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Progress Report: Pasture Finishing of Beef Steers Using Contemporary Feedlot Protocols

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Abstract

Environmental regulations in Iowa can place animal population restrictions on a given site. This study explores the possibility of finishing cattle in a remote pasture location to handle an overflow of animals and yet remain in compliance with environmental mandates.

Keywords

Animal Science

Disciplines

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Introduction

Environmental regulations in Iowa can place animal population restrictions on a given site. This study explores the possibility of finishing cattle in a remote pasture location to handle an overflow of animals and yet remain in compliance with environmental mandates.

Materials and Methods

A comparison between feeding cattle in a feedlot environment, feeding the same ration in a pasture environment, or deferring the finishing phase of feeding until a later time was tested. Late summer-born steers of British and Continental influence were received the following spring at the farm. All cattle were treated for parasites using injectable ivermectin, implanted with Compudose growth promotant at arrival, and a Revalor implant 100 days prior to harvest. Cattle were assigned to treatment groups of seven head with four replications of each group and moved to the farm's feedlot pens, or pastures. Cattle in the feedlot were divided into eight groups of seven and given a corn-based finishing ration that contained either molasses or condensed corn soluble (CCDS). Cattle on pasture were split into one of three groups of 28 head that received only pasture grasses in their ration, grass plus CCDS, or grass and the feedlot ration with the dry hay excluded.

Cattle on pasture were maintained on the pasture until late summer when the grass was depleted and finished in the feedlot in pens of seven head. Cattle receiving the feedlot ration on pasture were continued in the pasture environment until finish. At the end of the time on feed, cattle were processed at Tyson Fresh Meats (Denison, IA) where carcass weight, ribeye area, back fat, KPH fat, quality grade, and yield grade were collected. Data will be evaluated fully at the completion of this trial. The first year's results are reported.

Results and Discussion

Tables 1 and 2 provide the results of the first year's trial. Notable positive aspects of this trial are that cattle finished in a pasture environment seemed to be healthier with no morbidity or mortality issues observed, no liver abscesses found at slaughter, and tended to gain faster in the first two months on feed than their feedlot contemporaries either fed as calves or later as yearlings in the feedlot. Variability between treatment group means was much less than the feedlot groups, which may be due to some of the health aspects. Notable negative aspects of this comparison between feeding environments were the drastic reduction in quality grade of the cattle fed on pasture compared with those fed the same ration in the feedlot. The number of days on the finishing ration was greater, thus feed requirements per pound of gain increased.

Acknowledgements

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Table 1. Cattle performance – group averages.

	Starting wt. (lb)	Wt. on finishing ration (lb)	Days on farm	Days on finishing ration	Feedlot ADG (lb/d)	Feedlot F:G (less forage)	Mortality %
Pasture feedlot	599	599	251	251	2.7	8.3	0
Feedlot calves	599	599	237	237	3.0	5.4	2
Feedlot yearlings	597	849	298	132	4.7	4.5	2

Table 2. Carcass data – group means and standard errors.

	Carcass wt. (lb)		Ribeye area (sq. in.)		Fat thickness (in)		KPH %		Quality grade		Yield grade		Liver abscess %
	SE ¹	SE	SE	SE	SE	SE	SE	SE ²	SE	SE	SE		
Pasture feedlot	769	7	13.0	0.2	0.6	0.2	2.0	0.2	Select	¼	2.2	0.2	0
Feedlot Calves	800	30	13.0	0.8	0.5	0.1	2.3	0.2	Choice	½	2.5	0.4	21.4
Feedlot yearlings	809	29	13.3	0.3	0.5	0.1	2.2	0.1	Choice	¼	2.6	0.1	10.6

¹SE = standard error.²Quality grade standard error is shown as ¼ or ½ of a quality grade range.