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**NATIVE HAMPSHIRE  
TYPE EWES**

**VS**



**WERN CORRIEDALE  
TYPE EWES**

**for**

- (a) Lamb and Wool Production
- (b) Longevity

**VIRGINIA UNIVERSITY AGRICULTURAL EXPERIMENT STATION**

WEST VIRGINIA UNIVERSITY  
AGRICULTURAL EXPERIMENT STATION  
COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS  
H. R. VARNEY, DIRECTOR  
MORGANTOWN

# Native Hampshire Type Ewes vs Western Corriedale Type Ewes for

## (a) Lamb and Wool Production (b) Longevity

E. A. Livesay and C. J. Cunningham\*

### Introduction

**T**HIS work was started at a time when it seemed almost impossible to develop native young ewes within the State without some damage from internal parasites. Copper sulphate, nicotine sulphate, and a combination of the two were being used as drenches at regular four-week intervals; however, the control of stomach worms was far from satisfactory. (Phenothiazine was in its infancy as a control at this time.) It was thought that young ewes produced in the western range states might be healthier, show less parasitic damage, be more valuable for lamb and wool production, and possibly live longer than our native ewes. This flock comparison was designed to test a certain type of Native ewes with a certain type of Western ewes. The work was actively started with the breeding season of 1942 and closed with the marketing of the 1952 lamb and wool crop.

### Ewes

This study covers the productive history of 65 native grade Hampshire type and 65 western grade Corriedale type ewes. All ewes were purchased as yearlings. The native Hampshire type ewes were selected from 25 yearling ewes in Pocahontas County and were considered a good average of ewes of similar breedings being used in commercial flocks in the County. The 65 western Corriedale type ewes were a gate cut of a flock of yearling ewes from Montana. These ewes were a good uniform flock and exhibited Corriedale characteristics in both conformation and fleece. For simplicity the flocks were designated as Native and Western. (Photos on cover and elsewhere in this bulletin give a good idea of the characteristics of the two flocks.)

\*E. A. Livesay was formerly Animal Husbandman and Head of Animal Husbandry; J. Cunningham is Associate Animal Husbandman in charge of Reymann Memorial Experimental Farms, Wardensville, W. Va.



Two-year-old Western Ewes in fleece and immediately after shearing.



Two-year-old Native Ewes in fleece and immediately after shearing.

## Management

The 130 ewes were fed and managed as a single flock, except during the breeding season—September 15 to November 15. During this period they were divided into four individual flocks (two westerns and two natives) and mated to four different rams. For the first four years they were mated to four Southdown rams. The rams were rotated each year in order to level the influence of the site. In other words, every ewe in the total flock was mated to each of the four Southdown rams during the first four years of the test.

During the second four-year period a similar plan of breeding was started with four yearling Hampshire rams. One Hampshire ram died and was replaced with another Hampshire for the seventh and eighth years. The other three Hampshire rams were mated to all ewes during the second four years.

For the ninth and tenth years the total remaining ewes were mated to a different Hampshire ram.

Following the breeding season, the entire flock ran together on pasture and was wintered as a unit. The winter roughage was either first-cutting clover-timothy or first-cutting alfalfa-timothy hay which varied from fair to excellent quality from year to year. The hays were fed twice daily in quantities which were consumed with a small amount of waste. In addition to the roughage, the ewes were fed 1/2 pound of grain mixture composed of 1-part corn and 1-part oats for a period of thirty days prior to lambing, and 1 pound of the same grain mixture for sixty days following lambing each year.

Ewes were lost from the flock due to death, failure to lamb, and an occasional bad udder. Every ewe remained in the flock as long as she was considered useful for the production of lambs and wool.

The treatment for internal parasites during the test was as follows:

1. The native ewes were drenched with phenothiazine at time of selection or two days before they were delivered to the sub-station farm at Wardsville.

2. Both the Native and Western ewes were placed on a salt phenothiazine mixture (9:1) as soon as they arrived on the farm. They remained on this mixture for thirty days, then they received only salt for thirty days. This method of alternating the feeding of phenothiazine with thirty days was continued throughout the entire ten-year period. (This method of feeding phenothiazine was started because of the lack of knowledge as to its effect, if fed continuously over a long period.)

