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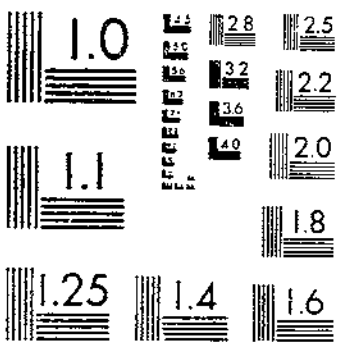

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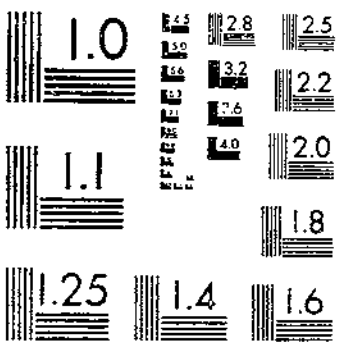

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TECHNICAL BULLETIN No. 124 JUNE, 1929

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

SOME FACTORS AFFECTING THE MARKETING OF WOOL IN AUSTRALIA, NEW ZEALAND, THE UNION OF SOUTH AFRICA, ENGLAND, AND FRANCE

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INTRODUCTION

Wool is one of the major commodities in the economic life of the United States as well as of the world. Not only has the last century seen great improvements in methods of breeding and production, but it has also witnessed the complete transformation of methods of marketing in the great wool-producing countries of the world. During this time, four great sheep and wool producing regions were developed, and these have become the great factors in the industry. These countries are Australia, the United States, the South American

republics, and the Union of South Africa. Australia and New Zealand have been conspicuously successful in production of the finer grades of wool and in grading and marketing their product. South Africa is producing large quantities of wool for export and is rapidly improving its product along the lines followed in Australia.

The Division of Cooperative Marketing, as a part of its program of research in the cooperative marketing of wool and at the request of some 30 leading cooperative-marketing associations, made a study of wool marketing in Australia, New Zealand, the Union of South Africa, England, and France in 1927–28.[1]

A survey was made of the methods of flock management for the purpose of wool production, of the preparation of the clip for market, and of the marketing practices in these countries. Special attention was given to the shearing of the fleece, the manner in which it is handled, graded, and stored, and the system of centralizing the product for shipment to the large markets, with a view to obtaining information which can be applied to improving the marketing of wool in this country. This bulletin is based upon analysis of these data.

There is a decided similarity in the initial development of the respective sheep industries in these four chief wool-producing countries. In three of them—Australia, South America, and South Africa—further expansion continues along somewhat parallel lines. In these three countries wool producers have been obliged to depend to a great extent on other countries for the consumption of their product. All four countries have enjoyed, until recent years, the advantages of great areas of grazing land at very low cost. Recent agricultural development in all of the countries has forced the sheep farmer back to less desirable lands or compelled him to assume higher costs in production, a condition which is reflected either in decreased numbers of sheep or in more efficient breeding, production, or marketing methods.

In the United States the wool producer has always had the benefit of a home market for his wool. In the beginning of the expansion period in the sheep industry this term "home" was a literal one, for the small cloth mills followed the trail of the sheep as they pushed westward over the Allegheny Mountains, across the Mississippi Valley, until they began to climb the high plateau region of the West.

The inauguration of transportation systems, however, enabled the mill owner to obtain his product with greater ease, so he turned to the consideration of other factors having a bearing on his business, such as cheap power, available labor supply, and proximity to marketing centers, with the result that the middle of the nineteenth century saw the swing of the mills eastward, while sheep movement continued westward. The smaller mills consolidated their plants and became large industrial units. The sheepman remained an individual producer, and the opportunity arose for the commission man and later the wool buyer to develop the business.

The change from mill agent to commission broker and, later, to buyer was so gradual that apparently many wool producers were

[1] This study was made by Mr. Walker, who, as the department representative, visited the countries studied and obtained data from Government agencies, from cooperative-marketing organizations and wool-brokerage concerns, and through personal interviews with breeders and other leaders of the wool industry. In addition, the survey included rather extensive travel through the wool-producing sections in order to observe personally the conditions which might have a direct or indirect bearing on the marketing situation.

not aware of it or of its possible effects on their market. The fact that they had a home demand for their product seemed all that was needed. Whether the American wool grower would have been content to follow this changed system of marketing had he been dependent upon an overseas market for the sale of his wool is purely a matter of speculation. Other wool-producing countries have been forced to adopt different methods in order to survive.

The purpose of this study is to discover, if possible, whether these methods of marketing have resulted in advantages to the producers in those countries. No attempt has been made to recommend the extent to which these methods should be applied to the marketing of the American clip. Alterations in marketing methods should be made only after careful study of individual situations by those whose interests are involved. It is believed, however, that the practices of wool producers in the countries studied are worthy of consideration by American wool growers.

AUSTRALIA

Australia is the leading wool-producing country of the world, not only in volume but in producing a high-quality product. Other countries may and do produce wool of equal value but not to the extent that Australia does. It is generally conceded by those best informed that about 35 per cent of the world's total wool production of approximately 3,000,000,000 (*15, p. 1135*)[2] pounds can be classed as carpet or unimproved wool. Of the wool which remains, which is manufactured into cloth for garments and other such products, Australia produces 855,000,000 pounds (*1, p. 281*),[3] or about 40 per cent of this kind of wool. The importance of the Australian wool clip on the world's market and its possibilities for expansion are, therefore, of great interest to the American wool producer.

Preliminary reports of the statistical divisions of the various State governments of Australia, on sheep population in that country show that, in 1927, according to the best figures available, the distribution by States, was approximately as follows: New South Wales, 54,500,000 head; Queensland, 17,500,000; Victoria, 16,000,000; West Australia, 8,000,000; South Australia, 7,500,000; and Tasmania, 1,500,000.

These figures show a decided increase over those for 1926, partly because of a new method of obtaining estimates. In New South Wales and Victoria the latest estimates of the Government bureaus of statistics as to the number of sheep are based on the volume of wool coming from these two States. Queensland has been suffering from a drought for about four years, so that the sheep population shows a decrease. It is stated that when final reports are made for 1927 West Australia will probably show an increase over even the revised estimates, as this State has been expanding sheep holdings very rapidly within the last three or four years.

For many years statistics have been based on the reports of sheep farmers, and it is only since 1926 that a check has been made on receipts of wool as compared with number of sheep reported on the

[2] Reference is made by italic figures in parentheses to "Literature cited," p. 93.

[3] Historical data, except as noted, were obtained from "The Sheep and Wool Industry of Australia," Henry R. Smith (*13*), and from an address by Senator Guthrie (*8*), of Geelong, before the Royal Historical Society.

farms. Under date of February 15, 1927, the following statement was issued by the Bureau of Statistics of New South Wales:

> The Statisticians of Australia have been faced for some years with the problem of the discrepancy between the total wool production as recorded in the returns of landholders and manufacturers and the total quantity sent forward for disposal (export and local manufacture).
>
> The matter was brought forward by the Commonwealth Statistician (Mr. C. H. Wickens) at the Conference of Statisticians held in Adelaide in 1924, and it was resolved that each Statistician should investigate the matter in his State.
>
> The absence of records of interstate trade in wool rendered the task particularly difficult until the requisite data were obtained by courtesy of the Victorian railway authorities and the transport companies operating on the Murray River.
>
> Investigations in certain States have been completed, showing that the landholders' returns were understated, and inquiries are in progress in other States.
>
> The results obtained for New South Wales are summarized in the accompanying statement and, though it is unsatisfactory to learn that landholders' returns are so defective, good results have been obtained by the discovery of means to supply official statistics more promptly and more accurately than was possible heretofore.

Although there may be some controversy as to the number of sheep in Australia, it is stated by Dalgety that the 1926–27 clip totaled 855,000,000 (*6, p. 160*) pounds, and official estimates have placed the total at 898,000,000 (*18, p. 11*) pounds. The 1927–28 clip, produced under drought conditions, is estimated by members of the trade at 800,000,000 (*17*, p. 11) pounds. These figures are sufficient to establish Australia's importance in the world's wool market and to emphasize the need for study of methods of marketing and production in that country.

HISTORY AND DEVELOPMENT OF THE SHEEP INDUSTRY[3]

Sheep were first introduced into Australia in 1788. These were fat-tailed sheep, natives of the Cape of Good Hope, whence they were imported. The wool was more nearly hair, and the sheep were valuable only for mutton.

In 1789 Capt. Henry Waterhouse was sent from Australia by the Government authorities to secure some sheep. He was fortunate in obtaining some 32 head of Merinos in South Africa, originally imported from Spain, and he succeeded in landing 29 of them in Australia.

This shipment was divided among several people, among them Captain MacArthur and the Rev. Samuel Marsden. Both of these men realized the possibilities of the breed for fine wool production, and to their energy and support the foundation of the present sheep industry in Australia can be credited.

The industry has made tremendous growth. At the beginning of the eighteenth century there were less than 3,000 head of sheep in the country; in 1927 the sheep population was 105,000,000 (Table 1), and Australia was the leading wool-producing country of the world. Over half of the above number, some 54,500,000 head, are to be found in New South Wales, the original place of introduction.

Following the original Merino importation from South Africa, further importations were made from the Merino flock of the King

[3] Historical data, except as noted, were obtained from "The Sheep and Wool Industry of Australia," Henry B. Smith (*13*), and from an address by Senator Guthrie (*8*), of Geelong, before the Royal Historical Society.

of England at Kew, and later drafts were made from France and Germany.

As there were no factories in the country, the wool was all shipped to England. There it was pronounced to be of the best quality, and it commanded top market prices. This, together with the almost unlimited grazing areas which could be purchased or leased at very low prices, furnished an impetus for sheep production until, in 1842, the number of sheep in Australia reached 6,312,604 head. This marked the first peak. A slump in wool prices was then in progress, and a decided reduction in number of sheep followed. Sheep that could have been sold earlier at around $20 per head were offered at 50 to 75 cents, and the carcasses were boiled down for their tallow.

In 1845 the wool market was better, and once more pastoral conditions became profitable. This led to the importation in large numbers of sheep from Saxony and France, from which, with a later introduction of American Merinos, the present Australian Merino has been largely developed.

By the year 1860 Australia was carrying 23,000,000 sheep, which produced 88,000,000 pounds of wool. Explorations and the opening up of the country lying west of the eastern mountain slopes caused this number to be almost doubled during the succeeding 10 years, and the 1870 census showed 41,000,000 head and a production of 242,000,000 pounds of wool. A tabulation of figures for approximately 10-year periods, as available (Table 1), shows the growth of the industry.

TABLE 1.—*Number of sheep and wool production in Australia, selected years, 1800–1927*

Year	Sheep	Wool produced	Year	Sheep	Wool produced
	Number	*Pounds*		*Number*	*Pounds*
1800	5,000		1880	78,000,000	393,000,000
1810	34,000		1891	106,000,000	487,000,000
1820	156,000		1910	93,000,000	761,000,000
1840	6,000,000		1925	93,000,000	830,000,000
1850	16,000,000	55,000,000	1926	103,000,000	855,000,000
1860	23,000,000	88,000,000	1927	105,000,000	[1] 720,000,000
1870	41,000,000	242,000,000			

Data for years 1800–1820 and 1860–1891 are from an address by Senator Guthrie, of Geelong (*8*). Data for years 1840–1850 are from Bruni's "Australian Merino Studs" (*5*) (now out of print). Data for years 1910–1927 were obtained from statistics in offices of the Australian Government, unless otherwise noted.

[1] Estimated by members of trade (*1*, p. 282).

The peak in number of sheep was reached in 1891, followed by a sharp decrease due to extreme drought conditions and low wool prices, with a recovery in 1927 to almost the record number when again drought conditions were being faced. A comparison of wool yields, however, shows that yield of wool per head has been nearly doubled since 1891. Although the 1927 clip was estimated as lighter than the 1926 clip by nearly 100,000,000 (*1, p. 282*) pounds, because of drought, the fact that the wool has increased in weight from 4.6 pounds per head in 1891 to 8.3 pounds per head in 1926 speaks well for the Australian sheep breeder. The further fact that this wool carries from 10 to 20 per cent less shrink than American wool speaks better still for the Australian breeder, as from 9 to 10 pounds

of the American clip would be required to equal in clean wool the Australian 8-pound fleece.

The often quoted expression, "Climatic conditions are largely responsible for Australia's light shrink and good weight of wool," will not stand in the light of the facts in the case. Certainly the climate is the same as 35 years ago, and the feed no better. The explanation lies largely in better selection of stock, rigid culling, and selling each producer's clip of wool on its individual merits. The heavy-yolked sheep imported to Australia from Vermont imparted this quality to their offspring, and it was even intensified. At Coonong station in 1903 a record of some 1,660 ewes of pure Vermont breeding showed an average fleece weight of 20 pounds, the lowest being 15 pounds and the highest 35 pounds, and 800 rams of similar breeding clipped from 24 pounds to 54 pounds (*5*). This wool was described by one who saw it as being grease with sufficient wool to hold it in suspension.

The fact that the Australian flockmaster has not hesitated to avail himself of any new Merino blood or even to step outside the breed, if necessity arose, to secure those things he deemed essential in producing a sheep that, as he expresses it, "will fill the bale and fatten the bank balance," and a rigorous selection of the type best performing this function are responsible for the present type and quality of his clip.

CLIMATIC INFLUENCES

Australia is situated mostly in the South Temperate Zone and has a fairly mild climate. Its northern shores are in tropic and semitropic zones and are generally not suited for sheep raising. A chain of mountains extending fairly well from north to south on the eastern side of the continent affords the only elevation of any height. These mountains extend back from the coast some 150 to 300 miles and end in a table-land which drops gradually toward the west. The eastern slopes are fairly well watered. The rainfall in the table-lands is about 25 inches a year and gradually diminishes as one descends to the western plains until the great central desert is reached at a distance of 700 to 1,000 miles from the east coast.

TABLE-LAND REGIONS

DARLING DOWNS

Beginning in the north, the first pleateau region encountered is the Darling Downs section of Queensland (fig. 1), a region lying from 2,000 to 3,000 feet above sea level, and consisting of rich plains with occasional low-lying ranges of hills. This is an old sheep country and produces the finest wool grown in Queensland. The rainfall of 25 to 30 inches permits the introduction of agricultural crops, which has resulted in the cutting up of the larger station, or ranch, holdings into farms. Corn, barley, and alfalfa and fruit crops are continuing to encroach on the pastoral sections, and it is probable that the future will witness a turning to crossbreds run in small flocks, and the lambs sold for mutton. The carrying capacity of this section is from one to two sheep per acre.

NEW ENGLAND AND MUDGEE SECTION

South of Queensland one enters the New England and Mudgee districts of New South Wales, an area some 400 miles in length and varying in width from 50 to 150 miles. (Fig. 2.) This table-land is from 3,000 to 4,500 feet in elevation and is noted for the production of fine wool. The country varies from gently rolling plains to very rough granite rock, but carries a short, sweet, native vegetation capable of supporting from a half sheep to a sheep per acre. On account of an infestation of parasites, the common custom at present is to secure wethers from other districts, carry them for two or three seasons for their wool, and then dispose of them. This plan has resulted in wider variations in wool types than were found when the sheep were bred largely within the section, though it is popularly believed that wool shows a tendency toward fineness after the first year the sheep are introduced.

FIGURE 1.—Darling Downs section near Warwick, Queensland, Australia

In proof of this, two flocks, both in the same section, both derived from the same original sources, and running under as nearly identical conditions as possible, may be cited. Flock No. 1 is still producing a super 70's grade which has consistently topped the market for several years, whereas flock No. 2 is producing wool that grades 64's or even 60's and that sells several pence cheaper. A few years ago flock No. 2 was recognized as fully equal to if not superior to flock No. 1, and the change has been brought about through a different selection of rams and stud ewes. It indicates that the sections which are commonly thought of in Australia as producing strictly fine wool will and do produce coarser or broader-fibered wool, if the breeder so desires and operates accordingly.

GOULBURN AND YASS

The Goulburn and Yass districts in New South Wales are also noted for fine wool. These are plateau sections and carry a shorter, sweeter herbage than the plain regions. It was noticed that the wool of sheep removed from these districts to the New England district showed no further tendency to become fine in fiber though the elevation was some 1,000 feet to 1,500 feet higher. In all these districts,

excepting possibly Yass, the wool carries more condition, or yolk, and a darker tip than does that of the sheep in the plain country. The carrying capacity of these districts ranges from a half sheep to one sheep per acre.

WESTERN VICTORIA

Western Victoria produces the finest wool in Australia. Possibly it is the finest in the world which is produced in commercial quantities. Many flocks are found in which the wool runs from 70's to 80's and even up to 120's; the latter, however, nearly always is hunger-fine wool, the result of poor feeding conditions.

The Victoria plains are volcanic in nature and are covered with igneous rock. The soil is fertile and produces a sweet grass which, to date, is free from burs and seed. Trefoil, or California bur clover, is gradually working in, which will eventually render a portion of the clip burry. The sheep in this section are smaller in frame, carry

FIGURE 2.—Typical New England country, New South Wales, Australia. Lightly wooded pastures and rolling plateaus are the chief characteristics

lighter fleeces, and are somewhat more delicate in appearance than those of the other fine-wool sections. The clip yields a high percentage of clean wool. Yields of 60 to 65 per cent or even above are frequently noted.

Back of the plateaus the plains drop gradually down to an elevation of 300 to 600 feet above sea level, and it is on these areas that the great bulk of Australian wool is produced. The rainfall is lighter, varying from around 18 to 20 inches on the eastern edge to 3 or 4 inches as the strictly arid region is approached. The rainfall here largely determines the carrying capacity of the country. In sections where the heaviest rainfall is found, one sheep to 2 acres is common, decreasing to a sheep to 10 or more acres in the west.

This plain country runs across the continent and is largely devoted to sheep and cattle, except for desert sections in the interior or sections where irrigation or natural rainfall makes it possible to produce crops, as, for example, in sections of New South Wales where wheat is grown or in similar areas in Victoria and South Australia. West

Australia has recently begun to develop a considerable sheep industry on the country adjacent to the western coast, but it is of minor importance as compared with that of New South Wales, South Australia, or Queensland. The quality of wool is excellent, however, possibly because of more abundant feed in a new country.

The natural growth of all this country consists of trees of the gum or eucalyptus families, kurrajong, cypress of a species different from that found in America, and other trees, many of which afford good feed in times of drought. Interspersed with these are found smaller bush, of which the various members of the saltbush, cotton bush, and mulga families are the most important, gradually dwarfing until the plain country is reached, which is covered with native grasses or small bush.

To-day much of the bush or timbered country has been ringbarked [4] and grasses have come in. Considerable attention is being paid to introduced grasses such as the trefoil, subterranean clover, barley grass, and, where possible, alfalfa. The first three have heavy yields of seed, and sheep will carry in good condition for months on

FIGURE 3.—South Australian 2 and 3 year old Merino wethers grown in saltbush country. These sheep averaged 16¼ pounds of wool in 12 months' growth

ground that is apparently devoid of vegetation but which, on close inspection, proves to be covered with the ripened seed of the grasses. The trefoil and barley grass leave much foreign material in the fleeces and, as these grasses are gradually spreading over the paddocks along with such weeds as the bindei and noogoora, or cocklebur, the result will be an increased percentage of burry and seedy wool. The saltbush is found in several varieties, ranging from a small, creeping, vinelike plant to the "old man saltbush" 8 to 10 feet in height. Saltbush country is considered excellent sheep land, and it is stated that wool produced on this and cotton-bush areas shows better growth and more character than wool similarly bred which comes from other areas. (Fig. 3.) According to rainfall and other climatic conditions, this country carries from one sheep for every 2 acres to one for every 10 or more acres.

The interior of Australia has been only partially explored, and conflicting reports as to its possibilities are heard. The light rain-

[4] Trees and bushes are sometimes deadened by cutting a ring or notch in the bark around the trunk.

fall precludes much expansion in number of sheep unless artificial means of watering are developed. In sections now utilized, the carrying capacity is one steer per square mile of range.

TENURE OF LAND

In the early history of Australia, the problem was to get the land in use and to attract settlers. Accordingly, very liberal land grants were made. Outright purchasers secured great tracts of the better grazing lands at as low as 25 cents per acre, with a top value of $5 per acre. Others were given a conditional purchase as conditional lease grant afforded an opportunity of converting leaseholds into freeholds at a slight advance in rental fee.

To those who did not purchase outright, long-time leases—first for 99 years, then for 50 years, and later for 28 years—were granted. The lease ran from 1 cent to 25 cents per acre, with a clause providing a Government payment on all permanent improvements left on the land at the expiration of the lease. This easy acquisition of large tracts of land led to the holding of stations in relatively few hands, which was reflected in the marketing of wool, as will be shown later. It also had the effect of retarding other agricultural activities, as all the best lands were early secured for station properties, and, when the gold mines failed, so insistent was the demand for land to provide a living for the farmer-miner that, first Victoria, and later the other States, passed an act for the resumption by the State of any tract of land, freehold or leasehold, which might better serve the interests of the State as a whole by being divided into smaller tracts.

This act, known as "the closer settlement act," provided that any tract of land could be repossessed by paying the owner its current value, if a freehold, and giving him a prior option on such part of it as would keep a family at a living wage. This might be 100 acres or 2,000 acres. Trouble and dispute grew out of this arrangement, and to-day one of the problems in Australia is to work out a satisfactory land-tenure scheme. One of the States, New South Wales, has exempted all stations that carry stud flocks from the operations of the act. The result has been to increase stud flocks, partly as an assurance of possession of the land. The State is meeting this by a graduated land tax, taxing the large holdings more in proportion than the small ones, so that the owner is willing to sell out if the tract is wanted. Most States are operating lease lands now on a 28-year basis with a revaluation every seven years, such revaluation not to exceed the previous one by more than 50 per cent. Queensland has repudiated the revaluation clause so far as it applies to the raise in rental, and any new Parliament can do the same thing in regard to any law governing the possession of the land.

This situation of uncertainty and the breaking up of large holdings have an effect both on types of wool produced and on its marketing. The increased land value and higher taxes, the additional labor now required and the higher wages, and the decreasing carrying capacity of the land caused by exhaustion of certain mineral elements in the soil, have served to raise the cost of running sheep from around 25 cents a head in the early days to from $1.25 to $2.50 a

head annually to-day,[5] according to breeder's estimates. This may be expressed in cost per pound of wool as from 24 to 36 cents (1s. to 1s. 6d. (*8*)). So it is no longer a matter of any kind of sheep to eat the grass but one of obtaining the largest yield and the greatest value per head. This is causing a gradual transformation of breed types, and consequently of grades of wool.

BREEDS AND TYPES OF SHEEP

The first sheep in Australia were the fat-tailed sheep, followed by the Merino. Most of the early flocks were a combination of these two breeds, which were constantly being topped[6] by Merino rams so as to obtain eventually a sheep of practically pure Merino blood. The idea of the early Australian, and one which is still held by his successors, is that the Merino is a warm-climate, dry-country sheep, and best fitted for Australian needs. According to Dalgety, 69 per cent of the wool produced in Australia comes from Merinos (*6, p. 159*). As the statement, "Australia is made for Merino sheep," was so continuously heard, and as mutton was of little value with no opportunity, at that time, to dispose of it outside the continent, it was natural that the Merino should be the breed most favored. The ability of the English market to absorb the wool production at good prices increased the demand for Merinos, and the tendency was all toward the production of as fine wool as possible. This led to the development of a sheep carrying a very fine staple but shearing a light fleece. Its high price (there is a record of $3.92 per pound) made yield a secondary matter until the first big price break, in 1842, caused growers to study the problem of increased production per head.

Some time prior to this there had been some importations of English Leicester and Lincoln sheep, and there is strong evidence that this blood was incorporated into many Merino flocks, giving a larger sheep of longer staple but not such fine wool. Drafts were made from the fine-wool flocks in Saxony and later from the heavy-shearing Vermont Merinos of America. The infusion of the latter caused much trouble because of their excessive wrinkles and resultant trouble with the blowfly and because of their inability to range well. Most of this blood was later eliminated, but there is a belief that its influence is still present to some extent in many flocks.

Other importations were made from the Rambouillet flock in France, and the Steiger and Gaddegast flocks of Germany, so that some of the Australian Merinos of to-day are largely composite animals with a foundation of Merino blood from South Africa, England, Saxony, and Tasmania, later crossed with French, German, and American types, and with an infusion in some strains of English longwools.

