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Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County in 2006

Abstract
Weaning calves on grass is a management technique for reducing calf stress and decreasing health issues at weaning time in a beef cow/calf operation. 2006 was the third year for demonstrating this management technique at the Adams County CRP Research and Demonstration Project Farm near Corning, IA. This report highlights the 2006 grazing production data and compares it with 15 years of grazing production at that site.

Keywords
Agronomy

Disciplines
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Authors

This armstrong research and demonstration farm is available at Iowa State University Digital Repository: http://lib.dr.iastate.edu/farms_reports/842
Pasture Weaning Calves in a Rotational Grazing Demonstration with Beef Cows in Adams County in 2006

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Introduction
Weaning calves on grass is a management technique for reducing calf stress and decreasing health issues at weaning time in a beef cow/calf operation. 2006 was the third year for demonstrating this management technique at the Adams County CRP Research and Demonstration Project Farm near Corning, IA. This report highlights the 2006 grazing production data and compares it with 15 years of grazing production at that site.

Results and Discussion
On a 17-paddock, 57-acre, intensive rotational grazing system, 33 crossbred calves nursing crossbred dams gained 2.11 lb/head per day for 114 days in 2006. At the 114-day mark, the calves were pasture-weaned from the cows and given their own adjacent paddock. The calves were kept in the grazing system on pasture for another 21 days. They gained an average of an additional 72 lb/head after weaning. This raised their total gain on pasture to 313 pounds. The 135-day rate-of-gain was 2.32 lb/head per day. This rate of gain compares with calf rates of gain of 2.18 in 2005 and 2.30 in 2004 under similar management. This grazing system was originally built in 1991 as a two-system rotational-grazing comparison demonstration. Thirteen-year averages of 2.30 and 2.35 lb/head per day for a 13-paddock and 4-paddock system of previous years gives another reference point for this year’s grazing production (Table 1). The stocking rate on the 2006 grazing system was set at .58 cow/calf pairs per acre or 1.73 acres per cow/calf pair. This stocking rate was greater than in 2005 and 2004, but still less than the normal stocking rate for the 13-paddock and 4-paddock system averages (Table 1). The 2004–2006 stocking rates were set at conservative levels to allow for lush, fresh paddocks for weaning in the fall.

In 2006, grazing started on May 2 for cows and calves, ended on September 14 for the calves and October 27 for the cows.

Precipitation in 2006 at the CRP Farm was 8.72 in. below the normal Corning weather station amounts during the grazing season. Forage growth and production did not allow for hay to be harvested from this system in 2006. However, no bales of hay were fed to the cows and calves in 2006. Hay production and use averages for these acres are shown in Table 2.

A balanced mineral ration was fed free choice throughout the summer to cows and calves. No creep feed was fed to calves while on the cow or during the initial weaning process. However, calves were fed one pound of creep feed per head per day as a bunk-training technique beginning on August 30.

Grazing management was guided by two principles: 1) graze less than 50% of the standing forage in each paddock and 2) let each paddock rest 25–30 days between
grazing periods. Under these management
guides, cattle were rotated to a fresh paddock
113 times during the 178 days of grazing in
2006.

In preparation for weaning, calves were
vaccinated with IBR, PI3, BVD, BRSV, 7-way
clostridial, haemophilis, and pasturella
vaccines on August 2.

Calves were weaned from the cows on August
23 by 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. After weaning, portable feed
bunks were put in the calf paddock to bunk
train the calves beginning on August 30. The
commercial creep ration was hand fed each
day until removal from the rotational grazing
system on September 13. A total of 500
pounds of creep feed was fed to the 33 calves.
No calves were treated for sickness during this
weaning process. The two-wire electric fence
kept most cows and calves apart very well
during the weaning process. One cow would
not stay out of the calf paddock.

Total calf production per acre in 2006 was
181.21 lb of weight gain. This compares with
146.84 lb in 2005 and 150.42 lb in 2004. This
is below the 13-year averages of both the 13-
and 4-paddock systems at this same site. The
stocking rate reduction for the transition to a
pasture-weaning system is probably the
biggest factor in this production difference.
Grazing different cows and calves each year
and the variation in rainfall may also explain
the differences.

