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WINTERING PREGNANT EWES

BY

DAN T. GRAY and L. W. SHOOK

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Wintering Pregnant Ewes in Alabama

BY

DAN T. GRAY and L. W. SHOOK

INTRODUCTION.

A few farmers of the state are so fortunately situated that this bulletin will contain little of interest to them, as a favored few have an abundance of winter feed in the shape of winter range. The man who has a good winter range or cane brake probably needs no additional feed for the breeding ewe; this ewe requires only care, attention, and shelter at lambing time. Sheep will, in time, be more generally introduced into the State, and when this is accomplished it will be done by the small farmers and these small land owners will not be supplied with large and almost limitless ranges; they will be compelled to feed the ewes during the cold months, therefore, the small farmer, as well as many extensive land owners, will be interested in knowing about some of the best and most satisfactory winter feeds for pregnant ewes.

OBJECTS OF EXPERIMENT.

Realizing the importance of the sheep industry to the State, this Station began, six years ago, some experimental work with the following objects in view:

1. To study early lamb production in Alabama.
2. To study feeds and methods of carrying the pregnant ewe through the winter months.
3. To test cottonseed meal as a feed for pregnant ewes.

The results of the first and third objects were partially reported in bulletin 148 which was issued from this Station in October, 1909. The results set forth in this report have to do with the second object.

THE EWES AND SHELTER.

Common native Alabama ewes were employed in all of the tests. They were purchased during the summer of 1907 of a neighboring farmer at \$2.00 apiece. While they were infested to a certain extent with stomach worms, still they were in fairly good health and condition. The data show that their average normal summer weight was approximately 85 pounds; in some parts of the state scrub ewes average as much as 100 pounds in weight.

During the test each lot of sheep was confined in a pen 20x80 feet with a shed extending across the east end. The shed had an open west front but afforded ample protection from the cold winds and rains. Water and salt were kept before the animals all the time.

FEEDS.

In 1907-08 the 32 ewes were divided into four equal lots and fed the following rations:

Lot 1—Sorghum hay.*

Lot 2—Mixed Hay.*

Lot 3—Cottonseed.*

Lot 4—Cottonseed Meal and Cottonseed Hulls.

In 1908-09 and 1909-10 the sheep were divided into only two lots.

The feeds were all of good quality. The sorghum hay was fresh, bright and had been properly cured. The mixed hay was made up of sorghum, cowpeas, and crab grass in about equal proportions. The corn silage was made on the Station farm. The prices of feed vary very much from time to time, consequently the reader should bear this in mind when referring to the financial statements. The following values have been used in all financial estimates:

*Although the ewes in lots 1, 2, and 3 were given all of the sorghum hay, mixed hay, and cottonseed they would eat, it was soon seen that they would not be able to get through the winter on these feeds alone, so a small amount of cottonseed meal and wheat shorts was added to the first two lots, and cottonseed meal to the third one.

Sorghum hay	per ton..	\$10.00
Mixed hay	per ton..	42.00
Cottonseed	per ton..	20.00
Cottonseed meal	per ton..	26.00
Cottonseed hulls	per ton..	8.00
Corn silage	per ton..	3.00

DETAILS OF THE TEST OF 1907-08.

The ewes grazed on the summer and fall pastures until November 13 when they were divided, as above indicated, and the experiment inaugurated. Eight ewes were placed in each lot at the beginning of the test; some of these, however, were taken out during the progress of the test on account of lambing. When this was done they were placed in a fifth lot and fed as milk-giving animals; that is, the amount of feed was practically doubled. The first part of the test continued until January 14. On this date the four lots of ewes were thrown together as one lot and continued as lot 5 on a ration of cottonseed meal and hulls. Because the rations in the first three lots were not satisfactory it was found necessary to change them to more palatable and nutritive feeds so they were all placed together. The following data show the rations in lots 1, 2, and 3, to have been exceedingly unsatisfactory. In fact, it was found impossible to keep the ewes alive and healthy on sorghum, mixed hays, or cottonseed. Some sheep, however, seem to thrive in a satisfactory manner on cottonseed.



LOT 1.