## Methods of Collecting Data

The ewes were weighed each year at the start of the breeding season. All lambs were recorded at birth and a complete record was kept as to single, twins, triplets, weight, living or dead. All lambs were graded on the farm and sold the following day on the basis of the farm grades. One market grader and two station workers served as the grading committee without change, for the duration of the experiment.

Fleece weights were recorded at time of clipping and the wool was sold on the basis of the system of grading or classification in practice by the West Virginia Cooperative Wool Marketing Association. The wool was merely sorted into clear-medium and rejects. The clear-medium was practically 100 per cent 3/8 and 1/1 blood, and this accounted for 99 per cent of each annual clip. Only a few fleeces were classified as rejects—coated, black fiber and burry.

## Discussion of Results

Tables 1 to 6 (appendix) contain all essential data covering the results of the flock comparisons for the entire ten-year period.

The data of Table 1 reveal:

(a). The Western ewes were heavier by an average of 13 pounds at the start of the breeding seasons.

(b). The longevity of the Western ewes was superior to that of the Native ewes. There was a much heavier loss of Native ewes as they reached seven to eight years of age.

(c). The lambs from the Native ewes graded slightly higher than the lambs from the Western ewes. (See average grade.)

(d). The value of the lambs sold, per ewe started, was greater in nine of the ten years for the Western ewes.

(e). The weight of fleece, per ewe clipped, was approximately 10 per cent heavier in the case of the Western ewes.

(f). The annual gross return, per ewe bred and per ewe clipped was greater for the Western ewes for each of the ten years. The difference varied from \$2.00 to \$12.00 per head. This average was \$6.82 per ewe.

The data in Tables 2 and 3 show that the prolificacy of the Western ewe was superior to that of the Native ewe.

The data in Tables 4 and 5 show the marketing record of lambs from Native and Western ewes, respectively. Single, twin, and triplet lambs produced by the Western ewes were heavier at marketing time than the lambs produced by the Native ewes.

Table 6 gives a general summation of the pounds of lambs and wool marketed, and the gross returns for the ten-year period. The data in this table show that the western grade Corriedale type ewes were superior to the native grade Hampshire type ewes in number of lambs born, lambs marketed, percentage of lambs born-marketed, pounds of lambs marketed, cash return from lambs, total pounds of wool, and cash return from wool. When the cash returns from lambs and wool are summarized we find that the gross return from the native grade Hampshire type ewes was \$7,000.30 and from the western grade Corriedale type ewes it was \$11,291.66.


Table 7 gives a complete record of the salt, and salt-phenothiazine (9:1) consumption for the entire flock for the ten years. When this work was started, the cumulative effect of continuous salt-phenothiazine feeding was not known. Therefore, salt and salt-phenothiazine were alternated each thirty days for the entire ten years. It has since been proven that there are no deleterious effects from continuous feeding of salt-phenothiazine mixture. The salt-phenothiazine consumption was on an average less than the consumption of salt alone; however, the consumption was not uniform from year to year. This method of feeding phenothiazine gave good stomach worm control for the ewe flock; however, no lambs were retained for breeding purposes.

## Conclusions

The grade Montana Corriedale ewes used in this test proved more profitable for lamb and wool production than West Virginia grade Hampshire type ewes. The Corriedale ewes were also slightly superior in respect to longevity.

In the summary, Table 6, the gross returns from lambs and wool may not accurately reflect the net returns. It was mentioned in connection with Table 1 that the Corriedale type ewes were heavier than the Hampshire type by approximately thirteen pounds. Therefore, we would expect feed costs to be somewhat more for the heavier ewes. The longevity of the Western ewes was slightly superior, which gave the Corriedale flock some advantages. These advantages are mentioned in order not to overemphasize the advantage of the Corriedale flock as against the Hampshire flock. Even though these advantages are mentioned, it should be kept in mind that the annual return, per ewe bred and clipped, was an average of \$6.82 per ewe greater for the Western ewe.