As the pastoral industry moved toward the dry, dusty plains it was thought the finer wool suffered more than the coarser wool, so three types of Merinos were gradually evolved—fine-wool, medium-

[5] Pastoral Review (*8, p. 51*). In this bulletin all conversions of English money into its equivalent in American money are on the basis of $4.87 per pound, $0.24 per shilling, and $0.02 per penny.

[6] The best ewes of the flock were mated with Merino rams.

wool, and robust or strong-wool Merinos. These types are not strictly confined to any one family or strain, as variations from fine to strong are found in nearly all of them. It is noticed, however, that the larger types of Merinos do not approach the fineness of the best specimens of Victoria or Tasmania, for example, nor are the Tasmanian Merinos often found to carry really robust fleeces. This variation may be from 56's to 80's or above, which affords a wide range in grades and prices.

FINE-WOOL MERINOS

Flocks of fine-wool Merino sheep are found in the higher sections and table-lands. Victoria, New England, Mudgee, and the Goulburn and Yass districts of New South Wales, Tasmania, and the Darling Downs country of Queensland, contribute the bulk of this wool. The flocks show a remarkable similarity of breeding, a founda-

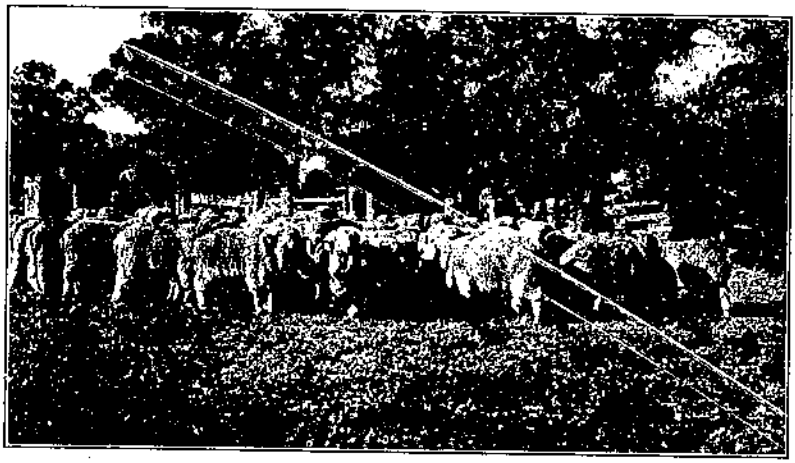

FIGURE 4.—Group of fine-wool Merino rams from the New England section of New South Wales

tion from South Africa or England, later topped with Saxony or Tasmanian Saxony bred rams, and with some evidences of the American types. (Figs. 4 and 5.)

In size, the fine-wool Merinos (fig. 6) are the smallest of the three groups; rams average 130 to 175 pounds, and ewes from 80 to 100 pounds. The modern type is plain in body, and many specimens are plain in neck as well, though a neck fold or two is thought desirable. A few are still rather heavily marked. The covering of the face and leg is better than in the coarser-wool types. Woolly faces are common, but breeders are attempting to breed open faces. The length of staple is from 2½ to 4 inches and is very even over the entire body, fairly dense for plain sheep, and generally carried well underneath. The more robust-wooled show a 64's count but 70's and upward is desired.

The weight of ewes' fleece runs from 3 to 10 pounds and that of rams from 14 to 20 pounds; in the Tasmanian and New England sections they weigh even more. The yield in clean wool is generally

high, as the yolk is light; yields up to 70 per cent are reached at times. This wool is in keen demand and commands top prices on the market. A tendency toward straightness in the fiber or lack of character is to be found, also, in some cases, a slight deficiency in constitution of the animal. The production of fine wool is about 12.5 per cent of the total clip of the country.[7]

MEDIUM-WOOL MERINOS

The medium-wool Merinos are found principally in the plains country adjoining the table-lands. They occupy an intermediate position between the fine-wool and strong-wool classes.

These sheep were developed from the same foundation as the fine-wool Merinos, with a later infusion of Rambouillet and American

FIGURE 5.—Fine-wool Merino rams, western Victoria section, Australia

Merino; there are also certain physical characteristics and wool qualities to warrant the conclusion that some longwool blood has been introduced in the formation of the type. (Fig. 7.)

The earliest prominent breeders of this strain were the Peppins, at Wanganella, in the Riverina section of New South Wales—that is, the country tributary to the Murray and Murrumbidgee Rivers in Southern New South Wales. Sometimes the strain is referred to as Wanganellas, taking its name from the station upon which these sheep originally ran.

The Wanganella sheep are of good strong constitution and are generally of good conformation, though sickle hocks and bad feet and mouths are frequently observed in some studs; others are free from these defects. In size the ewes range from 100 to 140 pounds or more and the rams, 175 to 200 pounds. Individual specimens go above this weight. (Fig. 8.) The face is nearly always open and the wool bright and lustrous. The staple is from 3 to 4 inches long or even longer, will grade 60's, 64's, and sometimes 70's, and is carried

[7] Statistics of the British Australian Wool Realization Association, known as "Bawra."

well over the body. A slight tendency to breechiness is seen occasionally, but generally the fleece runs quite true. The fleece weight of ewes is about 8 to 12 pounds and that of ram fleeces 18 to 28 or 30 pounds.

It is claimed that sheep of this and the strong-wool types stand up better under dry, hot conditions than do the fine-wool types, and that more yolk is produced in these wools, the yield running around 50 per cent or slightly higher. The type is popular, and many breeders of the generally recognized fine-wool families are producing a medium-type wool (figs. 9, 10, and 11) in order to meet current demands. The production of such wool constitutes about 31 per cent of Australia's clip. *(6, p. 159.)*

STRONG-WOOL OR ROBUST-WOOL MERINOS

The strong-wool or robust-wool Merinos embrace the more robust wool types of the Wanganella family and the larger Merinos found in South Australia (figs. 12 and 13), which are mainly descended from

FIGURE 6.—Two-year-old fine-wool Merino ewes. The clip from these sheep topped the London sales in 1926

the Murray and Hawker studs. The Murray stud was established in 1843 from a draft of ewes and rams driven overland from Victoria and supposedly of pure Camden Park breeding. The Hawker stud was formed in 1841, the ewes having been drafted from various sources. Both studs used Tasmanian blood, and for some 80 years the Murray stud has been bred within itself. The Hawker stud used Rambouillet and Murray rams in the early period of its history, as well as their own breeding. The influence of the longwool blood is also apparent in many of the strong-wool flocks.

This is the largest and heaviest-shearing type found in Australia. The wool runs from 60's to 64's; some goes as low as 56's. The staple is of good length and carries more yolk than the medium-wool type, the yield being around 42 to 45 per cent. Efforts to secure higher yields have not been very successful, as a mushiness is noted on the backs of such sheep. One breeder remarked that a limit of 5 per cent one way or the other was all the margin of safety permitted,

more yolk meaning too heavy wool, and less yolk not enough to protect the fleece from the dry, hot conditions under which the sheep run. This type of sheep produces 30.5 per cent of the total Australian clip according to statistics compiled by Bawra.

Some of the recent criticism against certain Australian wool has been directed at this robust-wool type of Merino, but its advocates claim heavy-shearing weights and a vigorous active sheep, and so long as their wool sells as near to top prices as it is now doing there will probably be no change in type. In fact, observation leads one to the opinion that instead of a decrease in wool of this type there will continue to be an increase in strong and medium-wool sheep, if normal seasons prevail. Owners of commercial flocks are purchasing such

FIGURE 7.—Typical medium-wool Merino ewes, New South Wales

rams, and although much is heard about returning to fine-wool sheep such rams are not keenly sought at the auction sales, and apparently some breeders are selecting the strong-wool rams to mate on top stud ewes. Australia's Merino clip can not show any marked increase in fine-wool production for some years to come, save as adverse feeding conditions make hunger-fine wools, as was the case over large areas in 1927.

CROSSBREDS AND COMEBACKS

The dividing up of the large stations and the introduction of crop farming have developed other types of sheep in Australia which are well adapted to the needs of the smaller farmer. These are the crossbreds and "comebacks," the latter of which are the result of mating a Merino ram on the Merino-Leicester or Merino-Lincoln ewe. Sometimes Romneys are used for crossbreeding, but the Leicester and Lincoln are the favorite breeds.

This three-quarter Merino and one-quarter longwool sheep has lately been inbred on itself, and the new breed is called Polworth and, by some, Ideal. As yet there seems to be no fixed type; some show true horns, some are polled, and others are half-horned or carry scurs. There is also a variation in size and conformation, from a true Merino down to the crossbred. The fleece weight is 7 to 8 pounds for the ewes and 15 to 20 pounds for the rams, and the wool generally falls in the 58's to 50's counts. The staple is long, and the wool is considered very desirable. Victoria and Tasmania furnish the bulk of it, which constitutes some 10 per cent of the total Australian clip.

The crossbred Merino-longwool has been developed into a distinct breed called the Corriedale. This sheep is popular in the farming sections, as it combines a good carcass and a heavy fleece. In the sections where lambs are produced for market it is occasionally

FIGURE 8.—Special stud Merino ewes, Wanganella type. These ewes will shear about 14 to 16 pounds of wool, yielding 50 per cent clean wool

crossed with Southdown or Ryeland rams and produces an attractive market lamb. The wool is of very good staple, yields well, and is heavy in weight; ewes shear 10 to 13 pounds and rams 17 to 22 pounds. This type of wool constitutes about 13 per cent of the total Australian production and classes as 50's to 56's in fineness as indicated by Bawra statistics.

LONGWOOLS AND OTHER TYPES

Longwools and other types are generally found as stud flocks and are used in crossbreeding. Their yield of wool, according to Bawra, is only about 3 per cent of the total clip.

SHEEP IN TASMANIA

Tasmania is a rough, mountainous island with sections of high rolling plateaus and with fertile river valleys, lying south of the mainland of Australia. Its climate is much like that of our North Central States, and it has a good rainfall and abundant water supply. It is an excellent country for sheep (fig. 14), which constitute the main agricultural product.

Tasmania dates its sheep industry from the year 1828, when the Van Diemen Land Co. imported a shipload of sheep to Tasmania. This was followed shortly after by a draft from the celebrated Henty Merino flock of England. In 1834 a Mrs. Furlong, of Scotland, sent her son with about 100 Saxony sheep to Australia to start a sheep station in that country. The boat on which the sheep were being conveyed put in at Hobart, and the governor of the colony of Tasmania was so impressed with the animals that he prevailed upon young Furlong to stay in the country with them and gave him a grant of some 2,600 acres of land in the midlands near Campbellstown.

These importations served as foundation flocks for the development of a fine-wool sheep industry in the country and, through careful

FIGURE 9.—A high-class medium-wool Wanganella Merino ram which sheared 27½ pounds of wool, of which 23 pounds was classed as super 60's, yield 50 per cent clean wool. This ram is valued at $25,000

selection and breeding, the Tasmanians became popular as wool improvers on the mainland of Australia. This led to specializing in stud flocks, and for many years Tasmanian sheep were used in all the leading Australian stud flocks.

Apparently there has been no infusion of Rambouillet blood in the Tasmanian sheep. There has been an introduction of the lighter type of Vermont Merino in some of the studs, and an early catalogue of one of the leading breeders mentions the fact that the cross was of such value that the stud was being headed by three of the sons of a certain Vermont ram. To-day no breeder acknowledges the presence of this blood in his flock; yet it is certain that a change from a plain-bodied, somewhat open-fleeced, light-boned sheep to a heavy-necked, heavy-flanked, dense-fleeced sheep, more rugged in build and heavy in the bone, was made in such a brief period as to raise the

question whether it was possible through the somewhat slow process of selection within the strain itself. At any rate, the Tasmanian breeder soon accommodated the demands of the Australian who was directing his efforts in sheep breeding toward a heavier weight of wool and more density, and the Tasmanian again enjoyed a lucrative business in stud sheep.

When the closer settlement act forced the Australian sheep grower back on the light-carrying land in drier sections and the blowfly became a serious factor in his flock, he again changed the type of his sheep to a plain-bodied, long-stapled, rangier-built animal, and the demand for Tasmanian stud rams began to decline.

FIGURE 10.—Same ram shown in Figure 9, after shearing

The result has been a gradual transition in type. To-day comparatively few Merino flocks are to be found on the island, and these are purebred studs which sell their surplus stock mostly in Victoria and the New England sections of New South Wales; a fair number go to South Africa. The bulk of the sheep, some 1,619,075 (*6, p. 159–160*) head in 1926, are crossbred in type. The season of 1926–27 showed only 18 per cent of Merino wool and 82 per cent of crossbred wool coming into the market (*6, p. 159*).

This turning to crossbred sheep, mostly Corriedale in type, has resulted from the demand for lambs and from the natural climatic and feed advantages enjoyed in Tasmania for the production of a well-finished lightweight lamb. It is stated that sheep do not grow so large in Tasmania as when removed to other sections but that they mature early. The bulk of these lambs find a ready market in local consumption and in adjacent Australian cities, at prices which ap-

parently are satisfactory to the producers. This system of sheep husbandry has been more profitable in recent years than the maintenance of purebred Merino studs, as the market for these stud sheep has gradually declined both in number and in price.

When the necessity arises for the Australian to refine the wool he produces, he will have only a very limited source upon which to draw for the purpose. The Tasmanian sheep (fig. 15) have played an important part; possibly they have been the greatest single factor in the development of Australia as a great wool-producing country. Practically all of the Australian flocks show a greater or less infusion of their blood.

The possible effect of the elimination of this source of breeding on the future development of the wool industry of Australia should be of some importance to the wool grower in the United States.

FIGURE 11.—Fleece of ram shown in figure 9 when skirted and classed, making three sorts—83¾ per cent super 60's, 11 per cent belly wool, and 5¼ per cent pieces

SIZE OF FLOCKS

There has been a decided change in the average size of the flocks during the last 30 years. More men have entered the sheep business, so that to-day, according to statistics compiled by Government agencies, about 80,000 men are listed as sheep owners. Of this number some 75,000 own about 45,000,000 head, or an average of slightly under 600 head each; 3,500 own between 58,000,000 and 60,000,000 head, or 17,000 head each. This situation has a direct relation to marketing problems, as will be shown in a later section of this bulletin.

FLOCK MANAGEMENT

As mutton is a secondary consideration in almost 70 per cent of the sheep production of the country, it is the usual practice to retain the wethers in the flock, to shear them until such time as the fleece deteriorates either in length or in weight, and then sell them for slaughter. The wether flock is classed yearly, and old sheep or undesirable individuals are thrown out.

The lambing percentage shows wide variations from year to year, depending upon seasonal conditions. An average of 60 per cent may be considered fairly good.

The climate of Australia is so mild as to eliminate the necessity of housing or hand-feeding sheep except in times of drought. The rabbit pest necessitates the erection of rabbit-proof fences, and to-day practically all the pastoral region of Australia, excepting a few isolated stations in new country, is under fence. The stations are cross-fenced into paddocks varying from 100 to 2,000 acres with about 1,000 acres as the probable average. This system of fencing eliminates much of the cost of herding. The moving of sheep is usually performed by drovers who specialize in such work and who move over established routes from one-fourth of a mile to a mile in width. The supervision of the flocks consists in paddock riding, including the duties of repairing fences, watching watering places, and similar work. One man can oversee a considerable number of sheep in this way, and

FIGURE 12.—Strong-wool Merino ram from South Australia; wool long in staple, classing as 50's, or three-eighths blood; live weight 225 pounds

it is only in times of blowfly infestation or lambing that much work is required.

The blowfly pest is a serious problem to the Australian breeder. Its annual cost is estimated at about $20,000,000. "Crutching"—that is, cutting away all wool around the breech and tail head when about three months in fleece—and jetting or forcing arsenical dips on the crutched area by force spray pumps are the more common remedies for this pest. Fly traps are also used extensively.

The heaviest period of lambing is in March and April, which correspond to our fall months of September and October, as it has been found that lambs do better when they are dropped in the Australian fall and go through the winter months on the dam than when they are spring-dropped and take the rather high heat of the summer. In colder sections spring dropping of lambs is practiced, and in fall-lambing areas it is customary to gather all ewes that fail to lamb or that lose lambs and mate for a spring drop.

Prior to mating, the ewes are classed or sorted into uniform types, and the culls are eliminated from the breeding flock. (Fig. 16.) The rams for service are similarly classed and are so classed as to overcome defects in form or fleece or to better fix desirable characteristics. This classing may be done by the owner or by men who have a technical knowledge of wool.

The utmost importance is given to the selection of the ram in both stud and commercial flocks, but especially in the former. The studs generally carry a record of sires only, though a few are now keeping records of the top or special ewes. Families are built up on some special line of rams, and high prices are paid for a ram that has proved especially prepotent in good qualities; $25,000 has been recorded. Constitution is first noted and with it conformation. At present the demand is for a plain body and heavy neck with good flank and arm (foreleg). Wrinkles around the tail are very objectionable on account of the blowfly, and close-turned horns are avoided

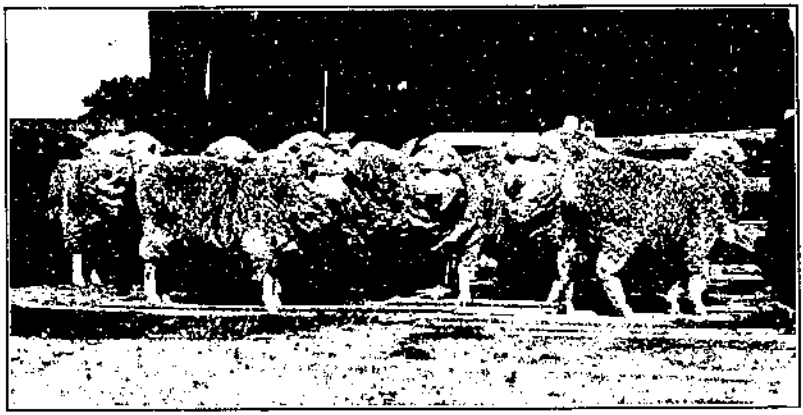

FIGURE 13.—South Australian Merino ewes producing 60's wool. A large, rugged type bred for saltbush country where the fleece shows more refinement

for the same reason. An open face is desired; wool-blind sheep are considered very objectionable. The difference between a $100 ram and a $1,000 ram may be only the difference between an open and a woolly face. A ram with a "hard face," gray nose or gray patches around the eyes, indicating kemp, is discarded. The horn should be fairly heavy. Flat, thin horns are objectionable. A fair length of leg, well set on, is desired, as sheep must travel considerable distances at times to feed or water.

The wool must be of good length, 3 inches or more, well set on, and resistant to the touch. Soft, mushy fleeces perish under hot, dry conditions and are avoided. The back should be thick; thinness over the withers or hips is avoided, as also a decided dip back of the shoulders, or light heart girth, called "devil's grip." Not much attention is paid to wool below the knees or hocks, but the thigh and arm wool must be of full length and must be thick. Belly wool should be the same length and fineness as the side wool and approaching it in density. The fleece should show pronounced crimp, and character, should carry true or even over the entire body and be even on the

folds, and should be fairly uniform in length. There should be only enough oil, or condition, in the fleece to preserve it from the weather. Dingy yolk is avoided; bright, free-flowing oil is considered desirable; black top or tarry tip is avoided. Fibers should show a slight clinging tendency when the fleece is opened, but cross fibers are objectionable. In most studs it is considered that rams should be stronger in the fleece than the ewes by some four counts—that is, a ram of 60's should go to a ewe of 64's if 64's wool is wanted, or a 64's to 70's ram to a ewe of 70's to produce 70's through the flock. Exceptions to this rule are found to be due largely to inherited characteristics.

In breeding flocks the ewes are divided into three studs—the specials, or top ewes; the first stud, or next highest grade; and the second-stud ewes. Stud rams for use in the flock are selected only from the special stud, and most of the replacements in this stud come from the ewe lambs dropped in it. Occasionally an extra-

FIGURE 14.—Typical Tasmanian sheep country

good breeding ewe in the first stud may be advanced to the specials. Figure 17 shows a group of selected stud ewes on a station in Riverina, New South Wales.

First-stud ewes furnish selected rams which may go to commercial flocks for use in replenishing the ewes on the station. Second-stud ewes furnish the bulk of the flock rams in ordinary flocks.

Selected-stud ewes sell ordinarily for $250 per head and more; first-stud ewes from $50 to $100; and second-stud ewes for from $25 to $50. Differences in seasons and in wool prices may make considerable variation in these prices. There is no doubt that this system of classing is largely responsible for the character of the Australian clip. Even stud flocks are culled heavily; in many studs 25 to 30 per cent of the stud ewes are sent back to the commercial flock yearly. This heavy culling and constant drawing to a certain fixed type of wool have resulted in a product that is generally recognized as the world's standard for quality, and the fact that owners of commercial flocks are generally willing to pay good prices for flock rams of the right sort serves to maintain the present high standard.

The question of feeding over drought periods is one of great importance to the woolgrower in Australia. Droughts mean light yields or tender wool and often heavy losses in sheep. The lopping or cutting of the outside branches of trees, such as karrajong, mulga, and similar species, is carried on wherever possible. Some pastoralists are preparing limited areas for irrigation for such periods; others are conserving feed either by cutting hay or by storing silage. The green corn is not cut into short lengths, as in this country, but is stored in bundles of whole stalks. These bundles are placed in a long trench scooped out of the ground. The green feed is covered first with straw and then with earth.

The more common practice is to feed oat or wheat chaff—that is, oats or wheat cut in the heavy dough stage and passed through a fine cutter; or a concentrated grain ration such as linseed or cottonseed meal; or a mixture of these with corn, oats, or other grain. This feed is usually mixed with about 10 per cent of molasses, is then pressed into cubes a half inch or more square, and is fed on the

FIGURE 15.—Tasmanian Merino brood ewes

ground. An allowance of 4 ounces per head daily is considered sufficient to keep a sheep in condition during the drought. The lack of railroad facilities and the high freight rates prevent either the moving of stock or the transportation of bulky feeds any considerable distance during drought periods.

Water is provided by means of wells, by damming of streams, or by digging large holes where surface water can drain in.

One of the big problems facing the wool growers of Australia is the decreased carrying capacity of land. Establishment of a bureau of research to study this question, conducting experimental work in feeding minerals both to the soil and to the sheep, and of a department of sheep breeding is being contemplated. New Zealand already has established such a department as the latter.

SHEARING

It is a common saying that someone can be found shearing sheep any day in the year in Australia, and this seems to be true. The bulk of the shearing, however, is done from June, when the Queensland clip begins to come off, to October, when shearing is in progress in Victoria and Tasmania.

This long shearing season affords an opportunity for men to follow the business for considerable periods of time. The customary practice is for the large wool houses to arrange to supply each station with shearers. Some independent work is done, but most of the shearers work through the houses that later handle the wool as it comes from the station.

Most of the stations that carry any considerable number of sheep have their own shearing sheds. To meet the situation where flocks are small, central sheds are occasionally found. The owner brings in his sheep to be sheared rather than incur the expense of erecting his own plant.

FIGURE 16.—Typical South Australian Merino stud ewe, weight 140 pounds, fleece 16 pounds, 60's quality, yield 55 per cent of clean wool

Practically all the sheep, except the stud flocks, are machine shorn. The owner furnishes the plant and accommodations for the men, and the shearers usually furnish the shearing head and combs. The following are the essential features of the plant: A shed capable of sheltering enough sheep for at least one day's shearing, in case of wet weather; sweat pens where sheep are crowded together a few hours before shearing to make the wool cut easier; a supply pen, behind each shearer, about 8 by 10 feet in size and holding five or six sheep; shearing floor space 8 feet square for each shearer; and an outside chute for sheared sheep. The shed usually faces the south, as direct sunlight is mostly from the north, and windows are so arranged in the roof as to afford ample light. Outside may be found a series of pens for shorn and unshorn sheep, a race for branding and sorting, and a dipping vat, for all sheep are dipped in Australia.

In shearing, the belly wool is first removed and laid to one side; the inside of each hind leg is shorn and the outside of the left hind

leg; the neck is opened up; and the rest of the fleece is left in one piece to be gathered up and carried to the wool room. According to the 1927 wage scale,[8] the wage for shearing was 41 shillings per 100 sheep (about $9.84). Additional charge is made for stud flock or hand shearing. The shearers are furnished a cookhouse and sleeping quarters but pay their own cook and buy the provisions; the sheep owner furnishes meat at certain fixed rates. Expert shearers shear 200 head or slightly more a day, and average shearers, from 100 to 150 head.