(November 13-January 14)

Ration—Sorghum Hay. *

Details:

1. Eight ewes in the lot at the inauguration of the test November 13.
2. Each ewe ate an average of 2.4 pounds of sorghum hay daily.*
3. The eight ewes weighed a total of 649 pounds at the beginning of the test.
4. The ewes averaged $81\frac{1}{8}$ pounds in weight on November 13.
5. The eight ewes suffered a total loss of 98 pounds in weight from November 13 to January 14.
6. This was an average loss per ewe of $12\frac{1}{2}$ pounds.
7. When sorghum hay was valued at \$10.00 a ton it cost 36 cents to feed each ewe a month.
8. But sorghum hay was entirely unsatisfactory; it would not maintain the ewes in normal health and weight.

*Sorghum hay alone would not maintain the ewes in normal weight and health so a small allowance (1 pound a day) of cottonseed meal and wheat shorts was added the last 14 days (January 2-14)



LOT 2.

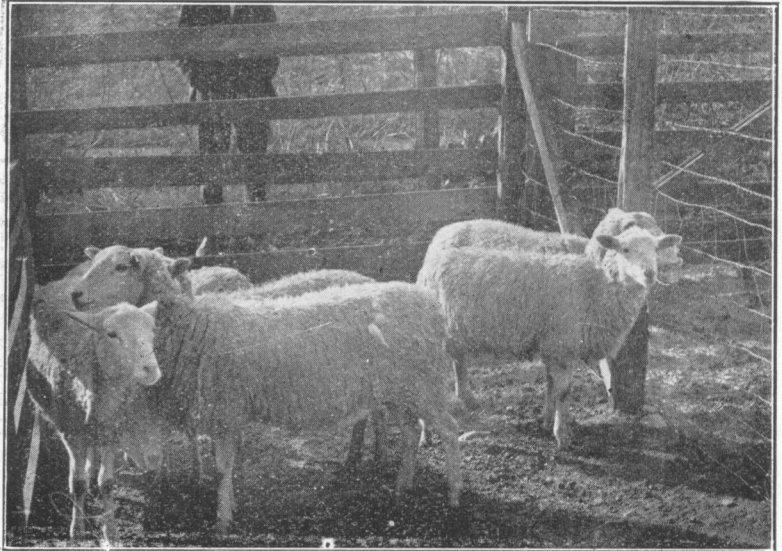
(November 13-January 14)

Ration—Mixed Hay *

Details:

1. Eight ewes in the lot at the inauguration of the test, November 13.
2. Each ewe ate an average of 2.13 pounds of hay daily.*
3. The eight ewes weighed a total of 666 pounds at the beginning of the test.
4. The eight ewes averaged $83\frac{1}{4}$ pounds in weight on November 13.
5. The eight ewes suffered a total loss of 46 pounds in weight from November 13 to January 14.
6. This was an average loss per ewe of $5\frac{3}{4}$ pounds.
7. When mixed hay was valued at \$12.00 a ton it cost 38 cents to feed each ewe a month.
8. But the mixed hay proved to be unsatisfactory; when fed alone it did not maintain the normal weight and health of the pregnant ewes.

*The mixed hay would not maintain the ewes in normal health and weight so a small allowance of cottonseed meal and wheat shorts (1 pound per lot per day) was added to the hay ration the last 14 days.



LOT 3.

(November 13-January 14)

Ration—Cottonseed and Cottonseed Meal. . *

Details:

