WOOL WAREHOUSES AND THEIR OPERATION

in Central and Eastern States

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CONTENTS

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PREFACE

This report, on wool warehouses in the 36 central and eastern States, covers part of a broad study of wool warehouses throughout the major wool-producing areas of the United States, conducted under cooperative agreements between the Agricultural Marketing Service, United States Department of Agriculture, and State Agricultural Experiment Stations in Texas and New Mexico.

Operators of wool warehouses cooperated in making information available for this study. L. D. Howell, Agricultural Marketing Service, planned and supervised the overall study and contributed to the preparation of this report. H. Milton Heins, formerly with the Agricultural Marketing Service, contributed to early plans for the study.

WOOL WAREHOUSES AND THEIR OPERATION IN CENTRAL AND EASTERN STATES

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SUMMARY AND CONCLUSIONS

Greatly increased competition from well prepared imported wool and from manmade fibers confronts domestic wool. Improvements in the adequacy and efficiency of the market services for this wool appear to be a promising means of strengthening its competitive position. Assembling wool in merchantable quantities, preparing it for marketing, and related services of warehouse operators constitute an important segment of the wool marketing problem.

The main purposes of this report are to show the nature and extent of services of warehouse operators, the facilities and equipment used, and methods of operation. This information is needed as a basis for more detailed engineering and cost studies to improve the adequacy and efficiency of the operations of wool warehouses.

Wool warehouses included in the study were mostly in midwestern States. Five of these States had 21 of the 44 warehouses surveyed in 36 central and eastern States; 19 of the States had no wool warehouses large enough for inclusion in this study. Wool produced in the 19 States was shipped to warehouses in other States or direct to central markets.

Types of warehouse operation and tenures of operators varied considerably. Four of the 44 warehouses were operated by handlers, 11 by handler-dealers, and 29 by dealers. All but 7 of the operators reported 10 years or more of experience in their present warehouses. Less than half of the warehouses were bonded or licensed under State law. Only seven were licensed under Federal laws.

Structure, age, and condition of the buildings varied considerably. Nearly half of the 44 warehouses had more than 1 floor. However, there is a definite trend away from these multistoried structures. Most of the warehouses had concrete main floors, masonry walls, and composition roofs. All but 9 of the 44 warehouses were more than 20 years old; however, only 1 was considered to be in poor condition.

1/ Mr. Holland and Mr. Gabbard were cooperatively employed by Agricultural Marketing Service and Texas Agricultural Experiment Station during the time this study was made.

Means of property protection and insurance rates varied widely. Means of fire protection included chemical fire extingishers, automatic sprinklers, firehoses in the building, and water barrels. Forty-three of the 44 warehouses were within corporate limits and all were in communities with either paid or volunteer fire departments. Insurance rates ranged from 14 cents to $2.84 per $100 valuation on buildings and from 8 cents to $1.80 on contents.

Usable storage capacity of individual warehouses ranged from 8,000 to 4,800,000 cubic feet and averaged 601,000 cubic feet. Nearly 86 percent of this capacity was devoted to wool and 76 percent of the operators' gross receipts were from wool. Volumes of wool handled per warehouse ranged from 200,000 to 10,000,000 pounds and averaged 2,049,000 pounds. However, because of seasonality of shearing, most of the storage space was utilized for wool for only a few months of the year.

The volume of wool handled by the 44 warehouse operators included in this study was about 88,165,000 pounds of grease wool, nearly 9.5 million pounds more than was produced in the area. Some warehouses received wool direct from growers in the 11 western States and Texas, outside the area studied. Handler-type operators accounted for about 6 percent of all wool handled, dealers for 43 percent, and handler-dealers for 51 percent.

Facilities and equipment of some warehouses leave much to be desired. Information is needed on the conditions under which it would be economically feasible to acquire and use new and improved equipment, especially since the trade is placing additional stress upon better preparation of wool.

Various services were offered by operators of wool warehouses to attract customers and to facilitate marketing. Some of the more popular services were: Grading at shearing pen, transporting wool to the warehouse, sampling for buyer inspection, grading at warehouse, core testing, sorting, scouring, and baling. Additional services included preshearing advances, issuance of negotiable receipts, assistance in improving flocks, and handling shearing supplies.

Charges for these services, other than handling and grading at the warehouse, were fairly uniform. Charges for grading ranged from 1.5 to 2.5 cents per grease pound, and for handling from 0.6 to 5.5 cents.

Consigned wool accounted for 29 percent of all wool that passed through central and eastern warehouses; wool purchased on warehouse accounts, most of it bought before delivery, accounted for 67 percent. The remaining 4 percent included wool brought to the warehouses for commission storage and some bought on order.

Private treaty sales accounted for nearly 96 percent of all wool sold at central and eastern warehouses. The remaining 4 percent was sold on sealed bids. Processors purchased 88 percent, and dealers and brokers 12 percent, of all wool sold at these 44 warehouses.

The principal outlets for wool handled by central and eastern warehouse operators were the Boston and other New England areas, and the southeastern States. About 82 percent of this wool was shipped to Boston and other New England areas, 15 percent to southeastern States, and 3 percent to other areas, principally the Midwest. Railroads carried 66 percent and trucks 34 percent of all wool shipped from central and eastern warehouses.

A basic problem of operators of wool warehouses is to obtain adequate volumes of wool for efficient handling. This problem is particularly acute in the central and eastern States, an area characterized by large numbers of small producers. Sources and availability of potential supplies, and transportation facilities and costs are important considerations. Other problems include obtaining and maintaining suitable facilities and equipment for rendering the essential warehouse and related services efficiently, securing adequate information on the quality and commercial value of the wool handled, maintaining suitable contacts with market outlets, at reasonable costs, for disposing of the qualities of wool handled, and securing adequate protection from losses by fire and other hazards.

INTRODUCTION

American wool faces greatly increased competition from well-prepared imported wools, produced under lower cost conditions, and from manmade fibers. Increased supplies, improvements in the quality or suitability, and increased availability of competing products at attractive prices are among the factors that adversely affect the competitive position of domestic wool. Also, the relative importance of sheep and lamb for slaughter has increased, shifting the emphasis in sheep raising from production of fine wool breeds to the "meat type" or crossbreeds and reducing the quality or uniformity of the wool produced. Increases in costs of labor and expansion in the use of high-speed automatic manufacturing machinery, which requires uniform fibers for most efficient operations, have further weakened the competitive position of our wool. Domestic mill consumption of wool decreased from 65 percent of the consumption of manmade fibers in 1947 to about 20 percent in 1958. 2/

Improvements in the marketing services appear to be a promising means of strengthening the competitive position of our wool. Most of the wool produced in central and eastern States comes from farms where fewer than 100 sheep and lambs are shorn, and this complicates the problems of preparing and marketing wool. Assembling wool in merchantable quantities, preparing it adequately for marketing, and related services at warehouses constitute an important segment of the marketing problem.

This study was made to supply a basis for improving the adequacy and efficiency of warehouse operations and related services for wool. Information

2/ Roseburrough, E. A., and Hermie, A. M. Wool Statistics and Related Data Through 1957. Agr. Mktg. Serv., U. S. Dept. Agr. Stat. Bul. No. 250, 1959.

from warehouse operators was assembled and analyzed to show the nature and extent of the handling, preparing, and other services relating to wool at warehouses of various types, the facilities and equipment used, the charges or costs involved, and operating practices and problems. This information is intended to serve as a background for more detailed engineering and cost studies to show more specifically the means by which the adequacy and efficiency of operations of wool warehouses may be improved.

The central and eastern States, as used in this study, include 36 States (fig. 1). None of the 11 western States or Texas is included. This area accounted for 78,667,000 pounds of shorn wool in 1956, or about one-third of the Nation's production. Production by States in the area ranged from 12,000 pounds in Rhode Island to 9,803,000 pounds in South Dakota. Nineteen, or more than half, of the States in this area had no wool warehouses with services to growers and with total volume exceeding 200,000 pounds in 1956; many of these are southern States.

PROCEDURE

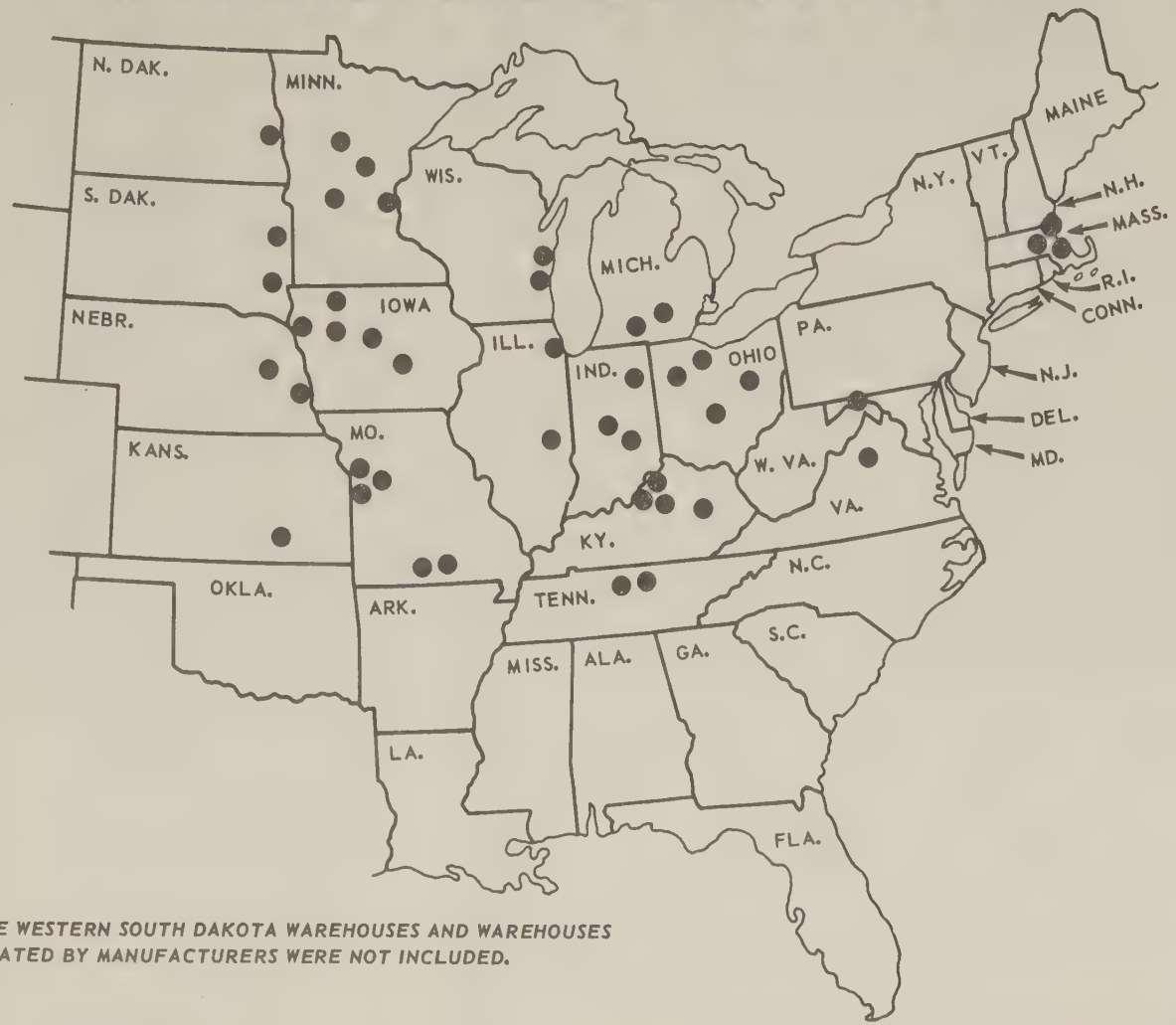
The cooperation of warehouse operators, dealers, and processors was obtained in determining the kinds of information which would be of the greatest usefulness, and in designing the schedule for the study. Information was obtained on the sources and quantity of the wool assembled; the nature and extent of the handling, preparation, and other services performed; the personnel, facilities, and practices used; and the charges or costs involved.

During 1957, all known wool warehouses in the central and eastern States that provided direct service to growers and had volumes above 200,000 pounds in 1956 were visited. Warehouses operated by mills, wool pulleries, and concentration points for bona fide warehouses were not included. Also omitted from this publication are data obtained from the three western South Dakota warehouse operators who handled mainly western wools.

For purposes of analysis and presentation of data, the warehouse operators were classified into three general groups--handlers, dealers, and handler-dealers. Arbitrarily, all warehouse operators who handled 95 percent or more of their wool on a consignment basis were classified as handlers, those handling 95 percent or more on the warehouse account (purchased by warehouse operators) were classified as dealers, and those handling their wool in such a manner that less than 95 percent was on consignment and less than 95 percent was on the warehouse account were classified as handler-dealers. Some warehouse operators handled part of their volume on neither a consignment nor a warehouse account basis. Such wools were classified as "other," and, where they exceeded 5 percent of the operator's total volume, the operator was classified as a handler-dealer.