CLASSING

PREPARING THE FLEECE FOR MARKET

The wool room is presided over by the classer, whose job is to separate the fleece into the various sorts. The classer is usually a man of technical training who has studied wool classing in one of the various scientific or agricultural colleges located throughout the

FIGURE 17.—Selected Merino stud ewes on a Riverina, New South Wales, station

country and may be an employee of one of the large wool houses. An owner may class his own wool if he wishes. As the value of the clip depends largely upon the way in which it is classed, it is now proposed to place the classer's name on each bale so that he will be held responsible for the quality of the pack. Nearly all of the wool houses supply or recommend classers to their clients, feeling that this provides greater assurance of uniformity in the bale. Classers are not licensed, and their position depends largely upon their ability to sort wool properly. In classing wool the standards adopted by Bawra (see p. 34) are followed in a much modified form.

On being brought from the shearing floor the fleece is thrown, skin side down, on the wool-classing table, so as to open widely. The classing tables are about 7 feet wide and of various lengths, 8 to 9 feet, or multiples thereof. The table consists of a heavy frame,

[8] The wage for the year is determined through a conference of representatives of the wool growers' associations and the sheep shearers' unions, the Government Labor Board acting as arbitrator. These regulations are usually later enacted into law by the States themselves.

about 36 inches in height, with a slatted bottom. The slats are generally about an inch in diameter and are placed on rollers at either end, to permit free action in handling the fleece. They are spaced about one-half inch apart, to permit the dropping of short second cuts or dirt particles through to the floor.

Skirting, the next process, consists of removing from the body of the fleece all objectionable sorts. It varies widely according to seasons. For instance, a rank growth of bur or trefoil will cause much heavier skirting to eliminate the bur than growth in a "clean" season; an extremely dry, hot summer might cause the back wool to deteriorate more than a cool, moist summer, and so on. Some men make more lines than others. This seems to be one weak point of the system—a lack of standardization in establishing sorts according to definite qualities and conditions.

Three particular clips which came under the personal observation of the writer will serve to illustrate this point. Clip No. 1 was all wether wool coming from young wethers in a country free from burs. Here only three sorts were made. This sorting was very simple and consisted merely of removing the short ends or pieces from around the fleece and the heavy short tags and crutchings. Flocks No. 2 and No. 3 were both excellent flocks producing wool similar in type and carrying about the same amount of bur. Weights per bale and percentages of each sort are given for flocks No. 1 and No. 2 but were not available for flock No. 3. (Table 2.)

TABLE 2.—*Classification of wool from three Australian flocks observed*

Sort of wool	Average weight of bale	Percentage of total clip
Flock No. 1:	*Pounds*	*Per cent*
Fleece, including bellies	340	80
Pieces	370	10
Locks and crutchings	380	10
Flock No. 2:		
Fleece AA, long combing 64's topline	330	20
Fleece A, clothing from above line	340	6
Fleece B, long combing 60's	330	12
Fleece C, seconds of A line	340	6
Broken fleece, shoulder and best of skirtings, burry	340	25
First pieces or seconds of broken fleece	360	8
Second pieces, sweat locks, etc	380	3
Scoured fleece or heavy conditioned and discolored	380	2
Bellies, sometimes first and second	375	8
Locks, table and second cuts	360	2
Sweepings and short crutchings	400	2
Crutchings, or taggings for preventing blowfly	375	6
Flock No. 3:		
Super combing E, 64's up		
First combing E, as above but shorter		
First combing A, E, Strong 60's		
Combing, shorter wool, 2 to 2½ inches		
Fleece heavy-conditioned		
A combing E, slightly discolored		
Combing A, light-conditioned wool		
Necks C, neck parts		
First pieces, best skirting seedy		
Broken E, slightly under above line		
Second pieces		
A lambs' wool, 4 to 6 months growth, seedy		
AA lambs' wool, seconds of A lamb line		
Bellies		
Table locks or drops from skirting table		
A locks, best of second crutchings		
Locks, seconds of above line		
Breech and belly stains, stained wool		
Crutchings		

The variations found in these three clips are naturally reflected in the prices. A small line of wool is rarely graded so closely as a large line, where classing is done at the station, as it means too many parts of bales to be disposed of. Clip No. 1 represented about 25,000 pounds of wool; clip No. 2, 175,000 pounds; and clip No. 3, some 125,000 pounds.

Among the advantages of so preparing the clip are the following: (1) The purchaser can obtain exactly the type and grade of wool he wants without buying anything else, which induces him to pay top prices. The advantage of skirted wool over unskirted wool is estimated locally as from 1½ to 3 cents per pound net. (2) It gives the grower a better line on the breeding operations through checking the work of the wool classer year by year with that of the sheep classer.

Small clips are frequently sent direct to the broker without being classed. These are classed under certain conditions described later (p. 39) and are termed reconditioned wool. Such wool draws top prices for the qualities found, as the purchaser feels that he has the reputation of the house behind it, rather than that of some little-known classer. As with practically every other industry in Australia, the salary of the classer is regulated by Government authority according to the scale which has been described.[9] Under the agreements expiring December 31, 1928, the classers were paid as follows: For the first 25,000 sheep, $9.60 per thousand; for the next 10,000 sheep, $9.36 per thousand; and for all in excess of that number $8.16 per thousand, with a minimum weekly wage of $37.65. Allowances are made for traveling expenses and extra duties such as overseeing.

After being classed, the wool is thrown into the respective bins for each grade, and the body of the fleece is rolled but not tied, preparatory to being baled. Each of the various sorts is then placed in the baler and is compressed under high pressure. The bales are some 4 feet long and 3 feet square and average about 330 pounds in weight. The wool is then marked as to owner and type and is forwarded to the store of the broker. When sold, it is customary to compress two bales into the size of one, under a powerful hydraulic press, securing the package with strong iron hoops, to reduce transportation cost. This process is called dumping.

So important a part do the two processes of classing play in bringing the Australian clip up to a high standard and in facilitating its sale that a brief review of them as practiced in Australia is given below.

The establishment of many small flocks and the breaking up of the large stations is causing increased difficulty in classing wool at the station. It has been largely through the rigorous selection and culling of sheep and the efficient classing of wool that Australia has reached its present position, so the problem is no small one. The small flock owner naturally can not afford to buy rams suitable to all his ewes, neither does he employ a sheep expert to grade his flock. This means a wide variation of types produced from a very few sheep, comparatively speaking; so in all likelihood an expansion of reconditioning or store classing of wool may be anticipated.

The British Australian Wool Realization Association, which had charge of the purchase and allocation of the wool of the country

[9] See footnote 8, on p. 25.

during the World War, established 847 different kinds and types of wool, a manifestly impossible thing for anyone to attempt at a station and possibly not practicable for even the largest brokers. Yet a wider range of types and grades could be made than is possible under existing conditions, and this would better serve the mills as well as the producers. The Pastoral Review of December, 1927, (*1*) makes the following comment on this situation:

The system of bulking small parcels of wool, adopted particularly in southern centres, has been a great success this season, and as it is the natural corollary to the interlotting and reclassing which came into force a few years ago, is capable of still greater expansion.

At the outset the trade adopted a somewhat critical attitude towards these made-up lines of wool, but that has disappeared, and now inquiries are often forthcoming as to when the next batch of bulked wools is to come up for sale.

In Adelaide much success has been obtained from bulking the many small clips grown in and around the Hills, and under the system the farmer with a few sheep can now look forward to obtaining the same competition and resultant price as the man with a hundred or more bales.

Probably in no State are the wools from the various districts so similar in type as in South Australia, and the success attendant on the grouping together of the small lots from the Hills has led to a similar method being adopted with the product of other wool-growing areas, which is bound to develop largely in the near future.

In Victoria, where so many of the farmers' wools are comebacks and crossbreds, the bulking system is carried to greater lengths than in any other State, and it has been extended to mixed bales with good all-around results.

It is a useful adjunct to the reclassing, as it often happens there will be a small remnant of wool over of one type, not enough for a bale, and formerly it had to be sold as a light weight, or put into a sack, thus missing the competition of the bigger buyer—now it goes into the bulking.

It had led to quite a demand for wool classers in the past few weeks for this particular work, which provides a useful follow-up job for the man who, in the past, has had to be content with an odd shed or two, and those of lessening size, and if only from that point of view is of material benefit.

As showing the work involved, in one comparatively small catalogue recently, 339 bales of bulked wools were submitted, representing 329 owners.

In one line of comeback wool, 125 owners were concerned, with an average weight of 41 lbs. of wool each, representing some 6 or 7 fleeces, and in another 111 owners, with an average weight of 40 lbs., the parcel in question realising as much as a similar type of wool in a well classed clip.

The number of entries of the individual weights involved in the handling of the 339 bales was no less than 4,127.

It should not be overlooked that quite apart from the gain to the individual grower by this system, there is also a gain to the community, as a whole, both in the labour involved and the added value. Again, without some system of this sort it would be difficult to deal with the ever-growing number of small parcels in the time available.

SUMMARY OF CLASSING PRACTICE

CLASSING OF WOOL AND SHEARING

Classify into as few lines as will properly represent the clip.
Match wools as to counts, yield, and length of staple.
Separate all wool showing seed or bur.
Remove all coarse breech or cotted neck-line wool.
Keep bellies separate.
Put all stained wool by itself.
Separate the best grade of burry and seedy wool from lower grades.
Roll the skirted fleece without tying.
Brand each bale accurately as to type of wool.
If lots are mixed, brand according to breed as well as type.

CHARACTERISTICS SOUGHT IN CLASSING SHEEP

Quality and fineness of fiber; springiness or resistance to touch, called "bone."
Density, particularly on back and neck.
Trueness or evenness of fiber (1) on folds, (2) over entire body.
Belly fleece true in fiber, dense, and of good length.
Length of staple; 3 inches as a minimum of safety.
Trueness to breed type.
Breediness, indicated by eye and head.
Constitution; this is given major emphasis.
Yield of wool: In fine wools, rams 60 per cent, ewes 60 to 65 per cent; in medium wools, rams 50 per cent, ewes 55 per cent; strong wools, rams 45 per cent, ewes 50 per cent. These percentages mark top yields at which profitable fleeces may be expected in stud flocks; commercial flocks may be slightly higher.
Set of legs and hocks, square, well under body.
Horn heavy, well turned out from head, finely corrugated.
Spring of rib and depth of body with level top line.

CHARACTERISTICS DISCOUNTED IN CLASSING SHEEP

Lack of constitution, thin light nose, pale skin, etc.
Mushiness, or weak thin backs and necks, indicating a thin weak wool which will not stand rain or sun.
Woolly faces or hard faces; that is, gray, harsh faces and eyes, indicating kempiness.
Coarseness of fiber on breech and folds.
Flat, thin horns or horns set too close to head.
Monkey or parrot mouths and bad feet.
Legs too short for long walks or badly set on; sickle hocks, and similar features.
Thinness of belly wool.
Drop behind shoulders and pinched-in appearance, called "devil's grip."
Unevenness of fiber in length or quality over body.
Lack of crimp or character in fleece.

METHODS OF MARKETING

AUCTION SALES

The first method of disposing of Australian wool was through shipment to England for auction sales. Some wool was sold in 1808, but not until 1820 (*8*) was the first auction sale held, when 58 bales of Australian wool were offered. The highest price was $1.20 per pound, and the average price was 86 cents. The success of this sale was such that the following year 329 bales were forwarded to London for auction. At this sale one line of Captain MacArthur's wool brought the price of $2.48 per pound.

It was not until 1843 that auction sales in Australia were inaugurated, and at the first sale Thomas Sutcliffe Mort, an auctioneer, offered two bales on the Sydney market. Richard Goldsbrough, starting in Melbourne some five years later, offered more pretentious lines,

and later these two men established the firm of Goldsbrough-Mort, which is still one of the leading brokerage houses in Australia. From this modest beginning in 1843 local auctions have gradually expanded until to-day approximately 90 per cent of the entire Australian clip is sold at home, and of this quantity 95 per cent is sold through strictly brokerage houses, which may or may not be cooperative; the remaining 5 per cent is disposed of at private sale. Of the 1926–27 wool clip, 2,450,897 bales were sold at auction in Australia, while 261,541 bales were shipped to England. The remaining quantity (approximately 142,760 bales) was sold at private sale for cash and was usually exported by the companies purchasing it at private sale, instead of going through the auctions.

It is generally conceded that in Australia, as in New Zealand, selling through an auction system shows a gain to the producer three years out of four. So it is usually the man who is in need of immediate cash who patronizes the buyer rather than the broker.

WOOL BROKERAGE HOUSES

The leading brokerage concerns are stock companies, formed through the sale of shares. Such stock may be held by anyone, and large blocks of it are to be found in wool producers' hands. This stock company performs a multiplicity of services as follows:

FINANCING STATIONS

Men of limited capital who wish to enter the pastoral business are financed through the brokerage houses rather than through the banks, as credit terms are more liberal. The familiarity of the brokerage houses with pastoral conditions is such as to give them an advantage in this field. This not only affords an outlet for surplus money but gives the company a new client and more business.

Financing of existing stations also enters into the business. The drought situation throughout most of the sheep-producing area, with the consequent additional feed cost or loss of stock which must be replaced, affords an outlet for a tremendous amount of money. The current rate on such loans is 7 per cent when well secured.

FURNISHING STATION SUPPLIES

The brokerage houses act as selling agents for all sorts of station supplies, from such things as sheep shears or machines to dips, feeds, tanks, engines, windmills, fencing, and such items. Traveling agents of the brokerage concerns are always in close contact with the stations, and the proposition of buying now and paying with the wool or cattle checks is very persuasive. The commission varies with the product.

SELLING AGENTS FOR STATIONS

The companies undertake to sell the products of the station on a brokerage basis. They handle livestock, fat, and feeding or breeding animals on a commission basis. Fat stock is auctioned off to the killers at so much per head (never by the pound) in the yards of the companies located in killing centers. Feeders or store animals are at

times so handled. These may also be purchased at stations on order for another station. Stock for breeding is handled in a similar way. Expert judges of breeding animals are employed, who fill orders for breeding stock varying from purchasing a single ram to furnishing an entire station with breeding animals. The usual selling commission on livestock is 5 per cent.

OPERATION OF STATIONS BY THE COMPANIES

Many of the companies have large property holdings where stud flocks or ordinary commercial flocks have been established. The stud flocks may supply their clients with breeding stock, whereas the commercial flocks go to increase the revenue of the company.

SELLING OF WOOL

The selling of wool is the most important function of the brokerage concerns. In the 1926–27 season 2,480,472 bales, or 781,348,680 [16] pounds, of wool were sold, bringing a price equivalent to $270,822,979, which at an average brokerage fee of 1½ per cent, netted the companies $4,062,345.

Consideration of these activities of the brokerage houses and the extent of their operations brings realization of the hold which they have on the business of the pastoral industry. It is evident that any system of marketing must be largely in conformation with their policies. This is not meant as an indictment or criticism of the existing system. On the contrary, the service rendered has been of the highest order, and charges have been kept within reasonable limits, but attention is drawn to the influence of the brokerage companies as throwing some light on recent developments in the Australian wool-marketing program.

Some of the brokerage concerns are classed as cooperative, but the system of handling products and making returns is identical. The cooperative wool-brokerage houses are financed through selling stock, and the savings that accrue above operating expenses are returned to grower members on a patronage basis. This will be discussed later.

From the time the first brokerage house started on the auction plan of selling wool up to the date when the British Government commandeered the wool clip of Australia in November, 1916, there was little correlation between the growers and the brokers as a whole. Individual brokers kept in close contact with their patrons and endeavored to expand their business through getting that of their competitors, but no concerted policy was ever worked out.

Growers had numerous organizations, mostly local in character, whose work was mainly with matters of advantageous or adverse legislation. The wide area of the country under sheep, the limited railroad and transportation facilities, and the natural rivalry between the large studs, served as barriers to prevent close contact or frank discussion of many matters which concerned the growers' business. So the first consolidation of the trade came about only through drastic Government action.

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[16] See (6, p. 16). Bales were converted to pounds on the basis of 315 pounds per bale. Some scoured wools are included in all estimates at their actual weight.

The British Government decided in November, 1916, to appropriate all the Australian wool for munitions of war, and the Prime Minister called a meeting of all those interested to discuss the best methods of handling the situation. The British Government was to assume the clip on a flat basis of 15½ pence (about 31½ cents, according to exchange value at that time) per clean pound, and to give to the growers 50 per cent of the profits above that figure arising from the sales of wool to other countries.

The proposition of arriving at a fair valuation for each clip or class of wool and the methods of handling the business were obviously more than any individual concern could properly cope with, so it was decided to work out some concerted plan of operation. The effort toward a better marketing scheme thus came about, not through a voluntary movement on the part of either producers or brokers, but as a result of the demands of a war measure on the part of the Government.

CENTRAL WOOL COMMITTEE

As a result of the above meeting, two bodies were organized. The National Council of Wool-Selling Brokers, representing all the brokerage houses, and the Australian Wool Growers Council, representing the various pastoral associations. Committees from each were selected to work out details, and a joint organization known as the Central Wool Committee was established to administer the affairs of the business. The Central Wool Committee consisted of a Government appointee, two growers' representatives, three selling brokers' representatives, and one representative each from the manufacturing, wool-scouring, and wool-buying interests. Similar State committees were formed, excepting that no Government representative sat on these boards; an advisory board was also formed consisting of recognized experts in wool classing and other phases of the work, for consultation purposes.

The first matter considered was the complete classification of all the various wool types and percentages of each in order to arrive at a fair basis of valuation. This was considered on a basis of fineness of fiber, length of staple, clean yield, strength of fiber, quantity of foreign matter, and other factors. In all, 847 different types and kinds were classified, and samples were drawn for purposes of comparison and for further use in valuations.

The value of each type was arrived at by determining what percentage of the total production it constituted and its ordinary relative value, as applied to the entire clip of the country, with an average valuation of 31½ cents per pound. The amount of work and the number of calculations involved in such a proceeding were tremendous; yet so thoroughly did those in charge of the work go into the matter that the actual handling of the clip on the estimated valuation worked out to the slight fraction of a cent a pound.

The working out of this comprehensive classification was of great value to the producer as well as to the trade in general, and although 847 types were too many to be handled in ordinary trade channels, a further arrangement of these types into groups, rather similar in value, reduced the number of grades to 71.

As an illustration, one group is here considered, or a number of types of wool carrying the same valuation.

Value 80 cents per pound clean yield:
(24) 60's to 64's super warp fleece, free southern Australian type.
(25) 60's extra superwarp fleece, free choice Riverina type.
(26) 64's spinner's fleece, deep, free or practically free.
(27) 70's to 64's warp fleece, best style, few burs.
(28) 60's comeback, choicest Victorian and Tasmanian absolutely free.

A more detailed description of this wool shows considerable variation, but also a degree of similarity. By warp wool is meant wool of 3-inch staple or longer. Comeback wool is three-fourths Merino and one-fourth longwood. Free wool contains no bur or seed. Super means extra long and deep, well-grown wool. The price the individual grower might receive for any clip in the group would vary according to the yield, as the grease prices were all based on a clean-content value. These tables also covered scoured and skin wools. Without doubt they constitute the most complete system of classification ever worked out.

The result of putting this system into effect was a correct tabulation of the wool clip of Australia both as to total production and character, a valuable aid to the breeder and to the purchaser.

The system of valuation was carried out through wool appraisers, who placed an estimate on the yield, type, and general character of each lot and entered these in the appraisement book. This book was later turned over to the final appraisers, who worked in pairs and whose decision was final. Settlement was made on the basis of their findings.

The results of three years' operation of this plan showed that Australia was producing approximately 70 per cent Merino wool and 30 per cent crossbred. Of this quantity, 79 per cent was classified as combing, 11.8 per cent as clothing, and 9.2 per cent as carbonizing wool. Of the Merino wool, 81 per cent was combing wool; 11.6 per cent, clothing; and 7.4 per cent, carbonizing. In the crossbred wool 75.6 per cent was combing wool; 11 per cent, clothing; and 13.4 per cent, carbonizing. A considerable portion of the carbonizing wool is combing in length, and although it is the usual practice to shear the fall drop of lambs in the spring in order to get a good well-grown fleece the following year, this wool (from four to six months' growth) all falls into the clothing class.

It is not pertinent to go further into the operations of the central wool committee during the World War, but the committee performed a very definite postwar function and demonstrated clearly the influence which a well-governed organization can have in determining values and stabilizing markets in the face of large supplies and demoralized market conditions. In April, 1919, the British Government decided that auction sales should be resumed in Australia and New Zealand and that fixed prices on wool already under control be maintained until November of that year at 7½ per cent less than those of the previous 12 months. The keen demand for wool, however, raised prices above the appraised value, particularly in the best grades.

But many in the business felt that such a situation was only temporary, and in August, 1919, at the suggestion of the central wool

committee, the Australian Wool Council was formed. This body consisted of six representatives each, from the growers and from the brokerage houses. A plan of controlled prices and methods of selling was submitted to the growers. Less than 50 per cent of the growers took the pains to vote one way or another on the proposed plan. Of those voting, nearly 75 per cent registered as favorable, but as a three-fourths' majority of all the growers was necessary to put the plan into operation the matter was dropped.

BRITISH AUSTRALIAN WOOL REALIZATION ASSOCIATION (BAWRA)

The 1920 season brought about drastic reductions in wool prices, and the carry-over of war-purchased wool was so large as to constitute a real menace to the coming clip. Some measure was thought necessary to dispose of this wool without seriously disrupting the market; so the organization of the central wool committee was taken over early in 1921, and a stock company known as the British Australian Wool Realization Association was formed. This organization had as its chairman, Sir John Higgins (*9*), who had served in the same capacity on the central wool committee and to whose judgment and keen business knowledge much of the success of the undertaking was due.

The shareholders of the new company were growers whose wool had been handled during the war period, a total of 120,000 people. Often an owner and a tenant, or two or more owners, would be interested in the same clip, and all were, therefore, shareholders. The appraised value of the wool which the grower had furnished under the administration of the central wool committee was taken as the basis of determining his holdings in the new company. The capital of the company was fixed at 25,000,000 pounds sterling (or $121,500,000) and the assets at $107,000,000, of which five-elevenths was issued as priority wool certificates to be retired as rapidly as possible, the remaining six-elevenths to be issued as paid-up shares, value 1 pound sterling each. Small growers whose total holdings were under $500 were paid cash outright to the estimated value of their holdings.

The affairs of the association were administered by a board of 11, of whom 5 resided in England; the remainder were Australians. The setting up of this organization was in reality a joint undertaking on the part of the British Government and the Commonwealth Government of Australia, and the wool funds on hand were forwarded by the British Government to the Commonwealth Government, which in turn placed them with the British-Australian Wool Realization Association for distribution. This point is worthy of note, in view of subsequent events.

Bawra, as the organization was commonly called, was only concerned with liquidating to the best advantage the stocks of carry-over wool, amounting in Australia and New Zealand to 725,000,000 pounds on July 1, 1921, and wool brokers were concerned lest the offering of the carry-over wool should demoralize the trade. A conference was held, therefore, which agreed on an allocation of quantities of wool to be offered at auctions from time to time, and the percentages of carry-over and current-clip wools to be offered at each sale.

It was also determined to fix minimum reserve limits (selling prices). Here was a high-handed policy, considering the fact that

a tremendous surplus of wool was generally credited with being in existence and business generally was going through a period of stagnation. At first a few brokers who had conditionally signed "the agreement" decided to break away, and they undersold the limits as much as 20 per cent. It was understood that certain banks were behind this movement, and when offers of 25 per cent under agreed prices were made Bawra withdrew its wool from the market. Later an agreement was reached to place an average of 18 cents per grease pound on all current or carry-over wool, and on May 9 the Government placed an arbitrary limit of 16 cents per pound. This had the effect of stabilizing prices, allowing a gradual absorption of the current clip and considerable reduction in carry-over stocks. The ratio between current and carry-over sales was about three to one in favor of current-clip sales.

The date of the expiration of the Commonwealth reserve limit of 16 cents per grease pound was November, 1921, which again left the matter open, but an agreement was entered into that all matters of difference in policy between the Wool Brokers' Association and Bawra should be decided by the appeal board. Matters of allocation of the various quantities of wool to be offered from date to date were agreed upon, and the year's sales showed the absorption of the current clip, together with some 180,000,000 pounds which had been left of the 1920 clip, and also disposition of around 240,000,000 pounds of the war carry-over wool. This would seem to be a clear demonstration that an orderly system of marketing is possible and that it can be utilized to the producers' advantage even under adverse circumstances.