1. Eight ewes in the lot at the beginning of the test November 13.

2. Each ewe ate an average of .64 of a pound of cottonseed and .11 of a pound of cottonseed meal each day.

3. The eight ewes weighed a total of 631 pounds at the beginning of the test.

4. The ewes averaged $78\frac{7}{8}$ pounds in weight on November 13.

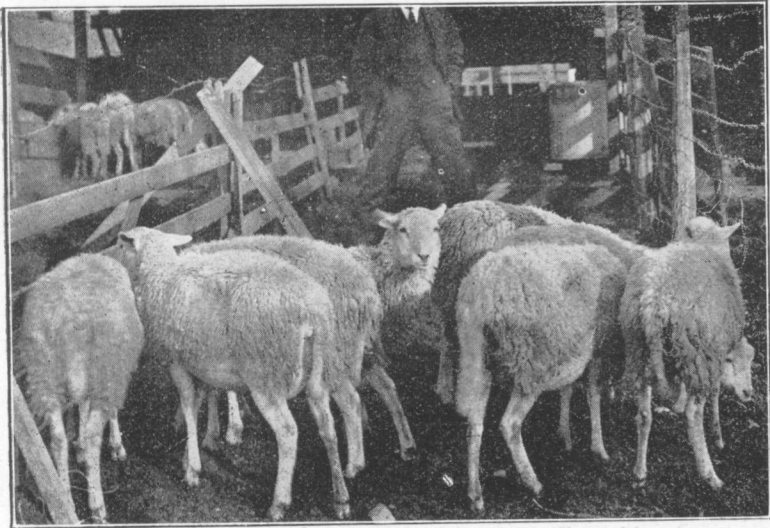
5. The eight ewes suffered a total loss of 131 pounds in weight from November 13 to January 14.

6. This was an average loss per ewe of $16\frac{3}{8}$ pounds.

7. When cottonseed was valued at \$20.00 a ton and cottonseed meal at \$26.00 a ton it cost 31 cents to feed each ewe a month.

8. But the above amounts of cottonseed and cottonseed meal did not maintain the ewes in normal health and weight. A sufficient amount of a mixture of these two feeds will maintain a ewe in excellent condition, however; these sheep suffered the large losses while an effort was being made to accustom them to the seed ration.

*The original intention was to feed this lot of ewes on cottonseed alone, but the sheep could not be induced to eat a satisfactory amount of seed, and it was found necessary to sprinkle a small amount of cottonseed meal over the seed.



LOT 4.

(November 13-January 14)

Ration—Cottonseed Meal and Hulls.

Details:

1. Eight ewes in the lot at the beginning of the test, November 13.

2. Each ewe ate an average of .27 of a pound of cottonseed meal and 1.44 pounds of hulls each day.

3. The eight ewes weighed a total of 629 pounds at the beginning of the test.

4. The ewes averaged $78\frac{5}{8}$ pounds in weight on November 13.

5. The eight ewes suffered a total loss of 38 pounds in weight from November 13 to January 14.

6. This was an average loss per ewe of $4\frac{3}{4}$ pounds.

7. When cottonseed meal was valued at \$26.00 a ton and hulls at \$8.00 a ton it cost 28 cents to feed each ewe a month.

8. The above amounts of cottonseed meal and hulls failed to completely maintain the weights of the ewes, but it maintained their normal health. Cottonseed meal and hulls make an entirely satisfactory feed for maintaining pregnant ewes during the cold months, but should be fed in somewhat larger amounts than indicated above.



LOT 5. *

(January-March 10)

Details: **Ration—Cottonseed Meal and Hulls.**

1. Seventeen ewes in the lot at the beginning of the test, January 14.

2. Each ewe ate an average of .34 of a pound of cottonseed meal and 1.5 pounds of cottonseed hulls each day.

3. The 17 ewes weighed a total of 1014 pounds at the beginning of this period.

4. The ewes averaged 59 11-17 pounds in weight at the beginning of the period; they were in a very poor condition, especially those which came from lots 1, 2, and 3.

5. The 17 ewes suffered a total loss of only 3 pounds from January 14 to March 10, so they were practically maintained in weight.

6. When cottonseed meal was valued at \$26.00 a ton and hulls at \$8.00 a ton it cost 31 cents to feed each ewe a month.

7. The above amounts of cottonseed meal and hulls practically maintained the weight of the ewes. They were, however, exceedingly poor and weak at the beginning of this period and should have been fed somewhat more liberally.

*On January 14 all of the ewes in Lots 1, 2, 3, and 4 which had not brought lambs were placed together in Lot 5 and continued on a ration of cottonseed meal and hulls from January 14 to March 10. As several of the ewes from the first three lots were weak, the object was to give rather liberal allowances of cottonseed meal and hulls during this period.

Experiment II.

A heavy against a light ration of cottonseed meal for wintering pregnant ewes.

(October 27, 1908-April 10, 1909.)

During the winter of 1908-09 the scrub ewes which were used the previous winter were again employed, being divided into two lots this year. Both lots were fed rations of cottonseed meal and hulls, but one lot was fed a very much heavier ration of cottonseed meal than the other. The two lots of sheep were given practically equal amounts of hulls.

The test continued from October 27 to April 10. Some of the ewes lambled during the course of the test; when this occurred both the mother and lamb were removed from the experiment and the amount of feed reduced proportionally.

