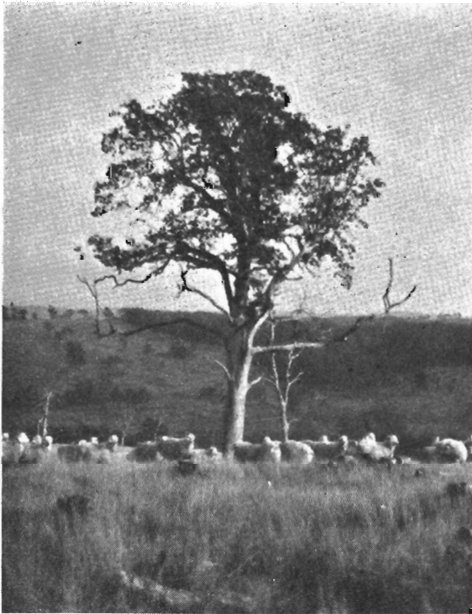


The Angora Goat Industry of Oregon



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THE ANGORA GOAT INDUSTRY OF OREGON

According to the 1920 Census there are more than 125,000 Angora goats in the western part of Oregon. This industry produces an annual revenue of approximately \$320,000, mainly from the sale of mohair. This places Oregon as the fourth state in the production of goats.

* * *

Goat production is centered largely in the Willamette and Umpqua valleys and the Coast section. The land used would bring little current revenue except for its use by goats. The goat industry in large part supplements other livestock production and in many cases improves the land for sheep and cattle. An average of 20 percent of the total cost of production is labor. The labor income is therefore supplemented by approximately \$79,000 from revenue of the goat industry.

* * *

This study shows that the annual losses of goats were 17.4 percent and that the number of kids raised was only 48 percent of the number of does maintained. A decrease of goat loss and an increase of the kid crop would materially increase the returns from the industry.

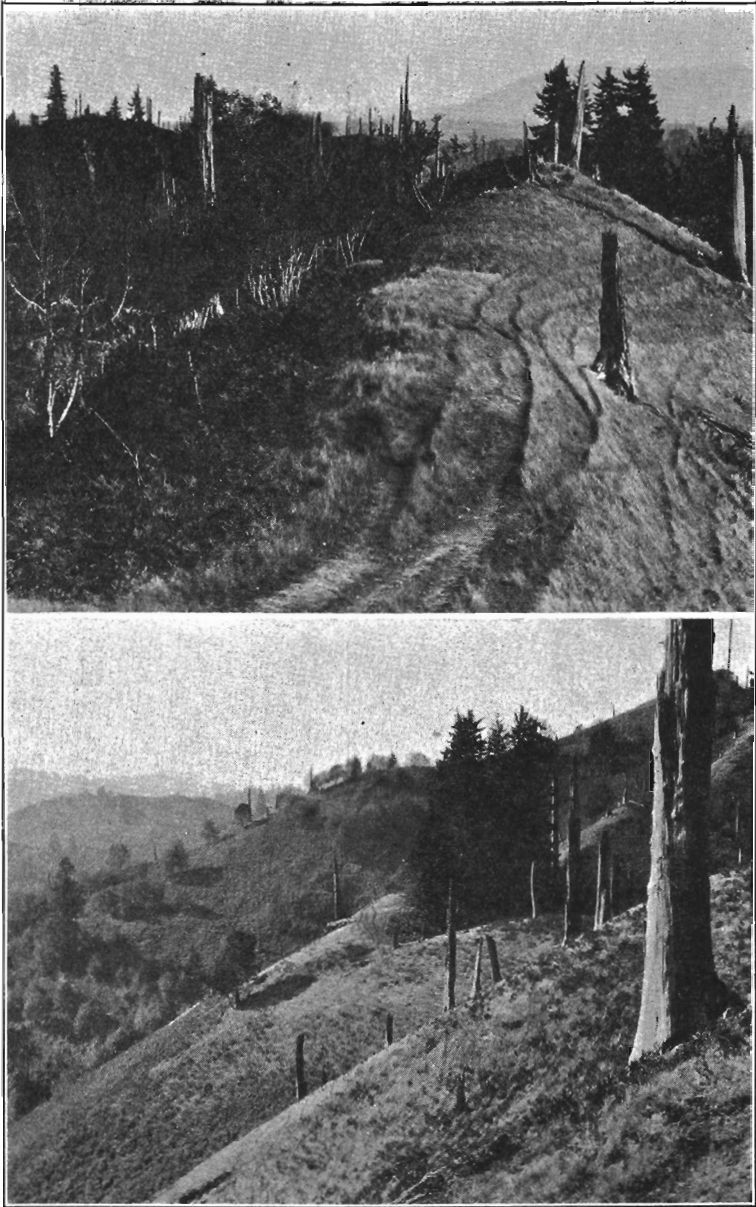


Figure 1. With the destruction of fern and brush by goats there is a marked improvement in the stand of grass.

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SUMMARY

This Bulletin is presented as a preliminary study rather than as a complete economic survey of the Angora goat industry. The facts presented were obtained from 86 records taken on farms in Benton, Douglas, Lincoln, and Polk counties during the years 1926, 1927, and 1928. A complete record was taken each of two years on 33 farms, and a record for one year only, on 20 farms.

On the farms included in this study, only 22 percent of the total farm investment was used by the goats. The total investment per goat was \$30.00. Of this \$26.36 was for real-estate investment.

The total cost of labor per goat was 63¢, of which 56¢ was for family or operator labor.

The amount of labor per goat exclusive of contract shearing was 2.11 hours.

The total gross cost of running goats was \$3.05 per head, of which 50¢ was cash cost and \$2.55 was non-cash cost.

Of the total gross cost of running goats 63 percent was for feed and pasture, 22 percent for labor, 10.5 percent for capital charges, 2.9 percent for predatory animal control, and 1.6 percent for miscellaneous expense items.

Losses of goats per year amounted to 17.4 percent. More than half of the goat losses were due to disease and predatory animals.

The average flock composition was: billies 1 percent, does 41 percent, kids 20 percent, and wethers 38 percent.

The average weight of the fleeces for all farms studied was 4.63 pounds.

The Angora Goat Industry of Oregon

By

ORAN M. NELSON

INTRODUCTION

Oregon is one of the leading states of the Union in mohair production. According to the 1920 Census (Table I) Oregon ranks third as to the number of Angora goats, and according to the 1928 Yearbook U. S. Department of Agriculture Oregon is listed as shearing the fourth largest number of Angora goats.

There are more than 125,000 Angora goats concentrated in the western part of the state. Taking the state as a whole this is not a large number of goats and in no way compares in magnitude with the cattle and sheep industries. The Angora goat industry, however, is of considerable importance in the Willamette Valley, Southern Oregon, and the Coast region. These sections (Table II) contain more than 97 percent of the Angora goats of the state. The pure-bred and the commercial phases of this industry have developed to such an extent that the state has acquired a national reputation for goat production. The Angora goat is usually produced on border lands skirting the foot-hills in conjunction with other livestock, such as cattle and sheep. The goat is a browsing animal and is therefore naturally suited to utilize the pasture land of Western Oregon, where the brush and fern grow to the exclusion of the more productive types of vegetation.

