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

## **Abstract**

Two grazing systems have been demonstrated annually from 1991–2003 on CRP land near Corning, Iowa. This report summarizes the 2003 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 participation on steeply sloping (9–14% slope), highly-erodible land (HEL).

## **Disciplines**

Agricultural Science | Agriculture

## **Authors**

Chris Nelson, Rick Sprague, Russell Bredahl, Brian Peterson, William Bartenhagen, John Klein, and Stephen K. Barnhart

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

Chris Nelson, Adams County extension education director

Rick Sprague, Adams County district conservationist, NRCS

Russell BreDahl, extension beef specialist

Brian Peterson, grassland conservationist, NRCS

Bill Bartenhagen, Adams County FSA director

John Klein, NRCS project manager

Stephen K. Barnhart, professor of agronomy

### Introduction

Two grazing systems have been demonstrated annually from 1991–2003 on CRP land near Corning, Iowa. This report summarizes the 2003 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 participation on steeply sloping (9–14% slope), highly-erodible land (HEL).

### Results and Discussion

On a 13-paddock grazing system in 2003, 23 crossbred calves nursing crossbred dams gained 2.52 pounds per head per day for 130 days (Table 2). The stocking rate on this grazing system was 1.50 acres/cow-calf pair. Cow-calf numbers were the same as in the previous year and 1 pair above the 13-year average.

Grazing started on April 25 and ended on September 2 in 2003. To utilize excess early

forage production, three large round bales of hay were made on the 13-paddock system (Table 4). Eleven bales were also fed in late summer when the rains did not come (Table 1). A balanced mineral was fed free choice throughout the summer. No creep feed was fed to calves. Cattle were rotated to a fresh paddock 57 times during the 130 days of grazing. Rainfall at the Corning Hospital national weather service location was below normal for Corning by 8.95 inches in 2003 (Table 1). The largest shortage of moisture occurred during the hot summer months of July and August. Rainfall at the CRP grazing site mirrored the hospital data. Total calf production/acre in 2003 was 218.47 pounds. Amazingly, this was above the 13-year average of 211.17 pounds. Cows on this system gained an average of 47.10 pounds during the 2003 grazing period.

Grazing also started on April 25 and ended on September 2 in the nearby 4-paddock system (Table 3). The stocking rate was 13 cow-calf pairs or 1.72 acres/pair. This system produced 195.12 pounds of calf gain/acre. Calves gained an average of 2.58 pounds/head/day. Cows gained an average of 111.20 pounds/head. Five large round bales of hay were harvested from this system in May of 2003 and seven were fed in the late summer (Table 4). Cattle in this system were rotated to a fresh paddock 12 times during the grazing season of 2003.

**Table 1. Precipitation at Corning, Iowa, 2003 (inches of rainfall)—2 locations.**

Month	Normal 1961–1990	Corning Hospital 2003	Deviation from normal 2003	CRP Farm (2 sites averaged) 2003	CRP Farm deviation 2003
January	.88	0.18 (5 events)	-0.70	NA	NA
February	.84	1.07 (5 events)	+0.23	NA	NA
March	2.34	0.90 (7 events)	-1.44	NA	NA
April	3.33	3.29 (10 events)	-0.04	2.63	-0.70
May	4.41	4.68 (14 events)	+0.27	4.60	+0.19
June	4.54	3.77 (8 events)	-0.77	3.08	-1.46
July	4.45	2.32 (9 events)	-2.13	1.70	-2.75
August	4.68	1.12 (5 events)	-3.56	1.25	-3.43
September	4.69	2.59 (4 events)	-2.10	NA	NA
October	2.70	0.84 (3 events)	-1.86	NA	NA
November	1.88	4.98 (8 events)	+3.10	NA	NA
December	<u>1.21</u>	<u>1.26</u> (5 events)	<u>+0.05</u>	NA	NA
ANNUAL	35.95	27.00	-8.95	NA	NA