Wool belonging to the Commodity Credit Corporation (CCC) was not included in this study, as it does not follow the normal marketing procedure.

NUMBER AND LOCATION OF WOOL WAREHOUSES IN CENTRAL AND EASTERN STATES



THREE WESTERN SOUTH DAKOTA WAREHOUSES AND WAREHOUSES OPERATED BY MANUFACTURERS WERE NOT INCLUDED.

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NEG. 7585-59 (11) AGRICULTURAL MARKETING SERVICE

Figure 1

GENERAL CHARACTERISTICS

The number and distribution of wool warehouses varied considerably in the States under consideration. There was also a wide variation in type of ownership and operations, in tenure and operator's time devoted to warehouse operations, and in the licensing and bonding of warehouses.

Location and Operation

Wool warehouses included in this study are concentrated in the Midwest (fig. 1). However, mill-operated warehouses in several of the eastern States were not included. Much of the wool produced in the southern States, which have few warehouses, is warehoused in Kansas City and eastern warehouses.

The 44 warehouses studied consisted of 29 of the dealer type, 11 of the handler-dealer type, and 4 of the handler type (table 1). Cooperatives are important among the nondealer warehouses. Thirteen of the 15 handler and handler-dealer warehouses were cooperatives, but only 1 of the 29 dealer warehouses was operated as a cooperative. Four of the dealer warehouses were owned by individuals, 12 by partnerships, and 12 by corporations.

Two warehouse operators who were mainly handlers were classified as handler-dealers in this study because they handled more than 5 percent of their total volume in 1956 on a basis other than consignment. This "other" wool was not handled on the warehouse account, but was made up of wool for commission storage and some wool bought on order which merely passed through the warehouse for loading purposes.

Tenure and Service of Operators

The average tenure of the warehouse operators interviewed was nearly 23 years, with a range from 2 to 40 years. The average tenure of the handler operators was 27 years, of the dealer-type operators 24 years, and of the handler-dealers, 17 years. Many warehouse operators said they had worked in other warehouses or segments of the wool industry before their tenure in the warehouses reported in this study. Thirty-three of the 40 reporting warehouse operators interviewed, or 83 percent, had more than 10 years' experience in their present warehouses (table 1). Only four operators reported less than 5 years' experience.

All operators of handler-dealer warehouses devoted all of their time to the warehouse operation, as did most of the operators of dealer warehouses. Two handlers and four dealers reported that they devoted less than half of their time to the warehouse operation, and two dealers between 50 and 90 percent of their time (table 1). The average proportion of their time devoted to warehouses by the 43 reporting operators was 87 percent. In many instances, the remainder of their time was spent transacting other business from their warehouse offices.

Table 1.--Type, ownership, and operation of 44 wool warehouses in central and eastern States, 1957

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Type of ownership:				
Individual	0	4	0	4
Cooperative	4	1	9	14
Partnership	0	12	1	13
Corporate	0	12	1	13
All	4	29	11	44
Tenure of operator:				
Less than 5 years	1	2	1	4
5-10 years	0	0	3	3
More than 10 years	3	24	6	33
All	4	1/ 26	2/ 10	40
Operator's time devoted to warehouse operations:				
Less than 50 percent	2	4	0	6
50-90 percent	0	2	0	2
More than 90 percent	2	22	11	35
All	4	2/ 28	11	43
Warehouse bonded	2/ 2	7	2/ 8	17
Licensed under State laws	2/ 2	9	2/ 7	18
Licensed under Federal laws	2	2	3	7

1/ Three not reporting.
2/ One not reporting.

Licensing and Bonding

Some States require operators to be licensed by State agencies, others do not. Eighteen, or 41 percent, of all the warehouses studied had State warehousing licenses (one handler and one handler-dealer did not report). In addition, about 40 percent of all the warehouse operators in the area were bonded; however, a much higher percentage of handler and handler-dealer operators were bonded than of dealer operators (table 1). Thirteen of these operators were both licensed under State laws and bonded.

When the Commodity Credit Corporation was purchasing and storing wool, many of the warehouse operators obtained Federal warehousing licenses. Since enactment of the Wool Act of 1954 and the subsequent cessation of buying and storing of wools by the CCC, many of the warehouse operators have dropped the Federal licenses. In 1957, only 7 of the 44 warehouses were still licensed by the Federal Government. Two were handler warehouses, two dealers, and three handler-dealers (table 1).

CONSTRUCTION, PROPERTY PROTECTION, AND INSURANCE

Wool warehouses vary considerably in kinds of materials used in their construction, in age and condition, and in fire protection. To some extent these variables affect insurance rates on buildings and contents.

Construction and Condition

Twenty-three of the 44 warehouses had more than 1 floor. Some of these multistoried warehouses consisted of only the main floor and a basement, while others varied from two to six floors above the ground. Eighteen of the 24 multistoried warehouses, or 75 percent, used only wood in the flooring above the ground level. However, there is a definite trend away from these multistoried structures, as indicated by an average age of these warehouses of 49 years, compared to about 24 years for the single-story structures. Excepting one 3-year-old warehouse, which had a basement, the ages of multistoried structures ranged from 30 to 100 years, only 4 being of less than average age.

Concrete was the construction material most widely used in the ground or main floors of the warehouses, masonry led for walls, and composition roofing or tar and gravel for roofs (table 2). Most warehouses were constructed wholly or partly of these materials. Wood was used less extensively, but was found in flooring of a considerable number of buildings.

The tendency in the newer warehouses and in additions to older ones is to construct only single-story structures, with masonry walls and composition roofs. It should be borne in mind, however, that many warehouses are being used for wool that were probably constructed for a different commodity or purpose. It was quite evident in going through the warehouses that many had been remodeled or additions had been built. For this reason, many warehouses were built of a variety or combination of materials.

Each of the 44 warehouses was subjectively classified for condition (table 2). Generally, the warehouses were maintained in fair to good condition, only one being considered poor. Though some were quite old and outmoded, they were usually repaired as needed. However, many were unattractive, congested, and in need of improved ventilation and lighting.

Condition of the warehouses showed some relationship to age, though not to any great extent. The average age of the warehouses classified as being in

Table 2.--Structure, age, and condition of 44 wool warehouses in the central and eastern States, 1957

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Materials in ground floor:				
Wood	3	8	4	15
Concrete	1	1/ 15	6	22
Wood and concrete	0	6	1	7
All	4	29	11	44
Other floors:				
Wood	1	9	3	13
Concrete	0	2	1	3
Wood and concrete	0	3	4	7
All	1	14	8	23
Walls:				
Masonry	4	23	8	35
Wood	0	5	2	7
Metal	0	0	0	0
Combination	0	1	1	2
All	4	29	11	44
Roof:				
Composition	4	24	10	38
Metal	0	4	1	5
Composition-metal	0	1	0	1
Concrete	0	0	0	0
All	4	29	11	44
Age in years:				
Less than 5	0	2	0	2
5-20	2	3	2	7
Over 20	2	23	8	33
All	4	2/ 28	2/ 10	42
Condition:				
Good	4	13	6	23
Fair	0	16	4	20
Poor	0	0	1	1
All	4	29	11	44

1/ One concrete and brick combination.
2/ One not reporting.

good condition was 30 years, and of warehouses classified as being in fair condition, 46 years. However, the next to the oldest warehouse in the study, 90 years old, was classified as in good condition and the one warehouse classified as "poor" was only 35 years old, slightly less than the average age.

Property Protection and Insurance Rates

The location of warehouses with respect to other structures has a direct influence on insurance rates on both the building and its contents. Previous fire records also play a large role in the determination of rates. Other factors include type of building construction, nearness and type of fire department (whether volunteer or paid), amount and type of contents other than wool in the warehouse, and type of equipment for fire protection in the warehouse.

Chemical fire extinguishers were found in more than 75 percent of all warehouses (table 3). Fourteen warehouses had automatic sprinklers. Seven were equipped with water barrels and pails; however, six of these were equipped also with chemical extinguishers. Warehouses in larger towns and cities had the additional protection of paid fire departments, and all warehouses were serviced by either paid or volunteer fire departments. Only one of the 44 warehouses studied was outside the corporate limits of a community.

Few warehouses were large enough or had reason to employ daytime watchmen, but almost 40 percent of them employed night watchmen (table 3). Half of all handlers, 28 percent of all dealers, and 64 percent of all handler-dealers employed night watchmen. Other types of building protection included the services of commercial protection agencies, community-employed watchmen, and, at one warehouse, employees living on the premises. Two operators had large firehoses installed in their buildings and one had a burglar alarm.

The insurance policies of most warehouses were of the reporting type, under which the operator reported an inventory of his wool on hand to the insurance company at designated periods. These reports were made usually at the end of each month, but in some cases at the end of each week or 2-week period. The amount of the insurance premium was determined by multiplying the assessed rate for the warehouse by the average value of the periodic inventory. Some warehouse operators used general coverage policies instead of the reporting type, but this usage was limited. The insurance policies usually covered fire, extended coverage, vandalism and miscellaneous mischief, and, in some instances, sprinkler leakage.

The rates reported in this study are those quoted to the warehouse operators by the insurance companies and may not reflect the true rate for a particular warehouse because of special reduced-rate policies issued to cover two or more warehouses under the same management. No attempt was made to analyze these rates in specific terms, as the insurance rate data per warehouse may be distorted to some extent by the special policies mentioned above and by lack of homogeneous coverage. Another possible source of error in comparing rates between warehouses occurs when warehouses are combined with other structures under a single insurance policy.

Table 3.--Location, property protection, and insurance rates for 44 wool warehouses in the central and eastern States, 1957

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Warehouses within corporate limits	4	29	10	43
Contents protected by:				
Automatic sprinkler	2	7	5	14
Barrels and pails	1	3	3	7
Chemical extinguishers	4	20	10	34
Paid fire department	4	1/ 22	8	34
Volunteer fire department	0	1/ 8	3	11
Day watchman	0	1	2	3
Night watchman	2	8	7	17
Other	0	6	5	11
Insurance rate on building: 2/				
Less than 25 cents	1	1	1	3
25 to 49 cents	0	8	1	9
50 to 74 cents	0	0	0	0
75 to 99 cents	1	0	0	1
$1 and over	0	3	1	4
All	2	12	3	17
Insurance rate on contents: 2/				
Less than 50 cents	2	5	3	10
50 to 74 cents	0	3	2	5
75 to 99 cents	0	3	0	3
$1 and over	0	2	1	3
All	2	13	6	21
	Dollars	Dollars	Dollars	Dollars
Rate on building:				
Lowest	.154	.140	.230	.140
Highest	.760	2.839	2.104	2.839
Average	.457	.706	.878	.707
Rate on contents:				
Lowest	.154	.083	.120	.083
Highest	.324	1.430	1.803	1.803
Average	.239	.637	.628	.596

1/ One paid-and-volunteer combination.
2/ Rates per $100 valuation.

Only 17 of the 44 warehouse operators reported their rates on building insurance and 21 on contents insurance (table 3). This low response can be attributed to three main causes: (1) Several of the warehouses were operated by a single organization and the insurance was handled in a special policy through a central office, (2) some operators leased or rented their buildings and the owners took care of the insurance, and (3) some operators had knowledge of only the premium costs and not their insurance rates. Also, one of the operators carried no insurance on either the warehouse or its contents.

Wide variations existed between insurance rates reported by warehouses (table 3). The lowest rate per $100 valuation on contents was $0.083 and the highest was $1.803; the lowest on buildings was $0.140, and the highest $2.839. On the average, handlers had lower insurance rates on both buildings and contents than did either the dealer or handler-dealer groups. The average rate paid by all warehouse operators per $100 valuation was $0.71 on buildings and $0.60 on contents.

There was a significant relationship between sprinkler systems and insurance rates. The insurance rates for warehouses with automatic sprinklers averaged $0.36 for buildings and $0.35 for contents. Many operators with sprinkler systems also took out sprinkler leakage insurance, the rate for which was included in the rates for building and contents, making the difference even more significant. The corresponding averages for warehouses not equipped with automatic sprinklers were $1.02 for buildings and $0.82 for contents.

The rates at which central and eastern warehouses were assessed for insurance evidently depended also to a large extent upon the individual firm issuing the policy. No relationship was found between type of on-premise protection, except sprinkler systems, or age of warehouse and insurance rates. Condition of warehouse showed some relationship to rates on contents but not to rates on buildings. The average insurance rates on buildings in only fair condition were about one-third lower than on those in good condition. The area or district had little effect on rates. The warehouses with the highest and lowest rates on contents were located in the same State only 45 miles apart. The warehouses with the lowest, second highest and highest rates on both buildings and contents were all within about a 300-mile area.