PURPOSE OF SURVEY

With a view of determining the status of the industry, the place of the goat on the farms of Western Oregon, the losses sustained, and the management practices used, a survey was conducted covering the years 1926, 1927, and 1928. The data presented in this Bulletin were obtained from a

TABLE I. ANGORA GOAT POPULATION OF SIX LEADING STATES

According to U. S. Census in 1920 (fleece goats 1 year old and over, and kids)		According to U. S. Department of Agriculture estimates (goats clipped 1928)	
State	Number of Angora goats	State	Number of Angora goats
Texas	1,469,883	*Texas	2,800,000
New Mexico	132,133	*Arizona	185,000
Oregon	125,566	New Mexico	170,000
Arizona	93,941	Oregon	125,000
California	79,218	Missouri	66,000
Missouri	64,130	California	45,000
Total	1,964,871	Total	3,391,000
Total all other states.....	136,720		
Total United States	2,101,591		

*Includes kids shorn in the fall.

TABLE II. ANGORA GOAT DISTRIBUTION IN OREGON

Section and county	Number of goats (1920 census)	Percentage of total
		%
Total for Oregon	125,566	
A. WESTERN OREGON.....	121,986	97.14
1. <i>Coast Region</i>	9,381	7.47
Clatsop	90	
Tillamook	256	
*Lincoln	6,520	
Coos	921	
Curry	1,594	
2. <i>Southern Oregon</i>	40,046	31.89
*Douglas	31,498	
Jackson	7,368	
Josephine	1,180	
3. <i>Willamette Valley</i>	72,559	57.78
Linn	10,773	
Lane	15,530	
*Benton	8,193	
*Polk	12,409	
Marion	7,630	
Clackamas	5,874	
Yamhill	10,318	
Washington	1,739	
Multnomah	27	
Columbia	66	
B. EASTERN OREGON.....	3,580	2.86
1. <i>Columbia Basin</i>	375	.30
Hood River	25	
Wasco	235	
Sherman	17	
Gilliam	60	
Morrow	2	
Umatilla	36	
2. <i>Blue Mountain Region</i>	386	.31
Wheeler	11	
Grant	51	
Baker	18	
Union	193	
Wallowa	113	
C. CENTRAL OREGON.....	2,819	2.25
Deschutes	2,203	
Crook	132	
Jefferson	101	
Klamath	353	
Lake	19	
Harney	1	
Malheur	10	

*Counties in which the survey was made.

total of 86 records, of which 37 were taken in Benton county, 23 in Polk county, 14 in Lincoln county, and 12 in Douglas county. In each county care was taken in the selection of the farms to be surveyed, and only farms typical of county conditions were used. Farms maintaining pure-bred Angoras for the purpose of producing stud stock were not included in this study.

Each record represents a detailed account of all operations pertaining to goats on a farm covering a period of 12 months. A complete record was taken each of two years on 33 farms and a record for one year only, on 20 farms. The number of records taken was less than is ordinarily used in the

Oregon Agricultural Experiment Station survey methods of studying farm enterprises. Because of this fact this Bulletin is not presented as a complete economic survey of the goat industry but rather as a preliminary study. On the other hand, careful individual attention was given to the farms studied with a view of presenting a picture of land and operating conditions which would be difficult to obtain from statistical records alone.

SECTIONS WHERE SURVEY WAS MADE

The counties of Douglas, Lincoln, Benton, and Polk were selected because they are representative of the different sections of the western part of Oregon.

In Douglas county, which is typical of much of Southern Oregon, the livestock farms are rather large. Here little or no out range* is used as the goats are usually kept on the home farms. Except for the larger units used, the management of the goat flocks is similar to that of the Willamette Valley.

In Lincoln county, which is representative of the Coast regions, the management of the goat flocks is entirely different from that of the other parts of Western Oregon. Here considerable out range is used and the goats browse over a large area of land, hence they do not have close supervision. Much of this area is in the section known as the Oregon-California burn (Figures 1 and 2). At one time this land was covered with large fir timber, which was later completely destroyed by fire, leaving only charred snags and stumps. Since then there has been very little reproduction of fir timber but the land has produced a dense growth of fern and some brush. Oak brush is found in some places but the amount is much smaller than usual in other sections of the state.

The goat farms of Benton and Polk counties are representative of the industry in the Willamette Valley. In these counties the goats are kept on the home farms in connection with other classes of livestock. In Polk county practically no out range is used and the brush is largely of the oak type (Figure 3). In Benton county the use of out range is limited to the extreme western part of the county, where the management of the goat flocks is similar to that of Lincoln county.

INTERPRETATION OF DATA

SIZE OF FARMS AND LAND VALUES

Size of farms. The average size of the farms surveyed was approximately 500 acres. The farms of Douglas county were much larger than those of the other counties. Farms here ranged in size from 480 acres to 4,520 acres, with an average of 1,609.7 acres. In this county all farms but one comprised more than 1,000 acres in size. The largest farm in the other counties was 660 acres. The percentage of crop and fruit land in Douglas county was much smaller than that found in other counties. The average

*By out range is meant free range which is not a part of the farm. Some of this range belongs to the public domain and some belongs to timber companies and private individuals.

size of farms in Lincoln county was 237.9 acres, the smallest average of the four counties surveyed. In this county the farms ranged in size from 80 acres to 560 acres. Of these, 43 percent were smaller than 200 acres. The size of farms in Lincoln county was not indicative of the amount of land used by goats and livestock, as out range furnished a large part of the grazing areas. The farms of Benton and Polk counties were intermediate in size. The farms in Benton county were somewhat larger than those of Polk county and ranged from 142 acres to 658 acres, with an average of 360 acres. Polk county farms ranged from 80 acres to 660 acres and averaged 291.7 acres.

Land values in Polk county, with the exception of timber land, were much higher than those of the other counties. Douglas county ranked second for general land values per acre. The land values reported in Lincoln county were much lower than those of the other counties. Table III shows size of farms and the values per acre reported by counties for the various classes of land found on the farms.

