

Oats *and* Barley
for
Fattening Lambs

By

HILTON M. BRIGGS

OKLAHOMA AGRICULTURAL EXPERIMENT STATION

Oklahoma A. and M. College, Stillwater

W. L. BLIZZARD, Director

LOUIS E. HAWKINS, Vice Director

The High Spots

	Page
● Oklahoma is well situated for profiting from feeding Western lambs	3
● Cottonseed meal and <i>good</i> prairie hay can be successfully used in dry-lot feeding.....	3
● Oats are equal to corn when replacing half of corn in ration	5
● Barley is less satisfactory than oats	6
● Oats-barley mixture shows no advantage over either fed separately but can be used when necessary ..	6

Oats and Barley for Fattening Lambs

By HILTON M. BRIGGS
Associate Professor of Animal Husbandry

Opportunity for Lamb Feeding

To the south and west of Oklahoma lies Texas, a great producer of feeder lambs. To the north and east are the lamb-consuming centers. Oklahoma, lying between the two, has opportunity to profit by fattening western lambs.

Wheat pasture provides the most economical method of fattening lambs in Oklahoma. But wheat pasture is not available every year, and in some areas it is limited even in the best years. The alternative is dry lot feeding.

Dry lot feeding of lambs is important in Oklahoma for two distinct reasons:

First, it offers an outlet to the lamb feeder who fattens lambs on wheat pasture. An unfavorable winter season may leave him without his contemplated wheat pasture but with a group of partially finished lambs. To sell the unfinished lambs might lead to a distinct financial loss.

Second, dry lot feeding usually affords the producer a greater financial return for the grain and roughage used than can be secured by selling these crops on the prevailing market. The possibility of marketing grain through lambs cannot be overlooked.

The results of feeding lambs in this state compare favorably with those of other sections when economy, or the feed required for each hundred pounds of gain, is considered. In feeding tests at the Oklahoma Agricultural Experiment Station, several Oklahoma feeds have been compared with those commonly used in the Corn Belt.

Tests with cottonseed meal and prairie hay have been reported in a previous publication.* The results of these tests indicated that cottonseed meal had a value about four-fifths that of shelled yellow corn, and that it could be fed to lambs in large quantities without impairing the health and appetites of the lambs or the quality of the carcasses, as long as the remainder of the ration provided adequate vitamins and minerals. The comparison of prairie hay and alfalfa was not quite so clear cut. Apparently, however, a high grade of prairie hay will come close to equaling alfalfa, while a low grade of hay has a much lower feeding value.

* Oklahoma Agricultural Experiment Station Bulletin No. B-252, "Fattening Lambs on Corn and Cottonseed Meal and on Alfalfa and Prairie Hays." This bulletin is now out of print and not available for distribution.

More recently, tests comparing Oklahoma's oats and barley with the Corn Belt's corn have been completed (Table I). In these tests a pound of oats when fed alone had a value about 94 percent that of a pound of corn. Barley, fed alone, was about 91 percent as efficient as the shelled corn with which it was compared. Oats had a higher average value when fed in combination with corn. Barley proved more valuable when fed as the only grain.*

TABLE I.—Feeding Corn, Oats and Barley to Fattening Lambs.*
(Summary of three years, 1939-40 to 1941-42.)**

	LOT I Corn	LOT II Oats	LOT III Barley	LOT IV Corn and Oats	LOT V Corn and Barley	LOT VI Oats and Barley
Av. weights (pounds)						
Initial	64.9	65.0	64.9	64.9	64.9	64.9
Final	96.7	96.4	96.1	97.1	96.1	95.8
Daily gain	.32	.32	.31	.32	.31	.31
Av. daily feed (pounds)						
Corn	1.16			.58	.58	
Oats		1.24		.60	---	.58
Barley			1.27	---	.67	.68
Cottonseed meal	.10	.10	.10	.10	.10	.10
Alfalfa hay	1.32	1.32	1.32	1.32	1.32	1.32
Salt	.017	.018	.017	.016	.017	.018
Mineral	.003	.003	.003	.003	.003	.004
Feed per hundredweight gain (pounds)						
Corn	363.4			179.3	185.3	
Oats		391.8		185.4		186.8
Barley			404.4		212.8	219.8
Cottonseed meal	31.3	31.7	31.8	30.8	31.9	32.1
Alfalfa hay	411.6	416.8	418.9	406.1	419.9	423.1
Salt	5.5	5.6	5.3	5.1	5.5	5.7
Mineral	1.0	1.1	.9	1.0	.9	1.1
Market data						
Av. shrinkage to market (%)	3.2	3.4	2.8	2.9	3.0	2.9
Av. warm dressing percentage	49.9	49.5	49.7	48.7	49.9	49.2
Av. carcass grade†	3.67	3.40	3.40	3.55	3.67	3.50

Number of lambs per lot, 60 (20 each year); average number of days fed, 99.3.

* All lots received cottonseed meal and alfalfa hay in addition to the grain shown under lot number. The small allowance of cottonseed meal was added to insure an adequate supply of protein in all lots. However, from previous results at this and other experiment stations, it is doubtful if the addition was economical in these rations in which alfalfa hay was fed as the sole roughage.