WAREHOUSE CAPACITY, VOLUME OF WOOL HANDLED, AND NUMBER OF EMPLOYEES

Capacity, proportion utilized, and kind and number of employees influenced considerably the efficiency of warehouse operations. These factors are, in turn, influenced to a considerable extent by type of operation and location of warehouse relative to supplies of wool and centers of concentration and consumption.

Capacity and Its Utilization

The usable storage capacity of the 42 reporting warehouses was slightly over 25 million cubic feet, with an average of 601,100 cubic feet per warehouse. A very wide difference in average capacity existed between handler-dealers and the two other types of operators. The average capacity for handler-dealer warehouses was 1,306,000 cubic feet, for handler warehouses 405,000, and dealer warehouses 345,000. The relatively high average capacity of handler-dealers' warehouses can be attributed primarily to five operators, all in large cities, whose warehouses had wide operating areas.

Because of the seasonality of shearing, and hence warehousing operations, most of this space is utilized for only a short period, usually about three to four months. During the remainder of the year, depending upon the market, many warehouses contain little or no wool, though during their peak seasons some warehouse operators have found it necessary to rent additional space.

The size of warehouses varied by areas and the type of services performed. The smallest warehouse studied had a capacity of only 8,000 cubic feet and the largest 4.8 million (table 4). The 10 warehouses having over 750,000 cubic feet were primarily the multistoried warehouses in the larger cities of the Midwest and in Boston. All 10 of these larger warehouses graded much of their wool in 1956, 9 of them grading at least 75 percent. Grading normally necessitates additional space. Thirty-five of the 42 warehouse operators reporting capacities graded at least 75 percent of their total volume. The average capacity of these warehouses was 659,671 cubic feet, compared to 308,242 for those operators who graded from zero to 75 percent of their volume.

Of the storage space used during the year, handlers devoted slightly over 96 percent to wool, handler-dealers 95 percent, and dealers 70 percent. Of all available storage space used in 1956, 21,592,000 cubic feet, or nearly 86 percent, was devoted to wool. From this 86 percent of warehouse space the operators derived only 76 percent of their gross receipts. The percentages of space devoted to wool and of gross receipts derived from wool were comparable except for the handler group. Handlers devoted 96 percent of their space to wool but received only 76 percent of their gross receipts from it. This difference was due mainly to one operator who did a rather large business in eggs and poultry supplies which required only 10 percent of his warehouse space.

Though there was a degree of association between warehouse capacity and volume handled, it was quite small. Undoubtedly most of the warehouses had sufficient space to handle adequately a greater volume of wool than was passing through them. This is evident from the large volumes handled by some of the operators of relatively small warehouses. One operator with a warehouse capacity of only 57,600 cubic feet handled about 3 million pounds of wool in 1956, devoting only 70 percent of his space to it. Another operator with slightly over 1 million cubic feet of space, devoting 90 percent of it to wool, handled only 2.5 million pounds.

Table 4.--Capacity, volume handled, and number of employees of 44 wool warehouses in central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	1,000 cubic feet	1,000 cubic feet	1,000 cubic feet	1,000 cubic feet
Range of capacities of warehouses:				
Smallest	195	8	20	8
Largest	660	1,200	4,800	4,800
Average	1/ 405	1/ 345	1,306	601
	Number	Number	Number	Number
Capacity of warehouse in cubic feet:				
Less than 250,000	1	16	3	20
250,000 to 500,000	1	6	0	7
501,000 to 750,000	1	2	2	5
Over 750,000	0	4	6	10
All	1/ 3	1/ 28	11	42
Volume of wool handled in pounds:				
200,000 to 249,000	0	2	0	2
250,000 to 499,000	0	6	0	6
500,000 to 999,000	3	7	1	11
1,000,000 to 1,499,000	0	5	2	7
1,500,000 to 1,999,000	0	1	1	2
2,000,000 to 2,499,000	0	2	1	3
2,500,000 and over	1	6	6	13
All	4	29	11	44
	Pounds	Pounds	Pounds	Pounds
Range in volume handled:				
Smallest	515,000	200,000	729,000	200,000
Largest	3,000,000	5,500,000	10,000,000	10,000,000
Average	1,240,500	1,344,000	4,202,000	2,049,000
	Number	Number	Number	Number
Number of skilled employees:				
1	0	2	0	2
2-5	3	19	4	26
6 and over	1	6	7	14
All	4	2/ 27	11	42
Range of skilled man-days employed: 3/				
Smallest	150	90	600	90
Largest	3,000	3,600	8,400	8,400
Average	983	2/ 1,058	2,791	1,293
Number unskilled employees:				
1	0	1	0	1
2-5	1	5	1	7
6-10	1	13	2	16
Over 10	2	7	8	17
All	4	4/ 26	11	41
Range of unskilled man-days employed: 3/				
Smallest	225	40	300	90
Largest	3,000	16,500	8,250	16,500
Average	1,458	4/ 2,434	3,755	2,597

1/ One not reporting.
2/ Two not reporting.
3/ Figures based on a 6-day workweek.
4/ Three not reporting.

Mohair was of minor importance to central and eastern warehouse operators, less than 100,000 pounds being handled altogether. This poundage was divided among eight operators, 45,000 pounds being the largest single volume. Nearly 94 percent of all mohair warehoused in the central and eastern States was handled by Missouri operators. For these reasons, mohair is omitted from further discussion in this report.

Thirty-two of the 44 warehouse operators said they handled commodities other than wool and mohair or performed services involving storage of such commodities. To supplement their income throughout the year and make more efficient use of their available space, many operators handled hides and furs in conjunction with their wool business. Shearing supplies, livestock salt and feed, poultry supplies, herbs, and walnuts were handled by some operators. The handling of commodities other than wool and mohair contributed an average of about 24 percent to operators' gross income.

Volume of Wool Handled

The 44 warehouse operators interviewed handled 90,165,000 pounds of shorn grease wool in 1956. Handler-dealers accounted for 51 percent of this poundage, followed by the dealers, with 43 percent, and handlers, about 6 percent.

The relatively low percentage warehoused by handlers can be attributed in part to the classification as handler-dealers of two operators who were mainly handlers. These are the two operators mentioned previously who handled more than 5 percent of their volume on neither the warehouse account nor on consignment but on an "other" basis. This caused slightly over 15 million pounds of wool to be removed from the handler column and entered as handler-dealer volumes.

Over one-third of the warehouse operators interviewed handled 2 million pounds or more in 1956 and over 55 percent handled 1 million pounds or more. All eight operators who handled less than 500,000 were dealers (table 4). It should be remembered that this study was limited to operators handling at least 200,000 pounds.

The volume of wool handled in 1956 averaged 2,049,000 pounds for all types of operators, 4,202,000 for handler-dealers, 1,344,000 for dealers, and 1,241,000 pounds for handlers. The largest volume handled by any one operator was approximately 10 million pounds by a handler-dealer (table 4).

Dealer operators utilized their total usable space more fully than any other type of operator, handling 3.72 pounds of wool per cubic foot of warehouse. The handlers averaged 3.63 pounds, and the handler-dealers 3.22. These figures are based upon the total usable warehouse space. When the figures are based on the percent of total space devoted only to wool, the dealers handled 5.32 pounds per cubic foot, the handlers 3.79, and the handler-dealers 3.39. The average pounds handled per cubic foot of warehouse space in all warehouses on this basis was 4.01.

Kind and Number of Employees

Employees were classified as unskilled or skilled, the latter category including the warehouse managers, graders, bookkeepers, and scale-masters. Because of the seasonality of warehousing, the number of working days employed also was determined. Since it was impossible to determine the proportion of each employee's time devoted exclusively to wool, the data on total working days relate to the entire warehouse enterprise.

The number of skilled employees varied from 1 to 28, the latter number being at a central office for an organization operating a group of warehouses. The average for all warehouses was slightly over 5 skilled employees. The number of unskilled employees varied from 1 to 55 and averaged 15. The 55 unskilled employees were employed by the same operator who reported 28 skilled employees. Dealers averaged 4 skilled employees and 12 unskilled employees per warehouse; handler-dealers, 6 skilled and 23 unskilled; and handlers, 16 skilled and 42 unskilled. However, some of these employees were only temporary, and the man-days employed must be considered to obtain a true picture.

The average warehouse operator used 1,505 man-days of skilled labor and 2,693 man-days of unskilled labor during 1956. The corresponding figures for handlers were 983 and 1,459, for dealers 1,058 and 2,434, and for handler-dealers 2,791 and 3,755.

Operators of all warehouses handled an average of 1,316 pounds of wool for each day of skilled labor. The averages handled by the three types of operators were near this overall average, ranging from 1,263 pounds for handlers to 1,506 for handler-dealers. This conformity was expected, since there is a rather direct relationship between the number of weighmasters, bookkeepers, and graders and the volume of wool handled. However, a relatively wide range existed in the average pounds of wool handled per day of unskilled labor, because the amount of unskilled labor required depends more upon the number of services offered and the extent to which they are performed than upon volume alone. Handler-dealers reported an average of 1,119 pounds of wool handled per day of unskilled labor, handlers 850 pounds, and dealers only 495 pounds. The average for all operators was 747 pounds.

Combining the skilled and unskilled labor days, all operators handled, on the average, only 479 pounds of wool per 8-hour labor day. The corresponding averages for handlers, dealers, and handler-dealers were 508, 348, and 642, respectively. It is evident that, on wool handled on a consignment basis in the central and eastern States, the warehouse operator's profit, if any, must be derived from fees for preparatory services. Labor costs alone, in many instances, more than offset the revenue from the straight handling charge, which does not include fees for preparatory services. The handling of commodities other than wool by many warehouse operators appears not only wise but often necessary.

FACILITIES AND EQUIPMENT

Various kinds and amounts of equipment are used at warehouses in handling, moving, weighing, preparing, displaying, packaging, and other operations relating to wool. The availability and use of suitable equipment may affect materially the adequacy and efficiency of warehouse services. The information on equipment is presented in connection with the operations involved.

Loading and Unloading

Thirty-six of the 44 warehouses studied were located on rail sidings (table 5). The eight remaining warehouses were within a quarter mile of rail sidings which the operators could use. A rail siding adjacent to a warehouse eliminates much of the cost of handling wool between the warehouse and the cars.

In the past, wool generally was handled manually with handtrucks, but by 1957, eleven operators had equipment in addition to handtrucks to facilitate loading and unloading. Belt conveyors, used by eight operators, were the most prevalent type of such equipment. These conveyors, which can be adapted to either electric or gasoline motors, are quite versatile; they can be obtained in a variety of lengths, are mounted on wheels and easily moved, and can be raised and lowered. Therefore, they are being used for stacking bags, piling unbagged fleeces, as elevators between floors, and for moving wool in connection with grading. However, some operators reported difficulties in operating their conveyors in small areas such as boxcars and closed vans.

Forklifts, a near-necessity in handling baled wool, were used by three operators in loading and unloading, in conjunction with other equipment. One of these operators also used an electric hoist, one a conveyor, and one a "whip."

Whips were used by two operators including the one mentioned above. A whip is a tackle operated by a set of ropes, used on the outside of the warehouse as a hoist. Such a device is normally limited to multistoried warehouses.

Moving Wool Within the Warehouse

All but 2 of the 44 operators used the conventional handtruck for moving wool within the warehouse. One operator used conveyors, and the other, a forklift. Two operators used either a conveyor or forklift in conjunction with handtrucks. Use of forklifts, however, was often limited to the main floor of the warehouse. The size and weight of these powered trucks necessitates a strong floor and practically eliminates them from usage on upper floors in the multistoried warehouses. They are a great convenience, however, especially when baled wool is involved.

Table 5.--Facilities and equipment of 44 wool warehouses in the central and eastern States, 1957

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Facilities for transporting wool from farm to warehouse	0	18	3	21
Rail siding adjacent	4	22	10	36
Unloading and loading:				
Conveyor	0	2	6	8
Handtruck--manual	4	26	3	33
Forklift	0	2	1	3
Other	0	1	2	3
All	4	1/ 31	2/ 12	47
Transportation in warehouse:				
Handtruck--manual	4	28	10	42
Forklift	0	1	1	2
Conveyor	1	0	1	2
All	2/ 5	29	2/ 12	46
Movement between floors:				
Elevator	1	14	8	23
Other	0	3	6	9
All	1	1/ 17	3/ 14	32
Scales for weighing:				
Balance or beam	0	10	3	13
Dial	3	14	5	22
Electric	1	3	1	5
Combination	0	1	1	2
All	4	4/ 28	4/ 10	42
Stacking:				
Conveyor	2	1	7	10
Forklift	0	2	2	4
Manual	2	26	3	31
Other	0	1	0	1
All	4	2/ 30	2/ 12	46
Grading:				
Table	4	29	9	42
Conveyor	0	0	1	1
Carts or baskets	4	25	9	38
Other	0	1	0	1
All	8	55	19	82
Mending bags:				
Machine	3	4	5	12
Manual	1	24	4	29
Other	0	1	2	3
All	4	29	11	44
Packing and bagging:				
Sacking frame--manual	1	19	4	24
Hydraulic packer	3	7	7	17
Baler	0	1	0	1
All	4	5/ 27	11	42

1/ Two used combination. 2/ One used combination. 3/ Six used combination. 4/ One not reporting. 5/ Two not reporting.