TABLE III. SIZE OF FARMS AND LAND INVESTMENT BY COUNTIES

County	Average size of farm	Investment per acre				
		Total farm including buildings	Crop and fruit land	Pasture land		
				Tillable	Stump and brush	Timber land
	<i>Acres</i>					
Benton	360.0	\$32.49	\$66.75	\$19.29	\$13.48	\$44.39
Douglas	1,609.7	27.26	71.74	.....	17.65	48.19
Lincoln	237.9	22.92	49.55	15.00	8.94	19.26
Polk	291.7	56.73	83.15	35.62	28.36	30.03
All counties	497.0	33.19	72.04	23.66	16.83	40.37

UTILIZATION AND DISTRIBUTION OF REAL-ESTATE INVESTMENT

Table IV shows that only 21.7 percent of the real-estate investment is used by the goats. Lincoln and Douglas counties had the largest percentage of the farm investment used for the purpose of running goats. The use for goat purposes of the counties was as follows: Lincoln 27.9 percent, Douglas 25.8 percent, Benton 19.2 percent, and Polk 17.4 percent. If it were possible to include the out range in these figures the percentage of investment used for goat production in Lincoln county would be far greater than the foregoing figure. A further analysis of the data shows that on the basis of percentage of land investment used by all classes of livestock the counties rank as follows: Douglas first with 74 percent, Lincoln second with 50 percent, Benton third with 47 percent, and Polk last with 44 percent. Of the land investment used by all classes of stock, 56 percent was used by goats in Lincoln county, 41 percent in Benton county, 40 percent in Polk county, 35 percent in Douglas county, and 38 percent in all counties. On the basis of usage of land, the goats in Lincoln county were the most important livestock enterprise; in the other counties, particularly Douglas, beef cattle and sheep were more important.

TABLE IV. UTILIZATION AND DISTRIBUTION OF LAND AND BUILDINGS INVESTMENT

Expressed in percentage of total investment

(Data from 86 records)

County	Investment not used by goats							Investment used by goats					
	House	Other buildings	Crop and fruit land	Stump and brush pasture used for other stock	Timber and pas- ture land tillable —used for other stock	Timber land		Total	Buildings	Stump and brush pasture	Timber and pas- ture land tillable	Timber land	Total
						Used by other stock	Not used for stock grazing						
%	%	%	%	%	%	%	%	%	%	%	%	%	
Benton	15.7	10.8	31.9	11.7	5.1	.3	5.3	80.8	.2	16.0	2.9	.1	19.2
Douglas	9.2	3.0	16.8	34.1	.....	11.1	.....	74.2	.6	20.9	.....	4.3	25.8
Lincoln	11.8	12.6	36.0	6.6	2.1	.8	2.2	72.1	.9	19.7	1.8	5.5	27.9
Polk	7.8	9.2	46.8	8.4	7.6	1.5	1.3	82.6	.2	13.6	.....	3.6	17.4
All counties....	11.0	7.5	30.5	18.8	3.7	4.7	2.1	78.3	.4	17.4	1.0	2.9	21.7

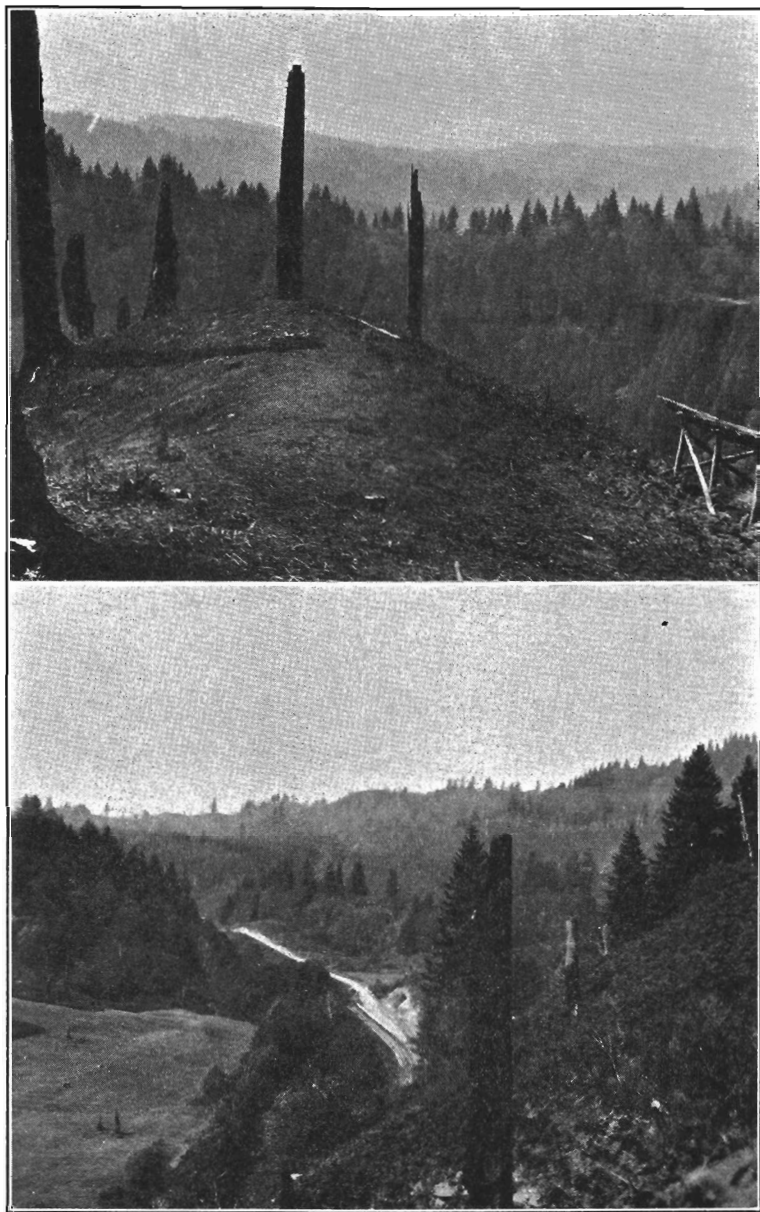


Figure 2. *Above.* High points are used as bed grounds by goats.
Below. A typical scene in the Coast mountains showing a dense growth of fern and brush.