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# **APPENDIX**



TABLE I. COMPARISON OF LAMB AND WOOL PRODUCTION FROM GRADE NATIVE HAMPSHIRE TYPE EWES AND GRADE WESTERN CORRIEDALE TYPE EWES

	FIRST YEAR 1942-43		SECOND YEAR 1943-44		THIRD YEAR 1944-45		FOURTH YEAR 1945-46		FIFTH YEAR 1946-47		SIXTH YEAR 1947-48		SEVENTH YEAR 1948-49		EIGHTH YEAR 1949-50		NINTH YEAR 1950-51		TENTH YEAR 1951-52	
	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western	Native	Western
No. ewes started	65	65	57	64	55	61	53	59	47	53	33	50	28	38	22	28	18	21	12	17
Av. wt. when started (lbs.)	96.06	123.23	128.84	128.30	124.03	133.35	128.75	136.25	123.22	141.32	133.92	133.20	127.17	146.08	125.22	141.30	130.00	142.50	115.20	142.00
No. live lambs at birth	65	70	56	87	75	89	56	83	61	73	37	73	32	56	33	38	20	30	15	21
Av. wt. of lambs at birth (lbs.)	8.58	8.28	9.11	9.10	8.35	9.19	8.95	10.00	9.02	9.87	8.89	9.14	8.89	9.23	8.97	9.64	9.20	10.00	8.74	9.15
No. lambs marketed	61	66	55	84	74	87	55	83	48	66	3	64	25	44	25	31	11	23	9	13
Av. age at marketing (days)	154	151	154	159	152	156	148	151	146	157	145	146	151	148	156	152	163	161	158	152
Total wt. at marketing (lbs.)	4241.00	4607.00	4223.00	6194.50	5576.50	6617.60	4381.50	6736.50	3950.50	5814.50	2619.00	5331.30	2161.50	3806.50	2221.50	2661.00	916.50	2286.00	772.5	1034.5
Av. wt. at marketing (lbs.)	69.50	69.80	76.80	73.74	75.86	76.05	79.66	81.16	82.30	88.10	81.84	83.30	86.40	86.51	88.86	85.94	74.24	99.39	80.28	79.58
Av. grade at marketing	2.62	2.18	1.87	2.45	1.82	2.05	1.49	1.89	1.73	1.38	2.03	2.05	1.48	1.98	1.68	1.93	1.82	1.44	2.11	2.07
Grades #1—choice	1	19	17	11	32	22	34	38	24	46	12	27	16	14	13	9	5	16	1	3
#2—good	30	26	30	33	26	43	16	31	14	15	10	18	8	24	9	18	4	4	6	7
#3—medium	23	16	7	33	13	19	0	17	9	5	7	11	0	5	2	2	1	3	1	2
#4—common	5	4	0	5	3	2	1	1	1	0	3	5	0	0	0	1	1	0	1	1
#5—culls	2	1	1	2	0	1	0	1	0	0	0	3	1	1	1	1	0	0	0	0
Selling price per 100 lbs. #1.	\$ 15.65	\$ 15.65	\$ 13.90	\$ 13.90	\$ 16.35	\$ 16.35	\$ 19.30	\$ 19.30	\$ 23.80	\$ 23.80	\$ 29.00	\$ 29.00	\$ 25.45	\$ 25.45	\$ 26.50	\$ 26.50	\$ 30.00	\$ 30.00	\$ 29.00	\$ 29.00
#2.	15.20	15.20	13.40	13.40	15.35	15.35	18.50	18.50	22.50	22.50	28.50	28.50	24.95	24.95	23.50	23.50	27.50	27.50	24.50	24.50
#3.	13.80	13.80	10.35	10.35	14.55	14.55	15.40	15.40	18.70	18.70	26.90	26.90	22.10	22.10	20.00	20.00	23.00	23.00	17.00	17.00
#4.	11.65	11.65	9.20	9.20	11.30	11.30	10.00	10.00	15.00	15.00	24.10	24.10	20.10	20.10	16.00	16.00	16.00	16.00	12.00	12.00
#5.	7.00	7.00	6.90	6.90	7.00	7.00	6.00	6.00	.....	.....	22.25	22.25	12.50	12.50	10.00	10.00	10.00	10.00	.....	.....
Av. return per lamb	9.93	9.53	10.12	8.90	11.76	11.67	14.96	14.68	18.51	20.61	23.37	23.37	21.60	21.37	21.93	20.48	23.11	28.72	18.61	19.04
Av. amt. received from lambs per ewe started	9.32	9.67	9.77	11.68	15.83	16.65	15.82	20.66	18.90	25.66	22.31	29.92	19.29	24.75	24.92	22.68	14.12	31.45	13.96	14.56
Av. selling price per 100 lbs.	14.29	13.65	13.18	12.07	15.61	15.34	18.77	18.09	22.49	23.39	28.11	28.06	24.99	24.70	24.68	23.87	27.73	28.89	23.19	23.93
Total receipts for lambs	606.03	628.78	556.70	747.62	870.45	1015.37	822.57	1218.70	888.42	1360.11	736.34	1495.96	540.13	940.82	548.36	635.18	254.20	600.52	167.51	247.58
Total pounds of wool clipped	275.40	776.00	288.20	569.30	307.30	564.00	265.00	531.70	243.90	463.70	139.10	443.40	104.2	286.2	95.25	233.1	46.90	178.8	36.40	75.75
Av. pounds per ewe clipped	4.44	11.94	6.15	9.04	5.80	9.40	5.52	10.03	6.10	9.27	4.96	10.81	4.96	9.54	5.29	9.71	3.61	9.93	4.56	8.31
Selling price of wool (per lb.)	\$ 0.5110	\$ 0.5110	\$ 0.5512	\$ 0.5512	\$ 0.5535	\$ 0.5535	\$ 0.5279	\$ 0.5279	\$ 0.5490	\$ 0.5490	\$ 0.5375	\$ 0.5375	\$ 0.5504	\$ 0.5504	\$ 0.62	\$ 0.62	\$ 1.08	\$ 1.08	\$ 0.6676	\$ 0.6676
Total receipts from wool	140.73	396.54	158.86	313.80	170.09	312.18	139.89	280.68	133.90	254.57	74.77	238.33	57.35	157.52	59.05	144.53	50.65	193.10	24.30	50.57
Av. return from wool per ewe clipped	2.27	6.10	2.84	4.98	3.21	5.20	2.92	5.30	3.35	6.09	2.67	5.81	2.73	3.28	6.02	3.90	10.73	3.04	4.21	4.21
Total receipts from wool and lambs	746.76	1025.32	715.56	1061.42	1040.54	1327.55	962.46	1499.38	1022.32	1614.68	811.11	1734.29	597.48	1097.84	607.41	779.71	304.95	853.62	191.81	298.15
Av. total return per ewe started	11.49	15.77	12.55	16.58	18.92	21.76	18.16	26.41	21.76	30.46	24.58	34.69	21.33	28.89	27.61	27.85	16.94	40.65	15.96	17.53



