Pelleting and Heat Treatment of Fattening Lamb Rations (Project 236).

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This test is a follow-up of the study reported on page 5 concerning the effects of form and heat treatment of rations on lamb feedlot performance.

Experimental Procedure

The 132 mixed ewe and wether fine wool feeder lambs used were sheared, drenched with phenothiazine-lead arsenate and vaccinated with 5 cc. clostridium perfringens type D bacterin about two weeks before starting on test. November 16, 1963, they were implanted with 3 mgs. stilbestrol,[2] weighed, randomly divided into six lots on the basis of sex, and started on test. A basic ration of 50 percent dehydrated alfalfa (15 percent C.P.), 40 percent sorghum grain, and 10 percent molasses was self-fed to all lots. Ration treatments were:

Lot 1—Alfalfa meal expanded, reground, mixed with other ration ingredients and fed in nonpelleted form.

Lot 2—Basic ration pelleted with conventional pelleting machine.

Lot 3—Basic ration expanded.

Lot 4—Alfalfa meal expanded, reground, mixed in basic ration and pelleted with conventional machine.

Lot 5—Sorghum grain expanded, reground, mixed in basic ration and pelleted with conventional machine.

Lot 6—Basic ration ground, mixed, and fed in nonpelleted form.

The expanded feed ingredients used in rations for Lots 1, 3, 4, and 5 were processed by putting them through an expansion pelleting machine. In this process the ingredients were steam heated to 300°F by the Wenger Mixer Manufacturing Company.

Several lambs in each lot foundered and became severely stiff about one week after starting on test. For two weeks thereafter lambs were supplied free access to wheat straw. They consumed approximately .25 pound per lamb per day. Left on test, all lambs recovered over an extended period and were not identifiable by the end of the test.

Lambs weighing over 95 pounds were marketed February 11 after 87 days on test. Remaining lambs were marketed after 115 days on test, March 10.

Results and Discussion

Feedlot performance is reported in Table 5.

There was little difference in lamb gains and carcass grades among treatments. Lambs fed hay that had been expanded in Lots 1 and 4 required slightly more feed per unit gain than those fed other rations.

2. Supplied by Charles Pfizer and Co., Inc., Terre Haute, Ind.

Table 5
Results from pelleting and heat treating fattening lamb rations.

Lot no.	1	2	3	4	5	6
Treatment	Hay expanded, ground, mixed ration	Conventional pellet	Expanded pellet	Hay expanded, conventional pellet	Grain expanded, conventional pellet	Ground mixed ration
No. lambs	22	22	22	22	22	22
Av. days on test	103.6	103.5	98.4	103.5	102.3	99.7
Av. initial wt., lbs.	57.0	57.4	61.8	60.7	57.5	59.8
Av. final wt., lbs.	98.1	101.0	103.8	101.7	98.0	102.2
Av. gain per lamb, lbs.	41.1	43.6	42.0	41.0	40.5	42.4
Av. daily gain, lbs.	.379	.421	.427	.396	.396	.426
Daily feed per lamb, lbs.	3.13	3.37	3.38	3.35	3.18	3.45
Feed per cwt. gain, lbs.	826.4	809.7	790.9	846.9	804.8	810.6
Av. carcass grade	9.8	10.0	10.2	10.0	9.8	10.1

1. USDA carcass grade based on prime, 14; choice, 11; good, 8; utility, 5; and cull, 2.