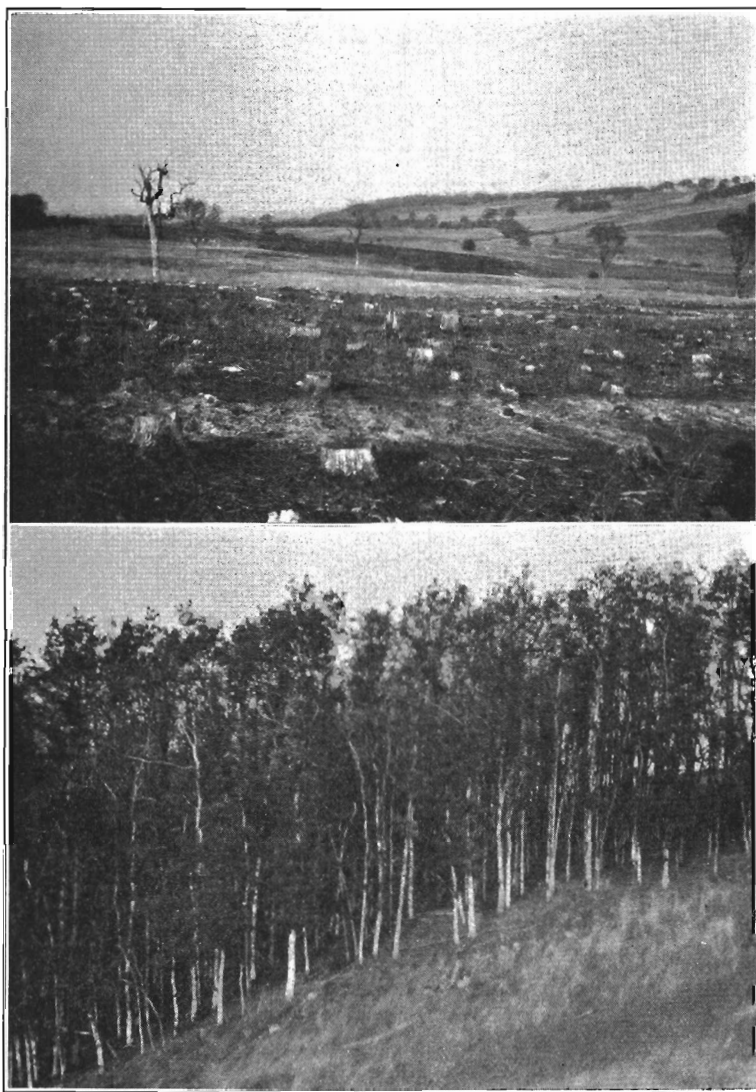


Figure 3. *Above.* On newly cleared land, goats are efficient in checking the growth of brush.
Below. Second-growth oak. Dense thickets prevent the growth of grass.

COST ITEMS

Capital investment per goat. The total investment, real estate, live-stock, and equipment per goat for all counties was \$30 divided as follows: land \$25.85, buildings 51¢, equipment 17¢, and livestock \$3.47 (Table V). The total investment per goat was much higher in Douglas and Polk counties owing primarily to the greater land values reported in these counties (see Table III) and also to a greater building and equipment investment. Lincoln county showed a very small total investment per goat owing to a very low land investment, which again was due to the extensive use of out range in that county.

The equipment reported in all counties consisted only of dipping vats and shearing machines. The greater equipment investment for Douglas county was due to the large number of dipping vats reported.

The livestock or goat investment was approximately the same for all counties and ranged from \$3.10 per head in Benton county to \$3.72 per head in Lincoln county.

Man labor. The total annual labor cost per goat for all counties was 63¢ as shown in Table VI. Of this, 89 percent or 56¢ was for family and operator labor and 11 percent or 7¢ was for hired and contract labor. Of the various labor items, riding the range and salting required the greatest amount of time and cost. More than 50 percent of the labor cost of running the goats was for this item. Riding and salting included the periodic riding for observation of the goats, rounding up the goats for shearing, and in some instances included the hunting of predatory animals. The second largest item of labor was shearing. Most of the shearing was done by family or operator labor. The labor used during kidding and for feeding was surprisingly small. It was found that very little feeding was practiced and that very little attention was given the goats at kidding time.

TABLE V. CAPITAL INVESTMENT PER GOAT
(86 records, 11,211 goats)

County	Total land investment	Buildings	Total real investment	Equipment	Livestock	Total investment per goat
Benton	\$23.12	\$ 0.19	\$23.31	\$ 0.14	\$ 3.10	\$26.55
Douglas	43.51	.17	44.68	.25	3.61	48.54
Lincoln	6.43	.23	6.66	.14	3.72	10.52
Polk	38.27	.58	38.84	.18	3.56	42.58
All counties	\$25.85	\$ 0.51	\$26.36	\$ 0.17	\$ 3.47	\$30.00

Douglas county reported a total labor cost much smaller than that of the other counties. In this county the cost of every labor item except that of shearing was much smaller. This undoubtedly was due to the fact that the goat units of this county were much larger than those of the other counties.

The number of hours of labor exclusive of contract labor was 2.11 hours per goat annually for all counties. With the exception of Douglas county the number of hours per goat did not vary a great deal.

Cash and non-cash cost. The cash cost included all items for which the operator actually paid money. In the non-cash cost items were included

TABLE VI. MAN-LABOR COST PER GOAT BY OPERATIONS*
(86 records, 11,211 goats)

Labor operations	Benton county			Douglas county			Lincoln county			Polk county			All counties		
	Family and operator	Hired and contract	Total	Family and operator	Hired and contract	Total	Family and operator	Hired and contract	Total	Family and operator	Hired and contract	Total	Family and operator	Hired and contract	Total
Dipping	\$0.02	.....	\$0.02	\$0.01	.....	\$0.01	\$0.04	.....	\$0.04	\$0.01	\$0.01	\$0.02	\$0.02	.....	\$0.02
Trimming feet .....	.03	.....	.03	.....	.....	.....	.03	.....	.03	.03	.....	.03	.02	.....	.02
Feeding .....	.06	.....	.06	.01	.....	.01	.03	.....	.03	.11	.....	.11	.05	.....	.05
Kidding .....	.04	.....	.04	.01	.....	.01	.07	.....	.07	.10	.....	.10	.05	.....	.05
Shearing .....	.08	\$0.07	.15	.07	\$0.10	.17	.16	\$0.01	.17	.07	.12	.19	.10	\$0.07	.17
Riding range and salting.....	.37	.....	.37	.22	.....	.22	.37	.....	.37	.32	.....	.32	.32	.....	.32
TOTAL.....	\$0.60	\$0.07	\$0.67	\$0.32	\$0.10	\$0.42	\$0.70	\$0.01	\$0.71	\$0.64	\$0.13	\$0.77	\$0.56	\$0.07	\$0.63
Hours of labor†			2.21			1.25			2.66			2.36			2.11

*Does not cover the cost of board furnished hired labor.

†Does not include contract labor.

TABLE VII. CASH AND NON-CASH COST PER GOAT
(86 records, 11,211 goats)

Expense item	Benton county		Douglas county		Lincoln county		Polk county		All counties	
	Cash	Non-cash	Cash	Non-cash	Cash	Non-cash	Cash	Non-cash	Cash	Non-cash
Purchased hay and straw .....	.....	.....	\$0.01	.....	\$0.01	.....	\$0.01	.....	\$0.01	.....
Purchased grain .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Farm hay and straw .....	.....	\$0.13	.....	\$0.05	.....	\$0.09	.....	\$0.19	.....	\$0.11
Farm grain .....	.....	.....	.....	.....	.....	.....	.....	.06	.....	.01
Taxes on pasture	\$0.24	.....	.38	.....	.16	.....	.48	.....	.29	.....
Depreciation on fence .....	.....	.24	.....	.14	.....	.11	.....	.28	.....	.19
Interest on land investment .....	.....	1.16	.....	2.18	.....	.32	.....	2.06	.....	1.31
TOTAL FEED AND PASTURE.....	.24	1.53	.39	2.37	.17	.52	.49	2.59	.30	1.62
Operator and family labor .....	.....	.60	.....	.32	.....	.70	.....	.62	.....	.55
Hired labor .....	.....	.....	.....	.....	.....	.....	.02	.....	.01	.....
Board furnished .....	.....	.....	.....	.....	.....	.....	.....	.02	.....	.01
Contract shearing .....	.07	.....	.10	.....	.01	.....	.11	.....	.06	.....
Total man labor .....	.07	.60	.10	.32	.01	.70	.13	.64	.07	.56
Horse labor .....	.....	.04	.....	.06	.....	.05	.....	.04	.....	.04
TOTAL LABOR.....	.07	.64	.10	.38	.01	.75	.13	.68	.07	.60
Interest on equipment and build- ings .....	.....	.17	.....	.25	.....	.20	.....	.21	.....	.21
Depreciation on goat equipment and buildings .....	.....	.04	.....	.17	.....	.04	.....	.05	.....	.07
Taxes on goats .....	.04	.....	.04	.....	.05	.....	.05	.....	.04	.....
TOTAL CAPITAL CHARGES.....	.04	.21	.04	.42	.05	.24	.05	.26	.04	.28
Inventory decrease .....	.....	.....	.....	.....	.....	0.27	.....	.31	.....	.....
Predatory animal control .....	.06	.07	.02	.03	.06	.06	.....	.....	.04	.05
Miscellaneous—salt, sacks, vet- erinary, dip, etc. ....	.04	.....	.04	.....	.06	.....	.06	.....	.05	.....
TOTAL GROSS COST.....	\$0.45	\$2.45	\$0.59	\$3.20	\$0.35	\$1.84	\$0.73	\$3.84	\$0.50	\$2.55
Percentage of total cost that is cash cost	15.5%		15.6%		16.0%		16.0%		16.4%	