The following results were secured:

Lot 1. (Light ration of cottonseed meal.) :

1. Seventeen ewes in the lot at the beginning of the test, October 27.

2. Each ewe ate an average of .24 of a pound of cottonseed meal and 1.98 pounds of hulls each day.

3. The seventeen ewes weighed a total of 1592 pounds at the beginning of the test.

4. The ewes averaged 93 11-17 pounds in weight at the beginning of the experiment.

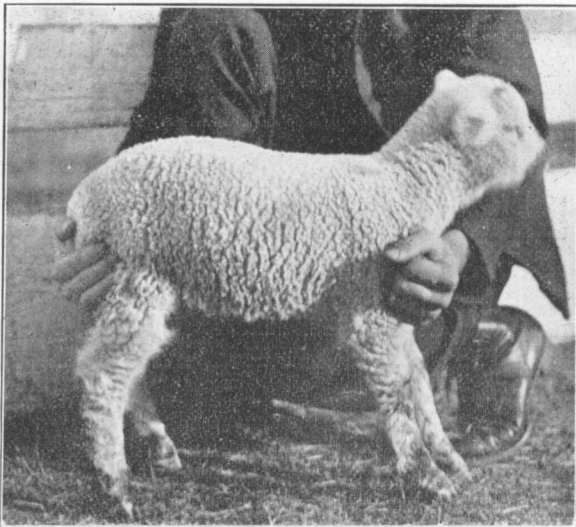
5. The seventeen ewes suffered a total loss of 62 pounds in weight from October 27 to April 10.

6. When cottonseed meal was valued at \$26.00 a ton and hulls at \$8.00 a ton it cost 33 cents to feed each ewe one month.

7. The above daily amounts of feed did not, however, maintain the initial weight of the sheep. They suffered a small loss in weight, when, as a matter of fact, pregnant ewes should be made to gain from six to eight pounds during the period of gestation.

Lot 2. (The heavy ration of cottonseed meal.):

1. Eighteen ewes in the lot at the beginning of the test, October 27.
2. Each ewe ate an average of .54 of a pound of cottonseed meal and 1.87 pounds of hulls daily.
3. The eighteen ewes weighed a total of 1649 pounds at the beginning of the test.
4. Each ewe averaged 91 11-18 pounds in weight at the beginning of the test.
5. The eighteen ewes gained a total of 77 pounds in weight from October 27 to April 10.
6. When cottonseed meal was valued at \$26.00 a ton and hulls at \$8.00 a ton it cost 43 cents to feed each ewe a month.
7. These ewes were given a sufficient amount of feed; they gained 4 5-18 pounds each during the winter months. The above ration could have been cheapened slightly by decreasing the amount of cottonseed meal and increasing the amount of hulls.



This little lamb was born on Christmas day. In April he weighed 65 pounds and brought 9 cents a pound.

Experiment III.

Wintering Pregnant Ewes on Cottonseed Meal and Corn Silage.

(November 10, 1909-March 1, 1910)

During the winter of 1909-10 the ewes which were used in the two previous winters' work were again divided into two lots and additional information collected along the line of economical feeding during the cold months. A ration of cottonseed meal and corn silage was compared with one made up of cottonseed meal and cottonseed hulls. As the ewes were breeding animals no attempt was made to secure large gains; the object was to get them through the winter in a strong and healthy breeding condition. The experiment was inaugurated November 10 and closed March 1. None of the ewes had lambs at the beginning of the test, but some lambs were born during its progress; when this occurred the mother was taken out of the experiment and the amount of feed reduced in the proper proportion.

The following statements give the important details of the test:

Lot 1. Cottonseed meal and Hulls:

1. Seventeen ewes in the lot at the beginning of the test.
2. Each ewe ate an average .6 of a pound of cottonseed meal and 2.1 pounds of hulls daily.
3. The seventeen ewes weighed a total of 1382 pounds at the beginning of the test.
4. The ewes averaged 81 5-17 pounds in weight at the beginning of the test.
5. The seventeen ewes gained a total of 185 pounds in weight from November 10 to March 1.
6. When cottonseed meal was valued at \$26.00 a ton and hulls at \$8.00 a ton it cost 49 cents to feed each ewe a month.