** Data for individual years are given in Oklahoma Agricultural Experiment Station Mimeographed Circulars Nos. 56, 68, and 82.

† Carcass grades: Prime, 5; choice, 4; good, 3; medium, 2; common, 1.

* The U. S. market grade of all hay and grain fed was No. 2.

Results of Tests Elsewhere

Morrison* has compiled the results of many experiments on the value of the various grains for fattening lambs. In averaging 52 experiments comparing corn and barley as the only grains for fattening lambs, he found barley to be worth 87 percent as much as corn. Barley was also found to be worth about as much when fed in combination with corn as when fed alone.

Similar computation found oats to have a lower value than barley when compared with corn. Morrison estimated oats to be worth approximately 80 percent the value of corn when the two grains are each fed as the only grain. Better results were obtained when the oats were fed in combination with corn or barley than when fed alone.

Oats Produce More Gain When Fed With Corn

In two out of the three years, oats compared more favorably with corn when they replaced only one-half of the corn than when they replaced all of it. As far as marketable gains were concerned, during the three years oats had an average value of 101.5 percent that of corn when oats replaced one-half the corn and of 91.9 percent of corn when all the corn was replaced.** There was little if any detectable difference in finish in the lambs in Lots I, II, and IV during the three years, and the lambs from all three lots sold at the same price each year. Some advantage in carcass grade was enjoyed by the corn-fed lambs.

Because of the condition under which the experiment was conducted, the lambs in Lot I were limited in the amount of corn they received,† and apparently would have taken more corn had it been offered. This can be regarded as a handicap, and corn could be expected to give even more favorable results than the other separate grains or combinations if fed at full feed levels.

* Morrison, F. B., *Feeds and Feeding; A Handbook for Student and Stockman*. 20th Edition, pp. 750-755. Morrison Publishing Co., Ithaca, New York.

** The percentage values given in this bulletin cannot be calculated directly from the amounts of compared grains presented in Table I, but must take into account the estimated net energy value of the various feeds in the rations. See F. B. Morrison, *Feeds and Feeding; A Handbook for Student and Stockman*. 20th Edition, p. 994. Morrison Publishing Co., Ithaca, N. Y.

† This was done so the lambs in the other lots could be kept gaining at the same rate, in order to permit statistical treatment of the results.

Barley Fails to Equal Corn in Fattening Lambs

Barley when fed alone had an average value 88.8 percent that of corn in putting live weight gains on lambs, but when it replaced one-half the corn it had a value only 81.4 percent that of corn. In the first year's test, the barley and corn combination proved much less economical as compared to corn alone than it did during the last two trials. There is no apparent explanation for this low value the first year. Ironically, it was during the same feeding season that barley alone gave its highest value.

During the three years, identical average carcass grades were produced by corn as the only grain and by a grain mixture of corn and barley. Each ration had the higher grade one of the three years, and they were tied the other year. Each year barley as the sole grain produced the poorest grading carcasses when Lots I, III, and V compared. The warm dressing percentage of the three lots varied in their rank each year and the averages for the three years are very similar.

In only one of the three years did barley give a value equal to oats when replacing oats in the ration. Barley had a three-year average value of 96.6 percent of oats.

Barley-Oats Mixture Less Satisfactory

Either oats alone or barley alone was as useful in fattening lambs as was a combination of oats and barley. Barley, when fed in the combination, proved very similar two out of three years to the value when fed alone; but the first year it did not show up well. It appears from this study that mixing oats and barley has no advantage over feeding either of these grains alone for fattening lambs, but the results do indicate that satisfactory results can be secured from such a combination if for reasons of a limited supply of either grain it might be desirable to use the combination.

SUMMARY

An experiment was conducted with 120 white-faced Texas feeder lambs in each of three separate years. The lambs were as evenly divided as possible each year into six lots of twenty lambs each to study the value of corn, oats, and barley in fattening lambs.

OATS VS. CORN

Lambs fed oats as the only grain required more feed per pound of gain than those fed corn. Not considering the slightly less amount of finish as shown by carcass grades, the oats when fed alone had a value of 91.9 percent that of corn in producing gains.

When oats replaced one-half the corn in the ration, they were worth 101.1 percent as much as corn in putting on gains and produced better carcasse than when oats were fed alone. Their average dressing percentage was lower, principally because of a low yield one year.

BARLEY VS. CORN

Barley worked opposite to oats in that it gave its best results when fed alone rather than in combination with corn. Barley had a value 88.8 percent of corn when fed alone in producing gains, but failed to yield as high average carcass grades as corn.

When fed in combination, barley was worth only 81.4 percent as much as corn but produced as high yielding lambs and carcass grades as did corn fed as the only grain.

BARLEY VS. OATS

Barley proved equal to oats only one year of three when each was fed as the sole grain. In an average of three years, barley was worth 96.6 percent of oats.

A combination of oats and barley gave almost identical results two years out of three. One year the barley in the mixture failed to replace oats pound for pound.