In December, 1922, a meeting of Bawra was called to determine the future policy toward a controlled central marketing scheme in Australia. At this time 10,000,000 pounds sterling of the 92,000,000 pounds issued in certificates and stocks, the value of which lay in wool stocks, had been returned to the growers, and a further distribution of 6,000,000 pounds was ready. It was the idea of some to stop at this distribution and reserve the remaining 6,000,000 pounds (nearly $30,000,000) as a fund to continue in business looking to one central organization to allot quantities of wool to be offered and to fix minimum prices on such sales; to continue to determine yield and grade and to sell the wool; and to provide for large central stores in which to class wool, bringing all such wool to a uniform standard of quality. In defense of this proposition, Sir John Higgins [11] made an address in which he said:

> In order that the man on the land should receive the full market value for his product—a value based relatively on the world's supply of, and the available consumptive demand for, such commodities—it is becoming abundantly more plain that there should be one central commercial authority which can formulate policies on his behalf. I am relentlessly opposed to governmental control of commercial activities, but I am a strong supporter of cooperative associations for the control of the realization of primary products, provided always that the formulation of the policies administered by such organizations is vested in the producers of the commodities.
>
> Organization along these lines gives stability to an industry and is in itself a stimulus to production. The combined financial credit of all its members can be used by the organization in the interests of the industry, and the governing body can speak, and act, on behalf of all shareholders. Because of the

[11] See p. 34.

inherent strength of such an organization it would command attention, whereas the representation of the individual, or an association few in members and weak financially, would be lightly regarded or even ignored.

Among other recommendations made during this address was the elimination of the 1-pound draftage allowed on each 112 pounds of wool sold, as it was stated that the loss amounted to some $1,500,000 annually to the wool growers of Australia, and the reconditioning or classing of all small clips according to the standards adopted by the central wool committee, as clips so handled had shown a net gain of from 3 to 6 cents per pound over similar wool not so treated. He estimated that this item alone, on 20 per cent of the Australian clip, would mean a gain to the growers of $2,600,000 yearly.

On large clips the type and yield should be determined. Much wool was said to sell below its real value, as buyers did not always recognize the yield of the wool by hastily examining a small sample. As an extreme example, a case was cited in which two lots of wool, identical in type and yield, were sold on the same date in two different cities, one bringing 13 cents a pound more than the other. In another case 5 cents per pound disparity was noted, and a difference of 2 to 3 cents was a common occurrence.

The manner of allocation of monthly sales and freight-rate reductions, which had been effected through central control, were discussed. It was estimated that direct saving through such policies would amount to $7,500,000 per year and that indirect advantages, such as increased bargaining power, would add at least $5,000,000 more yearly.

After a discussion, however, the stockholders decided to close the affairs of the concern as speedily as possible and go back to the old system of broker-handled auction sales. The reason advanced for this policy was that some growers professed to see a chance for governmental control, as the Government had concerned itself in erecting Bawra and had at one time fixed arbitrary minimum-price limits on wool. The general opinion, however, is that the brokerage concerns were strongly opposed to the plan, seeing in it a possible curtailment of their business, and that they brought pressure to bear on their clients to compel them to vote against the proposition.

PRESENT SYSTEM OF WOOL SELLING

Extension of Bawra into a permanent organization has as yet failed of realization, but the association has been instrumental in bringing about a closer relationship between the various wool-producing and wool-selling agencies.

There are to-day three organizations in connection with the wool trade—(1) the Australian Wool Growers Council; (2) the National Council of Wool-Selling Brokers, which consists of all wool-selling brokerage houses, including cooperatives; and (3) the Wool Buyers' Association. Naturally the selling brokers, who occupy an intermediate position, have agreements with both the producer and the purchaser. The relation with the producer will be considered first.

The broker holds no contract with the grower for the delivery of his wool except as he may have a claim to it on money advanced. This holds true of the cooperatives as well. Under these conditions the grower is at liberty to consign his wool to the concern which he

thinks can give him the best service or net him the greatest return for his wool.

The wool brokerage house does a strictly brokerage business and buys no wool for its own account. This is one point in favor of the grower. He is not compelled to have his wool in competition with privately purchased wool which might get the advantage of a good sale. The following are other conditions of the wool brokerage-house system which are favorable to the growers' interests:

The wool must be offered at auction sale, and the grower may set a minimum price which, if not reached, withdraws the wool from the auction. Such wool may be offered later at private sale under certain conditions.

Wool is sold or catalogued for sale in the order in which it arrives at the broker's warehouse, and at least 20 per cent of the total clip must be in store to constitute an entry. This provides that early shorn and delivered wool is the first listed for sale, unless the grower wishes to reserve it for a later date, which must be done at the time of the arrival of the wool. It also prevents the delivery of a few bales out of a large clip in order to secure a place early in the sales, as was done occasionally before the 20 per cent clause went into effect.

Advances on wool may be made upon such terms as the grower and broker may determine. There is no specific rule covering the amount or rate of advance, except as may be agreed upon in conjunction with the Australian Wool Growers Council.

The broker furnishes storage space for holding wool and show floors for displaying auction lots, and he covers the wool with insurance. The charge for this service appears to be uniform. He also places approximate valuations on the wool as it enters his stores, for the growers' guidance.

The broker prepares catalogues for the auction sales, listing each consignment offered as to markings, grade, and such items, and in conjunction with other brokers, he determines the time of each series of auction sales.

The above discussion relates to the business as between an individual producer and an individual broker and outlines the functions which the grower may expect of his wool-brokerage house. There are certain matters which the associations of brokers and wool producers (see p. 32) work out jointly, in a meeting of the two bodies. These are as follows:

They allocate the quantity of wool to be offered at any series of sales or during any month and work out quantities to be offered by each selling center, based on quantity of wool held in such centers on a percentage basis. Assume, for example, that 150,000 bales were to be offered in September and that of the wool in store Sydney held one-half, Geelong one-fifth, Brisbane one-fifth, and Adelaide one-tenth. Sydney would catalogue 75,000 bales, Geelong and Brisbane each 30,000 bales, and Adelaide 15,000 bales. This allocation would be further subdivided among the various brokerage houses operating in each center according to the stocks of wool held by them.

They determine the time of sales and the period through which they may run. This period generally covers about seven months.

They arrive at some basis for financing the clip, depending on its character and other factors.

The National Council of Wool-Selling Brokers and the Wool Buyers' Association are voluntary organizations and have no Government supervision or control. Agreements reached may be changed from time to time as the exigencies of the business may demand.

The National Council of Wool-Selling Brokers determines: (1) The brokerage fee charged; (2) storage and insurance rates; and (3), conjointly with the wool buyers, the terms of sale.

The wool sellers' and the wool buyers' associations are governed by rules arrived at jointly, the more important of which are as follows:

SHOWING THE SAMPLE BALES

All sample bales must be shown on top floors only and must be properly lighted and so placed as to permit alleys for inspection sufficiently wide for easy access to the wool—5 feet 6 inches on double

FIGURE 18.—Interior of wool-display loft. Wool opened for inspection and buyers examining offered lots to determine values. (Courtesy Dalgety & Co., Sidney, N. S. W.)

rows and 3 feet 9 inches on single rows being the minimum width; also a certain percentage of each sample lot shown must be opened for inspection in such a manner as to permit the removal of an entire fleece. (Fig. 18.)

PERCENTAGE OF SAMPLE BALES TO ENTIRE LOT

In 5 to 10 bale lots, 3 bales are shown; 20 per cent of lots over 10 and under 20 bales; 15 per cent of lots of 20 bales or over and under 100 bales; and 10 per cent of lots of 100 bales or over. The bales are drawn at random so that they may more fairly represent the entire lot. For bales not carrying the original brand of the grower, a greater percentage of the lot must be shown.

QUANTITIES OFFERED

The offerings are divided into two classes—large lots consisting of 5 bales or more of one type of wool, and star lots of 4 bales or under. These classes of wool are catalogued separately and are sold on different floors in the auction room. Under certain conditions it is

permissible to combine two or more lots of the same type and grade from different owners so as to make large lots. In this event all original marks or brands must be kept intact. This practice is called interlotting. A bale must weigh at least 200 pounds grease wool.

MISBRANDING OR FALSE PACKING

Any lot that shows evidences of misbranding or false packing must be withdrawn from the sale.

REPACKED OR RECONDITIONED WOOL

Repacking or reconditioning must not be done by the broker who sells the wool but is done at separate stores under authorized classers, and the wool, when placed on sale, is designated as having been classed or reclassed at such authorized place.

Small lots may be so classed and the wool of various owners combined to make uniform lots. It is then sold as reconditioned wool and bears some distinctive brand to identify it. In such cases growers are credited with the quantity of wool of each type or grade which they contribute to the lot and are paid according to prices received for the various grades.

A roster of sales for each sale series, showing sales for two succeeding days, is approved and exhibited in the auction room. Catalogues of wool to be offered at a sale must be delivered to the buyer's offices by 4 o'clock on the day previous to the sale. This catalogue sets out in detail the markings, type, and description of each of the lots offered. Only wool actually in the store may be offered for sale. Wool withdrawn on account of misrepresentation in branding or false packing must be repacked at a reconditioning store before being offered again.

Wool is not permitted to come up for auction more than twice in one season, nor can it be transferred to another broker for sale after a bid has been rejected. If the wool is not sold after being offered the second time, it must be disposed of privately. No wool can be offered at private sale unless it has been first offered at auction, and then not until the last bidder has been notified in writing and given an opportunity to purchase the lot at the reserve prices. From two to three days' time is granted the bidder in which to make his decision.

Bidding is done orally, and after the initial bid all bids must advance at least a farthing (one-half cent) a bid. Sales are put through very rapidly, averaging around 400 lots an hour. The auction room is provided in some central building, and seats are assigned to buying representatives each season. These seats are allotted on the basis of previous years' purchases.

Sales are made on guaranty that outweights shall total or exceed inweights. The inweight is the amount invoiced to the buyer, however, unless outweights are demanded.

The buyer is allowed three days in which to pay for the wool and remove it from the store. After this period storage charges are made, and a fee is granted the selling broker for delivery of the wool. An allowance of 1 pound tare to each 112 pounds is made to the buyer and 11½ pounds is allowed for each bale. This tare allow-

ance of one pound is an old-established custom and really amounts to almost 1 per cent discount, as most wool gains in weight at seaboard and is purchased on inweights.

In the event of a dispute as to a sale, the matter is left to an umpire or arbitrator, and his decision is final.

As will be seen, the selling of wool is closely guarded on both sides and has in the main worked out very satisfactorily, as the tremendous stocks available, the wide selections, and the generally high quality of the clip serve to attract buyers from all parts of the world. At a sale in 1927 buyers from France, Japan, Germany, England, Russia, Belgium, and the United States were seen. Under such competition the system of auction selling of wool is likely to obtain the best possible values. Figure 19 shows average prices received for greasy wool in Australian centers during the 1926–27 season.

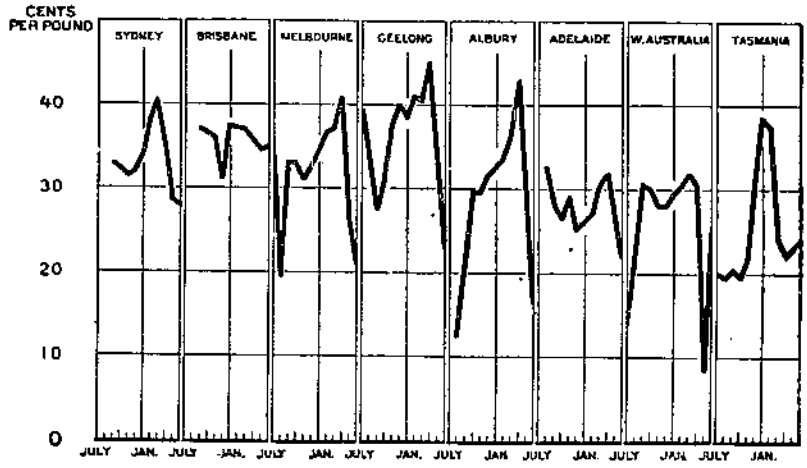

FIGURE 19.—AVERAGE PRICE PER POUND OF GREASY WOOL, AUSTRALIAN CENTERS, 1926–27 SEASON

Quality of the clip going to these markets is reflected in the different price levels for the same periods.

COSTS OF MARKETING

In determining the cost of handling wool in Australia a wide variation in transportation costs appears. In some sections wool is transported long distances to the railroad, packed on the backs of camels; in other sections bullock or ox trains are used; in some sections horses are used (fig. 20), such outfits usually hauling about 10 tons of wool at a load; in a few sections motor trucks are used. The railroad freight varies, and because of the multiplicity of gauges found in the railroads transshipment may add considerably to the charges. Most stores are so located as to have either an in or an out trucking charge, and in some cases both are necessary. Certain rates, such as brokerage fees and insurance, are fixed and are uniform.

The following schedule of charges was effective in 1927:

Brokers' sales commission on clips valued at $1,000 or less, 2½ per cent; on clips valued at $1,001 to $2,500, 1½ per cent; and on clips valued at more than $2,500, 1¼ per cent.

Warehousing charges were $1.75 a bale; $0.75 a butt, half-bale or bale under 200 pounds; and $0.25 a bag or small pack.

Insurance, 1½ per cent.

Bulk classing, 1½ cents a pound. This process consists of the entire operation of classing.

Reclassing, or sorting wool already classed, one-half cent a pound.

Wool bales, 11½ pounds each, costing from $1.20 to $1.65 a bale.

As an illustration of marketing costs, three typical clips with an average haul of about 250 miles to the store were selected, and the selling charges were tabulated. These clips were large enough to obtain the lowest commission rates. The cost of marketing, expressed in cents per pound, is shown in Table 3. The charges were based on wool worth 20 pence (40 cents) a pound, which was almost the exact average of the three clips.

FIGURE 20.—Australian wool wagon and team

TABLE 3.—*Cost of marketing Australian wool of three typical clips, 1927* [1]

Item	Per pound	Item	Per pound
	Cents		*Cents*
Brokerage sales commission	0.5	Freight (average haul of three clips)	1.0
Bales	.5	Delivery to and from warehouse	.5
Storage	.6		
Insurance	.6	Total	4.1
Tare (deducted from grower)	.4		

[1] These charges were based on wool worth 20 pence (40 cents) per pound.

On lots of wool under $1,000 in value the brokerage charge for wool of the above value would be 1 cent a pound instead of one-half cent, which would increase the total handling charges to 4.6 cents a pound, cost of delivery to railroad station not included. The cost of marketing, exclusive of freight, is from 3 cents to 3½ cents a pound, on wool valued at 40 cents a grease pound, depending on the size of the clip. It is generally said among growers that it requires 10 per cent of the value of the clip to sell it, exclusive of shearing and delivery to railroad, which corresponds closely to the above figures.

COOPERATIVE MARKETING

A considerable volume of wool is being marketed through cooperative channels in Australia. Chief among these are the Farmers and Graziers Cooperative G. I. & A. Co. (Ltd.) and the Country Producers Selling Co. (Ltd.), Sydney, New South Wales; the Queensland Primary Producers Cooperative Agency (Ltd.), of Queensland; the South Australian Farmers Cooperative Union (Ltd.), of South Australia; the Westralian Farmers (Ltd.), of West Australia; the Victorian Producers Cooperative Co. (Ltd.), of Victoria, and the McTaggart Primary Producers Cooperative Association (Ltd.), of Queensland. The development of these seven cooperative wool brokerage associations has been comparatively recent. Their business in 1926 is shown in Table 4.

TABLE 4.—*Wool handled by seven Australian cooperative associations in 1926*

Association	Wool handled—		Percentage of State total handled by association
	By association	In State	
	Bales	*Bales*	*Per cent*
Farmers and Graziers Cooperative G. I. & A. Co. (Ltd.)	143,328	1,187,348	12.1
Country Producers Selling Co. (Ltd.)	69,442		5.8
Queensland Primary Producers Cooperative Agency (Ltd.)	66,599	316,040	21.0
McTaggart Primary Producers Cooperative Association (Ltd.)	2,135		.7
Victorian Producers Cooperative Co. (Ltd.)	35,858	409,623	8.8
Westralian Farmers (Ltd.)	15,368	136,094	11.3
South Australian Farmers Cooperative Union (Ltd.)	12,775	234,052	5.4
Total	345,505	2,284,357	15.1

Data obtained from the Australian Wool Brokers' Association, except for McTaggart Primary Producers Cooperative Association which were taken from Dalgety's Annual Wool Review for Australasia (*6, p. 166–167*).

These cooperatives handled more than 100,000,000 pounds of wool in 1926. When it is remembered that the firms engaged in selling wool have had many years of established business and that they frequently control the marketing of the larger clips and produce great quantities on their own stations, the work of the cooperatives stands out as a distinct achievement.

Cooperative organizations in Australia are operated on the same lines as are private brokerage houses. Membership is incident to the holding of stock in the concern. The stock is listed usually at 1 pound sterling per share, with a minimum of 10 shares and a maximum of 1,000 shares to be owned by any one member. A cash dividend on stock is declared, which is limited by law to 8 per cent, and the accruing profits, or savings, in addition go to surplus or patronage dividends. Nonmembers may use the organization, and such business is sought; they do not participate in the patronage dividends, but handling charges of cooperatives may be less than those of competing agencies. The general estimate is that cooperatives save about 25 per cent in selling costs.

Another factor that contributes to the success of the cooperatives is that the private brokerage houses had determined at one time to raise certain handling charges and were prevented only through the

cooperatives' refusal to agree to the policy. It is claimed locally that this increase would have added annually $1,400,000 in expense to the growers of Australia. Cooperatives are also encouraging the central classing and interlotting system and are obtaining good results from the practice. It is believed that such classing enhances the grower's clip from 2 to 4 cents a pound above the cost of operation.

No wool is held under contract, as the business is purely voluntary. Most cooperative leaders favor a contract system and say it is only a question of time before they will operate on that basis, but growers do not seem quite ready to accept a contract yet.

There is much evidence that the Australian wool producer is thinking seriously of some concerted movement toward stabilization of prices of wool. The great increase in land value during recent years and the corresponding increase in taxes have reached the point where the land required to support a sheep is valued at $30 to $40. Labor regulations as to wages to be paid and accommodations to be furnished have also shown a continuous increase. The new basic wage scale of £4.4s. a week (or slightly over $20) applies to all station help for ordinary labor; shearing and classing services come even higher. Drovers' rates are equivalent to $5.75 per day. Drought conditions may add enormously to the grower's carrying costs, and he reasons that, producing as he does one-half of the better-type wool of the world, he should be in a position to have something to say as to its price. In 1925 an effort was made to launch a controlled plan of marketing, similar to that recommended by Sir John Higgins in 1922. The promoters of the plan failed, by a small margin, to obtain the requisite number of supporters, 66⅔ per cent of all sheep owners. Opposition was again registered by large private brokerage houses.

Men who are generally recognized as efficient station managers state that their annual income will not exceed 5 to 6 per cent on their properties and that no further reduction in wool prices can take place without ruining the industry. The great expansion in sheep holdings in recent years has furnished a fairly good market for excess stock. Should that market be curtailed, however, the income to the stations would be reduced, as mutton is very cheap. The organization of growers is bringing about a more concerted plan of action, and the next few years may see the crystallization of a nation-wide marketing program, grower controlled at least, if not grower operated.

ADVANTAGES AND DEFECTS OF PRESENT AUSTRALIAN SYSTEM OF WOOL MARKETING

ADVANTAGES

The chief advantages of the present system of marketing wool in Australia, as revealed by the present study, may be summarized as follows:

Classing of wool provides exactly the type and grade which the buyer desires, without his having to consider the resale value of "off sorts." Some other concern may be interested only in wool that is not useful to the first purchaser, and each party will pay more for the wool which is just what he wants. For example, a mill interested in staple wool may have no use for the percentage of clothing wool found in cases in which the entire fleece is put up together; an-

other buyer may want only clothing wool; or one mill may want only wool free from burs, whereas another may not be so exacting. All wool is classed before it enters the process of manufacture, and mills that purchase unsorted or unclassed wool must make estimates on "off sorts" sufficiently high to make themselves safe and allow for extra expense and transportation costs in the disposition of such wool. All of these charges come out of the grower's returns and could be eliminated by classing wool before it is sold to mills.

The handling of wool by marketing firms on a brokerage basis tends to react to the grower's advantage. Such firms are dependent upon the good will of their clients for continuation in business and so must render efficient service at fair rates.

The understanding between growers' and brokers' associations as to the quantity of wool to be offered from time to time prevents, to some extent, market gluts and resultant price drops. It also gives the producer some voice in the sale of his product.

The auction-sale system, as developed in Australia, is perhaps the best that could be devised for such a country, as wool is a product that is almost wholly exported (less than 5 per cent is manufactured locally), and which commands the attention of the whole textile world on account of its volume and quality. This provides an abundance of competition for all of the various sorts of wool produced, and sales generally reflect the world's current values. Holding the sales at the point of origin permits the closest and cheapest delivery of the product to any purchasing country, without added charges.

The education of boys in the technical side of sheep and wool production and classing in agricultural and technical schools, provides a great number of men who are capable of preparing wool for market and of intelligently breeding sheep. This assures a constant supply of trained men for every branch of the business.

The classing of his wool and its subsequent comparative value affords the producer an index to his breeding operations which should be of great benefit to him.

The number of wool-brokerage houses engaged in handling wool are few, thus affording a good volume of business for each and the corresponding advantages of better-trained men, wider trade contacts, and lower overhead expense. Only 25 houses were reported by Dalgety (*6, p. 166–167*) as operating in marketing the 1926–27 Australian wool clip; of these, 10 concerns handled 80 per cent of the business. In the United States over 400 central dealers and a large number of local buyers are employed in buying and disposing of a wool clip one-third the size of that in Australia.

DEFECTS

The financing of the grower through his broker gives the latter considerable control over the grower's product. Some system of financing such as has been developed in the United States would give the grower greater freedom and would thus hasten cooperative effort.

The plan of offering wool at auction in the order of its arrival at the store is not always practicable. Wool of certain types may be in demand at certain seasons, and if not offered at such times it may

sell at a reduction or may have to be carried over to a much later date for a favorable market. Mills may be urgently in need of certain kinds of wool, and if it is not available at the time they must turn elsewhere for a supply or must substitute other wool. This deprives the producer of his best market. Some plan of offering a complete line at all leading sales series should be evolved.[12]

Classing at the station is not always uniform. Classers may allow broad-fibred or coarse wool to be baled with finer grades, especially in small clips. A few such fleeces reduce the sale price of the entire lot. Central classing or conditioning plants should handle all of the small clips and perhaps a good proportion of the larger ones, in order to provide uniform lines in large quantities.

It is questionable if the best results can be obtained by permitting the grower to fix his price limit as an individual. The individual grower knows little, if anything, about world wool markets and demand, nor is he in a position to keep himself fully informed. Such limitations might better be fixed by experts in the growers' employ, who are thoroughly familiar with wool and markets. Fixing a limit on a lot of wool to be offered some months later is, at best, a hazardous guess, and a committee empowered to fix limits just prior to actual offerings of the wool would expedite sales and, in a measure, stabilize values. Reserve limits should be uniform at all selling centers for uniform grades of wool.

NEW ZEALAND

TOPOGRAPHY

New Zealand is a mountainous country of volcanic origin 100 to 150 miles in average width and about 1,000 miles in length. It is divided by a narrow channel into two islands, the North Island and the South Island. At the southern extremity is located a small island called Stewart, but this is of little importance to the sheep industry of the country.

In the North Island the mountain ranges are not high and, roughly speaking, they extend lengthwise near the center of the island. Here dairying is the major project, and sheep production is confined to breeds adapted to heavy rainfall or lowlands. The Romney has proved itself admirably adapted to such conditions, and this breed or its crosses comprise the majority of the sheep found at present on the island. The favorite cross is the Romney-Lincoln or Leicester. The result is a long-stapled wool, rather coarse in fiber and grading about one-fourth blood or lower—that is, 42's to 46's.

In the South Island the mountains are higher, reaching an elevation of 12,000 feet, and they lie toward the west coast. Coming from the east coast of the South Island toward the west one gradually ascends a very fertile slope called the Canterbury Plains until an elevation of 900 to 1,000 feet is reached. The country then becomes more rolling and the "low hill" section is encountered. This section resembles the low foothills of the Appalachian Mountains and is gen-

[12] Since this bulletin was prepared information has been received to the effect that the situation described is being remedied by having offered all available types of wool at leading auctions.

erally found covered with a very palatable native grass, which comes in after the bush or forest growth has been burned off. A system of burning over these lands every few years to keep in check the growth of noxious plants and weeds as well as to promote a better growth of grass is generally followed.