family and operator labor, all material produced on the farm, inventory decrease, depreciation, and interest. Table VII shows that the cash cost of running goats was only 16.4 percent of the total cost for all counties. The percentage of cash outlay did not vary much in the different counties. Of the total gross cost of \$3.05 per goat for all counties, as reported in Table VIII, 50¢ was cash cost and \$2.55 was non-cash cost.

Cost summary. The total net cost per goat in all counties was \$2.95 as shown in Table VIII. The net cost per goat for each of the counties was as follows: Lincoln \$2.19, Benton \$2.70, Douglas \$3.19, and Polk \$4.57. The higher cost in Polk and Douglas counties was due primarily to the greater valuation given to land, which increased the cost of the pasture in these counties.

Lincoln and Polk counties showed an inventory decrease, while Benton and Douglas counties each showed a slight increase in their inventories. The inventory decreases of Lincoln and Polk counties were

TABLE VIII. COST SUMMARY

(86 records, 11,211 goats)

Expense item	Benton county	Doug- las county	Lin- coln county	Polk county	All counties	
	Cost per goat	Cost per goat	Cost per goat	Cost per goat	Cost per goat	Percentage of total gross cost
<i>Feed and pasture</i>						%
Purchased feed		\$0.01	\$0.01	\$0.01	\$0.01	0.3
Farm feed	\$0.13	.05	.09	.25	.12	4.0
Pasture						
Taxes on pasture .....	.24	.38	.16	.48	.29	9.5
Depreciation on fence .....	.24	.14	.11	.28	.19	6.2
Interest on land investment*....	1.16	2.18	.32	2.06	1.31	48.0
TOTAL FEED AND PASTURE.....	1.77	2.76	.69	3.08	1.92	63.0
<i>Labor</i>						
Man labor .....	.67	.42	.71	.77	.63	20.7
Horse labor .....	.04	.06	.05	.04	.04	1.3
TOTAL LABOR .....	.71	.48	.76	.81	.67	22.0
<i>Capital charges other than pasture</i>						
Interest on equipment, building, and stock investment .....	.17	.25	.20	.21	.21	6.9
Depreciation on goat equipment and building .....	.04	.17	.04	.05	.07	2.3
Taxes on goats .....	.04	.04	.05	.05	.04	1.3
TOTAL CAPITAL CHARGES .....	.25	.46	.29	.31	.32	10.5
<i>Inventory decrease</i>			.27	.31		
Predatory animal control .....	.13	.05	.12		.09	2.9
Miscellaneous, salt, sacks, vet- erinary, dip, etc. ....	.04	.04	.06	.06	.05	1.6
TOTAL GROSS COST	2.90	3.79	2.19	4.57	3.05	100.0
Inventory increase .....	.20	.60			.10	
TOTAL NET COST†	\$2.70	\$3.19	\$2.19	\$4.57	\$2.95	

*Value of fences included with land value.

†The sales of goats and the purchases of goats were included in the calculation of the inventory increase or decrease. Credit therefore was given for the receipts from sale of goats. Receipts from mohair were not included in the calculation of net cost.

due to the high death losses reported for these counties as shown in Table XII. In these counties the death loss was about 26 percent of the total number of goats, whereas the death loss for all counties was only 17.4 percent. The inventory increase for all the counties was very small, owing to death loss and low kid crop.

Of the total gross cost of running goats, 63 percent was for feed and pasture, 22 percent for labor, 10.5 percent for capital charges other than those for pasture, 2.9 percent for predatory animal control, and 1.6 percent for miscellaneous expense items.

Cost of producing mohair. By dividing the total net cost of running goats in each county by the number of pounds of mohair produced in each county it was found that the cost of producing a pound of mohair in each of the counties was as follows: Lincoln 55¢, Benton 59¢, Douglas 76¢, Polk 93¢, and 68¢ for all counties. There are benefits to be derived from goats other than the sale of products produced. All the operators interviewed in this study reported that the goats by their browsing improved the pastures for the sheep and cattle (Figures 1 and 4), but it was impossible to give any monetary value to this benefit. If credit could be given for the improvement to the land by browsing, the cost of producing a pound of mohair would be smaller.

The cost of producing mohair found by the foregoing method exceeded the sale value of mohair in all counties except Lincoln, in which county the sale price of mohair per pound was two cents higher than the cost of production. The prices received per pound of mohair in each of the areas were as follows: Benton 54¢, Douglas 55¢, Lincoln 57¢, Polk 58¢, and all counties 55¢.

PROFITS AND LOSSES

The profit and losses per goat were obtained by determining the difference between the total net cost per goat and the return per head from mohair. In the net cost per goat, given in Table VIII, credit was given for the returns from the sale of livestock.

TABLE IX. PROFIT AND LOSS PER GOAT

Item	Benton county	Douglas county	Lincoln county	Polk county	All counties
Total net cost per goat	\$2.70	\$3.19	\$2.19	\$4.57	\$2.95
Returns per head from mohair	2.45	2.28	2.28	2.83	2.41
Profit or loss per head	—25	—91	+ .09	—1.74	—54

All counties excepting Lincoln (Table IX) showed a loss per head on their goat operations. In this connection it should be born in mind that the net cost per goat includes both cash and non-cash items allowing the goat man current wages for his labor, 5 percent on his investment, and depreciation. If only the cash costs were considered, there would be a considerable profit per head in each county.

Only 27 percent of the operators interviewed showed a profit on their operations. Of the operators, 5.8 percent showed a profit of more than \$1.50 per head, 9.3 percent showed a profit of from 75¢ to \$1.50, and 11.6 percent showed a profit of less than 75¢ per head. Seventy-four percent of the operators showed a loss—32.6 percent showing a loss of less than 75¢,

12.8 percent showing a loss of from 75¢ to \$1.50, and 27.9 percent showing a loss of more than \$1.50 per head.

