Bulletin 823

· Marketing Texas Wool · on a Quality Basis

October 1955

TEXAS AGRICULTURAL EXPERIMENT STATION - - - TEXAS AGRICULTURAL EXTENSION SERVICE

College Station, Texas

SUMMARY

Most of the wool produced in Texas is sold on an ungraded or "original" bag basis at an average price which pays relatively more for low grades and less for high grades than they would bring if sold on a graded basis.

With comparable characteristics, Texas wool sells for approximately 10 percent less in the domestic market than foreign wool, mainly because of being ungraded and poorly prepared.

An analysis of the clips of 42 growers in Sutton county in 1952 showed that wool quality increases with the size of clips. However, the small producer who improves the quality of his sheep and prepares his fleeces properly can market just as high-quality wool as the grower of a large clip. This is an excellent way for the small producer to increase his income without increasing the size of his operation.

A direct correlation was found between length of staple and clean content in scouring tests made on 49 bags of graded and ungraded wool. Fine Staple yielded 2 percent more clean wool than the average of the lot, while Fine French Combing, Fine Clothing and "original bag" yielded 2.3, 7.4 and .2 percent, respectively, less than the average of the total.

The "quality index" is an objective method used to measure the progress of sheep improvement and wool preparation programs. Using this method, the 1954 wool clips of 61 producers showed an increase in quality of 1.66 points over the 1948 wool clips of approximately the same producers. This meant a price increase of .94 cent per pound over the price they would have received had their quality remained at the 1948 level.

The records of 75 producers whose wool was graded at the shearing pen in 1950 show that the 28 producers who selected their sheep on a staple length basis received 5.8 cents more per pound than the 47 producers who did not follow this practice. The benefits derived from this practice were about 50 cents per head, which more than paid all shearing costs, including bags, twine and extra labor.

Comparative prices of graded and ungraded wool for 1948, 1952 and 1953 show that the grower who sold on a graded basis received 25 to 50 cents more per fleece for his wool than the grower who sold on an ungraded basis. This is an increase of $30,000 to $60,000 per million pounds of wool.

CONTENTS

	Page
Summary	2
Introduction	3
Experimental Procedure	3
Quality as Indicated by Grade	3
Relation of Quality to Size of Clip	4
Clean Content	4
Combing Tests	4
Use of a Quality Index	5
Importance of Selling on a Quality Basis	5
Improved Production Practices Pay	5

Marketing Texas Wool on a Quality Basis

STANLEY P. DAVIS, L. P. GABBARD and ALVIN B. WOOTEN*

THE LOCAL MARKETING OF WOOL IS ONE OF THE most important problems facing Texas wool producers. Various phases of the marketing process already have been improved. The principal producing areas have local warehouses, and storage facilities generally are adequate. Some warehouses have begun recently to put several bags of wool into a bale of approximately 1,000 pounds and ship them by truck to the central markets. This saves both time and money. But the practice of selling wool on an ungraded "original bag" basis persists. Such sales result in indiscriminate or average prices which yield relatively more for the low grades and less for the high grades of wool than their real market value.

The United States is the only wool-producing country which markets most of its wool on an ungraded basis. As a consequence, foreign wools of similar quality, but graded and classified before sale, bring a premium of about 10 percent over U. S. wools in the domestic market. These foreign wools are attractive and, as a result of careful preparation, have a comparatively lower yarn conversion cost. They are free of tags, clippings and off-type wool, and are highly uniform in length, fineness and strength.

The main marketing problem of the Texas wool grower is to prepare and classify his fleeces so that he can sell on a graded or quality basis.

EXPERIMENTAL PROCEDURE

This bulletin reports research findings from 1948 through 1954 on the feasibility of better preparation of wool for the local market by the grower, the advantages of selling on a graded or quality basis and the comparative prices received for graded and ungraded wool of similar quality.

Sutton county was selected as a sample area for grading at shearing pens. It is centrally located on the Edwards Plateau, the principal wool-producing region of Texas. For many years, sheep raisers in this section have shown a keen interest in sheep improvement and the production of better wool. Through local warehouses they have worked for better preparation of their wool for the market.

Warehouse officials helped to obtain the cooperation of local ranchmen in grading their wool at the shearing pens. Grading was done by the Sonora Wool and Mohair Company with the assistance of two wool technicians provided by the Texas Agricultural Experiment Station.