7. These ewes were given a sufficient amount of feed. They all came through to spring in excellent health and condition. In fact, the ration could have been made cheaper by reducing the daily allowance of cottonseed meal.

Lot 2. Cottonseed Meal and Corn Silage:

1. Eighteen ewes in the lot at the beginning of the test.

2. Each ewe ate an average of .6 of a pound of cottonseed meal and 3.4 pounds corn silage daily.

3. The eighteen ewes weighed a total of 1433 pounds at the beginning of the experiment.

4. The ewes averaged 79 1-18 pounds in weight at the beginning of the test.

5. The eighteen ewes gained a total of 65 pounds in weight from November 10 to March 1.

6. When cottonseed meal was valued at \$26.00 a ton and corn silage at \$3.00 a ton it cost 39 cents to feed each ewe a month.

7. These ewes were given a sufficient amount of feed. They all came through to spring in excellent health and condition.

SUMMARY TABLE.

November 13, 1907-January 14, 1908

Lot	No. of Ewes	RATION	Lbs. of Food eaten by each ewe daily.	Total gain of each ewe.	Cost to feed each ewe a month.
			Lbs.	Lbs.	Cents
1	8	Sorghum hay -----	2.4 -----	-12 $\frac{1}{2}$ -----	36
2	8	Mixed hay -----	2.13 -----	- 5 $\frac{3}{4}$ -----	38
3	8	Cottonseed ----- Cottonseed meal -----	.64 seed } .11 meal }	-16 $\frac{3}{8}$ -----	31
4	8	Cottonseed meal ----- Cottonseed hulls -----	.27 meal } 1.44 hulls }	- 4 $\frac{3}{4}$ -----	28

October 27, 1908-April 10, 1909.

			Lbs.	Lbs.	Cents
1	17	Cottonseed meal } light { Cottonseed hulls } ration {	.24 meal } 1.98 hulls }	-3 $\frac{11}{17}$ -----	33
2	18	Cottonseed meal } heavy { Cottonseed hulls } ration {	.54 meal } 1.87 hulls }	+4 $\frac{5}{18}$ -----	43

November 10, 1909-March 1, 1910.

			Lbs.	Lbs.	Cents
1	17	Cottonseed meal ----- Cottonseed hulls -----	.6 meal - } 2.1 hulls - }	10 $\frac{15}{17}$ -----	49
2	18	Cottonseed meal ----- Corn Silage -----	.6 meal - } 3.4 silage }	3 $\frac{11}{18}$ -----	39

SUMMARY STATEMENTS.

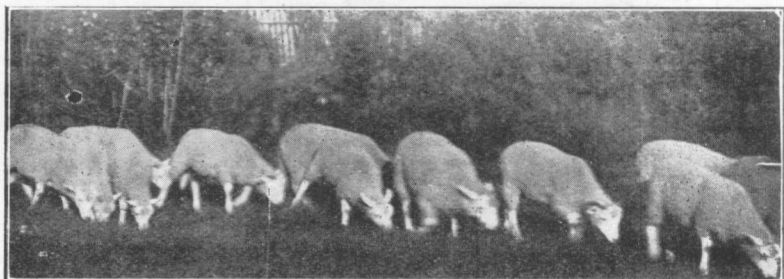
1. Sorghum hay did not maintain the normal health and weight of the pregnant ewes.

2. Mixed hay (consisting of soy beans, cowpeas, and crab grass) did not maintain the normal health and weight of pregnant ewes.

3. The ewes could not be induced to eat a sufficient amount of raw cottonseed to maintain their normal health and weight. When a small amount of cottonseed meal, however, was sprinkled over the seeds they seemed to relish them.

4. Cottonseed meal and hulls proved to be entirely satisfactory. But a daily ration of .24 of a pound of cottonseed meal plus 1.98 pounds of hulls did not maintain the original weight of the ewes although the health remained perfectly normal. However, a daily ration of .54 of a pound of cottonseed meal and 1.87 pounds of hulls caused the pregnant ewes to make a satisfactory increase in weight.

5. A ration made of a mixture of cottonseed meal and corn silage proved to be exceedingly satisfactory. This mixture proved to be a considerably cheaper feed than a ration of cottonseed meal and hulls.



Some Spring lambs almost ready to sell.