Receipts from goats. The cash receipts from the goats were from the sale of livestock and the sale of mohair. In Table X is given the average sale receipts per head for each county.

TABLE X. SALE RECEIPTS PER GOAT

Item	Benton county	Douglas county	Lincoln county	Polk county	All coun- ties
Livestock	\$0.05	\$0.18	\$0.17	\$0.31	\$0.15
Mohair	2.45	2.28	2.28	2.83	2.41
Total	2.50	2.46	2.45	3.14	2.56

The receipts from the sale of livestock made up only a small part of the total receipts per goat. Only 6 percent of the total receipts came from the sale of goats and 94 percent came from the sale of mohair.

Polk county, with a total receipt per goat of \$3.14, led the counties in sales. The greater return on livestock sales was due to the number of goats sold. The price received per head for goats in this county was no greater than that received in other counties. The returns from mohair in Polk county were larger because of heavier fleeces and because of the higher price per pound received for the mohair.

Table XI gives the yield of mohair per head for the goats shorn in the different counties.

TABLE XI. YIELD OF MOHAIR PER HEAD OF GOATS SHORN

Item	Benton county	Douglas county	Lincoln county	Polk county	All counties
Pounds of mohair	16,349	11,921	12,547	7,984	48,801
Goats shorn	3,397	2,662	2,861	1,620	10,540
Average number of pounds per head	4.81	4.48	4.39	4.93	4.63

The average weight of the fleeces for all farms studied was found to be 4.63 pounds. Two percent of the farms reported a shearing average of 2.7 pounds per head, 16 percent a shearing average of 3.6 pounds, 45 percent a shearing average of 4.4 pounds, 25 percent a shearing average of 5.3 pounds, and 12 percent a shearing average of 6.5 pounds. The average yield of mohair of the farms surveyed was larger than the estimated average given during these years for Oregon by the United States Department of Agriculture. According to this authority the average weight of mohair shorn per goat in Oregon was 4.2 pounds.

Goat losses. According to Table XII, the percentage of total number of goats reported lost annually for all counties was 17.4 percent. The heaviest losses were reported in Polk and Lincoln counties. In these counties more than 25 percent of the total number of goats were lost during the year. Douglas county reported the smallest loss.

Disease and predatory animals caused the heaviest losses. More than 50 percent of the goats were lost from these two causes.

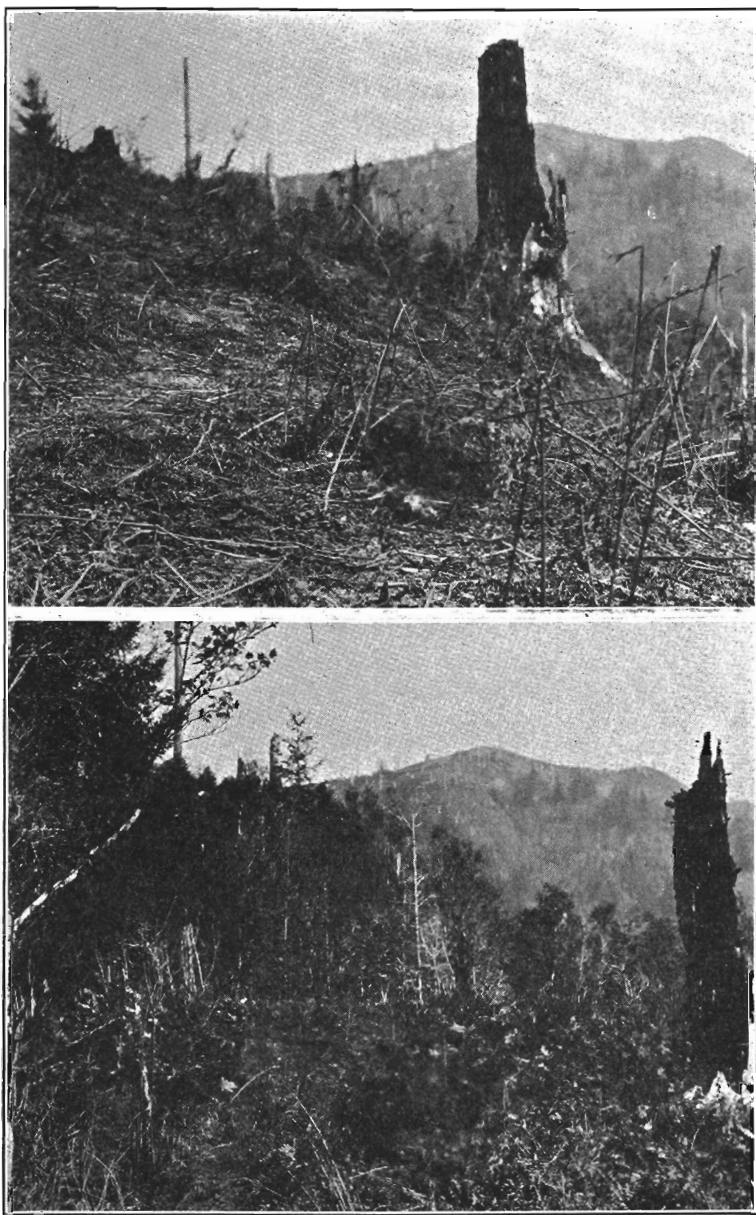


Figure 4. *Above.* Browsing by goats, showing destruction of brush.
Below. A goat's paradise.

The heaviest losses reported were for the does, followed closely by wethers. The losses reported for the kids did not include the heavy losses at birth, and were surprisingly low.

Goat disease. One-third of the farms reported that their goat flocks were free from all disease and two-thirds reported the presence of disease. Foot-rot, scours, and stomach-worms were the diseases most commonly reported. Liver-fluke, lung-worms, and takosis were reported by a few farms. The losses of goats from disease were high. One operator reported that during the year half of his flock died from disease alone. The losses from disease reported by the other farms were less but still relatively high. The diseases causing the heaviest death loss were stomach-worms, liver-flukes, and lung-worms.