For moving wool between floors, 14 of the 24 multistoried warehouses used only elevators, 5 used elevators and chutes, and 3 used elevators and whips. One operator used an electric hoist and another used only conveyors for this purpose. A common complaint of operators of multistoried warehouses concerned the expense of installing and operating elevators and the inefficient use of time caused by their limited capacity. Also, operators of warehouses using chutes reported that the wool bags often fall so fast that they damage the chutes and flooring.

Stacking or Tiering

At times when warehouse volumes are relatively small, some warehouse operators find it unnecessary to go to the additional expense of stacking or tiering, and merely stand the bags on end against a wall. This is most usually true when the wool is to be stored for only a short period. Warehouse operators therefore are hesitant to invest much money in tiering equipment that is not versatile enough for use in other warehouse operations. Hence, eight operators used conveyors in stacking and tiering, two used forklifts, and two used both conveyors and forklifts. One operator used a modified whip for this purpose. Thirty-one of the 44 operators still relied entirely upon manual labor in stacking or tiering (table 5).

Grading and Sorting

Very little change has come about in the equipment used for grading. Forty-two operators reported that their warehouses were equipped with some sort of grading tables and 38 of these also had the conventional grading carts or "baskets." Only one conveyor system for grading was reported (table 5). One operator used chutes in conjunction with the grading table, and the graded fleeces dropped to the sacking frames on the floor below. Other equipment included special lights and also electric bag hoists to facilitate removing wool from the bags at the grading tables. When a hoist is used, it is not necessary to rip the bag's seam.

Sorting is not a customary service in central and eastern warehouses. In 1956, only three operators reported doing any sorting and in each case the traditional table and baskets were used.

Weighing

A wide variety of scales were used, but basically they were of three types, (1) balance, (2) dial, and (3) electric. The dial scale was the most popular, 22 of the 44 operators using this type only (table 5). Thirteen operators used only the balance-type scale, and five only the electric scale. Two operators used all three types in their warehouses. All the electric scales and most dial and balance-type scales were stationary.

The electric and dial-type scales require less time to operate than does the balance-type scale. Another advantage of the electric scale is that it gives the warehouse operator a permanent weight record by automatically stamping the weights on the tickets.

Mending Bags

In sacking wool and moving it to warehouses, some bags are unavoidably torn. Also, it is customary when showing bagged wool to prospective buyers to rip the entire seam of the sample bags. New bags cost from 73 cents to $1.25 each, depending upon size and weight; so all central and eastern warehouse operators tried to repair old bags when the damage was not too great.

Twelve of the warehouses were equipped with heavy-duty electric sewing machines for repairing bags. In 29 warehouses, bags were repaired manually (table 5). Three operators, all in large cities, sent their damaged bags to other agencies for repair. The charges made by these agencies were not reported.

Repacking

One of the few big changes in warehouse equipment in recent years has been in the method of repacking wool. Reports in 1957 indicated that conventional manual packing frames were being replaced in many warehouses by modern hydraulic packing machines and balers. Seventeen of the central and eastern warehouses had hydraulic packers and one had a baler (table 5).

The trend toward more preparation of wools at the warehouse, the increased proportions of wool requiring rebagging, and the increased costs of labor have definitely contributed to the change in packing equipment. More than 58 percent of all wool graded at warehouses in 1956 was accounted for by the 18 warehouses with hydraulic packers or balers. Nearly 82 percent of all wool graded by handlers was graded at warehouses having mechanical packers; for dealers, the figure was 42 percent, and for handler-dealers over 68 percent. Use of hydraulic packers permits reductions in packing time and in number of men required, and also results in neat packages. Another great advantage often obtained with mechanical packers is a reduction in transportation costs, since such a device makes it possible to pack more wool into a given space and obtain lower transportation rates.

Some balers used in the wool industry in 1957 were converted cotton balers. However, both the vertical and horizontal hydraulic packers were designed specifically to pack wool bags. The warehouse operators seemed to have no distinct preference between vertical and horizontal hydraulic packers, as the two types were about equally divided among warehouses. Both types are portable, but the vertical packer usually requires one additional man to throw the fleeces up to the machine operator. Some warehouse operators have eliminated this work by using conveyors, one individual both loading the conveyor and preparing and sewing the bags. One objection to the horizontal packer was that the bags tended to bind and tear when dirt built up on the slide.

Balers were relatively new items to central and eastern warehouse operators. The wool trade, by and large, has not encouraged their use. It was pointed out that high compression of baled wool made the wool more difficult to grade and sort properly and caused "wet tags" to soil or stain a large amount of the wool in the bales. It was felt, however, that proper preparation at the warehouse and shearing pen would do much to alleviate the wet tag problem. Baling facilitates rail and truck transportation, but reduced rates for loads of 40,000 and 60,000 pounds or more were not available until the late 1950's.

Possibilities of further improvement in packing equipment may be indicated by the fact that an Iowa wool warehouse operator has recently developed a horizontal packer which can be operated efficiently by one individual instead of the two normally required. A few of these machines are being used in central and eastern warehouses.

SERVICES AND CHARGES

Warehouse operators, in addition to supplying storage, may offer a variety of services designed to improve the quality, preparation, handling, and marketing of wool, and thereby strengthen the competitive position of this fiber. These services may be grouped into those that directly assist the producer and those that relate more to the preparation and handling of wool.

Assistance to Producers

The services that some operators render which directly assist the producer include assistance in flock improvement programs, grading at the shearing pens, preshearing advances, furnishing transportation, issuance of negotiable receipts, and handling of shearing supplies. These services are of great convenience to the producer, and they strengthen the warehouse operator's competitive position.

Flock Improvement

Three warehouse operators assisted producers in both grading up their ewe flocks and helping in their ram selection. Two other operators assisted in grading up the ewe flock only, and one worked only with rams (table 6).

The assistance rendered by these warehouse operators was of varied forms. One operator who assisted producers with both ram selection and grading up of the ewe flocks sold them rams and replacement ewes which he thought would best improve their clips. A second operator evaluated interested producers' clips and told them where they could purchase the type of rams they needed to improve their clips' weaker characteristics. Another brought good-quality breeding ewes into the area and sold them. This operator also met and advised monthly with the local county agent and wool growers.

Table 6.--Assistance rendered to producers and charges made by 44 warehouses in the central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Assistance to producers:				
Ram selection	0	2	2	4
Grading up flocks	0	2	3	5
All	0	4	5	9
Preshearing advances:				
Less than 25%	0	6	2	8
25-49%	0	0	1	1
50-74%	0	0	1	1
75% and over	2	1	0	3
All	2	7	1/ 4	13
Interest rate charged:				
None	0	6	0	6
Less than 5%	2	0	0	2
5% or more	0	1	4	5
All	2	7	1/ 4	13
Transportation to warehouse:				
1-9%	0	2	1	3
10% or more	0	13	1	14
All	1/ 0	15	2	17
Negotiable receipts issued	0	0	2	2
Wool bags available to producers at warehouse	4	2/ 19	9	32
Proportion of new bags sold by warehouse:				
Less than 25%	0	2	3	5
25-74%	1	5	2	8
75% and over	2	9	3	14
All	3	3/ 16	8	27
Moth control used	2	1/ 9	10	21

1/ One not reporting.
2/ One operator made bags available only to his buyers.
3/ Two not reporting.

Two operators did individual fleece grading for their State university and for local breeders of purebred sheep. The charge for this service, because of the very small poundage, was 1 cent a pound plus the regular grading charge. One of these operators also selected for the producers the fleeces for entry at their State wool show. Another operator gave fleece grading demonstrations at area wool schools.

Aside from these rather direct services, two operators helped sponsor shearing schools in their respective areas and furnished the necessary supplies. Numerous warehouse operators published newsletters concerning wool prices and sales, lamb prices and sales, pertinent legislative news, and like material. This service was performed primarily by the operators of cooperative warehouses. Also, a member of one warehouse staff served as the superintendent of one of the nation's larger wool shows and four State wool shows. Only two of the operators who assisted producers in ram selection and grading up of flocks made a charge for their services.

Flock improvement assistance to producers is of great value, and few individuals are in a better position than the warehouse operator to know the deficiencies of a grower's clip. Helping the producer to improve his wool results in a better price and draws favorable attention to the warehouse.

Preshearing Advances

Preshearing advances to producers were made by 13 operators. Eight advanced money on less than 25 percent of their total volume, while only 3 made advances on 75 percent or more (table 6). Two handler operators made advances on 1,062,000 pounds, seven dealers on 3,368,700 pounds, and four handler-dealers on 5,963,000 pounds. In total, preshearing advances were made on 10,393,700 pounds, or about 11 percent of all wool warehoused in the central and eastern States.

Amounts advanced by operators on a fleece basis ranged from $1 to $2 per fleece. One operator advanced a flat 35 cents per pound, which would amount to about $3.25 per fleece. Some operators varied the amount they advanced according to (1) the market value of the wool and (2) the quantity of wool the individual produced.

Six of the 13 operators who made preshearing advances stated that they charged no interest on the money advanced. All six of these operators were dealers (table 6). Five of the other seven operators reported charging from 5 to 6 percent. The one operator charging 6 percent reported that his cost of credit was 1/4 percent below that charged producers. To discourage growers from taking advances and then sending their wool to another warehouse, one operator applied a 5 percent charge on advances on wool sent to other warehouses; otherwise, no interest was paid on the advance. Evidently, the advantage of borrowing from a warehouse depends upon the policy of the particular operator and that of the local credit agencies.

Other operators said they sometimes made advances to growers on consigned wool after its delivery to the warehouse. One operator also reported making advances up to about 50 percent of the value of the grower's "incentive payment." The charges for these services were not reported.

Transportation to Warehouse

Fifteen dealers and two handler-dealers said they transported 10,470,000 pounds of wool from the farm or ranch to the warehouse (table 6). This figure included some wool hauled to the warehouses by field representatives of the operators. All 15 dealers said they made no direct charge for this service, but reduced the price paid these growers enough to offset the cost of the transportation. One handler-dealer also made no separate charge, but said the hauling service was available only to growers near the warehouse. The other handler-dealer providing this service charged from 1 to 2 cents per pound, depending upon the size of the lot and the distance involved. The operating radius of the latter was less than 200 miles.

Negotiable Receipts

Two handler-dealers were the only operators issuing negotiable receipts (table 6). Practically all of the 3,259,000 pounds of wool for which receipts were issued was accounted for by one operator and represented all the wool he handled on consignment. The other handler-dealer issued negotiable receipts on only 1 percent of his total volume. Three additional operators said negotiable receipts were available upon request. Naturally, this type of assistance was not performed by dealers.

Handling of Bags

To further assist producers, 32 of the 44 reporting operators sold wool bags at the warehouse or made bags available through field representatives (table 6). Most of these bags were new. The operators said they handled only the 7-1/2-foot bags. The use of the 6-foot, or "Texas," bag is seemingly limited to Texas and the western States.

The 12 operators not selling bags, either new or used, said most of their volume of wool was delivered at the warehouse "loose" (unbagged). They felt that this was often an advantage, as they could get a better look at the wool. Ten of these operators were dealers.

Prices charged for wool bags often varied with their condition, number purchased, and weight of the materials used. The material most commonly used weighed 12 ounces per yard. The charges for a new 7-1/2-foot bag ranged from 73 cents to $1.25 and for a used bag from 50 to 80 cents. The operator who charged 80 cents for used bags gave a 20-cent discount to dealers. Seventeen operators made no charge for bags if the producers consigned or sold wool to their warehouses. Another operator, who charged $1 each for new bags, returned 80 cents to the producer if the wool was consigned to him.

Moth Control

Moth control was practiced by 21 of the 44 warehouse operators. The remainder indicated that moths were not a problem. The most prevalent compound used was DDT and water. Other chemicals used were chlordane, lindane, and BHC. One operator reported using kerosene as a base instead of water. The various solutions were applied primarily with small hand-pressure pumps, but a few warehouses were equipped with rather large vaporizing machines.

One operator said he sold only mothproof bags and so no further protection was necessary.

Preparation of Wool for Marketing

Services considered under preparation include sampling, core testing, grading, sorting, scouring, and baling. Both the proportion of wool receiving these services and the charges made for them varied from area to area and from one operator to another within each area.

Sampling

The drawing of samples for prospective buyers' inspection is a form of assistance in selling wool regardless of whether it is owned by the producer or the warehouse. Frequently small hand-samples, in conjunction with the operator's description of the lot and possibly a core-test report, are a sufficient basis for sale even though the purchaser may never have seen the lot from which the sample was drawn. Transactions based on these samples and supplementary information are referred to in the wool trade as "buying on description" despite the fact that samples are supplied to indicate the quality of the wool.

