

Value of Animal Fat and Alfalfa Hay in High-concentrate Lamb Rations

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In a previous test (Livestock Feeders' Day Bulletin 473) adding 10% animal fat to a ration containing 45% alfalfa hay did not affect rate of gain but materially improved feed efficiency and lowered cost per unit gain. This test was conducted to determine the value of fat and additional hay in a high concentrate ration for lambs fed during the hot summer.

Experimental Procedure

Thirty early weaned ewe and wether lambs were sheared and divided into three lots June 8 and self-fed these rations:

Lot 1 - 64% ground sorghum grain, 20% dehydrated alfalfa meal, 10% soybean oil meal, 5% molasses, and 1% ground limestone.

Lot 2 - Same ration as fed lot 1 except additional alfalfa hay was fed free choice.

Lot 3 - 59% ground sorghum grain, 20% dehydrated alfalfa meal, 10% soybean oil meal, 5% molasses, 5% stabilized animal fat and 1% ground limestone, no alfalfa hay.

Results and Discussion

Results are presented in Table 29. Lambs in all lots gained rapidly and efficiently during the hot summer. No digestive troubles were noticed in any lots. Adding 5% animal fat did not improve rate or efficiency of gain. Lambs having free access to alfalfa hay consumed only .36 lb. hay per day and made slower, less efficient gains than those receiving no hay.

Table 29
Results From Adding Fat and Alfalfa Hay to High-concentrate
Lamb Rations, June 8 to August 13 - 66 days.

Lot no.	1	2	3
Treatment	No hay No fat	Alfalfa hay No fat	No hay 5% fat
No. lambs	9	10	10
Av. initial wt. lb.	51.9	48.4	49.9
Av. final wt. lb.	95.2	88.4	91.4
Av. total gain, lb.	43.3	40.0	41.5
Av. daily gain, lb.	.656	.606	.629
Daily feed per lamb, lb.			
Ground-mixed ration	3.16	3.28	3.32
Alfalfa hay		.36	
Total	3.16	3.64	3.32
Av. feed per cwt. gain, lb.			
Ground-mixed ration	481.7	541.2	527.8
Alfalfa hay		59.4	
Total	481.7	600.6	527.8
Av. feed cost per cwt. gain ¹	\$ 9.83	\$11.63	\$12.30

1. Feed prices used were: alfalfa hay, \$20/ton; sorghum grain, \$34/cwt.; animal fat 7.5¢/lb.; dehydrated alfalfa, \$35/ton; soybean meal, \$74/ton; molassed, \$30/ton; and ground limestone, \$20/cwt. Grinding and mixing cost, \$3/ton. With those charges the ration containing 5% fat cost \$46.66/ton and that with no fat, \$40.86/ton

Table 30
Proximate Analyses of Rations Fed

	No fat	5% fat
Moisture	7.3%	8.8%
Protein	14.5%	14.4%
Fat	3.0%	7.3%
Fiber	6.8%	6.3%
Ash	4.7%	4.8%