Back of the "low hill" section is found the "rough country," a series of high hills working back into the mountain peaks. The "rough country" is at present witnessing the expansion of the sheep industry in New Zealand. The bush is being burned off as rapidly as possible, and sheep are being introduced. This entire hill section is sometimes referred to as "tussock country." It may range from 500 to 6,000 feet or more above sea level. The higher altitudes are considered summer ranges, and on these the sheep are run during the summer months of October, November, December, January, and February. For winter feeding the sheep are brought down to "low hill" country or to the plains.

The generally prevailing west winds and the high mountain range on the west coast tend to make a fairly light rainfall through the tussock country and the upper plain section. The climate is moderate, except in the extreme south of the island, and sheep are range-run throughout the year. Occasionally alfalfa or some clover is planted as a supplementary crop to provide hay in an emergency or for grazing purposes. Large fields of rape, kale, and turnips or rutabagas are common and are used to finish market lambs, for this is the home of the famous "Canterbury lamb." (See p. 50.) Oats are grown rather extensively and are cut and fed with the straw.

The mild winters, the abundant supplies of natural and cultivated pasture crops, and the absence of practically all predatory animals make this country almost ideal for the sheepman. The comparatively dry climate of the eastern part of the South Island reduces blowfly losses to a minimum. All stations are under fence; herding is not required; the sheep are rounded up or "mustered" only about four times a year and the rest of the time are given only casual attention. Losses from predatory animals are confined to an occasional attack by the kea, or mountain parrot, or by wild pigs, and are negligible. The worst pests are rabbits and deer, which eat up the range. Deer have become such a nuisance in the northern part of the South Island that a bounty of 50 cents a head, or rather per tail, is placed upon them. It is no wonder that more sheep are to be found here than in any similar area in the world or that the country is referred to as "a sheepman's paradise."

DEVELOPMENT OF THE SHEEP INDUSTRY

The first record of the introduction of sheep into New Zealand was in 1733 [12] when Captain Cook shipped two Merino rams and four Merino ewes from Cape Town, South Africa. The voyage required 117 days, and of the shipment all but two, a ram and an ewe, died in transit. These two were landed on the South Island in Malborough County but were in poor health and, to quote Captain Cook's words:

[12] CLARK: SHEEP RAISING IN NEW ZEALAND.

The sheep I had with so much care and trouble brought to this place, were both found dead, occasioned as was supposed by eating some poisonous plant. Thus my hopes of stocking this country with a breed of sheep were blasted in a moment.

This was apparently the only effort toward establishing sheep in New Zealand until, in 1844, a flock of Merinos was introduced from New South Wales by George Clifford, Frederick Weld, and a Mr. Varasour. This importation was successful, others were made, and the permanency of the sheep industry in New Zealand was assured. In 1841 there was an importation of 700 head of Shropshires, but little came of this initial introduction of mutton-bred sheep.

BREEDS OF SHEEP AND FLOCK MANAGEMENT

At first the Merinos (fig. 21) were the only sheep to be found in any great number in the country, but, as they were not suited to the

FIGURE 21.—Type of Merinos found in Marlborough County, northern part of South Island, New Zealand

heavy, low-lying plains, English breeds were introduced. The first of these were Leicesters, imported in 1853, followed by Border Leicesters in 1859, Lincolns and Romneys about the same time, and Southdowns in 1863. As wool was the main consideration, Merinos were predominant until refrigeration was introduced in 1882, since which time the mutton breeds or crossbred Merino and mutton breeds have become the leaders in sheep husbandry. Although, in 1882, 90 per cent of the New Zealand wool was classed as Merino, it is estimated locally that to-day only about 5 per cent falls into this class. The remaining 95 per cent is crossbred wool of varying degrees of fineness, or pure-bred and longwool types.

The North Island of New Zealand has become a highly specialized dairy district. Sheep are, therefore, not so widely distributed as in the South Island and are different in type, largely because of different soil and climatic conditions. Here the Romney Marsh, Leicesters, and Lincolns predominate, with the Romney Marsh in the majority. These breeds were developed in England on low, rich land having a

fairly heavy rainfall, and so they are at home under similar conditions in New Zealand. The Romney leads all breeds in New Zealand and has been materially changed in type since coming into the country. Sheep breeders have made persistent efforts to develop a utility sheep giving maximum returns under local conditions, rather than

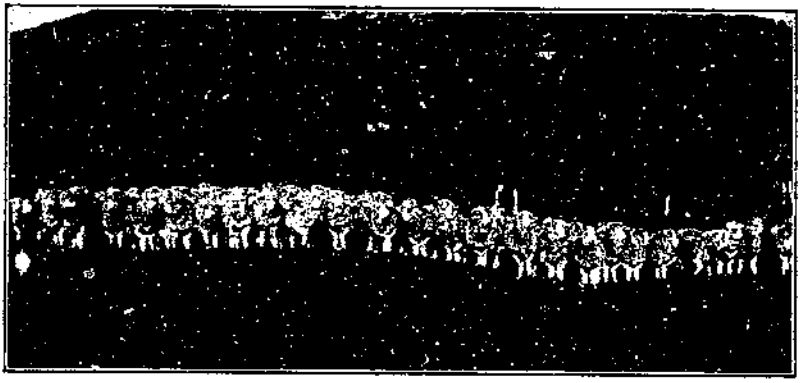

FIGURE 22.—Corriedale ewe lambs about 8 months old

conforming to certain characteristics which are called "breed type" and which depend mainly on things of minor importance. The New Zealander, in order to find a breed best adapted to conditions and markets which he must meet, has even gone so far as to evolve a distinct breed through a cross of long wool and fine wool sheep and then,

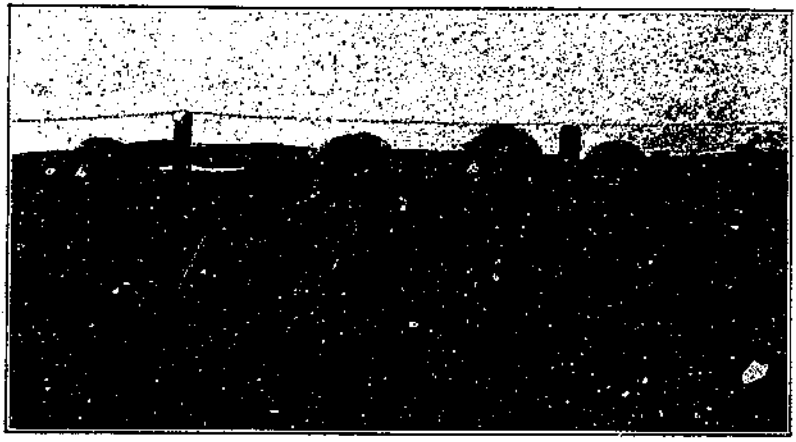

FIGURE 23.—Corriedale ram lambs

through inbreeding, he has fixed the type desired. This breed is called Corriedale, taking its name from the station upon which it was developed. (Figs. 22 and 23.)

The keen interest of the New Zealand grower in types and breeds is evidenced by the extensive sheep shows which are held. Figure 24 shows an example of such an exhibition.

According to a recent census, the sheep in New Zealand are classified in Table 5. This shows a total of 24,960,000 sheep, of which a great percentage falls into the crossbred class. Figures for 1927 show an increase of about 600,000 head in the above total, mainly in crossbred classes.

TABLE 5.—*Sheep in New Zealand flocks, by class, April, 1926*

Class	North Island	South Island	Total
	Number	*Number*	*Number*
Stud sheep (entered in flock book):			
Merino	23	30,411	30,434
Lincoln	12,190	1,593	13,783
Romney	111,462	49,307	160,769
Border Leicester	798	22,991	23,789
English Leicester	1,803	18,283	20,086
Shropshire	1,430	4,168	5,598
Southdown	32,573	14,191	46,764
Corriedale	1,377	44,591	45,968
Other breeds	1,469	5,782	7,251
Total	163,125	191,317	354,442
Sheep of a distinctive breed, but not entered in flock book:			
Merino	26,964	917,431	944,395
Lincoln	74,226	27,956	102,182
Romney	2,319,813	566,613	2,886,426
Border Leicester	11,028	80,019	91,047
English Leicester	4,216	54,625	58,841
Shropshire	6,413	8,128	14,541
Southdown	58,148	22,684	80,832
Corriedale	50,787	806,453	857,240
Half-bred	21,614	1,172,345	1,193,959
Other breeds	3,301	11,873	15,174
Total	2,576,510	3,668,127	6,244,637
Flock sheep: [1]			
Crossbreds and others not otherwise enumerated	11,090,615	7,215,299	18,305,914
Total	13,830,250	11,074,743	24,904,993

New Zealand Official Yearbook (*11, p. 470*).

[1] Largely of the Corriedale type.

This crossbred sheep is the result of the effort of the sheepman to meet the market demand for prime lambs and at the same time to secure a good fleece of wool. To obtain his crossbred he first mates Merino ewes with Lincoln or Leicester rams and saves the ewe progeny, which are termed "half-breds." (Fig. 25.) The production of half-breds goes on largely in the higher country or back bush land, and here the grower finds he can not carry his stock through the winter months for lack of feed. He therefore drafts large numbers of his half-bloods and disposes of them to the farmers who occupy the fertile plains regions, who do not breed their ewe bands but buy as need may arise. These sales are conducted chiefly by auction and in the late summer and fall months of February, March, and April. Weekly sales are held at many points. The Christchurch sales are the largest. From 30,000 to 60,000 head of half-breds change hands weekly during the above period.

The half-bred ewe is then mated with a Down ram, generally Southdown, though Ryelands are becoming more popular, and the result is the crossbred, an early maturing lamb that goes to the freezing plant at 60 to 65 pounds live weight. The half-blood wether lambs

are disposed of in a similar manner and, as these operations are carried on largely in the Canterbury plains section—although the practice extends to other sections also—the term "Canterbury lamb" has been applied to the lambs from this section. These lambs are finished rapidly on pasturage crops and soiling crops, with an occasional grain supplement. The ewes are kept until no longer profitable and are then sent to market with the lambs. In the North Island it is a common practice to cross the half-bred ewe back to a Romney or Leicester, getting what is called a three-quarter-bred sheep, which is in turn used for crossbreeding.

The average flock in New Zealand is about 1,000 head. The tendency in recent years has been to increase the number of sheep holders but to decrease the average size of the flocks. Comparatively few large flocks are now found on the islands.

FIGURE 24.—Sheep show in New Zealand

TYPES OF WOOL

It may be seen readily from the systems of breeding and management of sheep to be found in New Zealand, that the wool must vary widely in type and condition. Figure 26 shows a Corriedale ram of approximately the type which is the aim of the crossbreeding described. But when the British Government assumed control of the wool clip during the World War and established a schedule of grades and types it carried over 800 different classifications, ranging from fine Merino wool of 70's and upward down to Lincoln wool of 36's or even less, with all the variations possible between. This situation is a real factor in working out a scheme of marketing as the greater the number of grades and qualities, the greater the problem of disposing of all to advantage; furthermore, nearly all of this clip must be exported and sold in competition with the world's production, as mills in New Zealand take only a very small portion of the clip. In 1926, with a wool clip of 223,884,479 pounds, grease basis, 218,272,768 pounds of wool was exported (*11, p. 472*).

The rather promiscuous crossbreeding so commonly practiced has a tendency to produce sheep that carry very uneven fleeces, and coarse or kempy breeches are all too common, especially in the three-quarter breeds. This type of wool is very undesirable. Such fleeces must be heavily skirted to remove the objectionable parts, and the skirtings must be sold at low prices. This is a matter to which the New Zealand wool producer is giving some attention at present, but so long as the system of crossbreeding which he is following remains in practice it is doubtful whether much progress will be made in that direction.

The production of Merino wool is confined to the South Island and centers largely in Marlborough county, well to the northeastern part of the island. Here, at an elevation of 1,000 feet and upward, is found a section given over almost exclusively to Merinos, of which almost one-half are wethers run for wool production only, which are disposed of when advancing age shortens the staple or lightens the weight of the fleece.

FIGURE 25.—Half-bred, or Corriedale type of brood ewes in New Zealand

The Merino found here is plain in body with a heavy neck and is of fairly low, compact build. As one breeder remarked, "Our sheep are built for wear." In size the ewes average 90 to 110 pounds and rams 150 to 180 pounds. A sheep of extreme size is objectionable, as wool yields are no greater and more feed is required. Costs are always expressed in land value. The sheepman usually says that an average-sized Merino sheep requires for its maintenance land valued at about 7 pounds sterling, or approximately $35, and the larger ones cost 9 pounds, or about $45. Or, to make the matter plainer, if land is worth, as prices go, $35 an acre, it should keep one Merino sheep in good condition a year. If it will support only half a sheep it should be worth $17.50 an acre, or if its carrying capacity were two sheep, then one might afford to pay $70 an acre. When either a New Zealander or an Australian is asked about cost of sheep production, the answer will invariably be couched in such terms.

Merino wool is generally classed in New Zealand as from 60's to 64's, though a few flocks of Tasmanian origin and breeding show 70's to 80's. Preference is given to the coarser-fibered sheep, as it is more rugged and shears enough additional pounds of wool to more than offset any slight price advantage which the finer wool may have.

The better types of crossbred wool produced in New Zealand are not excelled anywhere. For many years the more progressive breeders have paid considerable attention to improvement of the wool in crossbred sheep, as wool is still the leading product of the country, financially speaking. For the year ended in June, 1926, wool export values were quoted as 17,739,736 pounds sterling, equal to about $86,000,000, as compared with frozen meat, 11,174,567 pounds, and butter and cheese, 16,040,940 pounds sterling (*11, p. 983–984*). Considering the fact that most of the frozen meat was lamb, this emphasizes the importance of the sheep industry to the country, and because of this, much thought is being given to the marketing of frozen meat.

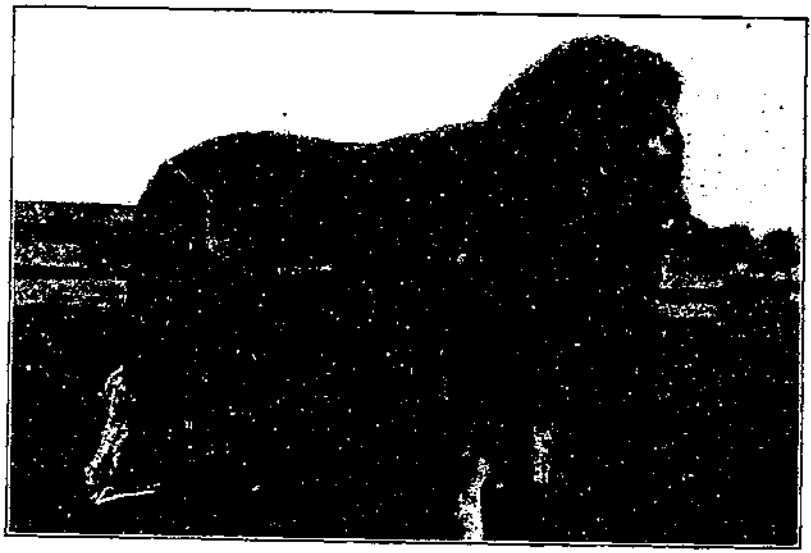

FIGURE 26.—Corriedale ram producing 25 pounds of 56's or three-eighths blood wool

MARKETING OF NEW ZEALAND WOOL

New Zealand has gone further, in a governmental way, to aid cooperative marketing or to control the marketing of agricultural products than have most countries. Numerous boards have been created, members of which have been selected from producers and distributors, in addition to the Government representatives. The most active of these have been the Dairy Control Board and the Meat Control Board. The New Zealand Farmers' Union, at its meeting in August, 1926, asked for a similar control board for wool, which might look into matters pertaining to the sheep industry and regulate handling charges on wool, wool sales, and other similar matters. Such a board had not been established when this bulletin went to press, and as a result of the present difficulties of the Dairy Control Board in attempting to fix butter prices in the London markets, many of the larger sheep owners are at present opposed to further governmental regulation.

When the British Australian Wool Realization Association, which controlled wool prices in all British possessions during the war, and

afterwards until surplus stocks were disposed of, closed its operations at the end of 1924, the Governor-General of New Zealand issued an order vesting in the Minister of Agriculture power to appoint a—

committee to consist of a chairman (who shall be a producer), two representatives of wool brokers, two representatives of wool growers, and other such persons as he may from time to time decide, to hold office during his pleasure.

The wool committee may from time to time determine the maximum quantities of wool that may be offered for sale by public auction, and may, with respect to any specified sale by public auction, fix the maximum quantity of wool which may be offered.

The order further provided that no broker should offer wool at public auction except by and with the consent of the wool committee and under its regulations.

This committee consists of five members; of whom two are nominated by the New Zealand Sheep Owners' Federation; two are nominated by the Wool Brokers Association; and the chairman, who is a woolgrower, is nominated by the Government.

The duties and powers of the wool committee are limited to regulating the time of the auction sales and the quantity to be sold. It has no jurisdiction over wool sold through private treaty, nor can it officially determine values.

A certain quantity of wool is still sold locally by growers. Such wool is either graded or classed, and is either turned over to regular brokers, who sell it at auction, or is shipped direct to mills. This latter practice is fast disappearing, however, as the grower who sells by auction shows, one year as compared with another, an advantage over the one who sells locally. Those who have watched the matter carefully say that the local seller has the advantage over the auction seller about one year in four, and that he takes a loss the other three years. This is the same ratio as that given by the Australian growers.

Wool classing in New Zealand is similar to that in Australia. Because of the smaller average size of the flocks, however, it is not customary to make as many sorts as in Australia. The wool is skirted. Belly wool is kept to itself, as are the leg wool, neck wool, breech wool, and crutchings.[14] These, with the small bits of good wool which drop from the fleece in classing, constitute the grades as wool comes from the farms. Therefore the following classification is generally found: (1) Skirted fleece marked according to grade; (2) bellies; (3) necks; (4) pieces; (5) breech wool; (6) crutchings or tags.

This classing is done only in the very large holdings; usually about all that is done with the smaller clips is to remove the belly wool, the seedy or burry portions, and the crutchings. Each sort is packed in a separate bale and is labeled with the brand of the owner and the character of the bale. The bales weigh about 400 pounds each and are packed in a specially constructed press. Many of the owners of smaller flocks make no effort to class their wool but pack it lightly in bales and bring it to the brokers' warehouse, where it is opened and classed and mingled with wool of similar type and grade to be repacked under some name adopted by the broker. This is called "binning," and the process is similar to that followed by cooperative wool associations in the United States with regard to small lots, save

[14] Wool removed in tagging out sheep.

for the opening of the fleece. In New Zealand, as in Australia, all fleeces are classed in the binning process.

It frequently happens that the grower has less than 3 bales of any one description in his clip, or in the portion of his clip delivered at a particular time. In such cases the broker may combine the wool with other wool of similar type, in order to make a lot large enough to attract a buyer. Such a practice is called interlotting, and the sale price of the entire quantity is pooled among the growers participating in it. The smallest quantity which the broker will sell is 3 bales; and this is called a star lot. Interlots consist of 7 or more bales.

After the clip has been sheared, it is removed to the sales floor of the broker at the grower's convenience. Wool is weighed on entering the sales floor but is settled for on outweight, except for the allowance of 1 pound shrinkage for each 112 pounds of wool.

Sales are made in the order of the arrival of the wool. That first entering the storeroom is sold first. After the wool committee has agreed on the time of sales and the extent of offerings, the broker's expert places valuations on the various lots according to quality and world prices. The large producer is notified as to the valuations, and the small producer's interests are cared for by the wool committee. In the event the valuation does not come up to the grower's ideas of value, he may put a price limit, or upset price, on his clip. If the wool does not reach this price it is passed by, to be offered again later, but only after all wool then in store has had a chance through the auction; or the broker may offer the wool at private sale, subject to grower's consent. No wool can be sold at private sale unless it has first been offered at auction.

Shortly before the day of the sale the broker makes a catalogue of the lots offered, and, in the event that more than one broker is operating, the quantities to be sold are apportioned according to the respective quantities held in store as compared with the quantity to be offered.

Sample bags are drawn from the lots to be sold and are taken up and opened for inspection on the sale floor, each sample being marked to correspond with the catalogue lot. The show floor is open to growers, but not to buyers, until the morning of the auction. On the morning of the sale, buyers are furnished catalogues and are permitted to inspect the offerings. They inspect such lots as may suit them, place their value in the catalogue, and later meet at the salesroom, which is usually located in a different part of the city. Here the wool is sold at the rate of about 350 to 400 lots an hour. Bids usually open close to sale prices, and the slightest lull in crying is a signal for the hammer to fall.

Purchasers are given three days in which to examine their purchases and remove the wool; storage is charged after that time. Settlement to growers must be made by the broker within 15 days.

Here the advantages of the auction system are many. The grower is assured of world competition, as the production is large and is practically all exported. He may withdraw a lot and offer it later if the prices offered do not come up to his ideas of values. He has the benefit of dealing with a bona fide broker who has no wool of his own to offer. He can have the benefits of classing and being paid

according to grade, even though he may be what is called a small sheepman. He can obtain advances on his wool as soon as it enters the storeroom. He can turn the information derived from comparing his prices with his neighbor's to advantage in producing a better clip or more merchantable wool. For a country with a surplus of wool the system seems ideal.

CHARGES FOR MARKETING

For classing, the charge is 1 cent a pound; for holding in warehouse, $1.75 per bale (about 400 pounds); and for selling, 2½ per cent of the sale price.

Growers furnish sacks or bales, weighing 11 pounds, which cost from $1.20 to $1.65 in 1927. They also pay for insurance on wool while in the warehouse.

COOPERATIVE MARKETING OF WOOL IN NEW ZEALAND

There are several farmers' cooperative associations in New Zealand which handle wool as a part of their activities. Eight of these associations in 1926 handled 68,903 bales, or 13.4 per cent of the total production of the country. Their operations are conducted in a manner similar to those of the brokerage houses, which charge the same commissions and perform the same services.

Profits or savings above the limited stock dividends are prorated back to member wool growers on a patronage basis. These represent a saving in marketing cost of about 25 per cent, according to the managers of the various associations. The growth in cooperative marketing of wool in New Zealand has not kept pace with that of some other farm products, notably dairy products, but this may be because the private brokerage houses have given the wool growers good service at a fair handling charge. About the only savings possible through the cooperatives are those afforded by the handling charge, and these would average less than 1 cent per pound.

UNION OF SOUTH AFRICA

The Union of South Africa, lying in the southern and eastern part of Africa, comprises an area of 473,089 square miles, or slightly more than one-eighth that of the United States. According to advance releases of the director of the census, it had, in 1927, a sheep population of 34,500,000 head of wooled sheep and 5,000,000 head of the fat-tailed variety, which were not considered as carrying wool of any commercial value. By sections, the 1924 census gives the number of wooled sheep in the Union as shown in Table 6:

TABLE 6.—*Number of wooled sheep in the Union of South Africa, 1924*[1]

Province	Wooled sheep	Province	Wooled sheep
	Number		*Number*
Cape of Good Hope	11,981,070	Orange Free State	7,870,351
Natal	1,371,696		
Transvaal	2,964,197	Total	24,187,914

The South and East African Year Book and Guide for 1927 (*14, p. 279*).

[1] Exclusive of sheep owned by natives.

PRODUCTION OF SHEEP AND WOOL IN SOUTH AFRICA

As the increase, 14 per cent since 1924, has been fairly well distributed over the entire country, a fair idea of the present sheep population of the respective Provinces can be obtained by adding this proportion to each Province total for 1924. Official estimates show the quantity of wool exported in 1925 as 200,668,066 pounds of greasy wool and 7,946,615 pounds of scoured wool (*14, p. 230*).

If the United States were carrying as many sheep per square mile as South Africa, the United States would have somewhat over 300,000,000 head, whereas it now has 44,545,000 head. Only a little more than half of South Africa is sheep-carrying country. Therefore the sections adapted to the sheep industry are already rather heavily stocked.