With the exception of foot-rot, the operators reported that they did not have good treatments for the diseases which were ravaging their

TABLE XII. GOAT LOSSES

(Data from 86 records)

Numbers and percentage of total loss by counties

Item	Benton county		Douglas county		Lincoln county		Polk county		All counties		Percentage of total number goats
	Number	Percentage of total loss	Number	Percentage of total loss	Number	Percentage of total loss	Number	Percentage of total loss	Number	Percentage of total loss	
Diseases	35	6.9	9	4.5	211	26.6	260	58.0	515	26.4	4.6
Predatory animals	196	38.6	20	9.9	218	27.5	49	10.9	483	24.8	4.3
Accident	79	15.5	68	33.6	146	18.4	52	11.6	345	17.7	3.1
Old age	76	15.0	43	21.3	74	9.3	6	1.3	199	10.2	1.8
Strayed or stolen	20	3.9	16	7.9	26	3.3	19	4.3	81	4.1	.7
Poisonous plants	0	.....	0	.....	25	3.2	36	8.0	61	3.1	.5
Poor feed	41	8.1	0	.....	12	1.5	11	2.5	64	3.3	.6
Kidding	6	1.2	0	.....	1	0.1	0	.....	7	.4	.1
Unknown	55	10.8	46	22.8	80	10.1	15	3.4	196	10.0	1.7
TOTAL	508		202		793		448		1,951		17.4
Percentage of total number of goats	14.2		7.1		25.3		27.5		17.4		

NUMBERS AND PERCENT LOST BY CLASSES OF GOATS

	Number lost	Percentage of total number lost	Value per head
Bucks	18	.9	\$23.22
Does	860	44.1	3.53
Kids	389	19.9	3.02
Wethers	684	35.1	3.18
TOTAL	1,951	100.0	

flocks.* Blue vitriol, butter of antimony, concentrated sulfuric acid, and sheep-dip were reported as remedies used for the treatment of foot-rot. The largest percentage reported the use of blue vitriol or copper sulfate.

BUILDING AND EQUIPMENT

Sheds. Forty-two percent of the farms reported goat sheds on the farm. Pole-and-shake construction was most commonly reported. The sheds reported were scattered out on ranges and furnished protection to the goats from storms. The goat sheds at the home place usually were of better construction and provided space for feed storage (Figure 5). The average value of the sheds for the farms reporting was \$140. The average floor space provided per goat was 13 square feet, and the average shed value per goat was 76¢.

Dipping vats. Table XIII gives the percentage of farms reporting various kinds of dipping vats and the values per farm and per goat of the vats reported.

TABLE XIII. DIPPING VATS

Kind of vat	Percentage of farms reporting	Average value per farm	Average value per goat on farms reporting
	%		
Wooden	15	\$11.00	6.2¢
Concrete	11	83.00	29.2
Metal	4	10.00	13.4
No vat	70	.....	.....

Shearing machines. Fifty-one percent of the farms reported ownership of a shearing machine. Most of these machines were of the hand-power type. The average value of the shearing machines was \$27. On the farms owning shearing machines, the average value of shearing machine per goat owned was 17¢. Some of the operators owning shearing machines did custom shearing and therefore it was impossible to determine the average shearing-machine investment per goat shorn.

FLOCK MANAGEMENT

As previously indicated careful individual attention was given to the farms studied, with a view of presenting a picture of land and operating conditions, and as a result facts were obtained as to organization and management factors which may be of interest and value to prospective goat producers. The most pertinent of these facts are presented in the following pages.

Flock composition. As shown in Table XIV the average flock composition was approximately as follows: billies 1 percent, does 41 percent, kids 20 percent, and wethers 38 percent.

*Since this survey was made, marked advance has been made in the treatment of goats for internal parasites and attention is here directed to Oregon Agricultural Experiment Station Circular 93, Scours in Sheep and Goats.

Shearing. Ninety-four percent of the shearing was done with machine and 6 percent with blades. Fifty-three percent of the operators used farm labor to do the shearing, 45 percent hired their shearing done, and 2 percent used both farm and hired labor for this work. Where hired labor did the shearing the rates per head for the shearing were as follows:

RATES PAID FOR SHEARING

Rate paid	Number of reports				
	Benton county	Douglas county	Lincoln county	Polk county	All counties
10¢	1	---	1	---	2
12¢	1	---	1	---	2
12½¢	---	3	---	---	3
14¢	---	2	---	---	2
15¢	16	---	---	6	22
18¢	---	---	---	2	2
20¢	---	---	---	7	7
Total	18	5	2	15	40

Culling. Only 25 percent of the farms followed the practice of culling the breeding flock. Of those who culled their flocks, 92 percent selected on the basis of mohair produced, 77 percent on the basis of age, and 23 percent on the basis of breeding ability.

On 19 percent of the farms the wether flock was culled. Mohair production was the only basis used in the selection of cull wethers.

Practically all cull goats were disposed of locally and went to other farms. In a few cases, the goats culled were sold for meat but the sale of goats for meat was not general.

Breeding. The number of does allowed per buck ranged from 12 to 100, with an average of 37 head. One farm reported the use of smaller pastures during the breeding season and three reported that they rounded the breeding flock up oftener during the breeding season. The remainder of the operators did not report a change in management during the breeding season. Forty-seven percent of the operators reported the use of pure-bred billies only, 49 percent grade billies, and 4 percent both pure-bred and grade billies. Many of the operators using grade billies stated that the grade billies had more vigor than the highly bred pure-bred ones. Fifty-seven of the farms used billies for the first time when they were from 16 to 18 months old, 40 percent did not use billies until they were two-year-olds or from 28 to 38 months old, and the remainder used billies for the first time when the billies were still kids. Nearly all the operators permitted the doe kids to run with the breeding flock during the breeding season. It was reported that occasionally the doe kids would breed as kids, but the general opinion was that does would not breed until the second fall following their birth. The season that the billies ran with the does is shown in Table XV.

Kidding. The management at kidding time varied considerably on the farms. Eighty-nine percent of the operators kidded the does out in the open and only 11 percent kept the does sheltered at kidding time. Forty-

TABLE XIV. FLOCK COMPOSITION

(Data from 86 records)

Beginning and end of year inventories

Class of goats	Benton county				Douglas county				Lincoln county				Polk county				All counties			
	Beginning of year		End of year		Beginning of year		End of year		Beginning of year		End of year		Beginning of year		End of year		Beginning of year		End of year	
	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total	Number	Percentage of total
		%		%		%		%		%		%		%		%		%		%
Bucks	54	1	60	2	53	2	40	1	30	1	31	1	26	1	22	1	163	1	153	1
Does	1,645	43	1,674	42	1,268	39	1,292	40	1,366	40	1,353	39	854	44	744	47	5,133	41	5,063	42
Kids	659	17	625	16	715	22	752	23	675	20	582	17	374	20	257	16	2,423	20	2,216	18
Wethers	1,480	39	1,586	40	1,189	37	1,173	36	1,355	39	1,468	43	668	35	575	36	4,692	38	4,802	39
TOTAL.....	3,838	....	3,945	....	3,225	....	3,257	....	3,426	....	3,434	....	1,922	....	1,598	....	12,411	....	12,234	....

