(Lots 1 vs. 4, 2 vs. 5, 3 vs. 6) the gains were greater when the combination supplements were fed. In previous tests the results have been variable; however, in this 1960-61 winter season the combination supplements apparently furnished nutrients which resulted in greater gain.

Self-Feeding Lambs on Wheat Pasture

Robert L. Noble, Kenneth Urban, and George Waller, Jr.

During years of adequate rainfall thousands of lambs are fattened on wheat pasture in Oklahoma and adjoining areas. Lambs grazing lush wheat pasture make excellent gains at a much lower cost per unit of gain than can be obtained in the feedlot.

Previous work at the Ft. Reno Station has shown that lush wheat pasture on fertile soil will carry approximately five lambs per acre. In this year's work, in order to increase the carrying capacity per acre, all lambs were self-fed a mixed ration while grazing wheat pasture.

Procedure

Three hundred and nineteen western feeder lambs were used in this study. The lambs were produced in the range area of Southwest Texas. They were sheared at San Angelo prior to shipment. The lambs were shipped by truck and were received at the Ft. Reno Station on October 1. During the month of October the lambs grazed dry-native grass and were fed approximately two pounds of alfalfa hay daily. The lambs were not vaccinated for enterotoxemia. Soluble aureomycin was used in the drinking water the first week. Just prior to starting on pasture (October 31) the lambs were divided into three weight groups, and each weight group was divided into two lots as follows:

Light lambs—62 pounds and below.

Lot 1—Self-fed a ground mixture of 45% milo, 5% molasses and 50% alfalfa hay. (Ration No. 1)

Lot 2—Self-fed a ground mixture of 70% milo, 5% molasses, and 25% alfalfa hay. (Ration No. 2)

Medium weight lambs—63-72 pounds.

Lot 3—Self-fed the same ration as the lambs of Lot 1. (Ration No. 1)

Lot 4—Self-fed the same ration as the lambs of Lot 2.

Heavy weight lambs—72 pounds and above.

Lot 5—Self-fed the same ration as the lambs of Lots 1, 3. (Ration No. 1)

Lot 6—Self-fed the same ration as the lambs of Lots 2, 4. (Ration No. 2)

The lambs were started on wheat pasture November 1. A stocking rate of 10 lambs per acre was used. The heavy lambs were started on self-feeder immediately, the medium weight lambs after 50 days, and the light lambs after 75 days.

The lambs grazed the wheat pasture from about 8 a.m. to 5 p.m. They were penned in dog-proof lots at night. The mixed rations were self-fed at this time. A mixture of three pounds of aurofac 10 and 37 pounds of salt was available to the lambs at all times.

Individual weights following an overnight period without access to feed and water were taken at the beginning and the end of the trial. Intermediate weights without shrinking the lambs were taken at approximately 30-day intervals.

Average weight gains, feed consumed, market data, and financial results are shown in Table 1.

Observations

In each weight group, the ration (Ration No. 1) composed of 45 percent ground milo, 5 percent molasses, and 50 percent ground alfalfa hay was superior to the high energy ration (Ration No. 2) composed of 70 percent ground milo, 5 percent molasses, and 25 percent ground alfalfa hay. The lambs self-fed Ration No. 1 consumed approximately 20 pounds less feed per lamb during the self-feeding period; (162.2, 165.5, and 164.5 pounds per lamb for Lot 1, 3, and 5, respectively as compared to 182.0, 184.5, and 181.0 pounds per lamb for Lot 2, 4, and 6, respectively).

The lambs of lots 1 and 3 also made greater average daily gains than the lambs of lots 2 and 4. There was no difference in the gains of lambs of Lot 5 and 6.

Although growth of the wheat pasture was almost nill during late November, December, and January, sufficient pasture was available during the entire period. After the heavy weight lambs (Lots 5 and 6) were sold on January 10, the other four lots were rotated among the six pastures for greater pasture utilization.

The net return should be considered for the entire group of lambs since we were interested in the overall utilization of the 32 acres of wheat. The net return (considering all cost, except labor) was approximately $300. This was with a margin of less than 50 cents per cwt. considering the difference in selling price and the delivered purchase price.

Table I.—Weight Gains, Rations Fed, and Financial Results Obtained with Fattening Lambs Self-Fed on Wheat Pasture.