Seventeen warehouse operators used hand-samples to help sell their wool, whether on consignment or on warehouse account. The proportion of total volume sampled by these operators ranged from "negligible" to 60 percent, only 2 of the 17 operators drawing samples on more than 50 percent of their volume (table 7). The samples drawn by these operators represented 3,406,000 pounds of wool. Normally no charge is made, either to the producer or the purchaser, for this service. Though sampling is done in all sizes of warehouses, it has found special favor in those whose annual volume is not large enough to warrant numerous trips to the warehouse by prospective buyers.

Core Testing

The core-test system of determining yields of bagged wool was developed by the United States Government under the Wool Purchase Program. 3/

3/ Johnson, A. and Davis, S. P., Core Sampling of U. S. Domestic Grease Wool for Shrinkage Determination. Wyo. Agr. Exp. Sta. Bul. 292. 1949.

Table 7.--Preparatory and selling services, and charges made by 44 warehouse operators in the central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Wool sampled by warehouse:				
Less than 25%	0	8	6	14
25-49%	0	1	0	1
50% and over	1	1	0	2
All	1	1/ 10	6	17
Wool core tested:				
1-9%	0	1	0	1
10-24%	1	3	0	4
25-49%	0	0	5	5
50-74%	0	1	3	4
75% and over	1	0	3	4
All	2	5	11	18
Grading at shearing pens	0	1	0	1
Wool graded at warehouse:				
Less than 50%	0	0	0	0
50-74%	0	4	0	4
75-100%	4	22	11	37
All	4	26	11	41
Charges for grading:				
Less than 1.5 cents	0	0	0	0
1.5 cents and over	2	0	1	3
Varies	1	0	9	10
All	2/ 3	3/ 0	10	13
Wool sorted	0	1	2	3
Wool scoured:				
1-9%	0	1	1	2
10-24%	1	0	0	1
25% and over	0	0	2	2
All	4/ 1	1	5/ 3	5
Wool baled:				
1-49%	0	0	0	0
50-74%	0	0	1	1
75-100%	0	0	0	0
All	0	0	1	1
Commission charged:				
None	0	29	0	29
1.25 cents or less	2	0	0	2
1.26-1.74 cents	0	0	0	0
1.75 cents and over	1	0	1	2
Varies	1	0	10	11
All	4	3/ 29	11	44
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Quantities of wool:				
Graded at shearing pen	0	113	0	113
Sampled	540	1,225	1,641	3,406
Graded at warehouse	4,962	30,819	38,719	74,500
Core tested	3,099	3,340	22,586	29,025
Sorted	0	28	3,285	3,313
Scoured	62	250	4,624	4,936
Baled	0	1,625	0	1,625
Total marketed through warehouses	4,962	38,981	46,222	90,165

1/ One not reporting. 2/ Two not reporting. 3/ Dealer operators made no direct charges. 4/ One operator had some wool scoured through parent organization. 5/ Three operators had some wool scoured through parent organization.

Since the institution of that program on April 25, 1943, coring of bagged wool has become increasingly popular. In 1956, a total of 29,025,000 pounds, or about 33 percent of all wool sold at central and eastern warehouses, was core tested (table 7). This does not include the "other" wools, as they were not sold at the warehouses. Eighteen of the 44 warehouse operators included in this study used the core test on at least some of their wool. Handlers cored over 62 percent of the wool sold through their warehouses, dealers nearly 9 percent, and handler-dealers 53 percent.

The charges made by warehouses for core testing were usually the actual charges of the testing firm plus the cost of the warehouse labor involved. However, some operators made no charge for labor. When wool is sold on the basis of a core test, the normal procedure is for the buyer and seller each to pay half the cost.

Grading

Grading of wool at the shearing pens was rarely practiced in the central and eastern States. In the strict sense, warehouse operators graded no wool in this manner in 1956. However, one operator graded some 113,000 pounds of lambs' wool at a packing plant where the lambs were sheared (table 7). An additional operator indicated that he had done some shearing-pen grading before 1956 but felt that an adequate job of grading could not be done at the shearing pens. Also, most of the flocks in the central and eastern States are not of sufficient size to warrant sending a warehouse operator or other trained personnel to the shearing pens to grade.

Grading of wool at the warehouses is becoming increasingly popular and necessary. This service facilitates the marketing of wool by supplying information on quality to both the seller and the buyer. Grading is particularly necessary in the central and eastern States, an area where a variety of breeds are raised and crossbreeding is quite common.

Forty-one, or 93 percent, of the warehouse operators graded some of their volume at the warehouses. These operators graded a total of 74,5000,000 pounds, or nearly 83 percent of all wool they warehoused. When only the wools handled on either a consignment basis or on the warehouse account are considered, the figure approaches 86 percent. This difference is due to the 3.5 million pounds warehoused by two handler-dealers on a straight storage and order buying basis. Handlers graded 4,962,000 pounds, or all of their volume; dealers 30,819,000 pounds, or 79 percent; and handler-dealers 38,719,000, or nearly 84 percent. Thirty-seven of the 41 operators grading at warehouses graded 75 percent or more of their total volume. The remaining four operators were dealers and graded over 50 percent of their total volume (table 7).

Occasionally some operators grade part of their volume at the local concentration points, which are "warehouses" of a fashion, before moving the wool to the central warehouse. If the graded line (lot of wool of a specified description) is large enough, the wool may be sold and shipped direct from the

concentration point. One operator reported grading at six such points. However, it is not a common practice to grade at concentration points, as usually a better and more economical grading operation can be carried on at the central warehouse where the larger volumes are handled.

Practically all of the warehouse operators who did any grading made separate lines for all the major grades, such as 3/8 Blood, Staple, with one or two additional lines of off-sorts. Some operators, primarily those in areas of highly variable clips, found it necessary to make sub-lines according to shrinkage within the major grades. One operator reported making 60 separate graded lines. Usually, however, no more than three sub-lines were made per major grade, and frequently only two. Another factor definitely affecting the prevalence of shrinkage sub-lines was the extent of the warehouse's operating area. Normally, the larger the operating area, the greater the variations in the wool handled.

Grading charges varied among warehouses, and in 10 instances charges made by individual operators varied. The schedule of charges by an individual varied inversely with lot size. In addition, four operators varied rates by the area from which the wool came ("fleece wool" or "territory wool") in conjunction with lot size, the higher charge being assessed against the fleece wool.

Twenty-seven operators, 26 of them dealers, made no direct charge for grading, as this service was rendered for themselves. One handler-dealer also made no direct charge for this operation, as he, like the dealers, graded only wool which was on the warehouse account. Three operators charged a flat rate for grading, ranging from 1.55 cents to 2-1/4 cents per pound. Grading charges were not available for one warehouse (table 7).

Ten operators had posted rate schedules by lot weights upon which grading charges were based. Two operators charged 2-1/2 cents per pound for lots under 2,000 pounds and 1-1/2 cents for lots 2,000 pounds and over. Four operators charged 2-1/4 cents for lots under 5,000 pounds and 1-1/2 cents for lots 5,000 pounds and over. Four operators charged 2 cents for lots under 5,000 pounds when the wool was territory or range wool, and 2-1/4 cents when it was fleece wool. No distinction based on origin was made on lots over 5,000 pounds, and all four operators charged the same rate, 1-1/2 cents. No more than two divisions by lot weight were made by any operator. Grading charges were not available for an additional warehouse at which a total of 547,000 pounds were graded.

Sorting

Three warehouse operators, one dealer and two handler-dealers, sorted a total of 3,313,000 pounds in 1956 (table 7). The dealer sorted 28,000 pounds and the two handler-dealers 3,285,000 pounds. Actually, the operation performed by the dealer was more of a "skirt" (trimming the edges off the fleece) than a sort. All the wool sorted in 1956 was on the warehouse account and no charges were specified.

Scouring and Blending

Five warehouse operators had part of their wool scoured, usually the shorter wools and off-sorts. In addition, four operators said they sent part of their wool, for scouring, to their joint sales agency, which was one of the five operators referred to above. One handler had 62,000 pounds scoured, one dealer 250,000 pounds, and three handler-dealers 4,624,000 pounds, making a total of 4,936,000 pounds. One of these handler-dealers handled 2,000,000 pounds of pulled wool, all of which was scoured. This is the only volume included in this study which was not shorn grease wool. Three of these operators had less than 25 percent of their volume scoured, and the highest percentage scoured was 33 percent for a handler-dealer (table 7). The operators said all 4,936,000 pounds scoured was scoured prior to sale.

All scouring was done on commission. Though none of these operators reported scouring charges, the rates normally vary from 2-3/4 cents to 3-3/4 cents a grease pound, depending upon who does the scouring and the yield of the lot. The customary procedure is for a scouring plant to have two charges, one for lots yielding over 50 percent and one for lots yielding 50 percent or less. There is usually a 1/4-cent spread between the two charges, with the higher charge applicable to the higher yielding lots.

All wool scoured by two operators was blended before scouring. The total volume of this wool was 4,475,000 pounds, including the 2,000,000 pounds of pulled wool mentioned previously.

Baling

Only one warehouse baled wool in 1956. However, two additional warehouse operators installed balers in 1957 and three others were considering installation of balers. The one operator who was baling in 1956 baled 1,625,000 pounds, all of it graded wool. There was no charge for baling, as the wool was on the warehouse account.

Preparation of Wool on the Warehouse Account vs. Preparation on Consignment

Scouring of wool was practically the only service offered in which the warehouse operators made a distinction between wool handled on the warehouse account and that handled on consignment. Normally, only wool handled on the warehouse account was scoured. As stated previously, generally only short wools and off-sorts were scoured. When wool was consigned, some growers hesitated to have it mingled with other wool so that a lot sufficiently large to scour could be obtained.

One handler-dealer graded no consignment wool, but graded more than 80 percent of the wool handled on the warehouse account. No other operator made any distinctions between consignment and other wool, either in grading or rebagging.

Sorting was done at only three warehouses. One of these operators handled wool only on the warehouse account and another on only a consignment and "other" basis. The one handler-dealer who warehoused both consigned and purchased wool did some sorting of wool handled on the warehouse account.

Commissions Charged

Commission or handling charges, like grading charges, varied among warehouses and within warehouses (table 7). Twenty-eight dealers handled no wool on commission in 1956 and the remaining dealer handled only 75,000 pounds on a consignment basis. The latter applied no commission charge against this wool, though he did charge the grower storage. Of the 15 remaining operators, 4 had flat commission rates, ranging from 0.6 cent to 3.7 cents per pound. The operator charging 0.6 cent reconsigned his entire volume to a larger warehouse. This constitutes one of the three known duplications of volumes in this study, and it amounted to less than 1 percent of the total volume handled by all operators. The total known duplication amounted to 2,376,000 pounds, less than 3 percent of the volume of all 44 warehouses.

Eleven operators had multiple commission rates, depending on lot size and type of wool. Four operators charged higher rates for fleece than for territory wool. The four are the same who also charged more for grading fleece wool than territory wool. For 9 of these 11 operators, commission charges varied with lot size, and in all cases the dividing point was at 5,000 pounds. Two operators had three rates each, and in both cases the dividing points were 2,000 and 5,000 pounds. There was no per-pound rate advantage in marketing lots greater than 5,000 pounds in any of the central and eastern warehouses.

Eight operators charged 4.5 cents per pound for all consigned lots of fleece wools weighing 5,000 pounds or more, and 5.5 cents for lots weighing less than 5,000 pounds. One operator using the same dividing point charged 1.1 cents and 1.6 cents, respectively. Four of the eight operators making higher charges handled some territory wools and the corresponding rates were 1 cent less than for fleece wool, or 3.5 and 4.5 cents. The two operators making three divisions by lot size charged 4.75 cents for lots weighing less than 2,000 pounds and 3.75 cents for lots weighing from 2,000 to 5,000 pounds. For lots weighing 5,000 pounds or more, one operator charged 2.25 cents and the other charged 2.75 cents.

Part of the variation in commission charges between warehouses can be attributed to separate charges by some warehouse operators for insurance and storage of consigned wool, while others allowed for these services in arriving at their commission charges. Data on separate charges to the growers for insurance on consigned wool were not available, but the one operator with the relatively low commission charges of 1.1 and 1.6 cents did make additional storage charges on all wool consigned to him. One operator reported his commission charge allowed for these two services and, in addition, for interest on post-shearing advances.

Storage and Charges

Eight of the 16 operators handling consigned wool made storage charges against this wool in addition to their regular handling charges. Seven of these operators were handler-dealers and one was the dealer who handled 3 percent of his total volume on a consignment basis. Four operators made a flat charge of 60 cents per 100 grease pounds for territory wool and 72 cents for fleece wool. Another operator charged 10 cents per month per 100 pounds for territory wool, and 13-1/2 cents for fleece wool. This operator reported that by placing the higher charge against the often higher yielding fleece wool, he received about the same amount of income per bag on the two kinds of wools. For accounting purposes, it is more convenient to compute storage charges on a per pound basis than per bag.