Bagging frames for at least three wool bags were added to the usual shearing equipment. Brooms were used constantly on both sides of the shearing machine to prevent "fribs," "tags" and other off-type wool from being tied with the fleeces.

Whenever possible, the grading procedure was explained to the shearing "operators" before shearing began. Extreme care was taken in rolling and picking up the fleeces from the shearing boards.

QUALITY AS INDICATED BY GRADE

Accurate sampling methods and adequate measurements of the physical properties of wool are necessary to determine quality. Such information is essential to efficient production, marketing and utilization. The feasibility of grading wool at the shearing pens and selling it on the basis of grade in the local market was emphasized in this study. A more comprehensive and intensive analysis of the quality of wool in relation to the market is planned to supplement the current study.

*Respectively, wool and mohair technician, Substation No. 23, McGregor, Texas; professor, Department of Agricultural Economics and Sociology, College Station, Texas; and economist, Texas Agricultural Extension Service, College Station, Texas.

TABLE 1. SUMMARY OF GRADED 12-MONTHS' FINE WOOL

		Quantity, (pounds)				Percent of total			
Year	No. clips	Fine Staple	Fine Fr. Comb.	Fine Clothing	Tags & clippings	Fine Staple	Fine Fr. Comb.	Fine Clothing	Tags & clippings[1]
1948	59	345,504	270,079	75,506	64,569	45.7	35.8	10.0	8.5
1949	79	618,805	376,021	61,649	136,071	51.9	31.5	5.2	11.4
1950	75	513,328	307,695	131,667	114,123	48.1	28.9	12.3	10.7
1952	42	303,263	210,000	31,824	46,514	51.3	35.5	5.4	7.8
1953	56	296,410	209,909	32,170	53,757	50.1	35.4	5.4	9.1
1954	62	522,198	202,650	42,806	72,831	62.1	24.1	5.1	8.7
Av.	62	433,251	262,726	62,604	81,311	51.6	31.3	7.5	9.6

[1]"Clippings" is the product of the sheep-tagging operation prior to lambing. "Tags" is the wool swept from shearing boards.

TABLE 2. GRADE VARIATIONS IN CLEAN CONTENT OF 49 BAGS OF WOOL

Grade	No. bags	Range in clean content from average percent	Variation of total from average percent
Fine Staple	19	−4.7 to +9.3	2.0
Fine French Combing	13	−6.7 to +8.5	−2.3
Fine Clothing	1		−7.4
Ungraded	16	−8.3 to +11.8	−0.2

The wool reported in Table 1 was of 64's-80's quality and 12 months' growth. The unstretched staple lengths were: Fine Staple, 2½-3½ inches; Fine French Combing, 2-2½ inches; Fine Clothing, 1½-2 inches, including all "tender" fleeces.

RELATION OF QUALITY TO SIZE OF CLIP

Figure 1 shows the grades of wool by clips for 42 growers in 1952. The 10 largest clips showed 12 percent more Fine Staple than the average. The 10 smallest clips had slightly more Fine Staple than the average. The medium-size clips showed about 5 percent less Fine Staple than the average, but about 7 percent more Fine French Combing. With notable exceptions, as shown in Figure 1, the wool improved in quality with an increase in the size of clip. However, the small producer who improves the quality of his sheep and prepares his fleeces properly can market just as high quality wool as the grower of large clips and increase his income without changing the size of his operation.

Clean Content

The clean content of wool is the weight remaining after the raw wool has been scoured or washed. Clean wool, at 12 percent moisture content, usually contains a maximum of 1.5 percent impurities. The loss in weight in scouring expressed in percentage is "shrinkage." It is customary in domestic wool marketing to arrive at a shrinkage figure by estimating the loss in scouring. The grease value of a lot of wool is then determined by multiplying the clean content percent by the clean value of such wool on the market. More accurate determinations of these values may be made by core sampling the grease wool and making clean content determinations of the samples in a wool laboratory. In this study, 49 individual bags were selected from lots of the graded and ungraded wools for determination of clean content, as shown in Table 2.

This table shows that clean content increases as staple length increases. The last column shows that the clean content of Fine Staple was 2 percent above the average of the total, while Fine French Combing was 2.3 percent and Fine Clothing was 7.4 percent below the average. Ungraded or "original bag" was .2 percent below the average of the total.