Weight Group	Light Lambs (62 pounds & below) Started on self-feeders After 75 Days		Medium Lambs (63-72 pounds) Started on self-feeders After 50 Days		Heavy Lambs (73 pounds & above) Started on self-feeders Immediately	
Lot Number	1[1]	2[2]	3[1]	4[2]	5[1]	6[2]
Acres of Pasture	5	5	5	5	5	7
Number of lambs/lot	50	50	50	50	50	69
Initial weight	55.6	56.6	67.2	65 5	74.6	74.6
Gain in weight prior to self-feeding	26.7	27.4	12.8	12 9	---	---
Feed consumed daily mixed ration	2.63	2.89	3.01	3.84	2.42	2.66
Total feed per lamb	162.2	182.0	165 6	184.5	164 5	181.0
Final weight	106.7	103.8	105 0	102.4	107.3	106.8
Average Daily Gain						
Wheat alone	.36	.37	.26	.26	--	--
During self-feeding period	.39	.31	.47	.44	.48	.48
Financial results						
Date sold	3/21	3/21	2/14	2/14	1/10	1/10
Ave. selling price cwt. ($)	15.5	15.5	16 0	16.0	16.25	16.25
Ave. market weight (lbs.)	100.6	96.8	101.3	97.7	102.7	102.3
Net market value ($)	14.69	14.35	15.63	14 97	16.02	16.07
Initial cost per lamb[3] ($)	8.70	8.86	10.52	10.26	11.68	11.68
Feed cost per lamb ($)						
Mixture[4]	2.69	3.22	2.68	3.27	2.66	3.20
Alfalfa hay[5]	.60	.60	.60	.60	.60	.60
Transportation to market ($)	.25	.25	.25	.25	.25	.25
Profit per lamb ($)	2.45	1.42	1.58	.85	.83	.34

[1] The odd numbered lots (1, 3 & 5) were self-fed a mixture of 45% milo, 5% molasses, and 45% alfalfa hay. (Ration No. 1)

[2] The even numbered lots (2, 4 & 6) were self-fed a mixture of 70% milo, 5% molasses, and 25% alfalfa hay. (Ration No. 2)

[3] $14.00 F.O.B. San Angelo, $15.66 cwt. delivered, includes cost of transportation, shearing, commission, and miscellaneous expenses minus wool returns.

[4] Feed cost: Milo, $1.60 per cwt.; alfalfa hay, $20.00 per ton; molasses, $2.00 per cwt; grinding, $3.00 per ton; mixing, $3.00 per ton. Cost of ration per ton for Lots 1, 3 & 5 = $32.40; for Lots 2, 4 & 6 = $35.40.

[5] The alfalfa hay was fed prior to the start of the experiment.

Sorting lambs into three weight groups and self-feeding a complete ration of wheat pasture appears to offer several advantages:

(1) Unless the heavy lambs are started on feed immediately, they may reach market weight without sufficient finish to top the market.

(2) The stocking rate per acre can be increased considerably.

(3) During snow storms or other inclement weather, the lambs on the self-feeder will continue to gain in weight.

(4) Practically all the lambs will sell at top market price.

Fattening Beef Calves—Supplements to High-Milo and All-Barley Rations, Grinding Vs. Steam Rolling Milo, Implanting with Different Amounts of Stilbestrol

L. S. Pope, Kenneth Urban,
Fred Harper, and George Waller

Fattening beef cattle has become a highly mechanized operation—geared to mass production and automated feeding methods. Two changes during the last decade have been of particular importance to cattle feeders. First, grain has become a cheaper source of energy than roughage when costs of feed, processing, handling, and storage are all considered. Secondly, new methods of feed processing are now available, and these may alter the nutrient value of fattening rations.

In the light of new developments, it is necessary to take another look at fattening rations and the relative value of feeds. Of current interest is the use of "all concentrate" rations, pelleting, steam rolling grains, hormones, and feed additives. Since most of these increase the cost of fattening cattle, they must result in better performance if they are to be justified.

Three feeding tests are now underway to help answer some of these problems. In Experiment 1, steer calves are fed steam-rolled milo or barley, plus supplements, with little or no additional roughage in the ration. The test is designed so that it is possible to compare milo and barley as fattening feeds in rations containing approximately the same fiber level, as well as to test the value of complex supplements and additional minerals vs. an oil meal supplement, with each grain.

In Experiment 2, a comparison is being made of the effect of pelleting a high concentrate (63 percent milo) ration, and the addition of certain minerals to increase the total "ash" in an attempt to improve the ration. In Experiment 3, steer calves are being self-fed complete mixed rations to study the value of fine or coarsely ground milo vs.