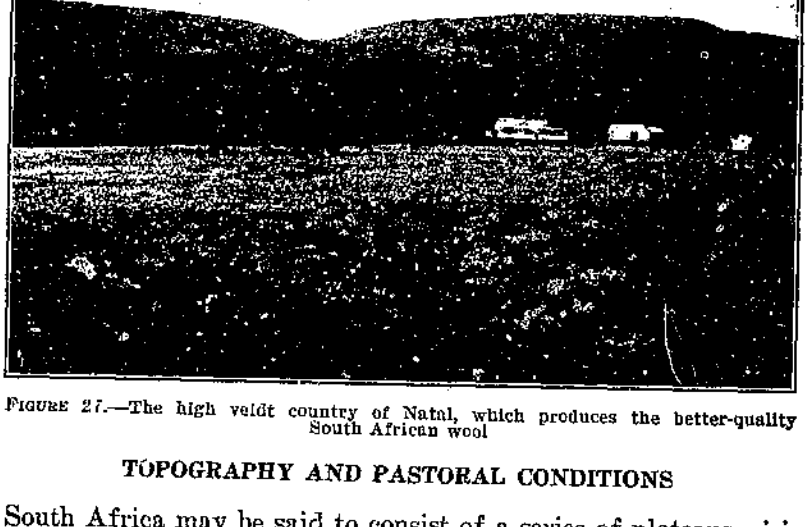

FIGURE 27.—The high veldt country of Natal, which produces the better-quality South African wool

TOPOGRAPHY AND PASTORAL CONDITIONS

South Africa may be said to consist of a series of plateaus, rising in about four steps from the sea, from the southern part to the northern part of the country. Inland from either the east coast or west coast the same formation is observed, but the lower plateaus are in the main quite narrow and the highest elevations more quickly reached.

The open plateaus, called "veldts," are traversed by ranges of hills (kopjes), deep-eroded channels (kloofs in the hills and dongas in flat country), and ranges of mountains. The elevations vary from 100 or 200 feet at the seaside to 5,000 to 6,000 feet on the high veldt, with mountain peaks 2,000 to 3,000 feet higher. This affords a wide variety of climatic conditions, which are reflected in the types of local sheep. Much of the country has not proven advantageous for sheep, either on account of poor pasturage or because of prevalence of parasitical diseases, the most common of which is the stomach worm. On the other hand, new country is constantly being developed, as in Nairobi in Tanganyika Territory near the Equator, and in the territory formerly known as German West Africa.

A characteristic of South African country seems to be the intermingling of good and bad sheep range. Here may be ideal conditions for sheep raising and only a few miles away a decidedly adverse situation may exist. One section may have a rainfall of 20 inches a year, and land within a few miles may get twice that amount. Sweet veldt, a very fine sheep forage, may be found in abundance on one side of a chain of hills and zeurveld, or sourveld, may grow on the opposite side and have only one-half the carrying capacity. Some sections may be pastured only in the winter season, whereas others furnish summer range.

These conditions are at variance with pastoral conditions in Australia, where practically identical conditions as to feed and climate are found over wide areas. So the problem confronting the South African farmer may be entirely different from that of the Australian pastoralist or even from that of his neighbor on adjoining land.

FIGURE 28.—Typical Transvaal sheep country

The portion of South Africa that produces the great bulk of the wool may be said to begin 100 or 200 miles north of Cape Town and extend on the eastern side of the continent through the Cape settlement up through Orange Free State and Natal (fig. 27) into the Transvaal and west from the Transvaal (fig. 28) into Bechuanaland. After a break, it begins again in Rhodesia and includes a new development in the high veldt country of Nairobi (Tanganyika Territory).

There are some fine sections commonly referred to in connection with wool production in South Africa—the Karroo, the Orange Free State wool section, Griqualand East, Natal, and Transvaal; the finer wool comes from the last three sections. Figure 29 shows South African Merinos of the Transvaal.

The Karroo embraces the sheep-producing area of the Cape of Good Hope and covers some 100,000 square miles. This is a semiarid area covered with small edible shrubs, of which the principal is the Karroo bush, which is similar to, and by some said to be nearly

identical with, the saltbush of Australia. This country lies at an elevation of 2,000 to 3,000 feet, with hills, or kopjes, dotted over its surface and an occasional mountain, some of which reach a height of 7,000 feet. The rainfall varies from 10 to 18 inches, and the entire precipitation may occur in a few heavy rains within a short period. In summer, the temperature may range from 80° to 90° F., and it may occasionally go above 100°. The winter month of July may bring some freezing weather. The soil is very friable and erodes easily. The sheep trail to the water hole may become a donga many feet deep after a heavy rain. This erosion of the land, together with the facilities it affords for rapid drainage of water, is one of the problems of the Karroo farmer, as it makes surface storage more difficult and reduces the water level for the plants, which makes drought conditions more acute as time passes (*2, p. 117*).

FIGURE 29.—South African Merinos of the Transvaal

The Karroo, because of its climate, is best adapted to a large rugged sheep, fairly dense in fleece, of the medium or robust-wool Merino types. (Fig. 30.) The wool is good but carries considerable quantities of dirt.

North of the Karroo is found the northern plain section of an altitude of 2,800 to 6,000 feet, also deeply eroded, and with a rainfall of 2 to 10 inches annually. From a sheepman's point of view this is considered light-carrying country. The wool is similar to that of the Karroo. A wider temperature variation is found—from as high as 100° to 110° F. in the summer to as low as 12° in the winter.

The Griqualand, Natal, Orange Free State, and Transvaal plateau regions are all good sheep regions, producing the finer-fibered wool of South Africa. In Rhodesia and Nairobi (Tanganyika territory) are found limited areas in which sheep are being introduced with more or less success. To date most of this territory is being used for mutton rather than wool production, native ewes being crossed with English-bred rams. It is generally conceded that sheep can be successfully handled only at elevations of 2,000 feet or more. In the lower altitudes they can be handled only during the winter.

HISTORY AND DEVELOPMENT OF THE SHEEP INDUSTRY (*10*)

When the early Dutch colonists came to the Cape of Good Hope they found that the Hottentots had a native breed of sheep. This was the fat-tailed sheep, which was apparently indigenous to the country. In color it varies from gray to brown. The Africander variety carries a coat of soft wool down under its exterior hairy coat, whereas the other varieties do not. All the fat accumulates in the rump, which is considered the choicest part of the sheep for eating.

The earliest effort to improve the breed seems to have been made about 1724, when Merino rams were sent out from Europe to mate on the native stock. Few, if any, lasting results came from this initial shipment, and for nearly 70 years nothing further was done in this direction. In 1790 Colonel Gordon received some purebred Merinos from Europe, and these were used on native stock. At the

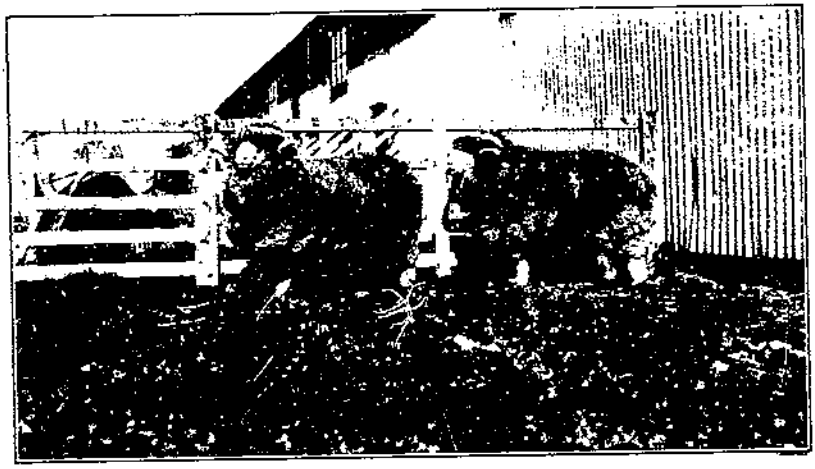

FIGURE 30.—Robust-wool Merino rams of the type favored in the Karroo

death of Colonel Gordon or shortly thereafter this stud was sold to Australia and formed the foundation of the fine-wool industry in that country.

Mention is also made of a shipment from the Merino flock of Lord Weston in England to the Government farm at Groote Post, near Cape Town, where the Merinos were used for crossbreeding and became popular.

From these few early importations and from a few isolated shipments of English breeds of sheep many of the present commercial flocks have descended. The early Boer settlers were more concerned with the acquisition of land than with the improvement of their flocks and herds. It is only within comparatively recent years that much thought has been given to the production of better sheep rather than to continued expansion in the size of the flocks and herds.

This change in policy may be attributed to four circumstances: (1) The coming of British subjects who, becoming pastoralists, were not satisfied with the low type of sheep and cattle to be had and began importing stud stock to improve the native types; (2) the

fact that new lands adapted to sheep raising were becoming difficult to obtain, so that expansion in numbers must of necessity be curtailed; (3) increased values in wool and increased cost of production which found reflection in an effort to produce a product greater in quantity per sheep and of better quality; and (4) the efforts on the part of English and South African wool brokers and the Government of the Union of South Africa toward improvements in the quality of wool produced and toward better methods of preparation for market.

The first circumstance resulted in importations of sheep from the French Merino farm at Rambouillet and from some of the leading Merino studs of Germany, notably in Saxony. These importations began much later than those that went to Australia and were limited in number.

The exact date does not appear, but the general opinion is that it was about 1875. Beginning some 25 years afterwards, Rambouillet and Merino sheep were imported from America, followed shortly by

FIGURE 31.—Cross between Tasmanian and American C-type Merino strains of sheep, a kind much admired in South Africa

heavy importations from Australia and Tasmania. Figure 31 shows one of the resulting types which is much admired in South Africa.

The high price of wool following the period of the World War and the fact that the Government of the Union of South Africa permitted the South African farmer to deduct from his income tax all money spent in the purchase of purebred stock wherewith to improve his flocks resulted in the expenditure within recent years of large sums of African money in Australia and Tasmania. The American market has not benefited much by this trade, largely because of the advice of the African sheep experts, some of whom were originally Australians and others of whom were trained in Australia. Some of them attempted to have the government prohibit the importation of American Merinos, on the ground that they would injure rather than improve the flocks. So to-day nearly all of the leading studs claim either Wanganella (fig. 9) or Tasmanian (fig. 32) origin and breeding, though many of the best rams are decidedly American in type and the sections producing the best wool are those in which the American Merino has been the most used.

Recent regulations, which narrow the trails between the winter and summer ranges in the Transvaal and Natal, are causing many to abandon the use of the winter ranges which are too hot to carry sheep in the summer. This curtails somewhat the carrying capacity of the high summer range, a portion of which must be devoted to crops for winter sustenance.

Parasitical diseases are increasing, and it requires more attention to hold them in check here than in a cold climate.

Marked improvement has been made in the weight and quality of wool produced. The production of wool in the Union of South Africa

FIGURE 32.—Tasmanian type of merino sheep in demand in South Africa. This ram sheared 23 pounds of 70's wool, yielding 55 per cent clean wool. Live weight, 175 pounds

in 1926, as reported by the Durban Wool Brokers Association,[15] was 710,000 bales of an average weight of 370 pounds, or about 262,700,000 pounds, an average of 7½ pounds per sheep. Anyone who has followed South African wool over a period of years will admit that a tremendous improvement has already taken place in quality, but this matter will be more fully discussed later.

METHODS OF FLOCK MANAGEMENT

Three different methods of sheep management are to be found in South Africa: (1) In the Karroo and similar regions where the

[15] An organization which consists of private wool brokers and cooperative wool marketing organizations.

sheep graze continuously on the one area during the entire year; (2) the summer and winter range system; and (3) the summer-range and winter-feeding method.

CONTINUOUS GRAZING

The weather and forage conditions of the Karroo are so similar to those in the saltbush country of Australia that methods of management are almost identical, even to the introduction of the same type of sheep. The only difference is one of altitude. Sheep are herded here by natives throughout the year, and are moved only as feed and water requirements demand.

Here may be found the larger flocks of the Union, some of them containing 60,000 head. Some shearing is done by machine, but most

FIGURE 33.—South African sheep shearers in shearing kraal

of it is done by natives with hand blades. (Fig. 33.) It is stated by growers that less than 5 per cent of the total wool clip of South Africa is machine shorn.

The flocks are run for wool production only, and wethers, or "hamals," constitute a considerable percentage of many of them. This applies to the entire country.

SUMMER AND WINTER RANGE

In parts of Natal and the Transvaal a system of trekking or long driving of the flocks takes place each year. As the high plateau, or veldt, produces little if any growth during the winter season, which begins about June 1, it is customary to drive the sheep at that time down to the lower plateaus, which are 2,000 to 3,000 feet in height, there to remain until the October spring starts a new growth in the high veldt.

There are two objections to this system of management: (1) The narrowed trails make trekking more severe on the stock; and (2) much of the grass in the low veldt is not suited to sheep, and consequently little if any improvement in flesh is made during the time spent there. It also requires a considerable period of time for the sheep to recover from the return trip, which is anywhere from 50 to

250 miles. Many of the more progressive flockmasters are adopting the third method—summer range and winter feeding—which is productive of a better clip as well as of better growth and development of the sheep itself.

SUMMER RANGE AND WINTER FEEDING

This third system provides for the artificial feeding of the flock during the winter season. The feeds employed are mainly corn or concentrates, supplemented by alfalfa, and teff hay and corn stover, or in some instances root crops. The root crops are used only in the stud flocks and generally where irrigation is possible. Future expansion of the sheep industry in South Africa will possibly be greatest in sections that adopt this method of management, but an additional feed and labor cost must be assumed. The flocks are smaller in such sections. The average in Natal is about 700 head; in the Transvaal it is from 1,000 to 1,200 head.

TYPES OF WOOL

The fact that efforts toward improvement in the character of the fleece have been made only in recent years would lead to the opinion that great variations in quality and length of fiber would be found in the clip; but, if the production of the native sheep, which is more nearly hair than wool, is excluded, there is greater uniformity in the South African clip than is found in many countries where efforts for improvement have been of longer duration. The climate may have something to do with this, as all sheepmen contend that a natural refinement in fiber occurs in the country. Certainly a few American-bred sheep (one or two of which were imported) which came under personal observation of the writer, showed a much finer fiber than any individual sheep recalled in the flocks from which they originally came. The same may be said of the more robust types of Wanganella and South Australian sheep now being imported in large numbers. On the other hand, the original infusion of merino blood in the country was largely from Saxony, long noted for the extreme fineness of its wool. Some dealers are of the opinion that the introduction of robust-wooled sires, in recent years, will cause the African clip to lose some of its character, and they say this influence is now distinctly noticeable in certain flocks. Whether or not the modifying climatic influence will correct this situation remains to be seen.

Roughly speaking, the clip may be said to be practically all Merino wool, the bulk of which will class as 64's to 70's, though a considerable quantity up to 80's is produced. Of the native wool, according to the Durban Wool Brokers' Association, approximately 80,000 bales, or 30,000,000 pounds, in 1926–27, carried kempy fibers and was regarded as inferior in quality. This wool is sheared every six months, so that the staple is short. Some of the Merino wool is so shorn, but as a rule only in such sections as are infested with scab or among those farmers who are not careful sheepmen and who shear to obtain ready money.

Of the 12-month clip, about 60 per cent will class as French combing length, or 2 to 2½ inches. Although the South African clip is

finer than the Australian wool, it lacks the staple carried by the Australian product. On the whole, the wool is keenly sought, and the better clips have been bringing prices that are equal to the prices for Australian wool or even more during recent years. Brokers say that this is because of the better spinning quality of the South African wool.

PREPARATION FOR MARKET

Under the labor conditions found in this region, it would not be expected that the wool clip would go forward to market as well classed or in as good condition as does the Australian clip.

Labor wages are very low. Sheep herders receive $2.50 per month, 3 pounds of meal per day, and a limited quantity of meat. Shearing costs $2.40 per hundred head, or less than 2½ cents a sheep. The average native shears from 25 to 40 head per day. Ordinary farm labor may be obtained for about $5 per month, though in Natal the native works six months of the year for the privilege of building his hut or kraal on the owner's land and grazing his few head of cattle, or for use of a truck patch. In the Transvaal, three months is the time given the landowner for similar accommodations. To offset the cheapness of the labor is the character of the laborer, who is neither efficient nor industrious, and who works only when compelled through hunger or by edict of law. Some States now make it compulsory for a native to perform 120 days labor a year.

The classing of wool in South Africa is not so elaborate or thorough as in Australia. Only about 40 per cent of the wool is considered well classed, the other is merely skirted to a greater or less degree. Some fleeces are packed entire, no skirtings being removed. The Government of the Union is devoting considerable money and effort toward bringing about a more uniform system of preparing the clip and a more honest pack, for many clips are looked upon with suspicion by the buyers. The Boer farmer is slow in changing his ways for, until recently, he led an isolated life and received little education, but efforts toward a better-prepared clip are meeting with much success, and it is possible that the near future will see the South African wool going to market as well packed as any. The main difficulty is a lack of trained and experienced wool classers.

SELLING THE WOOL

Modern methods of wool selling in South Africa have developed largely within the past 10 or 12 years, or almost coincident with better wool production. In fact, a distinct relation may be seen between the two. It is somewhat debatable whether a better method of merchandising came about through the efforts of those who were improving their flocks to obtain full value for their wool, or whether the institution of a sales system which included payment according to the value of the clip led to a better product. The answer given locally depends largely upon whether the question is asked of the producer or of the broker.

At any rate, for many years the South African clip was purchased, as is much of the American clip to-day, through speculative buyers or local merchants who financed the farmer through the year and

took his wool in payment for his debts. The system went even beyond that in the United States, and for many years the prices were stabilized for the farmer at about 15 cents per pound. This undoubtedly relieved his worry as to possible prices, even if it did not mean much profit.

There is no doubt that the enhanced values during the World War, and the governmental control had much to do with bringing about a better system of wool selling until, as stated by brokers, in 1927, about 90 to 95 per cent of the wool of the Union was handled on a brokerage basis for the account of the producer or through his own cooperative associations. The small portion which was purchased outright was similarly disposed of by the buyers, so that practically the entire clip passed through the hands of the brokers. The 1926 clip of wool, according to a report of the Durban wool brokers, consisted of about 710,000 bales of 370 pounds each and was handled through some four concentration points, approximately as follows: East London, 280,000 bales; Durban, 200,000 bales; Port Elizabeth, 200,000 bales; and Capetown, 30,000 bales.

The system of marketing varies somewhat in different centers as to minor details, but in the main the methods are similar. No central organization exists which controls wool movements and prices as in Australia, but each wool center maintains an organization of brokers controlling such matters as apply to that particular market. Growers have no such organization representing them as a whole, nor are there even units of growers near marketing centers, but their interests are represented to a certain extent by the brokers, whose local organizations enter into agreements with those of the buyers as to terms of sale, quantities offered, and withdrawals.

The wool center that is now growing most rapidly is Durban. Here are found the strictest rules covering wool selling, which are made and enforced by the Durban Wool Brokers Associations. Briefly these are as follows:

(1) All wool coming into the market must first be offered at public auction.

(2) No buyer can obtain wool except as so offered or through private sale after it has been so offered through recognized brokerage houses. This prevents buyers from acquiring wool purchased outright from the growers at private treaty.

(3) Sales are held weekly during the season, which covers approximately five months, beginning in November and ending early in April; offerings are made in the order of arrival of clips at brokers' warehouses.

(4) Buyers can demand that all of a clip be placed on the sales floors for inspection, if desired.

(5) All lots of two bales or under are classed as star lots and are offered separately.

(6) Interlotting may be done at the discretion of the broker.

(7) Reclassing may be resorted to, but this is not generally done. An additional charge is made for reclassing.

(8) Brokerage charges run from 1½ to 2½ per cent for selling, depending upon the size of the clip, plus storage, insurance, and cost of delivery to the buyer. A charge of 24 cents per bale is made for lotting and $1.20 per bale for pressing and marking.

In Cape Town and Port Elizabeth some wool is purchased through private treaty between the buyers and the brokers. At East London the bulk of the wool is so disposed of. There is no agreement to prevent buyers from obtaining wool direct from growers or store-

keepers except at Durban. Some growers state that the reason Durban is growing so rapidly as a wool center is because the regulations in force there protect the producer better than do those at other centers.

COOPERATIVE MARKETING OF WOOL

Because of the isolated position of the sheepman in South Africa and his limited contact with his fellows, the idea of cooperation has not been thoroughly understood. In many sections it has not even been discussed. Considerable headway is being made, however, in this direction, and three cooperative organizations are now operating in the marketing of wool. These cooperative associations operate on a brokerage basis.

The development of the cooperative marketing of wool may be said to have begun with the passage of the consolidating act, in 1922, which was effective throughout the Union. Prior to this time some local efforts had been made in the direction of cooperative marketing, but because of limited powers and lack of suitable laws, little had been accomplished.

The cooperative marketing act of 1922 is comprehensive (*9, p. 509–542*). It provides for the formation of limited and unlimited liability companies. In the unlimited-liability company the signing of a membership form and payment of a membership fee bind the signer to deliver his produce to the cooperative. Most of the cooperatives operating in South Africa at present are of the unlimited type. In the limited company stock is issued and membership is incident upon purchase of stock. This also carries the obligation of delivery of the product to the cooperative. The three wool cooperatives are of the limited-liability type. Provisions for resigning from both limited and unlimited liability companies are made: members are allowed to resign at the expiration of any year upon giving three months' notice. If a member holds shares of stock, these shares must be surrendered to the company at the time of resignation. The current value of a share of stock is usually 1 pound sterling, and most companies provide for limited holding of stock.

The act further provides for the inspection of all cooperatives by Government officials, who not only satisfy themselves as to the financial status of the company but usually make an economic survey and give recommendations as to the general business policy of the organization. All books must be audited yearly by a certified public accountant. Liquidation of the companies is provided for and may be brought about for various reasons. A resolution of two-thirds of the members, casting their votes either in person or by proxy at a special meeting called for that purpose, is sufficient to cause dissolution of the company. Evidences of mismanagement or other causes may also be instrumental in causing liquidation. This liquidation is allowed by the minister of agriculture or by order of the supreme court, and the registrar of cooperatives or some other appointee of the minister of agriculture acts as liquidator.

The use of the term "cooperative" is restricted to those organizations that have registered with the minister of agriculture and operate under authority of the act. Model regulations are provided by the department of agriculture for both limited and unlimited coopera-

tives, and these must be followed in setting up and operating the association. Provision is made that if 75 per cent of the production of a commodity is handled through cooperatives, the rest of the production of that particular commodity must be handled through a cooperative. This has been enforced only in certain tobacco areas but may be made effective with regard to other commodities at the discretion of the minister of agriculture.

Membership is restricted to farmers, except where associations organized prior to 1922 were permitted to come in under the new cooperative marketing act, though in some sections others may be members, particularly in stock companies where additional capital is desired. The wool cooperatives make a practice of advancing money to all their consignors: this advance is limited to 50 per cent of the current value of the clip. Interest is charged on such advances at the same rates which the cooperative must pay in order to obtain the money. These loans are generally secured through the Government land bank. The current rate of interest is from 4 to 5 per cent.

Profits in the wool cooperatives are disposed of in three ways: (1) Through stock dividends not exceeding 8 per cent on the paid up capital of the company; (2) through the establishment of reserve funds to such extent as may be recommended by the directors; (3) through a patronage refund to members, based on the volume of business transacted by each during the year.

Just now further legislation is being considered to prevent farmers outside of the cooperatives from receiving any benefit from the associations through the effect which the cooperatives may have in stabilizing and bettering prices to producers. The nature of this legislation and the manner of obtaining it will be watched with interest. It is estimated that in 1927 about 40 to 45 per cent of the farmers were affiliated with one or more cooperatives, and the Government is aiding the further development of the movement in every possible way.

Of the three cooperatives handling wool, two, the Boere-Saamwerk Beperk and the Farmers' Cooperative Union, have been in existence since 1922; the third, Kooperatiewe Wolmaatskappy Beperk, or Cooperative Wool Co., was actively entering the field in 1928.

The two first-named organizations have stores at Cape Town, East London, Port Elizabeth, and Durban; the Kooperatiewe Wolmaatskappy Beperk is located at Durban alone. The presence of the two cooperatives in the same markets has led to some jealousy between them, and at times, if reports be true, the interests of cooperation have been submerged in the advancement of the individual association. Because of this a part of the membership of one of these societies withdrew, forming the third association. As indicative of the growth of one of these societies its record of business may be cited: 1922, 8,000 bales; 1923, 16,000 bales; 1924, 24,000 bales; 1925, 33,000 bales; 1926, 31,000 bales.

The decreased volume of business in 1926 was because of the withdrawal of those members who formed a new cooperative.