Storage charges reported by other operators were 25 cents per bag per month by one operator, and 25 cents per bag for the complete term of storage by another operator. The remaining operator reported that his storage charge varied with the weight of the lot and the length of time it was held in the warehouse.

OPERATING AREAS AND PRACTICES

Operating practices of wool warehouses are influenced by the area served and the type of sellers serviced by each warehouse, as well as the type and volume of wool handled and the type of buyer purchasing wool at the warehouse. Information was assembled to show the warehouse operators' areas of operation, method of assembling the wool handled, proportion of their total volume which was obtained from individual producers, and such operating practices as the consigning and purchasing of wool, warehouse methods of purchase, and storage after sale.

Operating Areas and the Source and Concentration of Volume

Various methods are used by operators in obtaining wool, but only the more common ones are discussed here.

Operating Areas and Methods of Collection

The area comprising the central and eastern States is characterized by large numbers of small wool producers, widely distributed. All warehouse operators assembled wool from areas greater than 50 miles from the warehouses and nearly 50 percent of them assembled wool from areas 300 or more miles away (table 8). The extreme range for all operators was from 75 to 3,400 miles. The average radius for handlers was 238 miles, for dealers 396 miles, and for handler-dealers 1,002 miles. The high average reported for handler-dealers is primarily due to receipts by two Boston firms of wool direct from growers in the western States. Removing these two firms from the analysis yields an

Table 8.--Source and method of handling wool by 44 warehouses in the central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Distance wool moves to warehouse: 1/				
Less than 50 miles	0	0	0	0
50-299 miles	2	18	3	23
300-649 miles	2	8	4	14
650-999 miles	0	1	1	2
1,000 miles and over	0	2	3	5
All	4	29	11	44
Proportion obtained from producers:				
Less than 50%	0	5	0	5
50-74%	0	3	0	3
75-100%	4	20	11	35
All	4	2/ 28	11	43
Handled on warehouse account:				
Less than 25%	2	0	1	3
25-49%	0	0	2	2
50-74%	0	0	2	2
75% and over	0	29	4	33
All	2	29	9	40
Handled on consignment:				
Less than 25%	0	1	4	5
25-49%	0	0	1	1
50-74%	0	0	3	3
75% and over	4	0	3	7
All	4	1	11	16
Purchased upon delivery: 3/				
Less than 25%	0	8	6	14
25-49%	0	0	0	0
50-74%	0	2	0	2
75% and over	2	11	2	15
All	2	4/ 21	8	31
Buyers usually leave wool at warehouse:				
1-14 days	1	15	5	21
15-30 days	2	7	3	12
Over 30 days	0	3	2	5
All	2/ 3	5/ 25	6/ 10	38

See footnotes at end of table.

--Continued

Table 8.--Source and method of handling wool by 44 warehouses in the central and eastern States, 1956 --Continued

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Scoured prior to sale:				
1-9%	0	1	1	2
10-24%	1	0	0	1
25% and over	0	0	2	2
All	1	1	3	5
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Quantity obtained:				
From individual producers	4,962	23,655	40,174	68,791
Others	0	15,326	6,048	21,374
All	4,962	38,981	46,222	90,165
Quantity handled:				
On consignment	4,803	75	21,482	26,360
On warehouse account:				
Purchased on delivery 3/	159	11,986	2,387	14,532
Purchased later	0	26,920	18,853	45,773
All	159	38,906	21,240	60,305
Other	0	0	3,500	3,500
All	4,962	38,981	46,222	90,165

1/ Radius of complete operating area in 1956.
2/ One operator not reporting.
3/ Pertains only to wool handled on the warehouse account.
4/ Eight operators not reporting.
5/ Question not applicable at one warehouse and three not reporting.
6/ Question not applicable at one warehouse.

average of 514 miles for handler-dealers, which is more typical of the warehouses in this area. Actually, only five operators obtained wool from distances greater than 1,000 miles (table 6, p. 26).

The distance between the wool producer and the warehouse is definitely a limiting factor in the methods employed by an operator in obtaining wool. When the first step in a marketing system involves distances like those presented here, personal contacts between the warehouse operator and the producer, before delivery of the wool, are often unavoidably limited. Also, because of the small size of many clips in the eastern and central States, the personal

contact method is often not economically feasible even when the clips are relatively close to the warehouse. However, many operators handle shearing supplies and sell them to the growers at the warehouses.

Because of long distances between warehouse and producer and the size of clips, many operators have "field men" who, for a commission, concentrate or purchase wool for them. The local assembly point operator or buyer may or may not be a wool producer, but he visits and solicits producers in the area. One warehouse operator reported using 88 different points to assemble wool for shipment to the warehouse. Other operators reported 25, 50, 60, and 85 assembly points. This type of operation is particularly prevalent among dealer-type operators. Three operators reported having agreements with shearers to purchase wool for them at the time of shearing. One of these operators said he had 140 shearers who purchased wool for him. Normally the field representatives also deliver the wool to the warehouse.

The warehouse operator normally pays a commission of about 3 cents a grease pound to these local representatives. Of the seven operators reporting commissions paid to field representatives, six paid 3 cents a pound and one, 1 cent a pound. This system practically eliminates handler-type operators, as this local representative's commission in many instances approaches the total handling commission charged the grower by the warehouse operator. A dealer operator, however, can lower his offering price sufficiently to allow for a profit to both his field representatives and himself.

Numerous methods are available for moving the wool from the farm or ranch to the warehouse. However, the producer usually pays, either directly or indirectly, for this service. Frequently a producer hauls the wool himself or contracts for the hauling with a railroad or trucking firm. Twenty-one operators, comprising 18 dealers and 3 handler-dealers, maintained their own facilities for hauling wool. However, only 15 dealers and 2 handler-dealers used the facilities in 1956. The dealers hauled 9,100,000 pounds and the handler-dealers 1,370,000 pounds from the field to the warehouse on their own equipment. These poundages are the equivalent of 23 percent and 3 percent, respectively, of their total volumes. The normal procedure of dealer operators is to deduct a transportation charge from their price before making the offer of purchase to the producer. Direct charges were made for this service by only one operator, and they approximated 1.5 cents per pound. One of the handler-dealers reported making no charge for this service, either direct or indirect.

Proportion Obtained from Individual Producers

The central and eastern warehouse operators obtained about 76 percent of their total volume, or 68,791,000 pounds, from individual producers, the remainder being obtained through "pools," small speculators, etc. (table 8). As one would expect, the handler type of operators received a larger percentage of their total volume from individual producers than did the dealers or handler-dealers. The handlers received all their wool from producers, dealers

nearly 61 percent, and handler-dealers 87 percent. Because of the inclusion of the "other" wool in total volume, the proportion of wool obtained from individual producers by handler-dealers as reported may be misleading. With the "other" wool removed, the proportions received from producers were 94 percent for handler-dealers and 79 percent for all 44 operators. Thirty-five of the 43 reporting operators received 75 percent or more of their total volume from producers. The figures include wool obtained from producers by field representatives of the warehouse operators.

The fact that the central and eastern warehouse operators knew who actually produced most of the wool they handled was extremely important. This afforded the grower an opportunity to discuss with the operator, or his fieldmen, the characteristics of his wool which needed improving as seen by the operator and possibly the buyer. Many growers lack the technical knowledge to evaluate their clip objectively, and often a slight shift of emphasis in the grower's breeding program can correct certain deficiencies if they are pointed out to him. Helping the producer to improve his clip is one method often used by the warehouse operator to encourage a producer to return with his wool each year.

Operating Practices

The amount or proportion of wool handled on consignment or on the warehouse account was a major factor in determining many operating practices of wool warehouses. However, the wool trade felt that a larger than normal proportion of the wool was handled on consignment in 1956, and consequently the figures presented here may not be typical of other years.

Volume Handled on Consignment or Warehouse Account

Of the 44 operators in this study, 16 handled some of their wool on a consignment basis in 1956 (table 8). This consigned wool amounted to 26,360,000 pounds, or over 30 percent of all wool sold at warehouses and 29 percent of all wool handled by warehouses. The 4 handlers accounted for 4,803,000 pounds; 1 dealer, 75,000 pounds; and 11 handler-dealers, 21,482,000 pounds. The consignment wool represented 97 percent, less than 1 percent, and 46 percent, respectively, of the total amount of wool handled by each type of operator. Dealers, by definition, handled no more than 5 percent of their volume on a consignment basis.

Forty operators said they purchased, or handled on the warehouse account, a total of 60,305,000 pounds (table 8). This amounted to 67 percent of all wool handled by warehouses. Two handlers accounted for 159,000 pounds; 29 dealers, 38,906,000 pounds; and 9 handler-dealers, 21,240,000 pounds. These figures represent 3 percent, nearly 100 percent, and 46 percent, respectively, of the total amount of wool handled by each type of operator.

Two handler-dealers handled some wool that was neither consigned nor on the warehouse account. As stated previously, this wool was classified as "other" wool and amounted to 3,500,000 pounds, or about 4 percent of all wool handled by warehouses. Two and a half million pounds of this "other" wool was sold on order and 1 million pounds was straight commission storage of wool for a topmaker.

Three warehouse operators reconsigned or sold their entire volume to another warehouse included in this study. As mentioned previously, this duplication of volume amounted to only 2,376,000 pounds, less than 3 percent of the volume handled by all 44 warehouses. However, with the exception of volume handled, method of sale, and destination of the wool, the data have been adjusted to compensate for this duplication. These three items were not adjusted, as were the preparatory services, as it would make this study of warehouse operations incomplete.

Method of Purchasing Wool on Warehouse Account

All of the wool purchased on warehouse account, 60,305,000 pounds, was obtained by one of three methods, (1) purchase before delivery, (2) purchase upon delivery, or (3) purchase after consignment.

Most of the wool purchased on the warehouse account was solicited and purchased in the field, or at least before its delivery to the warehouse. Purchase before delivery accounted for 45,469,000 pounds, or slightly over 75 percent of the wool handled on the warehouse account. Dealers obtained 69 percent and handler-dealers 87 percent of their purchased wool by this method.

Purchases upon delivery accounted for 14,532,000 pounds, or 24 percent of the total. Undoubtedly, much of this wool was actively solicited at some earlier date, but it was not actually purchased until it was received. Included in this 24 percent were the small, often inferior lots of "door-trade" wools, with which practically all operators must contend. The warehouse operators in this study indicated that these lots, when accepted on consignment, are usually handled at a loss. In an effort to minimize this loss, many operators purchase them instead of accepting them on consignment. In some instances, losses are sustained even when these small lots are purchased. However, warehouse operators felt that these small losses were more than offset by the resulting good will.

Some consigned wool was purchased at three warehouses in 1956, but these purchases amounted to only 304,000 pounds, or less than 1 percent of all wool handled on warehouse accounts. Two of these three operators assessed their regular commission charges, which ranged from 3-1/2 cents to 5-1/2 cents, depending on lot size and origin of the wool, on all the consigned wool they purchased. The third operator deducted his regular commission charge from the price before making purchase offers to growers.

No wool was purchased before delivery or after consignment by the four handler operators. Of the 45,469,000 pounds purchased by all operators before

delivery, 59 percent was purchased by dealers and the remainder by handler-dealers. Dealers accounted for over 82 percent of the wool purchased upon delivery to the warehouse, followed by handler-dealers with slightly over 16 percent, and handlers with 1 percent.

Storage After Sale

Some buyers left wool at the warehouse after it had been purchased. This practice may create problems for the warehouse operators. Storage of such wool should not be confused with storage by growers, discussed previously. As explained earlier, some operators found it necessary to obtain additional space during the season to handle the incoming wool, and the leaving of purchased wool by buyers complicated the problem. Twenty-one of the 38 reporting warehouse operators moved out most of the wool handled within 14 days after its sale (table 8). Most of these operators said buyers took delivery as soon as the wool could be loaded out. However, 12 said buyers left wool in the warehouse between 15 and 30 days after purchasing it. At five warehouses, the wool was left an average of over 30 days, and 120 days was the highest average number of days reported by any operator.

Only four of these 38 reporting operators made charges for storage of wool left in the warehouse by buyers. In many instances, agreements were made between the operator and the buyer so that the buyer could leave his wool for a specified period at no charge. The four operators making storage charges to buyers charged them the same rate as for grower storage, but two allowed 30 days before starting to assess charges.

SALE OF WOOL

The wool sold through or by warehouses in 1956 included the 60,305,000 pounds handled on warehouse account and 26,360,000 pounds handled on consignment, or a total of 86,665,000 pounds. The other 3,500,000 pounds of the total 90,165,000 pounds passed through warehouses for purposes other than selling, and consequently is omitted from this section.

