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South Dakota Sheep Field Day Research Reports,  
1967

Animal Science Reports

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1967

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### Recommended Citation

Lindahl, Ivan L. and Jackson, Charlie J. Jr., "Performance of Lambs Fed Green Chop" (1967). *South Dakota Sheep Field Day Research Reports, 1967*. Paper 22.  
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Performance of Lambs Fed Green Chop  
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Management is important in controlling internal parasitism of lambs, as proved by research at various locations in recent years. The following experiment at the Agricultural Research Center, Beltsville, Maryland, evaluated some control procedures for internal parasitism in the Middle Atlantic States.

TABLE 1. PERFORMANCE OF LAMBS

Group	Number of lambs weaned	Average	Average time	Average
		initial age	on test	daily gain
		Days	Days	Pounds
Green chop	122	62	62	0.51
Clean pasture	101	60	64	0.53
Contaminated pasture	214	62	62	0.42

Data on the average daily consumption of the green chop by the lambs in group I are given (Table 2).

TABLE 2. CONSUMPTION OF GREEN CHOP BY LAMBS

Type of Forage	Average daily consumption per lamb	
	Dry matter	Green basis
	Pounds	Pounds
4/24-4/30 Winter wheat	0.65	2.9
5/1-5/6 Winter wheat	0.74	3.4
5/7-5/13 Ladino clover and orchard grass	0.72	5.5
5/14-5/21 Ladino clover and orchard grass	0.89	5.9
5/22-5/28 Ladino clover and orchard grass	0.96	6.4
5/29-6/4 Ladino clover and orchard grass	1.31	8.1
6/5-6/11 Ladino clover and orchard grass	1.08	6.8
6/12-6/18 Ladino clover and orchard grass	0.93	5.8
6/19-6/27 Ladino clover and orchard grass	1.25	7.5

Experimental Procedures

A total of 454 lambs and their dams were randomly divided by sex, breed, and type of birth into four groups (when they averaged about 60 days of age) on April 12, 1961. Each group contained ewes and lambs of the following breeds or strains: Hampshire, Shropshire, Southdown, Merino, Columbia-Southdale, and Targhee. Each group also contained crossbred lambs representing two, three, and four-breed crosses among the first four breeds. During the preliminary period, all lambs were creep fed with pellets containing 65% ground alfalfa hay, 30% ground barley, and 5% soybean oil meal.

Four days before the ewes and lambs were placed on their respective treatments, 25-gram doses of phenothiazine were given to all mature ewes weighing 100 lbs. or less and 37.5 grams to all others. Ewes in groups I, II, and IV were treated with purified phenothiazine (7.2u) and those in group III with N.F. phenothiazine (7.0u). A subsequent therapeutic treatment was given to the ewes and lambs of groups III and IV before weaning was completed.

Lambs in group I (green chop group) were kept in a barn and a paved drylot at all times. From April 12 until completion of weaning (June 28) the ewes were separated from the lambs at 8 a.m. daily. The ewes were then allowed to graze from 8 a.m. to 4 p.m. when they again were turned in with the lambs in the drylot. The lambs were allowed to eat green chop ad lib. and also were fed an average of 0.9 lb. of creep pellets per lamb per day. The feeders were placed behind a creep so that the ewes could neither consume any of the green chop or pellets, nor contaminate the lambs' feed with fecal matter.

Ewes and lambs of group II (clean pasture group) were turned on pasture on April 12. This group was then moved to a new pasture (not previously grazed during 1961) at intervals not exceeding 14 days. Prior to grazing, all pastures were maintained in a succulent state by frequent clipping with a rotary mower set at a height of 4 inches.

Ewes and lambs of groups III and IV (contaminated pasture groups) also were turned on pasture on April 12. Each of these groups was moved among four small pastures according to the availability of forage, and they subsequently regrazed the same pastures at frequent intervals. The only difference in management between groups III and IV was that N.F. phenothiazine was used for group III and purified phenothiazine for group IV.

Ewes and lambs in all groups had continuous access to a 1:9 phenothiazine-mineral mixture. The basic mixture contained 65% iodized salt, 20% dicalcium phosphate, 10% phenothiazine, and 5% magnesium carbonate. The mixture for groups I, II and IV contained purified phenothiazine while that for group III contained N.F. phenothiazine.

The lambs were weaned on 3 dates: May 31, June 12, and June 28. Each lamb was weaned on the date nearest its 120th day of age. The lambs in groups II, III, and IV were creep fed the same mixture as used for group I until weanings, they consumed an average of 0.8 lb. per lamb per day.

Green chop for group I was cut daily with a flail-type forage harvester, from areas that had not been grazed since the pastures were renovated. The forage was weighed into, and the refused feed out of the feeders on a daily basis. Daily samples of the green forage and of the refused feed were taken for chemical analysis.

Fecal egg counts and blood hematocrit determinations were made bi-weekly on 20 lambs from each group.

## Results

Average daily gains of lambs fed green chop and of those grazed on clean pastures were similar through weaning, and significantly greater than those of lambs grazed on contaminated pastures (table 1). Data for the lambs in groups III and IV were combined since management and performance of these 2 groups were very similar.

Worm burdens (predominantly of *Haemonchus contortus*) were insignificant in the green chop group, light in the clean pasture group, and moderate in the contaminated pasture groups at the end of weaning. Some lambs from each group were retained after weaning. By the middle of July, clinical parasitism (determined by fecal egg counts, blood hematocrit readings, and parasite counts on slaughtered lambs) was moderate in the clean pasture group, pronounced in the contaminated pasture groups, and remained insignificant in the green chop group.

## Conclusions

The results of this experiment indicate that green chop can be used for growing lambs in the Middle Atlantic area. The weight gains were similar to those of lambs grazing clean pastures and superior to those of lambs grazing parasite-contaminated pastures. The results also indicate that this management procedure can be used to control internal parasitism of lambs. Since zero-grazing of the feeding of green chop to dairy cattle is practiced extensively in some areas, it would appear that a combined dairy and lamb feeding operation might be economically sound.