It was stated by local brokers that of the total clip of 710,000 bales in the Union, about 165,000 bales, or slightly over 23 per cent, were handled cooperatively in 1926.

The handling charges through the cooperatives are about the same as through other brokerage houses, but the farmers claim that, as in

Australia, it is only their presence that keeps commissions and handling charges at present levels. In addition, the cooperative rebates one-half of 1 per cent of the handling charges to all local wool associations having a membership of 25 or more who are actively engaged in helping with work that is beneficial to the industry.

The agricultural department of the South African Government is paying considerable attention to the teaching of men in both sheep breeding and wool classing, and as these men become available to the farmers a reflection may be expected in improved wool and better preparation for market. Methods of selling have been greatly improved within the last few years and apparently are keeping pace with the improvements in sheep husbandry. It is freely stated by both producers and brokers that within the next 10 years practically no wool will be offered at private sale by the producers and that auction sales through the private brokers or cooperatives will become universal throughout the country.

There is discussion of centralized brokers' and producers' organizations and of a more systematic method for putting the wool on the market. In all likelihood this would mean a longer sales period and limitations as to the volume coming on the market at any particular time. The growth of cooperative wool-marketing associations has made satisfactory progress considering the lack of existing facilities for communication between agriculturists.

ENGLAND

The study of wool marketing in New Zealand, Australia, and South Africa is a study of countries which are producers rather than consumers of raw wool. Their conditions may be said to be somewhat similar to those in the "territory" sections of the United States, where wool must travel some distance before reaching the mill.

On the other hand, England and France are large wool-consuming centers, and their sheep industry is comparable with that of the fleece-wool sections of our country. It was therefore thought worth while to make a survey of wool marketing in these countries to ascertain whether closeness to market was advantageous to the wool grower or whether this advantage, if it existed, was offset by his small individual production; and, if so, what steps he was taking to meet the situation.

England has a wide variety of soil and climatic conditions. The sheep farmers have endeavored to produce such types of sheep as will best suit local conditions, so a great number of breeds are found, each with a slightly different type of wool, in a very limited area. The low, wet lands of Kent produce the Romney, a coarse-wooled type; near by may be found the chalk downs of Surrey, with the Southdown, the finest fleeced of English breeds. Going further west the Exmoor is met—another coarse-wooled breed adapted to rough moor country; and near by is the Ryeland, which produces wool comparable with that of the Southdown.

There are, therefore, no large sections in England that produce wool of similar type. This condition is reflected in prices and in the marketing of the wool, although recent efforts in cooperative marketing have counteracted it to some extent. Most of the breeds of

English sheep have been developed specifically for mutton production, and the carcass has been emphasized, often to the detriment of the wool. It is only in recent years that serious attention has been paid to the production of better wool and to preparation of wool for market.

The total number of sheep in the British Isles in 1927 was given as 28,215,000 (*16, p. 1033*), and the wool yield was estimated at 119,000,000 (*16, p. 1041*) pounds, an average of 4.2 pounds per head. The sheep population is rather large, area considered. Contrary to the generally accepted opinion that sheep husbandry is a pioneer industry or one adapted only to new countries and cheap land, it evidently can be successfully carried on in areas where land values are fairly high.

METHODS OF FLOCK MANAGEMENT AND WOOL TYPES

So many different systems of flock husbandry have been evolved in the British Isles, to conform to climatic and soil conditions, that space does not permit a detailed study of them here. Briefly, all flocks are managed so as to have a certain amount of permanent grazing area, supplemented with soiling crops, or root crops and grain. The feeding of root and grain crops is carried on to a much greater extent than in other countries, and this is, in a large measure, responsible for the production of the choice quality of lamb and mutton coming into the English markets. Parts of the country specialize in lamb feeding, and crossbreeding is carried on rather extensively in such sections. These sections depend largely upon soiling crops and grain to force early maturity and finish in their lambs. In the rougher and less fertile sections, the flocks spend a major portion of the time on permanent pastures, and frequently lambs are sold to be finished in the fattening sections.

The types of wool vary from the Southdown, producing 56's, or good three-eighths-blood wool, to the mountain breeds, which often carry fleeces classed as carpet wool. A fair quantity of luster, or long wool, is obtained from the Lincoln, Cotswold, Leicester, and Wensleydale breeds; whereas Romneys, Cheviots, Hampshires, Oxfords and Shropshires produce the intermediate medium-wool types from 42's to 56's, or low quarter to three-eighths-blood.

Research work and breeding experiments are conducted at Leeds, with a view to giving the wool grower information regarding the production of better grades of wool.

PREPARATION OF FLEECE AND MARKETING METHODS

The English farmer does not give the same attention to the preparation of his wool for market as does the colonial farmer. Equipped sheds for shearing are seldom seen, and in many sections a clean plot of grass is all that is used for a shearing floor. The fleece is generally removed with blades rather than by machines, and a common practice is to roll the entire fleece in a compact package and secure it by means of a strand of wool drawn from the fleece and twisted into a loose rope. The wool is packed in bales, and is so held until it has been sold.

Wool is sold in three ways: (1) By private treaty with dealers, as is the custom in the United States. This practice is rapidly falling into disuse, as growers have found it to their advantage to dispose of their clip in other ways. A modification of this method is practiced to some extent in selling to mill agents who travel in certain districts and who buy wool direct on mill order. This plan also is failing to find favor with the growers, and in wool circles it is generally agreed that such methods of sale will be practically abandoned in a few years.

(2) In many sections it is the practice to offer the wool of a district at public auction. These auction sales are generally held in connection with livestock fairs. They take place from the early part of June to the first of August, or during a period of six to eight weeks.

At auction sales of this type each grower has his wool placed on display, and samples representative of the clip are drawn for examination by buyers. Each grower's wool is sold as a separate lot, and there is no blending or intermingling of lots.

Offerings at such auctions vary widely according to wool production and patronage of the growers in the district involved. Some sales may have as low as 2,000 fleeces; others may run to 10 times that quantity. The sales are not only well patronized by buyers from English mills but agents representing French, German, or even American interests are found at all of the larger sales. Bidding on choice lots is usually keen. The grower may place a reserve bid on his wool, and in the event this reserve is not reached the lot may be later offered at private sale or at subsequent auctions.

Taking the auction sales as a whole, the price advantage to the grower over local buyers or mill agents is estimated at about 2 cents per pound.

(3) The development of cooperative wool marketing associations in England is comparatively recent. Three such cooperatives are now functioning, the first of which is the Kent Wool Growers, formed in 1920; followed by the Southern Wool Growers of Sussex and Herefordshire, organized in 1923; and the Eastern Wool Growers of Suffolk, in 1926. All are organized along similar lines, and the wool of each is handled in a similar way.

Several English sheep breeders' associations are now combining for the purpose of preparing the farmers' clips for market (as is done in Australia) and selling the wool at the London auction sales.

The principal motives in founding these cooperatives were so to class or grade the wool as to obtain the best market and to offer it in such a way as to attract competition from outside countries. Accordingly, depots or warehouses were obtained to which the farmers send their wool as it comes from the sheep, in entire fleeces. These fleeces are opened and classed—that is, skirted and sorted according to condition, type, and grade—and are then binned. The bins are baled and marked with the association brand and type. Sample bales are delivered to sales brokers at London, who catalogue the offering and place it on the market at such times and in such quantities as the association directs. The grower, after the sale of all the wool, receives the average price of all the sales for each of the grades or classes represented in his particular clip.

The wool cooperatives have had a steady and consistent growth since their organization. Table 7 shows the record of the Kent association. The other cooperatives show a similar growth. According to association officials, some 350,000 fleeces, or 2,650,000 pounds, of wool were marketed cooperatively in England in 1927.

TABLE 7.—*Record of the Kent Wool Growers Cooperative Association, 1920–1927*

Year	Members	Capital	Fleeces handled	Value of fleeces	Total charge per pound to members
	Number	*Dollars* [1]	*Number*	*Dollars* [1]	*Cents* [1]
1920	75	3,000	25,000	60,875	3¼
1921	101	3,400	25,000	40,400	3
1922	165	4,400	45,000	78,350	2¾
1923	407	7,500	95,000	256,900	2
1924	501	8,900	120,000	352,425	1¾
1925	705	10,500	149,000	340,100	1½
1926	765	11,000	163,000	372,475	1¾
1927	819	11,500	164,000	400,400	1¾

[1] Converted, assuming that 1 pound equals $4.87; 1 shilling equals $0.24; and 1 penny equals 2 cents.

In discussing this matter, members agreed that a price advantage of 4 cents a pound has been consistently shown over the old method of selling to local buyers and that a much wider outlet has been found for their wool.

In 1927, the Kent Wool Growers received an average of 36 cents per pound on all wool handled; some of the better grades sold for 44 cents. This wool corresponds to our low-quarter and quarter-blood wool, or 40's to 46's. Some of this wool was bought for the American trade, and the fact that the average farm price in the United States for wool in 1927 was 30 cents a pound is worthy of consideration by the American wool grower.

In type the British wool cooperatives are similar to those in the United States. Membership is gained through the purchase of one or more shares of stock at 1 pound sterling, or about $5 per share. Consignment of wool is voluntary, but no wool is handled except that owned by members.

Advances are made on the wool at time of arrival at the warehouse. Such advances are provided through borrowing money at the banks or by utilization of capital stock. In 1927 the advance was 18 cents a pound. Members at the beginning of the season are furnished with a questionnaire covering the quantity of wool which they expect to deliver and, in a general way, its type. This provides the management with necessary data as to space required for storage, number of sacks, and help needed to handle consignments.

An interesting column in Table 7 is that showing the handling charge per pound. A gradual reduction of from 3¼ cents to 1¾ cents has been made since the formation of the association. This reduction is due to increased volume of business alone, according to the manager, and apparently the charge has about reached the minimum. Labor and certain other distribution costs in England are much below those in the United States, so it is probable that our

better-managed cooperative wool associations are operating on cost levels that compare favorably with those of the English cooperatives.

A rather surprising feature in connection with the sale of English-grown wool is the quantity sold for export consumption. In 1926 the wool production was 115,000,000 pounds, of which some 54,000,000 pounds was sold for export; and, in 1927, out of a production of 119,000,000 pounds, around 62,000,000 pounds was similarly disposed of (*16, p. 1039–1041; 4, p. 137*). Of all this exported wool, in both years the United States took approximately 50 per cent.

The Government is assisting in the development of cooperative marketing by collecting and disseminating all available data on the movement and by loaning money to the cooperatives at low rates of interest.

SALES OF FOREIGN WOOL IN ENGLISH MARKETS

London is the great wool center of the world, and the world's wool prices are generally reckoned on a London basis. Because of the wide differences in wool types, and of the wool customers coming into the London market, there is a corresponding degree of latitude in the methods of merchandising the wool. Some is handled by buyers who purchase outright; some is dealt with at private treaty by concerns that operate on a brokerage basis; other wool is sold at auction.

One rule has been rigidly enforced—and that is that a broker must confine his operations to a brokerage basis and must not buy or sell on his own account, a rule which is fair to the producer.

Naturally the auctions are accepted as the indicators of wool values, and wool bought or sold at private treaty reflects the auction-sale prices. An occasional lot of wool of exceptional type or quality may be disposed of without much relation to prevailing prices, as for example, when one commercial firm in London reported selling, in 1927, some very fine German wool for $1.68 per pound, clean. This was around 36 cents per pound in the grease, as the yield was only 22 per cent clean wool. This wool was special in type and entered into special manufacturing processes. Such lines are so small as to cause little variation in the rule mentioned. Figure 34 shows Tasmanian Merino ewe lambs which produce the quality of wool that topped the London sales in 1927.

The method of selling wool at auction in London is similar to that practiced in Australia, so it is not necessary to describe the actual process in further detail here.

In 1926, 815,653,000 (*6, p. 78*) pounds of wool was imported into England, which, added to the home production of 115,000,000 pounds, gave a total of 930,000,000 pounds of wool handled through the British wool trade. The leading countries contributing to this amount were: Australia, 304,554,000 pounds; New Zealand, 184,238,000 pounds; South Africa, 147,741,000 pounds; and South America, 88,429,000 pounds.

Much of the wool coming from the first three countries was purchased at the auction sales held in their respective wool centers; a smaller quantity was wool sent direct to London on sales account. The presence of Japanese and Russian buyers at the wool-producing centers, as well as buyers from all the countries which are found pur-

chasing in the London market, has had the effect of stimulating sales in these places to the point where there seems no great advantage in consigning to the London sales.

FRANCE

France is not generally considered a sheep-producing country of note, but is considered a wool-manufacturing center. Figures for 1926, obtained from the Institute of Zootechnics, Paris, show about 10,537,000 head of sheep and a wool production of 47,619,000 pounds, an average of slightly over 4.5 pounds per head. This is a much lighter fleece weight than that found in most wool-producing countries, but it is comparable to the usual fleece weight in England.

FIGURE 34.—Tasmanian Merino ewe lambs that produce the quality of wool which topped the London sales in 1927

As in England, most of the sheep suggest the mutton or crossbred types, though some sections (notably the Arles section) specialize in Merinos. Another section that produces a percentage of fine wool is the Soissons section, near Paris.

HISTORY OF SHEEP INDUSTRY IN FRANCE

The first attempt to improve the sheep of France dates back to 1786, when 318 Merino ewes and 41 rams were selected in Leon, Spain, and sent to the Government farm at Rambouillet, a few miles west of Paris. This importation was made by King Louis XVI, on the advice of his councillors, for the purpose of improving the native breeds of France, which at that time produced only coarse wool, and to develop within the Empire wool for the production of fine cloth.

From the date of the original importation to the present time, 141 years, the stud at Rambouillet has been bred strictly within itself. It has furnished the bulk of the rams which have improved the French flocks and has contributed largely to the initial development

of the fine-wool industry in parts of Australia and South Africa and in Germany and in sections of North America.

The aim at Rambouillet is to produce, as nearly as possible, the same type as originally imported so far as marking and fleece fineness are concerned, but to improve on the size and form. In this those in charge of the work have succeeded admirably. Although weights are not so heavy as are found in the American type of Rambouillet, the fleece is finer and of better quality. The average weight of the rams is about 164 pounds. The rams shear a fleece of 16 to 24 pounds, the staple varying in length from 2½ to 3½ inches. In 1927 the average weight of the rams in service at Rambouillet was 185 pounds and that of the average fleece 26½ pounds. The fleece of the heaviest shearing ram was 39½ pounds. The 800 ewes in the flock, or troupe, as the French term it, averaged 99 pounds

FIGURE 35.—Ile-de-France or improved Dishley Merino ewes. Wool on the shoulder is left full length of staple for showing purposes

live weight and sheared slightly over 13 pounds of wool. This wool was classed as 64's to 70's.

Recently a school of instruction in sheep breeding and management was opened at the Government farm at Rambouillet.

In the Department of Aisne a modification of the type kept at Rambouillet is being developed, emphasizing the mutton qualities of the breed. Here the sheep are larger and of good mutton type, but the fleece weight is reduced; the rams shear about 17½ pounds and the ewes 11 pounds. The staple is longer but not so fine as that at Rambouillet; it resembles the American Rambouillet wool somewhat but is longer and softer. Yearling rams weigh 160 to 200 pounds live weight, and lambs for market at 10 months old weigh 140 pounds.

A cross was made between the Rambouillet and the longwool breeds, and the result was called the Dishley Merino, a breed somewhat comparable with the Corriedale of New Zealand. In recent years a still further injection of Merino has been made, and the resulting breed is known as Ile-de-France (fig. 35), a very compact,

quick-maturing mutton type producing 50's to 56's wool of good character. The rams shear from 13 to 16 pounds of wool and have a live weight of from 220 to 300 pounds; the ewes shear from 10 to 12 pounds and weigh from 150 to 200 pounds. The wool is lustrous, of good length, and is considered desirable from the manufacturer's standpoint. These two breeds, together with some flocks of imported English breeds, constitute most of the better class of sheep of northern France.

An interesting situation exists in the Rhone Valley of southern France (*12*). Here a type of Merino (figs. 36 and 37) has been developed under conditions similar to those in Spain when that country was in the zenith of its sheep industry. The flocks are kept in the rich Rhone Valley during the winter and are driven up into the foothills of the Alps for summer grazing.

FIGURE 36.—Merino rams, Arles, France, developed for mountain grazing in the summer months

These sheep represent a type that is similar to the old Spanish Merino, as they are the result of mating Spanish Merino rams with the native sheep of the country about the end of the eighteenth century, and using Merino rams continuously until the type was, for all practical purposes, Merino.

In form the sheep is somewhat angular, long in the leg, and inclined to slope in the rump. The ribs are flat, and the face and legs are lightly covered with wool or fine hair. The fleece is light in weight, ewes shearing from 4 to 6½ pounds of wool and rams from 9 to 12 pounds. Some flocks exceed this weight by 2 to 4 pounds.

The wool is fine and of good staple, 3 to 4 inches long. It yields from 30 to 40 per cent scoured wool. During the World War the flocks were reduced about one-half in size. Approximately 250,000 head were to be found in this section in 1927.

FLOCK MANAGEMENT

The method of management is usually to send the sheep for the summer months to the French and Italian Alps and adjacent moun-

tain ranges. Some of the flocks are driven overland, others go by train. The costs of transportation by train are from 30 to 40 cents per head. When driven overland, the sheep travel about 10 miles during each 24 hours, traveling mostly by night. Pasturing begins at the foot of the mountains, gradually working to the peaks as the snow melts. The flocks return to the lower altitudes ahead of fall snows. The sheep are placed in inclosures at night.

During the winter the flocks are kept on agricultural land. They run each morning on meadows where they have been fed and on fresh meadows in the afternoon. Lambing occurs in October and November. Shepherds with dogs confine the grazing so that the field is cleaned as they go. The sheep are housed at night, and are frequently fed hay or the refuse from the grape presses. The winter

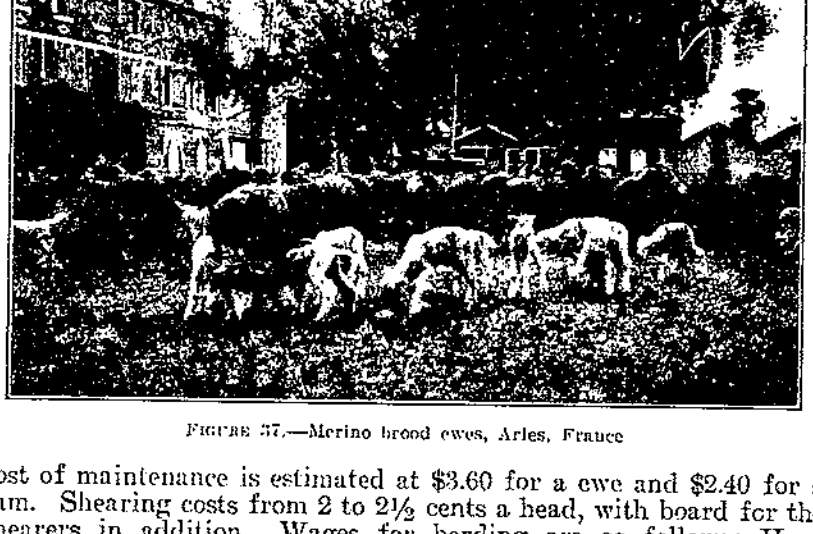

FIGURE 37.—Merino brood ewes, Arles, France

cost of maintenance is estimated at $3.60 for a ewe and $2.40 for a ram. Shearing costs from 2 to 2½ cents a head, with board for the shearers in addition. Wages for herding are as follows: Head shepherd, $170 to $240 a year; shepherds, $120 to $175 a year; and apprentices, $65 to $100 a year. Food is supplied in addition, and is estimated to cost a minimum of 20 cents per day. Land values run from $40 to $90 an acre.

PREPARATION OF THE FLEECE

No attempt is made to skirt or class the fleeces at the farms. Shearing is done by hand, the body of the fleece being taken off with 2-handled clippers. The wool is packed in canvas or burlap sheets. A sheet is spread on the ground, and 25 to 30 fleeces are piled on it. The corners are drawn in and tied, and the package is then turned over on another sheet, which in turn is similarly tied. The wool is then ready for shipment to market. All taglocks and other inferior lots are packed separately and not with the best wool.

METHODS OF MARKETING

Much of the wool in France is purchased by dealers direct from the farmers. According to an official of the Institut-National Agronomique, this method of selling is rapidly being superseded by the development of marketing organizations, cooperative in character. Some wool is sold at public auction at Dijon by private brokers. There are two cooperative associations of considerable importance, the Syndicate des Eleveurs de Merinos d'Arles and Le Syndicate des Producteurs de Laine. Both of these associations operate under the French cooperative marketing act of 1884, but they differ slightly in their type of organization and in the method of disposition of their wool.

The Syndicate des Eleveurs de Merinos d'Arles, or the Association of Merino Breeders of Arles, deals with breeding and management problems as well as the marketing of wool. It keeps the stud books of the breed, investigates the range for summer feeding and transportation problems, and arranges exhibitions of sheep at fairs and other activities.

Membership is voluntary, and a fee of 80 francs is charged for stock. New members are admitted to the organization upon the recommendation of members. Withdrawal may occur at any time, but all stock is forfeited. Borrowing for current needs is limited to 1,000 francs (about $40 as of November, 1927), except with authority of the members in a body. Expulsion of members on account of fraud, false statements, or refusal to pay dues is provided for.

The association is governed by a president, two vice presidents, a secretary, and treasurer, and a directorate of six members, who are elected annually at a general meeting.

Among the various activities of the organization are listed the following: Organization of Merino breeders' show, introduction of improved Merino blood, adjustment of summer pasture rates, reduction of freight rates, introduction of better methods of preparing wool for market, arrangement of trailing privileges to summer range, dipping and vaccination of sheep, purchase of feed cooperatively, and organization of the wool market at Arles.

Its sources of income are membership fees, an annual fee of 5 francs 10 centimes—about 20 cents—per head on all sheep owned, and contributions of funds from the Government of France and from districts involved, for the production of better breed types.

AUCTION SALES

There are four chief marketing centers for the southern France cooperative group—Miriams, Arles, Salon, and St. Martin de Crau. Warehouses are located at these points, and wool is brought in by producers, catalogued, and sold at auction sales. The movement started in 1922, when conditions were not satisfactory to anyone except, perhaps, the buyers.

A canvass of the situation was made, a decision to sell the wool at auction sale was reached, and these concentration points were selected. At that time all wool in southern France was sold to local buyers. To-day it is all sold at auction, three-fifths through the cooperative association and the remainder through private brokers.

Delivery of wool on the part of the member is compulsory and advances up to 75 per cent of the current value of the clip are made at time of delivery. These advances are through loans by the Government to such organizations, at an interest rate of 2 per cent. The association levies a charge of 5 centimes per pound, or about one-fifth cent, for selling the wool.

In 1927 approximately 3,500,000 pounds of wool were handled at the association warehouses, realizing an average price on all grades of 10 francs, or 40 cents per pound. The cooperative claims a price advantage of 4 cents or more per pound over the old system of wool selling, to say nothing of the increased offers made by local dealers because of the presence of the cooperative.

In selling, the time of sale and quantities of wool to be offered are determined and catalogues are prepared accordingly, listing the wool by clips, so that each producer's wool keeps its identity until after it has been sold. The ewe and wether wools are kept separate from the lambs' wool, as the latter is a short clip, the lambs being born in October and November and sheared in April. Settlement for the wool is made immediately following the sale, and wool is then held at the purchaser's risk.

COOPERATIVE MARKETING

Le Syndicat des Producteurs de Laine, or the Association of Wool Producers, operating in Champagne, has as its center the city of Rheims. This association was formed in 1921, not with the intent of forming a cooperative wool-selling plan but to devise some method of disposing of the wool.

At this time France was just emerging from the ruins of the World War, and the large wool-manufacturing centers of this district were destroyed or were handicapped for lack of labor. The condition of the farmers was little if any better, as many of them in this area did not have, at that time, storage facilities to keep their wool after it had been sheared. At a meeting called to discuss the situation it was remarked that in the districts of Rehkel and Vauziers, in 1891, several wool producers had been boycotted by the wool trade and, in order to dispose of their wool, had collected it in a central spot, had had it valued, and had then sold it, realizing a profit of 15 per cent over local prices for the season. This organization functioned only the one year, as buyers stopped the movement before it went far. With this initial effort in mind it was decided to repeat the experiment of 1891, and a very loose organization was developed. About this time one of the mills in Rheims had begun to work its plant in a small way. This mill offered storage facilities for the wool, and the offer was accepted.