Combing Tests

One lot each of Fine Staple and Fine French Combing scoured wool was shipped to a worsted manufacturer for combing tests. Table 3 summarizes results of these tests. These samples are comparable with the best types of Australian and South African wools. Although these data are inadequate for definite conclusions, they indicate the types of wool included in this study. This phase of the study is being expanded.

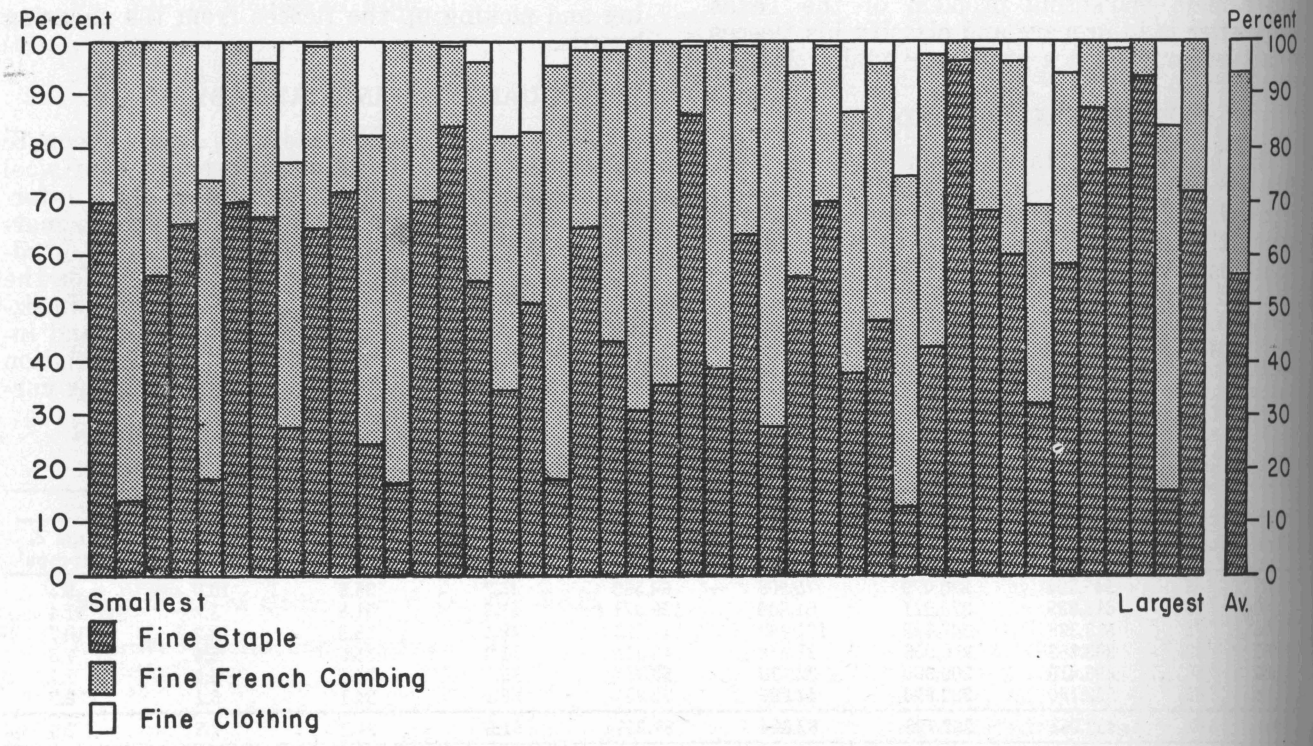


Figure 1. Graded wool of 42 clips in 1952, arranged in ascending order by quality.

TABLE 3. STAPLE LENGTH AND FINENESS OF TOPS OF TWO LOTS OF SCOURED WOOL

Grade	Fineness coefficient		Variation, percent	Average length in inches		
	Spin counts	Microns		Grease wool unstretched	Tops	Standard deviation
Fine Staple	70s	19.93	16.37	3.54	3.13	1.24
Fine French Combing	70s	19.91	16.77	2.44	2.83	0.81

USE OF A QUALITY INDEX

Sheepmen who sort and select their breeding flocks for improvement in wool quality and quantity need a standard measurement to help determine the results of their efforts. This measurement should enable the wool grower to compare the quality of his current clip with that of previous years, and with that of other growers in his area. It also should be especially useful in determining price-quality relationships in local and central markets. As a part of this study, a quality index was designed to serve as a standard measuring system for quality comparisons. The effective use of the index will be increased greatly when both the clean content and the grade of the wool are known.