Presentation or Offering of Wools

Relatively few clips in the central and eastern States are large enough to interest a buyer when offered on a "graded individual clip" basis. Wool offered for sale on an individual clip basis in 1956 totaled only 7,230,000 pounds, or slightly over 8 percent of all wool sold at warehouses. Handler-dealers offered 4,958,000 pounds on this basis, and dealers 2,272,000 pounds. These amounts represent 12 percent and 6 percent, respectively, of the total volume sold. No handler operator offered wool for sale on an individual clip basis (table 9).

Table 9.--Basis and method of sale and type of buyer for wool handled by 44 warehouses in the central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Basis of sale:				
Individual clip:				
Less than 25%	0	2	4	6
25 to 49%	0	1	1	2
50 to 74%	0	2	0	2
75% and over	0	1	0	1
All	0	6	5	11
Original bag: 1/				
Less than 25%	0	5	5	10
25 to 49%	0	2	1	3
50 to 74%	0	2	0	2
75% and over	1	3	0	4
All	1	12	6	19
Guides used in pricing wool:				
Futures prices	2	20	10	32
Boston spot quotations	3	19	10	32
Spot prices supplied by buyers	3	26	10	39
Trade publications and newspapers	4	26	11	41
Method of sale:				
Sealed bid:				
Less than 25%	0	0	1	1
25 to 74%	0	0	2	2
75% and over	0	0	0	0
All	0	0	3	3
Private treaty:				
Prior to shearing:				
Less than 25%	1	4	1	6
25 to 49%	0	1	1	2
50 to 74%	0	0	1	1
75% and over	0	0	0	0
All	1	5	3	9
After shearing:				
Description: 2/				
Less than 25%	0	5	2	7
25 to 49%	0	4	0	4
50 to 74%	1	3	5	9
75% and over	2	7	1	10
All	3	19	8	30

See footnotes at end of table.

Continued

Table 9.--Basis and method of sale and type of buyer for wool handled by 44 warehouses in the central and eastern States, 1956--Continued

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	Number	Number	Number	Number
Core test: 2/				
Less than 25%	1	4	0	5
25 to 49%	0	0	5	5
50 to 74%	0	1	3	4
75% and over	2	0	3	5
All	3	5	11	19
Proportion of wool sold to:				
Dealer:				
Less than 25%	1	4	5	10
25% to 49%	0	4	0	4
50 to 74%	0	3	0	3
75% and over	0	9	0	9
All	4/ 1	20	5	26
Manufacturer:				
Less than 25%	0	2	0	2
25 to 49%	0	0	0	0
50 to 74%	0	4	1	5
75% and over	3	16	10	29
All	4/ 3	22	11	36
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Wool marketed through warehouses: 3/				
Sealed bid	0	0	3,766	3,766
Private treaty	4,962	38,981	38,956	82,899
Prior to shearing	109	768	3,221	4,098
After shearing	4,853	38,213	35,735	78,801
Description 2/	3,397	15,455	15,820	34,672
Core test 2/	3,099	3,308	22,886	29,293
All	4,962	38,981	42,722	86,665
Wool sold to: 3/				
Dealers	5	9,363	985	10,353
Manufacturers	4,057	29,618	41,737	75,412
All	4/4,062	38,981	42,722	85,765

1/ Refers here to wool on which no improvement has been made, i.e., still in its original bag. 2/ Core test sometimes part of description. 3/ Includes only wool handled on consignment or warehouse account. 4/ One warehouse operator not reporting.

The 79,435,000 pounds of wool that did not sell on an individual clip basis consisted of clips sold as mixed lines or as pooled and graded lines. In several of the States, groups of producers pool their wool in lots of attractive size. Normally, when a grower's clip is graded, it is not sold separately but is placed in grading piles along with similar grades of other clips. A record is kept of the amount of wool each grower has in each grading line or pile, but it is not shown as an individual clip. Handlers graded all the wool they sold; dealers, 79 percent; and handler-dealers, 91 percent.

Central and eastern warehouse operators offered as graded wool nearly 86 percent of all wool sold through their warehouses. Undoubtedly, additional amounts were graded before manufacturing, but as far as the operators were concerned, the remaining 14 percent was sold on the "original bag" basis. It was impossible to determine how much of this wool was actually "original bag" in the more restricted trade sense.

Proportion of Wool Displayed

Prospective buyers seldom look at all the wool in a given lot except when very few bags are involved. Normally, the operators will "lay down" for display sample bags chosen at random from the lot in question or, in warehouses at which grading is done, wool may be shown in other piles. Many operators said they preferred to display their wool in piles, as this avoided the extra handling necessitated by displaying bags. When displaying bags, most of the operators usually laid down 5 to 10 percent of the bags as a sample, with no definite rule as to the exact number. Naturally, a buyer can ask to see as many bags as he feels necessary to evaluate the lot properly. The highest proportion normally displayed by any operator was 20 to 30 percent, shown by one dealer with barely enough volume to qualify for this study.

Often, when the wool is not to be graded, every fifth or tenth bag is marked as the wool is delivered to the warehouse, and these bags are set aside as samples. This avoids tearing into the tiers to locate the sample bags when the lot is shown.

Four operators sent sample bags to Boston warehouses to be shown. Three of these operators reported sending 3 to 5 percent of the lot as sample bags, and the other, 10 percent. Two operators reported that they sent entire lots to other warehouses for display. One sent entire lots to Boston, and an Iowa operator sent some lots to another warehouse in Iowa. The latter operator stated that some "exceptional" circumstances caused him to send wool to the other warehouse.

Guides Used in Pricing Wools

All warehouse operators, regardless of type of operation, must keep informed of the market value of wool. Dealers must arrive at the price they can pay for clips and handlers must be prepared to advise their consignors. Trade

publications and newspapers constituted the most popular direct source of market news. Forty-one of the 44 operators used these media. Spot prices supplied by buyers were the next most common direct source of market news, 39 of the operators using them. The least used of the common guides reported were futures prices and Boston spot quotations, but undoubtedly much of the information obtained from trade publications, newspapers, and buyers came originally from reports on Boston spot quotations and on futures prices. These reports were used directly as price guides by 32 operators (table 9). Other sources of information included contacts in Boston, private publications, and sales offices maintained by larger wool organizations.

The consensus of warehouse operators was that most of the price information was relatively old when they received it and that it was not sensitive enough to show immediately all changes in the market. Many reports on the wool market and on the more important sales are published weekly or once every two weeks. Sales are usually reported on a grease price basis with no indication of the yield (or shrinkage) and frequently with no indication of the grade or grades of wool involved. When buyers reveal to market news agencies their clean-basis prices on lots purchased without the core test, the clean basis may be misleading. Buyers are often told to "get the clip" but they also have to work under certain "clean limits." Consequently, the buyer may purposely underestimate the shrinkage in order to arrive at a higher grease price to the grower than is offered by competing buyers. In this case, even clean price has little meaning.

Two dealer operators stated that more information is needed on the prices and movements of off-wools. While this is a good suggestion, the description of off-wools is even more complicated than that of other wool, which at present is inadequately described. Another dealer operator indicated that more information on foreign markets would be useful.

The futures market quotations are the one source of price information generally available to the public daily. Though 32 of the 44 operators said they also used the futures market as a price guide, they agreed that it was strictly a guide and not a basis for definite price determination.

In summary, it seemed that warehouse operators as a group made some use of nearly all available guides in their price determinations, but indicated that the guides lacked sufficient detail and often were not immediately available.

Method of Sale

All central and eastern warehouse wool was sold by operators either on sealed bids or on some form of private treaty. No wool auctions were found to be operating at the time of this study, though some have been tried in the United States with varying degrees of success.

Sealed Bids

Sealed-bid sales accounted for 3,766,000 pounds, or about 4 percent, of all wool sold at central and eastern warehouses. The sealed-bid method of sale was employed by only three operators, all of whom were handler-dealers in the Midwest. One of these operators sold less than 25 percent of his total volume by this method, and the other two between 25 and 75 percent (table 9).

The reasons why operators used various methods of sale were not ascertained, but the success of the sealed-bid method used by the Government in selling CCC wool raises some question as to why this method was not used to a greater extent. Hodde, 4/ in his study of wool marketing problems, reported that 10 of the 12 topmakers and 8 of the 14 manufacturers interviewed were interested in buying wool at sealed-bid sales and auctions. One topmaker reportedly said he preferred private treaty sales because competitive bidding forces prices too high. In reference to auctions and sealed-bid sales, another topmaker stated, "We have to shoot the works if we want to buy it." From the growers' standpoint, it appears that sealed-bid sales would be beneficial if the market were active and the number and attitude of buyers were favorable.

Private Treaty

Private treaty accounted for the sale of 82,899,000 pounds, or nearly 96 percent, of all wool sold at central and eastern warehouses in 1956 (table 9). This method of sale accounts for all wool not sold on a sealed-bid basis and includes the wool sold on contract before shearing, on description, and on core tests.

Before Shearing.--Selling wool on contract before shearing was a type of private treaty sale employed by nine operators (table 9). One handler sold 109,000 pounds, five dealers 768,000 pounds, and three handler-dealers 3,221,000 pounds, for a total of 4,098,000 pounds by this method. This total was nearly 5 percent of all wool sold through central and eastern warehouses. The small poundage sold by handlers on contract before shearing is easily explained by the fact that no consigned wool was sold in this way.

After Shearing.--Wool sold by private treaty after shearing amounted to 78,801,000 pounds. This represents 91 percent of all wool sold and 95 percent of wool sold by private treaty. Thirty operators sold nearly 44 percent of the 78,801,000 pounds on description, the remainder being sold on buyer appraisal. The selling of wool on description involves a good knowledge of wool by the warehouse operator and confidence in this knowledge on the part of the buyer. Three handlers sold 3,397,000 pounds on description; 19 dealers, 15,455,000 pounds; and 8 handler-dealers, 15,820,000 pounds, for a total of

4/ Hodde, W. L. Manufacturers' and Topmakers' Views on Some Wool Marketing Problems. U. S. Dept. Agr. Farmer Coop. Serv. Gen. Rept. No. 34. 1957.

34,672,000 pounds. Small hand-samples of the wool may or may not accompany the description, and core testing is often done to determine the yields of lots sold by this method. One operator, who sold 50 percent of his volume on description, said many buyers came through his area of operation before shearing time and thus had a fair idea of the condition of the clips.

All 19 central and eastern operators who cored wool at their warehouses in 1956 sold some wool on the basis of the core-test results. The operators reported that these results were used in the sale of over 99 percent of all wool tested. Handlers cored over 62 percent, dealers nearly 9 percent, and handler-dealers 54 percent of all wool sold through their warehouses. The relatively small proportion of wool cored at dealer-type warehouses is significant, though not surprising in view of the nature of their operation. Dealers historically have relied upon their ability as traders and have a tendency to shy away from objective measurements.

Type of Buyer

Buyers of wool at central and eastern warehouses were broadly classified as either manufacturers or dealers. All processors were classified as manufacturers, and the brokers and merchants were classified as dealers.

Twenty-six of the 43 reporting operators sold some of their wool to dealers, as defined above (table 9). One of these operators was a handler, 20 were dealers, and 5 were handler-dealers. Nine operators, all dealers, sold more than 75 percent of their volume to dealers. The 1 handler sold 5,000 pounds to dealers; the 20 dealers, 9,363,000 pounds; and the 5 handler-dealers, 985,000 pounds. The 10,353,000 pounds sold to dealers by all operators was 12 percent of all wool sold at central and eastern warehouses that year. Handlers accounted for less than 1 percent of this total, dealers 90 percent, and handler-dealers nearly 10 percent.

All but 7 dealers of the 43 reporting operators sold wool to manufacturers, as defined in this section. Sales to manufacturers totaled 75,412,000 pounds, or 88 percent of all wool sold at the warehouses. The 3 reporting handlers accounted for 5 percent; 22 dealers, 39 percent; and 11 handler-dealers, nearly 56 percent of the wool sold to manufacturers. Twenty-nine of these 36 operators sold no less than 75 percent of their volume to manufacturers (table 9).

It is evident from this study that the predominant role generally thought to have been played by the merchants and brokers in moving wool from the growers to the central markets has definitely changed.

PRINCIPAL OUTLETS AND MODES OF TRANSPORTATION

The principal outlets for central and eastern wools in 1956 were (1) Boston and the New England area, and (2) the Southeast, primarily the Carolinas. The New England area received nearly 82 percent of the 90,165,000 pounds of

wool handled by central and eastern warehouses, and the Southeast 15 percent (table 10). The Midwest accounted for the remainder, except for 493,000 pounds sent to Texas by two operators.

Railroads and trucks were utilized by central and eastern operators in moving all wool from their warehouses to locations specified by the buyers. The railroads carried 66 percent of the wool and trucks the remaining 34 percent. All but 4 operators reported that railroads were used to haul some or all of their wool; 24 reported that rail alone was used, and 16 reported that both rail and trucks were used. Only six operators moved over 75 percent of their volume by truck.