Following weaning, cows were grazed in the
system until October 27, 2006. In order to
keep the cows on the rotational grazing system
after a hot and dry July 2006, the adjoining
timber and ditch area was grazed for 13 days.
This was an added input that had not been
used before in grazing this system. Rains in
August brought new grass growth in the
paddocks and they were able to carry the cows
the rest of the season.

Cows gained an average of 284.8 lb/head in
2006 (Table 1) and gained a condition score of
1.0 from start to finish. The supplemental
grazing area and the good rains in August
were contributing factors to the weight gain of
the cows.
Table 1. Adams County CRP Project 13-year production data on 13- and 4-paddock grazing systems with cow/calf pairs compared with 2004, 2005, and 2006 pasture weaning cow/calf production data.

<table>
<thead>
<tr>
<th></th>
<th>13-paddock grazing system</th>
<th>4-paddock grazing system</th>
<th>2004 pasture weaning demonstration</th>
<th>2005 pasture weaning demonstration</th>
<th>2006 Pasture weaning demonstration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acres in system</td>
<td>34.60</td>
<td>22.40</td>
<td>57.00</td>
<td>57.00</td>
<td>57.00</td>
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<tr>
<td>No. of pairs</td>
<td>22.00</td>
<td>13.23</td>
<td>27.00</td>
<td>30.00</td>
<td>33.00</td>
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<tr>
<td>Pairs/acre</td>
<td>0.63</td>
<td>0.59</td>
<td>0.47</td>
<td>0.53</td>
<td>0.58</td>
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<tr>
<td>Acres/pair</td>
<td>1.57</td>
<td>1.69</td>
<td>2.11</td>
<td>1.90</td>
<td>1.73</td>
</tr>
<tr>
<td>Days grazed</td>
<td>145</td>
<td>144</td>
<td>171</td>
<td>173</td>
<td>178</td>
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<tr>
<td>Calf beg. wt. (lb)</td>
<td>138.51</td>
<td>140.53</td>
<td>138.04</td>
<td>146</td>
<td>186</td>
</tr>
<tr>
<td>Calf ADG</td>
<td>2.30</td>
<td>2.35</td>
<td>2.30</td>
<td>2.18</td>
<td>2.32</td>
</tr>
<tr>
<td>Avg. calf gain</td>
<td>333.57</td>
<td>338.01</td>
<td>317.38</td>
<td>279</td>
<td>313</td>
</tr>
<tr>
<td>Calf gain/acre</td>
<td>211.73</td>
<td>199.42</td>
<td>150.42</td>
<td>146.84</td>
<td>181.21</td>
</tr>
<tr>
<td>Cow beg. wt. (lb)</td>
<td>1145.56</td>
<td>1139.27</td>
<td>1224.48</td>
<td>1264</td>
<td>1168</td>
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<tr>
<td>Cow wt. chg.</td>
<td>61.08</td>
<td>76.46</td>
<td>141.83</td>
<td>32.4</td>
<td>284.8</td>
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<tr>
<td>Cow cond. chg.</td>
<td>0.29</td>
<td>0.25</td>
<td>NA</td>
<td>+0.5</td>
<td>+1.0</td>
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<tr>
<td>Cow days/acre</td>
<td>91.78</td>
<td>84.92</td>
<td>79.96</td>
<td>91.05</td>
<td>103.05</td>
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</table>

Table 2. Hay production and use, Adams County CRP Farm. Production is reported in large round bales weighing approximately 1,500 pounds.

<table>
<thead>
<tr>
<th></th>
<th>13-year average</th>
<th>2005</th>
<th>2006</th>
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</thead>
<tbody>
<tr>
<td>13-paddock system</td>
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<td></td>
<td></td>
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<tr>
<td>Produced</td>
<td>7.3</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Fed</td>
<td>6.3</td>
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<td>0</td>
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<tr>
<td>Net hay</td>
<td>1.0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>4-paddock system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Produced</td>
<td>4.8</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Fed</td>
<td>4.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Net hay</td>
<td>0.7</td>
<td>0</td>
<td>0</td>
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