A constitution was drawn up which, with minor changes, serves the association at the present time. It sets out as its primary object the sale of its members' wool in the grease, or as washed wool, or as combed top. Delivery of wool to the association constitutes membership. The membership fee is fixed at 1 franc per 1,000 francs of the value of wool received, or 0.1 per cent of the sale price of the wool.

The affairs of the association are administered by a president, a secretary, and 11 directors. These directors are elected every year by ballot of all the members in the association. The directors employ a

broker, who receives the wool, classes and sorts it, and makes arrangements with the mills for processing and selling it.

The broker who is employed by the association is in charge of the wool from the time of its arrival and attends to the weighing, sorting, and grading. He also fixes the relative values of each lot or type. The salary of the broker is based on the volume of wool received and is one-fifth cent per pound, or 20 cents per hundredweight. The seller takes the wool after it is prepared for the market and handles it on a basis of 3 per cent of the sale price. He furnishes a guarantee of the sale to the association.

The bulk of this wool is now handled through a cooperative society of wool combers at Rheims which makes it into wool top and forwards it to the various factories as directed by the sales agent. The Society of Combers receives 1¼ cents a pound for putting the wool into top.

TABLE 8.—*Receipts of wool by the Society of Combers, France, 1921–1927*

Year	Wool received	Year	Wool received
	Pounds		*Pounds*
1921	66,000	1925	850,803
1922	193,934	1926	1,133,207
1923	363,000	1927	[1] 1,260,000
1924	700,000		

[1] Estimate.

The growth of the association is briefly shown in Table 8. There has been a steady growth since the beginning of the organization. The price of the wool handled by the association as compared with wool of similar type sold to local buyers has had a favorable influence. According to the president of the association, the average gain has been 4 cents per pound on all the wool handled by the association. In 1926 it was decided to advance 75 per cent of the current value of the wool. The money is obtained in the same way and at the same rate as that of the cooperatives in the Arles section.

An interesting feature of the Association of Wool Producers is its method of determining the relative values of the different types of wool. The basic price is fixed yearly according to quality, fineness, percentage of loss in combing, and other factors. It has nothing to do with the actual prices which may be received for the wool, nor is it used as a basis for determination of asking prices. It is used after the sales in working out the proportion of the sales price which should be assigned to the various lots sold. For this section the base price itself is used on the crossbred merino longwool or Ile-de-France wool, as this is the more common type and is considered the most desirable of the wools of this section.

As an illustration of the working of this price, in 1924 the base price on this type of wool was fixed at 32 cents per pound, the estimated yield in top being 40 per cent. Should the top yield 45 per cent, its value would be arrived at by multiplying 45 by 8 and dividing by the estimated yield, 40, which gives a value of 38 cents. Should the wool of this type be actually sold at 40 cents, a like ratio in price addition would be carried to the various off sorts and grades.

One matter which is giving the association some concern is the fact that producers must wait for their money until the expiration of the wool-selling year. As an alternative, an advance payment near the middle of the year is being contemplated. The very low interest rate charged on loans secured by this wool should make this an item of small account.

The Government is encouraging the development of cooperative marketing and the production of purebred sheep. All stud books are under Government control, and no animal is permitted to be registered until it has been passed by the inspector, who notes its qualities and takes a nose print with modeling wax as a means of identification. The print is photographed and forms a part of the pedigree record of the animal. If the sheep is exported, the print becomes a part of the export certification papers.

SUMMARY

The observations of the status of the sheep industry and wool-marketing practices in the countries embraced in this bulletin show some points of striking similarity considering the wide area covered, the different types of sheep husbandry practiced, and the fact that some countries have sparsely inhabited new sections with large areas for pasturage, whereas others are in old countries, densely populated, where of necessity the breeding of sheep must be done on a minor scale.

The following are some of these points of similarity:

The adaptation of the industry to local conditions. In Australia the sheepman has developed a large-framed animal, which produces a heavy fleece of fair quality and which will range over wide areas. To accomplish this end he has combined the blood of many families of Merinos, has at times gone outside the breed, and has rigorously culled to a standard. When parts of the country began a crop system of agriculture the Merino was crossed with the longwool breeds—Lincolns and Leicesters—to develop a market lamb having a good carcass and carrying a good fleece. On the high-producing areas of fairly good rainfall the fine-wool types have demonstrated their superiority, so that they have continued to supply the majority of the sheep of those sections.

New Zealand, with more abundant vegetation and a heavier rainfall, has turned almost entirely to production of mutton. All the breeds of England have been tried and few have come up to the requirements of the New Zealand breeder, so he has evolved his own breed to meet the demand of his market for an early maturing lamb of light weight and little waste in dressing, produced from a dam that shears a heavy fleece. Of the two or three English breeds which have survived in New Zealand, radical changes have been made in type. These breeds are the Romney, Leicester, and Lincoln. In all three the size has been decreased, the legs shortened, the body made more compact, and the fleece refined, to secure a better sire for mating with Merino or crossbred ewes. Some Southdown and Ryeland rams are kept for use with crossbred ewes in order to secure a very fine lamb for later freezing purposes. In the rough country the Merino has held its own on account of its hardiness and ranging qualities.

The Union of South Africa is a wool-producing country, and the efforts in sheep breeding have been to obtain higher yield and better quality of wool. In this respect the country has made great progress.

England has a different breed or type in every section, all based on utilitarian grounds. In light pasturage on windswept moors the Exmoor and similar types are found—hardy, active sheep, of good quality for mutton but bearing inferior wool. The chalk downs of Sussex and the Wye Valley of Herefordshire have developed the Southdown and Ryeland, nuggetlike meat packages with a comparatively fine fleece, whereas in the mountain ranges in the north the mountain breeds have long, shaggy coats to withstand the rigors of the climate.

In southern France, where summer mountain range exists, a type of Merino has been evolved which is long in leg, hardy, and able to return a good account to its owner. In northern France an entirely different type of Merino is found, because a different environment exists. Here, also, has been developed a crossbred, longwool Merino type to meet the demand for a market lamb.

In short, the sheepmen of these countries seem to be more concerned about the utility of an animal than the breed to which it may belong, and breeds have been evolved and types established on this basis.

In all of the countries covered methods of getting the clip to market in the best condition and in such shape as to attract the largest possible number of buyers were given much study. Naturally there is a difference in systems used and the extent of their application, but in all of them the matter of better preparation of the clip is considered a question of major importance.

Australia has an almost universal system of classing and is now studying methods of standardization of classing and best types of pack.

New Zealand classes all of its wool and is developing central classing plants in line with Australia's move in that direction.

In South Africa 40 per cent of the wool is classed and great effort is being made to extend this proportion to 100 per cent.

England has adopted the classing of wool in its cooperative associations; France has gone beyond that, and in one of the cooperatives has the sorted wool made into wool top.

The opinion of the best authorities in all of these countries seems to be that selling the fleece entire as taken from the sheep does not react to the greatest possible advantage of the wool producer and that wool classing, or sorting the fleeces according to grade, condition, and other factors, is the only satisfactory method of preparing the wool for market. Sentiment is apparently crystallizing to the effect that classing should be done in centrally located warehouses rather than at production points, as larger lines, more uniform in type, can be obtained, and the buyer is, therefore, assured of a better standardized product.

In improved methods of disposing of the clip there are points of marked similarity. The activities of the speculative buyer are being rapidly curtailed in so far as the purchase of the clip from the individual producer is concerned. Auction sales through broker-

age houses are gradually gaining ground. In Australia 95 per cent of the total clip is so disposed of. New Zealand closely approaches this mark, and South Africa sees yearly an increasing percentage. France and England are gradually adopting the plan.

These auctions may vary from a carefully planned system of sales covering the entire country, both as to time and quantity to be offered, to a local collection of wool to be sold at some fair; but in principle the operation is the same, and the fact that the auctions are steadily increasing in volume of wool sold is fairly conclusive proof that producers of wool consider them an advance step in marketing.

Cooperative marketing of wool is making progress in all of these countries along somewhat similar lines, and is reflecting the world-wide trend of agriculturists toward coordination of effort in the marketing of farm products. That the need of cooperative marketing has been felt by those who produce large individual clips with the markets of the world at their door as well as by the small farmer who has a few fleeces located in the midst of a wool-manufacturing section is worthy of consideration.

An active interest in the sheep industry is being shown by the governments of the countries studied.

Australia is training many men in wool classing and sheep breeding in the State schools and colleges. Each State has a sheep and wool expert to advise and confer with the sheep farmer, and steps are being taken to coordinate these efforts through a Commonwealth sheep and wool division. Research work on suitable plants for forage and for supplying mineral deficiencies is also in progress. Recently the Government appointed a committee on pastoral conditions to investigate transportation, pastures, preparation of products for market, and marketing problems.

New Zealand is working along similar lines, with emphasis on mutton production, as this is the big industry of the New Zealand farmer.

South Africa furnishes Government men to aid the sheepman in matters of breeding and management and schools which teach classing and related subjects. The Government Land Bank aids the financing of cooperative effort through money loans at low interest rates.

France loans money to the cooperatives at a very low rate of interest and recently opened a school of instruction in sheep breeding and management at the Government farm at Rambouillet. All stud books are under Government control, and no animal is permitted to be registered until it has been passed by the inspector, who notes its qualities and takes a nose print as a positive means of identification. This print is taken with modeling wax, is then photographed, and forms a part of the pedigree record or of the export certificate if the animal is exported.

In England research work and breeding experiments are conducted at Leeds, with a view to giving the wool grower information as to the production of better grades of wool in his flock. The Government is assisting in the development of cooperative marketing by collecting all possible data on the movement and by loaning money at low interest rates to such organizations.

APPENDIX A.—NEW ZEALAND REGULATIONS GOVERNING THE SELLING OF WOOL (7)

These regulations may be cited as the Board of Trade (wool industry) Regulations, 1925.

In these regulations minister means the Minister of Agriculture.

The minister may appoint a committee, to be known as the New Zealand Wool Committee (hereinafter referred to as "the wool committee"), consisting of a chairman (who shall be a producer), two representatives of wool brokers, two representatives of wool growers, and such other persons as he may from time to time decide, to hold office during his pleasure. At any meeting of such committee three shall form a quorum.

The wool committee may from time to time determine the maximum aggregate quantities of wool that may be offered for sale by public auction in any period, and may with respect to any specified sale by public auction fix the maximum quantity of wool that may be offered.

(1) It shall not be lawful for any person holding a license under the auctioneers' act to offer wool for sale by public auction, except subject to the following conditions, viz: That he shall have obtained a permit issued by the wool committee on behalf of the board of trade, and shall have deposited with the wool committee an undertaking (in such form and subject to such guaranty as the wool committee may require) that he will faithfully adhere to such directions as the wool committee may give in writing from time to time to the local wool brokers' association of which he is a member as to the maximum quantity of wool that may be offered at any specified auction sale.

(2) Any auctioneer who sells wool without a permit, or who fails to adhere to the directions of the wool committee as aforesaid, shall be guilty of an offense against these regulations and shall be liable accordingly.

APPENDIX B.—AUSTRALIAN CONDITIONS OF SALE, SEASON 1927–28 [16]

The highest bidder for each lot shall be the buyer, the vendors reserving to themselves the right, by themselves or their agents, to bid once for each lot; and, if any dispute shall arise between the bidders for any lot, it shall be decided by the auctioneer, unless one of the claimants advance, in which case the lot shall be put up again; and no buyer shall retract his bidding.

Each lot purchased shall be weighed by the warehouse keeper and shall be taken away by the buyer at his own expense within 14 days after the sale, and shall be paid for in cash before delivery or on obtaining the order for delivery. If the exact amount of the purchase money can not be ascertained, the purchaser shall pay the auctioneer the estimated value, and any difference shall be adjusted as soon as the invoice is completed, and the buyer shall pay to the vendors interest at the rate of 10 per cent a year upon the price of all goods not paid for in terms of these conditions. Weights to be agreed on delivery, and no claim for short weights shall be recognized after wool is delivered.

During three days from the time of sale every reasonable facility will be given by the warehouse keeper for the examination of any portion of the bulk not previously on view, after which no allowance will be made for faults, errors of description, difference of weights, or other claim of any nature or kind whatever, except in case of false packing, any claim for which, if certified to by two well-known and disinterested wool brokers or merchants, will be recognized and taken into consideration. Should it appear to the purchaser that any bale or bales materially differ from those exhibited, any dispute or claim made by the purchaser in respect of such difference shall (if not forthwith arranged) be referred to the decision of two indifferent persons—one to be chosen by the selling brokers, the other by the purchaser—who shall, if they disagree, nominate

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[16] As published by Elder, Smith & Co. (Ltd.), wool and produce brokers, Adelaide and Port Adelaide.

an umpire, and the award of such arbitrators or umpire shall be conclusive on the parties, provided the same be made in writing within the said three days. And neither party shall be at liberty to institute proceedings at law or in equity against the other during the said three days, or until such dispute shall have been submitted to arbitration, as aforesaid, and the arbitrators or umpire shall have neglected or delayed to give their or his award to the disputants during the said three days; and, if the decision of such arbitrators or umpire be in favor of the purchaser, then he shall be at liberty to reject the said bale or bales by giving notice in writing of his intention to do so to the brokers during business hours, before the expiration of the said three days. The cost of the arbitration and award shall abide the event; and if through any neglect or omission on the part of the buyer the matter in dispute shall not be submitted to arbitration as aforesaid, the sale shall be held good and valid, and the purchaser shall be bound to accept the property sold. And this condition shall not prejudice the vendor's rights under the other conditions herein contained.

All goods shall be at the risk of the buyer at the expiration of 14 days from the day of sale. Such goods shall be held covered by the vendors against loss or damage by fire to an amount not exceeding the invoice value thereof and subject to the terms, conditions, and settlement of the policies of insurance effected by the vendors (and the cost of such insurance shall be paid by the buyer before delivery of the goods).

Except in case of dispute, no person shall advance at any bidding less than 1 farthing per pound on wools over 4 pence per pound, and on all star lots biddings shall be by farthings.

A tare will be allowed of 11 pounds per bale on wool, and a draft of 1 pound per hundredweight, and no other allowance of any sort will be made.

The buyer in all cases shall pay the brokers one-eighth of a penny per pound upon all wool excepting greasy locks, the delivery charge for which will be 1 shilling per bale or 3 pence per bag, this charge to include rebranding and mending bales and drawing samples when required and fire insurance until paid for.

The buyer shall, if required by the auctioneer at any time during or after the sale, pay to the auctioneer a deposit of 25 per cent upon the broker's estimated value of the lot purchased and shall sign these conditions of sale.

If the buyer shall make default in complying with these conditions, or any of them, the lot or lots purchased by such defaulting buyer shall be resold by public auction, with or without notice to such buyer, at such time and place as may be convenient to the auctioneer; and any loss arising from such resale shall be made good by the defaulting buyer, at whose risk the goods are resold, and any excess on such resale shall be retained by the seller, and any deposit that may have been paid by such defaulting buyer shall be forfeited.

The auctioneers will accept the bids of any buyer only on the express condition that such buyer is not acting on behalf of a principal resident in any country which is at war with Great Britain. The auctioneers reserve to themselves the right of canceling any purchase made in violation of this condition.

The auctioneers reserve the right to refuse any bid without giving any reason for so doing.

If, however, owing to strikes, the buyer has no opportunity of shipping his wool (the onus of proof of which shall rest on the buyer), then the buyer shall not be bound to take delivery and pay for the same in cash nor will the vendor receive payment until such time as he, the buyer, shall have a reasonable opportunity to ship and receive bill of lading, and no additional charge shall be made for interest, storage, or insurance.

If the weighing and/or delivery of the goods sold or any portion of them shall be hindered or prevented by reason of any general or partial strike, lockout, or combination of workmen, the period or periods within which such weighing and/or delivery shall be effected shall be extended for so long as shall under the circumstances of the case be reasonable.

APPENDIX C.—TYPICAL FORMS USED IN SELLING WOOL

The following forms are shown to illustrate some of the records used in selling foreign wool which might be of interest to members of the wool industry in the United States. Careful attention to details is to be noted, especially in the Australian system.

WRIGHT, STEPHENSON & CO., LTD.

WOOL INSTRUCTION FORM

TO CLIENTS—

To facilitate our arrangements for the coming Wool Season we shall be obliged if you will fill in the information required in this form, sign, and **Return it to us at your earliest convenience.**

1. At about what date do you usually commence shearing?	
2. How many bales do you expect to forward? Give description.	
3. What brand do you put on your Bales? .. (State clearly. Very Important.)	
4 When will your Wool be forwarded to Wellington and by what means?	
5. How do you wish your wool insured? From sheep's back or shed door?	
6. How do you wish us to deal with your wool? 1. Offer as received. 2. Re-class 3. Buy	
7. What advance, if any, do you require?	

This Form when filled up, signed, and returned to the Company, acts as a Declaration of Insurance under our Open Policy which provides cover against Fire, Flood, Rainwater, and Sea Risks with average. The risk of Earthquake or Fire caused by Earthquake, is not included, but will be included at current rates if specially asked for on this form. An additional rate of 1 - "„ per month is charged for periods of insurance exceeding 30 days. All Wool is Insured at full market value.

You are authorised to debit my account with all shipping, insurance, and other charges incurred on all produce shipped and you will please make me an advance or advances against such produce when shipped, up to the amount above mentioned. I am aware that in connection with my business, you, under the recognised trade usage, retain the usual primage, a commission on insurance premiums, the usual discount on advertisement charges, and a rebate from the usual commission or brokerage paid on sales of wool, live and dead stock and merchandise, and payments from Freezing Companies for stock notified to them.

*Signature*_____

*Address*_____

*Date*_____

Consign all Wool to WRIGHT, STEPHENSON & CO. LTD. Wellington, but no Wool should be consigned until this Form has been filled up and returned to WRIGHT, STEPHENSON & CO. LTD.

Advances may be obtained at any time against growing clips.

All Bales must be branded on BOTH ENDS with at least three stout stencil letters, each not less than three inches high. Tar or oil paint must not be used

The railways charge extra on all bales over 4 cwt. ; extra wharf charges are also incurred on all bales over 4½cwt.

Please Return this Form Promptly.

KENT WOOL GROWERS, LIMITED.

DEAR SIRS,

I beg to inform you that I wish to sell my Wool this year on the Co-operative system through the Society.

I expect to have total of about ..... fleeces, as follows:—

KENT .....

HALF-BREED .....

LAMBS .....

.....

My Wool will be washed / unwashed *(Please strike out word not required.)*

Dates when I am likely to deliver my growth .....

Railway Station or Carrier empty sheets to be consigned to .....

Please supply me with the necessary sheets as soon as possible.

Signed .....

Address

.....

Date .....

TO KENT WOOL GROWERS, LTD.,
DOVER PLACE,
ASHFORD, KENT.

N.B.—It is necessary to notify the Manager 2 or 3 days before sending your Wool

As expenses are largely increased by the congested arrival of Wool without previous notice, it would be of great assistance if producers could give 2 or 3 alternative days in which they could deliver their wool.

Members are requested to note that no sheets can be issued on Tuesdays unless application is received by first post on that day.

SPECIFICATION

Brand	Bale No.	MARKINGS	WEIGHT Cwts	Qrs	Lbs

Postal Address _____

Date _____

Messrs. WRIGHT, STEPHENSON & CO., LTD.
Wool and Produce Brokers,
WELLINGTON.

Dear Sirs,

I beg to advise having this day forwarded from _____ *Railway Station, consigned to you at Wellington, the undermentioned, as per Specification attached,*

My Brand is _____

_____ *Bales Wool*
_____ *Bags Wool*
_____ *Bales Sheepskins*
_____ *Bundles Sheepskins*
_____ *Bales Rabbitskins*
_____ *Bags Rabbitskins*
_____ *Bags Fat*
_____ *Tins Tallow*
_____ *Hides*
_____ *Calfskins*

Please dispose of above to best advantage on my account, rendering proceeds and Account Sales to

_____ *Post Office.*

Yours truly,

Signature _____

_____

IMPORTANT

NOTE.—As a very important to know when the delivery of a bale is completed, when forwarding [illegible] one of the following lots, leaving the one which applies to your case :—

This completes the Wool to arrive for this Sale.

We still have _____ Bales to arrive for this Sale, making a total of _____ Bales.

Wright, Stephenson & Co. Ltd.
GRAIN SEED AND GENERAL MERCHANTS
STOCK AND STATION AGENTS

192

Dear Sir,

We beg to advise having received into store this day on your account.—

..... Bales of Wool Branded. .....

Weight Slips for same attached.

Valuations for main lots will be posted to you in due course and on receipt of same we shall be glad to receive your prompt instructions as to disposal.

Growers' attention is drawn to the following rules fixed by the N.Z. Wool Brokers' Association.

WOOL OFFERINGS.

Wool is received for sale subject to all lawful regulations and conditions governing the trade. The company is not liable for loss arising directly or indirectly (owing to restrictions of lots and catalogues) from the wool not being put up for sale at the first or any subsequent sale.

INSURANCE WHILE IN STORE.

Insurance included in Brokers' Consolidated Warehousing Charge is ordinary fire insurance only and does not include damage resulting from earthquake shock, nor fire as a result of earthquake shock, riot, civil commotion, hostilities, military or usurped power. Brokers are prepared to take out cover against any or all the excluded risks at owner's expense, on receiving instructions to do so.

We have to thank you for the above consignment which will receive our best attention.

Yours faithfully,

WRIGHT, STEPHENSON & CO., LTD.

per.

WRIGHT, STEPHENSON & CO., LTD.
WELLINGTON

Particulars of Wool received on account of _____

_____ BALES BRAND _____

This wool has been catalogued or dealt with as follows, binned wools being catalogued under our "Challenge" brand. Owing to number of vendors interested in each lot, reserves cannot be accepted on binned wools and interlotted wools, but growers can rest assured that each lot will be protected up to full market value.

Lot No	Bales	Main Lots and Interlots — Description	Nett Weight	Lot No	Binned Lots — Description	Nett Weight

NOTE:—The usual trade allowance to buyers of 1 lb. per cwt. draft has not been deducted from these weights.

Nett Weight _____ Bales received into Store _____ lbs.

Main Lots _____ lbs.

Interlots _____ lbs.

Binned Lots _____ lbs

In Store { held over _____ lbs. _____ lbs.
{ Bales Nos.

Wool held over will be offered first opportunity, unless we are otherwise instructed.

WRIGHT, STEPHENSON & CO., LTD.

Wellington _____ *192* *Per* _____

NOTE:—Priced catalogue of our "CHALLENGE" brand will be posted after the sale.

Wright, Stephenson & Co., Ltd.,

WOOLBROKERS.

M[illegible]

Dear Sir,

We give below our valuation of your wool which will be offered at our Sale on [illegible]

Please note that unless we receive other instructions on or before [illegible] *we will understand that you leave the disposal of your wool in our hands and that we are to realise to best advantage.*

Wherever possible, one and two bales lots and suitable small lots will be interlotted with other wools of similar quality.

When this is done it is impossible for any individual vendor to fix a reserve on such lots, but clients may take it that their wool will not be sold under full market value.

Yours faithfully,

WRIGHT, STEPHENSON & CO., LTD

C.R.W. Ltd. [illegible] *per* [illegible].

Lot No	No. Bales	Description	Value	Remarks

Wright, Stephenson & Co., Ltd.

SALE ADVICE.

_____ 192__

_____

Dear Sir,

We beg to report as under regarding Wool offered for sale this day on your account.

Yours faithfully,

WRIGHT, STEPHENSON & CO., LTD.

per

Lot	Quantity	Description	Sold at per lb.	Passed in per lb.	Remarks

Jacomb, Hoare & Co. No. 4 30/11/27

2

Tare as printed.- Draft 1 lb. per cwt., and no other allowance whatever. At per lb. to advance ½d. until the price of 15d. is reached, and after 15d. to advance ½d.

At No. 7 Warehouse, London Docks

KENT WOOL GROWERS, LIMITED.

(When represented by sample bales, five or more of these will be delivered with each lot)

(Balance to be delivered Ashford)

	Lot	Mark	Tare lbs.	Bales	d.
Washed Southdown Ewes 2719, Tegs	1001 (Specially Classed)	KWG	7 7½	5 & 1 bag	28
" Down Tegs	1002		7	2	25
" Pick ½-bred " 176, Ewes	1003			5	24½
" " " "	1004 (Represented by 5 bales)			10	24
" Super " "	1005 (" " 5 ")			14	24
" Pick Kent "	1006 (" " 5 ")			7	23

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ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE

June 17, 1929

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