2005

Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County, 2004

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

Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County, 2004

Abstract
Two cow/calf rotational grazing systems were demonstrated annually from 1991 to 2003 on CRP land near Corning, Iowa. These systems were a 13-paddock intensive rotational grazing system and a 4-paddock rotational grazing system. In 2004, these systems were combined into one system to demonstrate weaning of calves on grass. This report highlights the 2004 production data for this grazing demonstration.

Keywords
Agronomy

Disciplines
Agricultural Science | Agriculture | Agronomy and Crop Sciences

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

Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County, 2004

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
Department of Agronomy

Introduction

Two cow/calf rotational grazing systems were demonstrated annually from 1991 to 2003 on CRP land near Corning, Iowa. These systems were a 13-paddock intensive rotational grazing system and a 4-paddock rotational grazing system. In 2004, these systems were combined into one system to demonstrate weaning of calves on grass. This report highlights the 2004 production data for this grazing demonstration.

Results and Discussion

On a 17-paddock,57-acre, intensive rotational grazing system, 27 crossbred calves nursing crossbred dams gained 2.30 lb/head/day for 138 days in 2004. This rate of gain compares with 13-year averages of 2.30 and 2.35 lb/head/day for the 13- and 4-paddock systems previously demonstrated here (Table 2). The stocking rate on the 2004 grazing system was set at .47 cow/calf pair per acre or 2.11 acres per cow/calf pair. This stocking rate was below the normal stocking rate for the previously grazed 13- and 4-paddock systems. The 13-year average stocking rates for the 13- and 4-paddock systems were .63 and .59 pairs/acre or 1.57 and 1.69 acres per cow/calf pair. The 2004 rate was set at a conservative level to allow for lush, fresh paddocks for weaning calves in the fall.

Grazing started April 23 for cows and calves, ended September 8 for the calves, and ended October 11 for the cows. One calf died June 17 from respiratory disease complications. One cow was found dead with her back downhill on August 15.

Rainfall at the Corning hospital national weather service location was 2.40 in. below normal for that location in 2004 (Table 1). Precipitation recorded at the CRP grazing site was similar to data from the hospital site. Because of good spring rains and the conservative stocking rate in the whole system, two paddocks in the 4-paddock system were not grazed, but were harvested as hay. They produced 26 large round bales of hay (Table 3). Two of these bales were fed to the cows and calves in late summer.

A balanced mineral ration was fed free choice throughout the summer to the cows and calves. No creep feed was fed to the calves while on the cow or during weaning. Cattle were rotated to a fresh paddock 90 times during the 138 days of grazing in 2004. In preparation for weaning, calves were weighed and vaccinated with IBR, PI3, BVD, BRSV, 7 way clostridial, *Haemophilis*, and *Pasturella* on August 19.

Calves were weaned from the cows August 30 by simply sorting the cows into one fresh paddock and the calves into another adjoining fresh paddock. These paddocks were separated by a two-wire electric fence. The process was accomplished by two people in an electric fence alley. Following a field day on September 2 to observe the adjoining cows and calves, feed bunks were placed in the calf paddock to bunk break the calves. Calves were hand fed a pelleted creep feed ration on September 3 and each day after until removal from the rotational grazing system on September 8. No calves were treated for sickness during this weaning process. The two-wire electric fence kept the cows and calves apart reasonably well following weaning. One calf refused to stay on the calf side of the fence.

Total calf production per acre in 2004 was 150.42 pounds. This was well below the 13-year averages of both the 13- and 4-paddock systems at this same site. A reduced stocking rate likely accounted for this reduction. The production of 26 big bales of grass hay added to the economic value from these acres and made up for some of the lack of cattle production. Cows grazed until October 11 and then were removed from the system. Cows gained an average of 141.83 pounds each, an increase over that of previous years (Table 2).

Table 1. Precipitation at Corning, Iowa, 2004 (inches of rainfall) at two locations.

Month	Normal 1961–1990	Corning Hospital 2004	Deviation from normal 2004	CRP Farm (2 sites averaged) 2004	CRP Farm deviation 2004
January	.88	1.05 (6 events)	+0.17	NA	NA
February	.84	0.71 (3 events)	-0.13	NA	NA
March	2.34	4.13 (12 events)	+1.79	NA	NA
April	3.33	1.11 (3 events)	-2.22	0.65	-2.68
May	4.41	8.66 (15 events)	+4.25	9.53	+5.12
June	4.54	2.83 (7 events)	-1.71	2.85	-1.69
July	4.45	4.63 (13 events)	+0.18	5.35	+0.90
August	4.68	4.41 (7 events)	-0.27	4.50	-0.18
September	4.69	2.91 (4 events)	-1.78	3.05	-1.64
October	2.70	1.02 (6 events)	-1.68	0.50	-2.20
November	1.88	2.09 (9 events)	+0.21	NA	NA
December	1.21	NA (5 events)	NA	NA	NA
ANNUAL	35.95	33.55	-2.40	26.15	

Table 2. Adams County CRP project 13-year production data on 13- and 4-paddock grazing systems with cow/calf pairs compared with 2004 pasture weaning cow/calf production data.

Year	13-paddock grazing system 13-year avg. (1991–2003)	4-paddock grazing system 13-year avg. (1991–2003)	2004 pasture weaning demonstration data
Acres in system	34.60	22.40	57.00
No. of pairs	22.00	13.23	27.00
Pairs/acre	0.63	0.59	0.47
Acres/pair	1.57	1.69	2.11
Days grazed	145	144	171
Calf beg. wt. (lbs)	138.51	140.53	138.04
Calf ADG	2.30	2.35	2.30
Avg. calf gain	333.57	338.01	317.38
Calf gain/acre	211.73	199.42	150.42
Cow beg. wt. (lbs)	1145.56	1139.27	1224.48
Cow wt. chg.	61.08	76.46	141.83
Cow cond. chg.	0.29	0.25	NA
Cow days/acre	91.78	84.92	79.96

Table 3. Hay production and use, Adams County CRP farm. Production is reported in large round bales weighing approximately 1,500 pounds.

	13-year average	2004
13-paddock system		
Produced	7.3	0
Fed	6.3	0
Net hay	1.0	0
4-paddock system		
Produced	4.8	26
Fed	4.1	2
Net hay	0.7	24