To illustrate the application and use of the quality index to a particular production area, Figure 2 shows the quality indexes of 60 wool clips in the Sonora area in 1948, as compared with those of 61 clips in the same area in 1954.

A movement of 1 point on the quality index directly affects the returns a grower may expect from his wool clip if sold on a graded or quality basis. For example, if Fine Staple wool were selling for 70 cents, Fine French Combing for 66.6 cents and Fine Clothing for 59.2 cents per pound, an increase of 1 point on the quality index would represent an additional 5 or 6 cents per fleece to the grower. In 1948, the grower with the highest quality index (104.3) should have received about 75 cents per fleece more than the grower with the lowest rating (90.3).

The average quality of the 61 clips of 1954 was 1.66 points higher than that of the 60 clips of 1948. A change of 1.66 points on the quality index means a change of .94 cent per pound of wool. A total of 660,669 pounds of graded wool was sold in 1954 by the Sonora Wool and Mohair Company. The growers received $6,210.29 more for this quantity of wool than they would have received had the quality remained at the 1948 level.

IMPORTANCE OF SELLING ON A QUALITY BASIS

For a number of years, the clips of a group of wool growers in Sutton county have been graded at the shearing pen or in the warehouse before sale. Average prices received by the Sonora Wool and Mohair Company for graded and ungraded wool from 1935 through 1941 (excluding 1937) show a difference of 3.15 cents in favor of the graded wool. Figures for 1937 were omitted because the ungraded portion of the wool was sold soon after shearing while the graded wool was sold the following year on a lower market. These results are based on data from the Sonora Wool and Mohair Company.

Comparative prices of graded and ungraded wool are available for 1948, 1952 and 1953. Some graded and ungraded wool were sold in other years of the period, but at such widely varying dates that prices were not considered comparable. For example, much of the graded wool of 1954 was sold in June, while the ungraded wool was not sold during that year.

According to the records, it cost about .25 cent per pound to grade wool at the shearing pens. Therefore, the net difference per pound in favor of graded wool is .25 cent per pound less than is shown in Table 4. For the three seasons listed, the grower who sold his wool on a graded basis received 25 to 50 cents per fleece more for his wool than the grower who sold in the "original bag." This represents an increase of $30,000 to $60,000 per million pounds of wool.

IMPROVED PRODUCTION PRACTICES PAY

A number of ranchmen, especially in the Sonora area, have made considerable effort to select and breed sheep for good staple length. A survey was conducted during 1948 to determine the effect of staple length on the grease weight of the fleece. Data were recorded from 17 ranches running nearly 20,000 sheep. Fine Staple fleeces

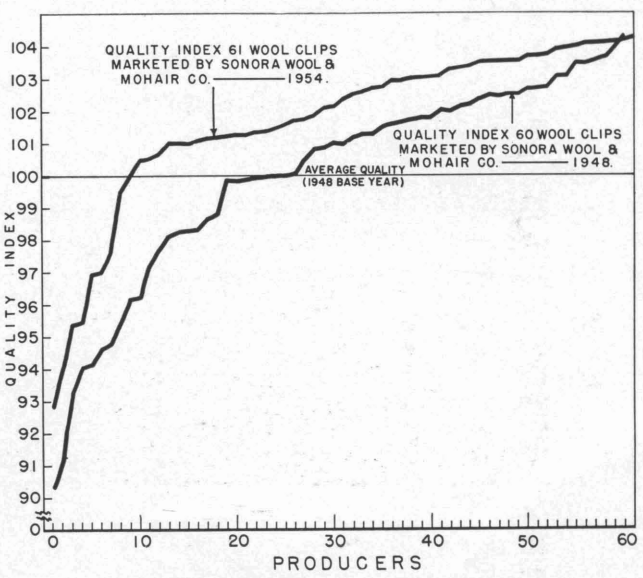


Figure 2. Comparison of the quality of graded wool sold through the Sonora Wool and Mohair Company in 1948 and 1954, using 1948 as the base year. Clips arranged in ascending order according to quality.