TABLE 2. PROLIFICACY OF NATIVE EWES\*

Year	Single Birth		Twins		Triplets	
	No.	%	No.	%	No.	%
1	49	81.67	11	18.33	0	....
2	36	76.60	11	23.40	0	....
3	20	40.82	27	55.10	2	4.08
4	22	50.00	22	50.00	0	....
5	12	31.58	24	63.16	2	5.26
6	13	48.15	13	48.15	1	3.70
7	8	36.36	12	54.55	2	9.09
8	6	33.33	9	50.00	3	16.67
9	6	46.15	7	53.85	0	....
10	5	50.00	5	50.00	0	....
Total . . .	177	53.96	141	42.99	10	3.05

\*Includes both live and still lambs.

TABLE 3. PROLIFICACY OF WESTERN EWES\*

Year	Single Birth		Twins		Triplets	
	No.	%	No.	%	No.	%
1	41	70.69	17	29.31	0	....
2	31	50.82	29	54.54	1	1.64
3	25	43.10	32	55.17	1	1.72
4	20	35.71	33	58.93	3	5.36
5	23	45.10	23	50.98	2	3.92
6	19	41.30	21	45.65	6	13.04
7	7	21.21	22	66.67	4	12.12
8	10	41.67	14	58.33	0	....
9	"	47.37	9	47.37	1	5.26
10	5	35.71	9	64.29	0	....
Total . . .	190	45.24	212	50.48	18	4.28

\*Includes both live and still lambs.

