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Whole or Cracked Corn in Growing Rations for Steer Calves

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Dry whole shelled corn can be fed separately from forage fed to weaned growing calves for a cost of gain comparable with corn cracked and/or mixed in a ration.

Summary

Crossbred steer calves were fed growing rations that included whole or cracked corn fed in a mixed ration or fed separately and cleaned up before feeding the other ingredients in the ration. Intakes of corn fed separately were regulated to match ad libitum dry matter intakes averaging 5 pounds per day in a 120 day trial. Daily gains and feed conversions were similar for both mixed rations and cracked corn fed separately, and only slightly lower when whole corn was fed separately. Including costs for corn cracking and/or mixing resulted in similar ration costs per pound of gain.

Introduction

Many farmers and ranchers with beef cow herds do not have equipment for cracking corn or for mixing rations, but want to obtain growth in calves after weaning on forage and limited amounts of grain. If whole corn can be fed separately from other ingredients without sacrificing calf performance, producers can feed a growing ration in their operations without buying processing or mixing equipment. Feeding trials with growing-finishing cattle have seldom shown performance benefits for cracking dry corn compared to feeding it whole. The objective of this trial was to compare daily gains and feed conversions of

Table 1. Whole or cracked corn in growing rations for steer calves.

Corn physical form Corn feeding method	Cracked Mixed	Cracked Separate	Whole Mixed	Whole Separate	P-value
Number of pens	3	3	3	3	
Number of steers	29	29	28	29	
Initial weight, lb	565	562	567	568	
Ending weight, lb	893	886	899	879	0.42
Daily gain, lb	2.73	2.71	2.76	2.58	0.42
Feed DM/day, lb	19.2	19.3	19.2	19.3	0.99
Feed/gain ratio ^a	7.03	7.13	6.96	7.46	0.20
Feed DM cost/day, \$ ^b	0.77	0.77	0.77	0.77	
Corn mixing cost/day, \$ ^c	0.01	0	0.01	0	
Corn cracking cost/day, \$ ^d	0.01	0.01	0	0	
Total feed cost/day, \$	0.79	0.78	0.78	0.77	
Total feed cost/lb gain, \$	0.29	0.29	0.28	0.30	

^aFeed/gain was statistically analyzed as gain/feed.

^bFeed DM composition was charged at \$.04/lb for all rations.

^cCorn mixing charge of \$.20/cwt (DM) was used when applicable.

^dCorn cracking charge of \$.20/cwt (DM) was used when applicable.

calves when dry corn was fed whole or cracked in a mixed ration or fed separately from the forage as was common in midwestern cattle-feeding operations before mixer units were used.

Procedure

British crossbred steer calves averaging 565 pounds were fed growing rations formulated for the dry matter (DM) to contain 13% crude protein (CP) and 0.46 Mcal/lb net energy for gain (NEg). Ingredients on a DM basis were 22.8% corn silage, 48.7% ground alfalfa hay, 1.9% of a supplement to supply Rumensin at 23 g/ton, and 26.6% corn (85% DM) fed whole or cracked in a mixed ration, or fed separately and cleaned up before feeding the other ingredients in a mixed ration. Ration intakes were regulated to match ad libitum intakes, with corn dry matter intakes averaging 5 lb/day in a 120 day growing trial. There were 3 pens/treatment and 9 or 10 steers/pen. Steers were weighed twice at the beginning and end of the trial. Cracked corn was obtained by rolling dry corn coarsely.

Results

Treatment daily gains, dry matter intakes and feed conversions are presented in Table 1. Performance was similar for cracked corn fed in a mixed ration or separately from the other ingredients as well as for whole corn fed mixed. There were non-significant reductions in gain and feed efficiency when whole corn was fed separately from the other ingredients. When corn DM mixing and cracking charges were included (\$.20/cwt for either charge), total feed costs/lb of gain were similar for all rations. Although the ingredients other than corn were always mixed in this trial, eliminating all mixing charges for the ration with whole corn fed separately would make this a very competitive option. Thus farmers and ranchers who do not have corn processing or feed mixing equipment can expect to obtain competitive rates and costs of gain by feeding whole corn separately from forage components in calf growing rations designed to produce daily gains of 2.5 to 2.75 lb/day.

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