TABLE 4. COMPARATIVE PRICES IN CENTS PER POUND OF GRADED AND UNGRADED WOOL

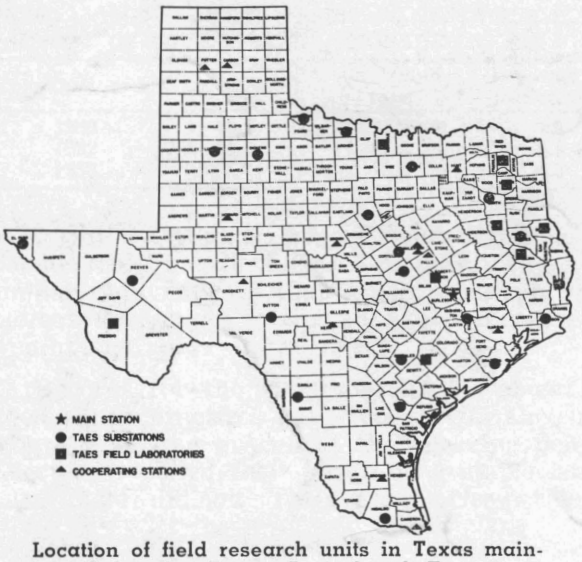
Year	Graded wool	Ungraded wool	Increase for graded wool
1948	75.2	71.9	3.3
1952	71.0	65.5	5.5
1953	75.0	70.8	4.2

averaged 8.2 pounds, Fine French Combing 7.2 pounds and Fine Clothing 6.3 pounds. These and similar data indicate that ranch practices which increase the length of the staple also increase the weight and value of the fleece.

Records for the 1950 season also show how good ranch practices pay. Of the 75 sheepmen whose wool was graded at the shearing pen, 28 selected or culled their sheep on a staple length basis and 47 did not. The average price per pound received for wool, not including tags and clippings, by the 28 ranchmen who selected their sheep for staple length, was 81.1 cents. The average price per pound received by the 47 ranchmen who did not follow this practice was 75.3 cents, a difference of 5.8 cents per pound. The benefit from this practice was about 50 cents per head, which more than paid all shearing costs including bags, twine and extra labor.

Increasing production costs and declining wool prices make it important for wool producers to strive for better quality wool and to prepare a better package for the market. The National Wool Act of 1954 bases its support payments on a fixed percentage of the price that the producer receives for his wool, thereby giving him additional incentive to market his wool at the highest possible price.

[Blank Page in Original Bulletin]



Location of field research units in Texas maintained by the Texas Agricultural Experiment Station and cooperating agencies

State-wide Research

★

The Texas Agricultural Experiment Station is the public agricultural research agency of the State of Texas, and is one of nine parts of the Texas A&M College System

IN THE MAIN STATION, with headquarters at College Station, are 16 subject-matter departments, 2 service departments, 3 regulatory services and the administrative staff. Located out in the major agricultural areas of Texas are 21 substations and 9 field laboratories. In addition, there are 14 cooperating stations owned by other agencies, including the Texas Forest Service, the Game and Fish Commission of Texas, the U. S. Department of Agriculture, University of Texas, Texas Technological College and the King Ranch. Some experiments are conducted on farms and ranches and in rural homes.

RESEARCH BY THE TEXAS STATION is organized by programs and projects. A program of research represents a coordinated effort to solve the many problems relating to a common objective or situation. A research project represents the procedures for attacking a specific problem within a program.

THE TEXAS STATION is conducting about 350 active research projects, grouped in 25 programs which include all phases of agriculture in Texas. Among these are: conservation and improvement of soils; conservation and use of water in agriculture; grasses and legumes for pastures, ranges, hay, conservation and improvement of soils; grain crops; cotton and other fiber crops; vegetable crops; citrus and other subtropical fruits; fruits and nuts; oil seed crops—other than cotton; ornamental plants—including turf; brush and weeds; insects; plant diseases; beef cattle; dairy cattle; sheep and goats; swine; chickens and turkeys; animal diseases and parasites; fish and game on farms and ranches; farm and ranch engineering; farm and ranch business; marketing agricultural products; rural home economics; and rural agricultural economics. Two additional programs are maintenance and upkeep, and central services.

RESEARCH RESULTS are carried to Texas farm and ranch owners and homemakers by specialists and county agents of the Texas Agricultural Extension Service.

Texas Agricultural Experiment Station, R. D. Lewis, Director, College Station, Texas