1991

Performance Response to Implants in Finishing Lambs

R. H. Pritchard
South Dakota State University

PERFORMANCE RESPONSE TO IMPLANTS IN FINISHING LAMBS

R. H. Pritchard
Department of Animal and Range Sciences

SHEEP 91-4

Summary

The feedlot performance response to implanting was evaluated in 100 crossbred lambs. Lambs were implanted with Ralgro® and started on feedlot diets at 75 ± .5 lb and fed for 63 days. Implants improved average daily gains by 17% ($P<.01$) and feed conversion by 16.1% ($P<.05$) without affecting dry matter intake (3.22 ± .11 lb per day). Some rectal prolapses occurred but could not be clearly attributed to implanting. Implanting substantially increased profit margins under these conditions.

(Key Words: Lambs, Feedlot, Implant.)

Introduction

Anabolic implants that promote growth are widely used in cattle feeding. The implant Ralgro® is available to use in sheep at the 12-mg dose rate, but producer acceptance is limited. Questions about the efficacy of the implants and possible detrimental side effects may limit implant use. This experiment was conducted to evaluate production responses to Ralgro® implants in weaned feeder lambs.

Materials and Methods

Crossbred wether lambs from the SDSU Sheep Unit and wether and buck lambs from local sale barns were assembled during late May. All lambs were on hand 10 days prior to starting the experiment and were vaccinated against clostridia types C and D. Buck lambs were banded. During the assembly period, the receiving diet (Table 1) was fed at a rate of 1.5 lb DM per head daily.

Lambs were allotted based upon origin, breed type, sex and weight to 10 head pens. Implants treatments were unimplanted controls and implanted. There were five pens of lambs in each treatment group. Individual initial weights were taken in the morning before feeding and implants were applied at this time. Lambs were switched to the finishing diet (Table 1) over the course of the first week of the feeding trial by gradually replacing the receiving diet with the finishing diet. Mixed feed was delivered to bunks once daily. Final weights measured after 63 days on feed followed a 12-hour removal of feed and water.

Vitamin E deficiency symptoms developed in some lambs and injectable α-tocopherol was administered to all lambs after 15 days and again at 57 days on feed. To control respiratory diseases, AS 700® was fed at a rate of 390 mg active ingredients per head for 3 days every 21 days.

Data were analyzed by procedures appropriate for a replicated random design experiment. Pen was considered the experimental unit.

Results and Discussion

The on test weight of 74.9 ± .50 lb was appropriate for beginning a finishing trial. All the lambs had apparently been fed grain prior to assembly at the feedlot and were carrying moderate amounts of flesh. Implanting with Ralgro® increased ADG ($P<.01$) and feed conversion ($P<.05$) without affecting dry matter intake (Table 2). This resulted in heavier lambs at market ($P<.05$).

Prepared for Sheep Day, June 13, 1991.

TABLE 1. DIET FORMULATIONS FOR RECEIVING AND FINISHING PHASE[a]

Item	Receiving[b]	Finishing[c]
Rolled corn	49.364	
Whole shelled corn		80.930
Alfalfa pellets	20.420	10.000
Rolled oats	12.482	
Soybean meal, 44% CP	10.100	7.000
Limestone	.555	.930
Trace mineralized salt[d]	.555	.400
Molasses, liquid	1.262	
Molasses, dried	2.064	
Sodium sulfate		.216
Ammonium chloride		.454
Premix	3.198	.070

[a] Percent dry matter basis.
[b] Premix provided 25 g/T lasalocid, 10,000 IU/lb vitamin A; 4,400 IU vitamin D; and 2.5 IU/lb vitamin E in diet.
[c] Premix provided 30 g/T lasalocid; 500 IU/lb vitamin A and 15 IU/lb vitamin E.
[d] NaCl 93 to 98%, Zn ≥.35%, Mn ≥.28%, Fe ≥.175%, Cu ≥.035%, I ≥.007% and Co ≥.007%.

TABLE 2. EFFECTS OF SINGLE RALGRO® IMPLANT ON FEEDLOT PERFORMANCE OF LAMBS

Item	Control	Implanted	SEM
Initial weight, lb	75	75	.5
Final weight, lb	115[b]	122[c]	1.8
ADG, lb/head	.64[d]	.75[e]	.024
DMI, lb/head/day[a]	3.24	3.21	.108
F/G	5.10[b]	4.28[c]	.187

[a] Dry matter basis.
[b,c] Means in the same row with unlike superscripts differ ($P<.05$).
[d,e] Means in the same row with unlike superscripts differ ($P<.01$).

One concern of implanting is a possible increase in rectal prolapses. In this study, three implanted lambs and one control lamb prolapsed. Two of the implanted lambs that prolapsed died. The implanted lambs that prolapsed were all in one pen and prolapsed over a 3-day period, 50 days after they were started on test. This suggests there was isolated riding activity in that pen that probably could have been controlled if the problem lamb was pulled immediately.

Three lambs died from vitamin E deficiency. Symptoms appeared within a few days in a large proportion of the lambs. The diet included 15 IU per pound supplemental vitamin E and hepatic tissue samples obtained at necropsy indicated selenium nutrition was adequate. The corn and sun-cured alfalfa pellets should have provided adequate α-tocopherol to prevent clinical symptoms. The problem is being evaluated in current research.

This finishing diet cost $96 per ton on a dry matter basis. Feed costs of gain for treatment groups were $24.47/cwt and $20.55/cwt for control and implanted groups. If the 75-lb feeders were purchased for $70/cwt and sold for $60/cwt after 63 days on feed, the return to labor and facilities was $6.71 per head for control and $11.05 for implanted lambs. Allowing for death losses due to prolapses, return to labor and facilities of the implanted group dropped to $8.14 per head of lambs purchased.

Implanting was a cost effective practice for managing feeder lambs and should be considered by lamb feeders. It is not appropriate to make definitive conclusions about implant effects on prolapses from this study; but, even when prolapse losses were included in the economic summary, there was a benefit to using implants.