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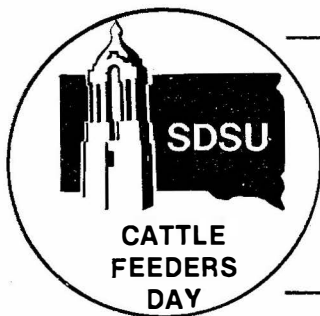
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COMPARATIVE PERFORMANCE OF CROSSBRED HEIFER CALVES FED MGA OR IMPLANTED WITH SYNOVEX-H¹

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Summary

Two groups of crossbred heifer calves consisting of 22 Simmental-Angus x Charolais and 20 Hereford-Angus x Charolais were used in this study. One-half of each breed group was fed MGA, while the other half was implanted once with Synovex-H, in order to determine the relative value of these two growth stimulants with feedlot heifers. Comparative feedlot and carcass performance of the two crossbred groups was also evaluated. All cattle received the same ration during the 150-day trial.

Synovex-H resulted in 5.6% faster gains and 5.3% greater feed efficiency than MGA across breed groups. The Simmental cross calves gained only 2.3% faster than the half blood exotics with no consistent difference in feed conversion.



Feedlot performance and carcass traits of MGA and Synovex-H treated crossbred heifers were compared.

¹ Trial conducted at the Southeast South Dakota Experiment Farm, Beresford, South Dakota.

The Synovex-H implanted heifers had heavier carcasses and correspondingly larger rib eye areas. No significant differences in other carcass parameters, including quality and yield grades, were noted between the Synovex-H and MGA treatments. The 3/4 blood exotics had heavier carcass weights with larger rib eyes, less fat cover and higher yielding carcasses than the half bloods.

Introduction

Numerous studies have demonstrated the substantial economic benefit of using hormonal growth stimulants with feedlot heifers. The feed additive melengestrol acetate (MGA) and ear implants such as Synovex-H are commonly used for this purpose. Consistent improvements in both rate of gain and feed efficiency have been shown with these growth promotants. However, relatively few trials have directly compared MGA and Synovex-H under controlled conditions. Thus, the major objective of this study was to determine the relative merit of these two growth stimulants.

In addition, this study presented an opportunity to compare the feedlot performance and carcass characteristics of two different groups of crossbred heifers.

Procedures

Forty-two heifer calves were available from a South Dakota State University cow-calf management project conducted at the Fort Meade Station by Dr. Gene Deutscher. Twenty-two of the heifers were out of Simmental-Angus cows, while 20 head were from Hereford-Angus dams. All cows were artificially bred to one Charolais bull. Thus, the two breed groups consisted of either one-half or three-fourths exotic breeding.

The calves had been implanted with Ralgro during the suckling phase at Fort Meade but were not creep fed. The heifers were treated for external parasites and received a three-way and IBR vaccination prior to weaning. A few weeks after weaning, the calves were shipped to the research feedlot and backgrounded on alfalfa hay and corn silage until the start of the trial.

The experiment was initiated on January 13, 1978. Each breed group was uniformly divided into two pens on the basis of shrunk body weight obtained after an 18-hour stand without feed or water. One pen of heifers of each breed group was implanted with Synovex-H, while the other lot received MGA at 0.35 mg. per head per day from a commercial pelleted, 32% protein supplement fed at a constant 1.5 lb. per heifer daily. The Synovex-H implanted heifers received a comparable commercial 32% supplement at the same level but without MGA.

All four lots of cattle received the same basal ration, consisting of shelled corn and corn silage, plus the appropriate protein supplement. During the first 105 days of the trial, the calves were fed corn silage (44.8% dry matter) at 16 lb. per head daily with cracked corn fed to appetite. The heifers were gradually adjusted to this ration during the first 5 days on trial. During the last 45 days of the study, the corn silage was reduced to 6 lb. per head per day (during the first 5 days) and whole shelled corn full-fed.

The heifers were fed in open, sloped concrete lots without access to enclosed shelter. Daily feed records were kept on each pen. The cattle were weighed at monthly intervals throughout the trial.

The experiment was terminated after 150 days on feed, at which time the average full body weights of the one-half and three-fourths blood cattle exceeded 1000 and 1050 lb., respectively. The cattle were sold on a grade and yield basis so that detailed carcass data could be obtained.

Results

The comparative feedlot performance of the two crossbred groups which received either MGA or Synovex-H is shown in table 1. The Simmental-Angus x Charolais heifers averaged about 50 lb. heavier than the Hereford-Angus x Charolais calves at the start of the trial. However, the average daily gain of the three-fourths blood heifers during the feedlot trial was only about 2.3% faster than the half blood cattle. The Synovex-H implanted cattle gained more rapidly than the MGA-fed heifers across both breed groups, with Synovex-H resulting in about 5.6% greater gains than MGA.

Average daily feed consumption was not significantly affected by type of growth stimulant. However, feed conversion was 3.4% better with Synovex-H than MGA in the half bloods and 7% higher in the Simmental cross heifers.

The carcass measurements shown in the table reveal only modest differences between MGA and Synovex-H treated heifers. The Synovex-H implanted heifers had larger rib eye areas, a result principally attributable to the heavier carcasses produced by the implanted cattle. The half blood heifers were significantly fatter than the three-fourths exotic cattle as evidenced by fat thickness over the 12th rib and yield grade. No differences in quality grade were detected across breed groups, however. Overall, the four lots of heifers graded 67% choice and 76% yield grades 1 and 2.

Because of the limited number of calves available for this study, the next heifer calf crop from the same set of brood cows will be used in the coming year to validate the growth stimulant and breed group responses reported in the present study.

Table 1. Comparative Performance of Crossbred Heifer Calves Fed MGA or Implanted With Synovex-H

	Simmental-Angus x Charolais		Hereford-Angus x Charolais	
	MGA	Synovex-H	MGA	Synovex-H
No. heifers	11	11	10	10
Initial shrunk wt., lb.	668	671	621	620
Final shrunk wt., lb.	1028	1058	979	991
Avg. daily gain, lb.	2.40	2.58	2.39	2.47
Avg. daily ration, lb. (as fed)				
Corn silage	13.4	13.4	13.4	13.4
Shelled corn	18.1	18.0	17.0	17.1
Supplement	1.5	1.5	1.5	1.5
Feed/100 lb. gain, lb. (as fed)				
Corn silage	558	520	561	541
Shelled corn	756	701	714	690
Supplement	62	58	62	60
Total	1376	1279	1337	1291
Carcass wt., lb.	654	682	620	642
Fat thickness, in. ^a	0.26	0.24	0.36	0.38
Rib eye area, sq. in.	13.55	14.65	12.31	13.00
Quality grade ^b	18.9	18.0	18.4	18.4
Yield grade	1.7	1.8	2.1	2.5

^a Fat thickness measured over rib eye between the 12th and 13th ribs.

^b 18 = High Good; 19 = Low Choice.