Boston and New England Area

Railroads carried 67 percent of the 73,546,000 pounds of wool shipped to the Boston and New England area (table 10). Handlers, sending their entire volume to this one area, accounted for about 7 percent of the wool sent to the area, dealers 37 percent, and handler-dealers 56 percent. Handlers sent 95 percent of their volume to the Boston and New England area by rail and 5 percent by truck. Dealers sent 27,151,000 pounds to this area, 73 percent of it by rail and 27 percent by truck. The handler-dealers sent nearly 60 percent of their 41,433,000 pounds to this area by rail and the remainder by truck. There was no particular pattern to the method of transportation used, as large differences existed within regions throughout the central and eastern States.

Southeast Area

The Southeast received 15 percent of all wool moved from central and eastern warehouses in 1956, most of the 13,659,000 pounds going to the Carolinas. Dealers sent 25 percent of their 1956 volume to this area and handler-dealers 8 percent. The dealers sent 56 percent of their 9,870,000 pounds to the Southeast by rail. The handler-dealers used the railroads to haul 79 percent of their 3,789,000 pounds sent to the Southeast (table 10).

Other Areas

The other areas to which eastern and central warehouse wools were sent in 1956 were the Midwest and Texas. The Midwest was designated as the destination of 2,467,000 pounds. This represents nearly 3 percent of all wool moved from these warehouses. Seven dealers accounted for 1,467,000 pounds, or 59 percent, of all wool shipped to this area, and four handler-dealers shipped 1,000,000 pounds to the Midwest, all of it by truck. The high proportion of wool shipped to this area by truck may be attributed to the fact that 10 of these 11 operators' warehouses are in the Midwest.

Texas was the only other area to which wool was sent from central and eastern warehouses. Two dealer-type operators, one in South Dakota and one

Table 10.--Outlets and method of transportation for wool handled by 44 warehouses in the central and eastern States, 1956

Item	Type of operator			
	Handler	Dealer	Handler-dealer	All
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Quantities moved from warehouse:				
By truck	252	11,940	18,550	30,742
By rail	4,710	27,041	27,672	59,423
Total	4,962	38,981	46,222	90,165
Destination:				
Boston and New England:				
By truck	252	7,430	16,750	24,432
By rail	4,710	19,721	24,683	49,114
Total	4,962	27,151	41,433	73,546
Southeast:				
By truck	0	4,390	800	5,190
By rail	0	5,480	2,989	8,469
Total	0	9,870	3,789	13,659
All other:				
By truck	0	120	1,000	1,120
By rail	0	1,840	0	1,840
Total	0	1,960	1,000	2,960
	Number	Number	Number	Number
Proportions moved:				
By truck:				
Zero	2	16	6	24
Less than 25%	1	5	3	9
25-49%	1	1	0	2
50-74%	0	3	0	3
75% and over	0	4	2	6
All	4	29	11	44
By rail:				
Zero	0	2	2	4
Less than 25%	0	1	0	1
25-49%	0	1	0	1
50-74%	0	4	0	4
75% and over	4	21	9	34
All	4	29	11	44

in Nebraska, upon buyers' instructions, sent 493,000 pounds of wool to Texas. Presumably this wool was sent for scouring only; it represents less than 1 percent of all wool sold at central and eastern warehouses in 1956. Both of these operators moved their entire volume by rail, including shipments to the Boston and New England area, the Southeast, and the Midwest.

No attempt was made to discuss the transportation rates from the warehouses to the various areas designated by the buyers, because of the complicated and often changing rate structure. It is significant, however, that 36 of the 44 operators' warehouses were located on rail sidings and that the 8 remaining warehouses were all within a quarter mile of rail sidings which the operators could use. Also, most operators preferred moving wool by rail, as the boxcars could be loaded at their convenience whereas trucks usually required immediate loading. Nevertheless, 34 percent of all wool moved by truck from central and eastern warehouses.

MAJOR PROBLEMS AND MEANS OF IMPROVEMENT

Statements of warehouse operators indicated that they were confronted with a large number of varying problems. The most common were (1) inadequate volumes for efficient handling, (2) lack of knowledge of the most suitable facilities and equipment, (3) lack of availability of suitable insurance at reasonable costs, (4) inability to determine the most effective merchandising methods, and (5) inadequate classification and market information services. The problems are discussed here and an attempt is made to outline at least partial solutions.

Adequate Volume for Efficient Handling

The primary concern of all warehouse operators is assembling sufficient volume with the least possible expense. This problem was complicated by an increase in the activity of mill representatives purchasing clips direct from growers and by a reduction of available volume of shorn wool in the area. The 86,370,000 pounds produced in these 36 States in 1958 is up about 40 percent from 1949, but is still well below the annual production at the end of World War II. Also, the average clip in this area is less than 250 pounds. One warehouse operator reported 18,000 separate accounts in 1956 averaging 165 pounds per account. The large number of farms with small flocks of sheep and the wide variations in the quality of the wool complicate the problem of assembling and handling wool at the warehouse.

As indicated previously, many warehouse operators have offered other services, in addition to handling the wool, as a means of attracting wool handled by other operators or clips normally sold direct. Although these services may have increased costs, the benefits to growers and warehouse operators may have exceeded the costs involved. "Extra" charges for these services, without explanation, may tend to "scare away" uninformed growers who do not know the benefits derived from them. Consequently, an educational program for growers may be advisable to familiarize them with the services available and the benefits to be derived from them.

It has been demonstrated in some areas that a grower education program need not add to the warehouses' operating costs. The county agents (or farm advisors) usually have much influence on the wool growers in the county and are eager to pass on to growers any information likely to be beneficial to them, without cost to the warehouse. Should the county agents, or advisors, not be familiar with wool or with the services offered by the warehouses, the operators should interest them in wool and inform them of the relative benefits of and charges for warehouse services. The more agents and producers know about sheep and wool, the more emphasis they are likely to put upon better production and marketing practices.

Another method tried by warehouse operators to increase volume, at little or no extra cost to the warehouse, was to encourage smaller producers to organize modified "pools," all in a pool sending their wool to a particular warehouse. Such a pool might be developed through the efforts of the county agent or possibly a local growers' organization. By bringing together these small lots at one warehouse, the operator can economically offer additional services to the mutual benefit of producers and warehouse operators.

Suitable Facilities and Equipment

The kinds of facilities and equipment that a warehouse operator can use efficiently depend upon the volume of wool handled, the services performed, and the conditions under which they are performed. The more efficient equipment, such as electric scales, hydraulic bag packers, and balers, is economical only when relatively large volumes are involved or when a large amount of grading or sorting is being done. The question when and under what conditions the use of some of the more efficient, but higher priced, equipment becomes economical for the operator is complex, however.

Determination of the most efficient equipment for even such a simple operation as weighing wool presents a problem. One would normally think that the more efficient but expensive electric scales, for example, would be used only in warehouses with relatively large volumes; but in 1956, the average volume of wool handled by warehouses using only electric scales was about 400,000 pounds less than that of warehouses using only balance-type scales, and slightly less than that of warehouses using only dial-type scales. Three of the five warehouses using electric scales handled 600,000 pounds of wool or less in 1956, compared with an average of 2,208,000 pounds for the 13 warehouses using only balance-type scales.

The need for additional information on the economics of various facilities and pieces of equipment increases with the development of improved equipment and the growing demand for improved preparation of wool. Much of this preparation may be done more economically at warehouses in producing areas than in central markets where labor costs are higher and space is at a premium. However, warehouse operators will need more and improved facilities and equipment if they are to offer this service, and they will need information on relative costs of owning and operating various types of equipment if they are to obtain the type best suited to their needs.

Insurance

Problems in obtaining adequate insurance at reasonable costs are indicated by the fact that the annual rates per $100 valuation ranged from 14 cents to $2.84 on buildings and from 8.3 cents to $1.80 on contents. Though some of this spread is undoubtedly due to variations in risk, part is evidently due to the operators' lack of knowledge of or active interest in this relatively important item of costs; most of the warehouse operators interviewed were unable to report their insurance rates, though they agreed that their premiums were quite high. In all cases where the operators reported rates, they first had to locate their insurance policies.

Warehouse operators need to make sure that their insurance representatives know the resistance of wool to damage by fire and water so that premiums may be in line with the risks involved. A better understanding of the nature and extent of the risks involved would supply a basis for determining the conditions under which the different types of protection are needed and the premiums that are in line with the risks involved.

Merchandising

One of the primary functions of the warehouse operator is to properly prepare and merchandise the wool he handles and, in the case of consignment operators, to advise the growers on the quality and value of their clips. Few producers have any exact knowledge of the quality characteristics of their product, and consequently they must often rely upon the warehouse operator, banker, or other local source for information when selling wool. The warehouse operators, as a rule, are better informed on qualities and prices of wool than others in the community. Wool growers, like other producers, should strive to sell their product on an objective or quality basis, not by guess. Here also the warehouse operator could play an important role.

To merchandise his clip properly, the grower or his agents must know its quality and yield, and the price his particular type or quality of wool actually warrants, on a clean basis. A reasonably accurate determination of the quality and yield of the wool is basic to an effective use of price information. The quality may be determined by grading a representative sample or by grading the entire lot. The yield of the clip can be established by core testing or by actual scouring of the entire lot. Core testing is the less expensive of the two methods and should normally receive preference on a uniform, high-quality clip. On the other hand, it may be to the growers' advantage to scour poor-quality lots. Here again the consignment warehouse operator should advise growers on which method to use. Once the grower knows exactly what he has to sell, he is in a much stronger bargaining position regardless of where the wool is or to whom he may sell it. Should he sell "direct" to processors or to a dealer-type warehouse, the grower may feel that merchandising is of little concern. However, the grower must still know what he has to sell if the actual worth is to be received.

Another problem of merchandising is the handling of small clips. Pooling of smaller clips of similar quality into lots weighing not less than 10,000 pounds may offer several advantages. This method is practiced in many of the dealer-type warehouses. In consignment warehouses, if the qualities and yields of individual clips are known, each producer would receive his proportionate value of the pooled lot. If all producers of relatively small clips in an area were to organize, as suggested previously, and send their wool to one warehouse, their clips could be sold to better advantage.

The steps toward improved merchandising, described here, would unavoidably increase the operating expenses of warehouses. The dealer derives the benefits from objective measurements and from grading, core testing, and other services involved in improved merchandising. However, the consignment operator must cover the additional expenses by correspondingly increasing his charges, and a grower education program may be needed to show that these services normally more than pay for themselves.

In an improved marketing system, merchandising is based on dependable measurements of quality. These measurements of wool are important not only in selling the wool but also in educational programs. The influence on a grower of actually seeing the difference between the quality characteristics of his clip and those of his neighbors may be an important incentive to quality improvement.

Classification and Market Information Service

Information on the qualities, prices, and market outlets for wool is incomplete and much of it is out of date when it is made available to warehouse operators and to producers. Consequently, much wool in central and eastern States is sold without adequate information on either its quality or value. This situation emphasizes the need for an improved classification and market information service that would supply needed information on the yield, fineness, length, and other quality elements of wool; on the supply and demand situation in domestic and world markets; on prices in local and central markets, including prices on a clean basis; and on market outlets.

The development and use of an adequate classification and market information service for selling and buying wool on description would be an important improvement. Maximum benefits from such services would require: (1) Provision for obtaining representative samples of wool and for correctly identifying them with the lots of wool from which they were drawn; (2) uniform standards upon the basis of which all important quality elements of the wool can be tested or checked and described for commercial purposes with reasonable accuracy; (3) the services of competent and reliable technicians, facilities conducive to accurate classifications or evaluations, and means for adequate supervision of the classifications by a competent and reliable agency; (4) facilities for assembling the samples, recording the classifications or evaluations on convenient forms, and making the information available to producers and buyers in time for them to use it in selling and buying the products; and (5) confidence on the part

of producers and buyers in the adequacy of the classification service, and willingness to sell and buy wool on the basis of this information.

In attempting to ascertain the feasibility of supplying such services, the Department of Agriculture, in cooperation with State agricultural experiment stations, has initiated research designed to show variations in actual prices of wool paid to producers on the basis of such factors as yield, fineness, staple length, and other quality elements, and to indicate the benefits that may be derived from classification and market information services to wool producers.

The initial phase of this research was based on data for selected areas in southwestern Texas. Samples of the larger lots of wool at warehouses were taken and sent to wool laboratories at Denver, Colo., and College Station, Tex., where these samples were analyzed to show the yield, fineness, length, and other characteristics of the wool. The results were made available to warehouse operators and to producers for their use in selling the wool. Arrangements were made with wool producers and warehouse operators to supply data on date of sale, terms and conditions of sale, and prices received by producers for each lot of wool sampled. These data on prices and on laboratory measurements are to be analyzed to show variations in prices on the basis of the quality of the wool. This information, along with the costs involved, will be used as a basis for indicating the feasibility of supplying such information to wool producers.

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