**Table 2. Adams County CRP Project 13-paddock grazing system production data with cow-calf pairs. 1996–2003 yearly data plus a 13-year average for the system.**

Year	1996	1997	1998	1999	2000	2001	2002	2003	13-year avg. (1991-2003)
Acres in system	34.60	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	22.00	25.00	22.00	23.00	23.00	22.00
Pairs/acre	0.61	0.61	0.61	0.64	0.72	0.64	0.66	0.66	0.63
Acres/pair	1.65	1.65	1.65	1.57	1.38	1.57	1.50	1.50	1.57
Days grazed	160	141	145	156	140	119	153	130	145
Calf beg. wt. (lbs.)	157.62	131.67	126.14	126.00	134.00	171.45	132.09	122.70	138.51
Calf ADG	2.26	2.41	2.23	2.20	2.20	2.23	2.33	2.52	2.30
Avg. calf gain	360.86	336.71	322.71	343.60	310.30	265.09	356.00	327.7	333.57
Calf gain/a	219.02	204.40	195.87	218.85	224.86	168.85	236.65	218.47	211.73
Cow beg. wt. (lbs.)	1150.48	1107.90	1086.38	1166.00	1184.00	1081.05	1103.91	1316.90	1145.56
Cow wt. chg.	66.00	56.81	109.71	52.80	-10.70	51.40	91.22	47.10	61.08
Cow cond. chg.	0.57	0.39	0.45	0.70	-0.30	-0.46	+0.30	+0.26	0.29
Cow days/a	97.11	85.58	88.01	99.19	101.16	75.66	101.71	86.42	91.78

**Table 3. Adams County CRP Project 4-paddock grazing system production data with cow-calf pairs, 1996-2003 yearly data plus a 13-year average for the system.**

Year	1996	1997	1998	1999	2000	2001	2002	2003	13-year avg. (1991-2003)
Acres in system	22.40	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	14.00	13.00	13.00	13.00	13.23
Pairs/acre	0.58	0.58	0.58	0.58	0.63	0.58	0.58	0.58	0.59
Acres/pair	1.72	1.72	1.72	1.72	1.60	1.72	1.72	1.72	1.69
Days grazed	160	141	145	143	140	119	153	130	144
Calf beg. wt. (lbs.)	162.23	139.08	114.08	114.00	142.00	184.00	132.92	122.8	140.53
Calf ADG (lbs.)	2.28	2.29	2.18	2.33	2.30	2.27	2.43	2.58	2.35
Avg. calf gain	365.15	322.62	316.38	333.50	328.00	270.62	371.23	335.60	338.01
Calf gain/acre	211.92	187.23	183.62	193.90	205.00	157.34	215.45	195.12	199.42
Cow beg. wt. (lbs.)	1152.54	1118.31	1050.23	1196.00	1175.00	1047.85	1115.85	1269.2	1139.27
Cow wt. chg.	97.00	76.77	111.00	13.70	15.00	113.38	84.15	111.20	76.46
Cow cond. chg.	0.46	0.46	0.54	0.50	-0.20	-0.23	0.31	0.16	0.25
Cow days/acre	92.86	81.83	84.15	82.99	87.50	69.06	88.79	75.45	84.92

**Table 4. Hay Production and use, Adams County CRP Farm, large round bales.**

	1991	'92	'93	'94	'95	'96	'97	'98	'99	2000	'01	'02	'03	13-yr. avg.
<b>13-paddock system</b>														
Produced	9	9	0	0	11	26	6	10	0	0	15	6	3	7.3
Fed	8	16	9	0	4	10	6	4	4	0	4	6	11	6.3
Net Hay	+1	-7	-9	0	+7	+16	0	+6	-4	0	11	0	-8	1.0
<b>4-paddock system</b>														
Produced	11	3	0	0	0	0	0	12	18	0	13.5	0	5	4.8
Fed	0	14	7	1	4	7	0	1	4	0	8	0	7	4.1
Net Hay	11	-11	-7	-1	-4	-7	0	11	14	0	5.5	0	-2	0.7