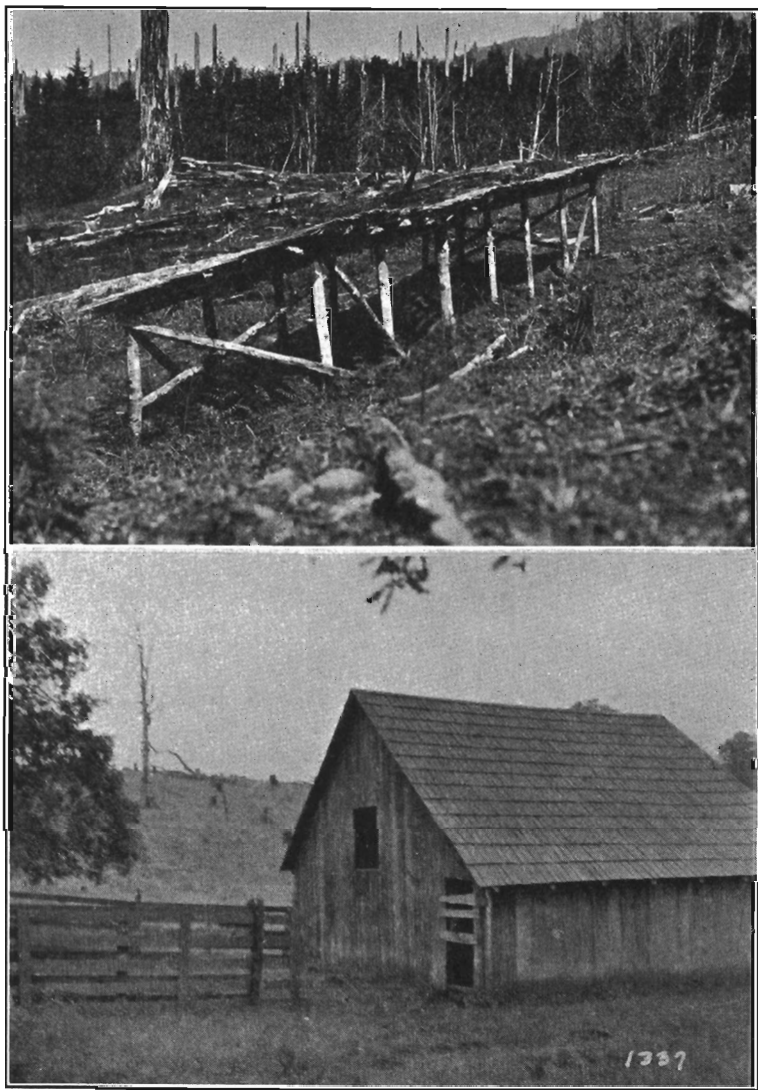


Figure 5. *Above.* Pole-and-shake shed commonly used in goat pastures.
Below. A goat shed that provides storage space for feed.

seven percent of the goat men gave special attention to the does during kidding; the others did not give their does any more attention at kidding than at other seasons of the year. Only 32 percent of the farmers kept the kids up for the first few days of their life; the others did not. The special attention given the does at kidding varied. No definite classification of kidding methods was possible. Most of the farmers that gave the doe any extra care watched the flock more closely, assisted the new kids to the udder, carried or drove the does and kids to shelter each night, and gave the does and kids help where and when needed.

TABLE XV. BREEDING SEASON

Billies with the does	Percentage of total farms
September 1 to February 1	%
September 1 to May 1	17
September 1 to August 1	32
All year	78
	23

Castration of billies. The age at which male offspring were castrated is given in Table XVI.

TABLE XVI. CASTRATION OF BILLIES

Age at which kids are castrated	Percentage of total farms
4 weeks or less	%
4 to 12 weeks	41
12 to 18 weeks	38
More than 18 weeks	17
	4

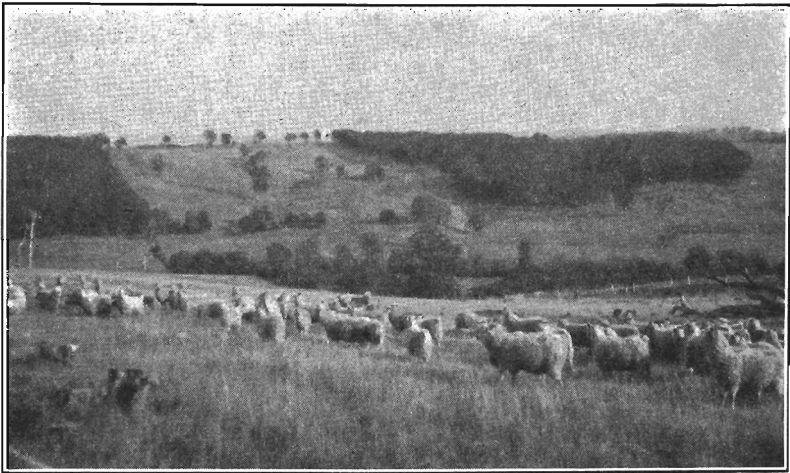


Figure 6. A typical scene on a goat farm in Polk county. The absence of brush and the growth of grass are the result of goat browsing.

Feeding. All feeding of goats was supplemental to the use of pastures. It was found that no farms took the goats off pasture and placed them in the feed lot. As shown in Table XVII, 46 percent of the operators fed no feed whatever to their goats, 44 percent fed hay only, 8 percent fed hay and grain, and 2 percent fed grain only.

TABLE XVII. PERCENTAGE OF TOTAL FARMS REPORTING FEEDING

Feed	Benton county	Douglas county	Lincoln county	Polk county	All coun- ties
	%	%	%	%	%
Hay only	46	25	29	61.0	44
Grain only	---	---	---	8.5	2
Both hay and grain.....	5	---	21	8.5	8
No feed	49	75	50	22.0	46

TABLE XVIII. AVERAGE TOTAL AMOUNT OF FEED FED PER HEAD ON FARMS WHERE FEEDING WAS PRACTICED

Item	Benton county		Douglas county		Lincoln county		Polk county		All coun- ties	
	Hay	Grain	Hay	Grain	Hay	Grain	Hay	Grain	Hay	Grain
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Hay only	59.28	.....	39.88	.....	12.68	.....	69.08	.....	47.77	.....
Grain only	---	---	---	---	---	---	15.00	---	---	15.00
Hay and grain.....	96.39	3.61	.....	.....	69.77	3.95	74.02	12.99	76.05	7.12

CONCLUSIONS

The Angora goat industry is of considerable importance to many farms of Western Oregon. Much of the land used would bring little revenue except for its use by goats. The goat industry supplements other livestock production and in many cases improves the pastures for sheep and cattle.

Except in the cases of pure-bred flocks maintained for the production of stud stock, the Angora goat is kept on the farms of Western Oregon for (1) the purpose of clearing land, (2) the production of mohair, and (3) the production of stock for sale.

The annual loss of goats in Oregon is relatively high. Based on the losses sustained by the farms included in this study, the total annual loss for Oregon would be approximately 20,000 head valued at about \$70,000.

The greatest problems confronting the goat man are the decrease of death loss and the increase of the kid crop. A slight loss on the goat operation was shown by this study owing largely to these items. At present the number of kids raised is barely enough to replace losses. Flocks therefore show little increase and the number available for slaughter or sale is negligible.

Management practices on goat farms can be improved. On the farms surveyed the goats were not given the feed, shelter, and care that other classes of livestock received. This was due to the fact that the cash returns for the goats were not as large as those for cattle or sheep. More feed and better management particularly at breeding and kidding time undoubtedly would increase the returns from the goat flock.