

CHAP. VII.

SHEEP DOGS AND DOG LAWS IN GREAT BRITAIN

Sheep Dogs

Successful handling of large flocks of sheep, under any condition, is considered impracticable without the assistance of well trained sheep dogs. Although this opinion applies more or less to sheep farming in any and every part of the country, we believe we are correct in saying that shepherding hill sheep under native conditions is quite impossible without them.

The dog exclusively used in Scotland, and also in the greater part of England and Ireland, is a collie. When we say a collie this particular type of dog must on no account be confused with the handsome but useless animal kept as a pet or for show ring purposes.

There are two types,—the rough and smooth haired, and much diversity of opinion prevails as to the merits of each, so that we naturally came to the conclusion that the question of preference was not unlike other fancies in connection with sheep husbandry.

In some of the English counties bordering on Wales they have similar dogs to what we saw in Scotland, but they are smaller and much lighter and supposed to be a cross with the Welsh collie, which, although similar to the Scotch dog, is rougher and lighter in build.

In the South and Midland counties the "Bob-Tail" or Old English sheep dog is still used but not so extensively as in former years.

In the Romney Marsh and also in flat moorland districts a cross between the Old English dog and the Scotch collie is quite commonly seen.

Apart from his value as a sheep dog, the long haired collie is much favored by cattlemen all over the United Kingdom. His training for their work, however, must be very different from that required for use amongst sheep, for a really good sheep dog is seldom a good cattle dog and vice versa. Whenever two dogs are kept on a large mixed farm and specially trained for their work, one for sheep and the other for cattle, one is never put to do the work of the other. The cattle dog is generally trained to work by word of command, whereas the sheep dog is directed chiefly by signs, and after some experience, follows, in a great measure, his own initiative intelligence and instinct.

The characteristic movements of these dogs differ considerably. The cattle dog keeps his eye on his master in readiness for the next order, whereas the sheep dog, on receiving instructions, moves gently and even stealthily, keeping his eyes constantly on the sheep as if anticipating those next requiring a little urging. No sooner does one rebellious sheep make the slightest move in the wrong direction than the dog checks him, apparently knowing the kind of move he was going to make even before he did so.

It is impossible to adequately describe the value of such dogs, much less their intelligent work as we saw them doing it. It must be understood that they were at actual, every day work and not performing the circus-like feats sometimes presented at sheep dog trials, as frequently reported in Agricultural journals.

Dog Laws

Dog Laws in Great Britain are very simple and very effective. In England and Scotland the license fee is seven shillings and six pence (\$1.80) a year. Every one must pay this license, rich and poor alike, because the law is strictly enforced. Sheep dogs, however, are exempt under certain conditions. If a farmer can prove that he has sufficient sheep and cattle to make it necessary for him to keep a trained dog, he applies for an exemption form and fills it up. When this has been handed in to the officer in charge of the nearest Inland Revenue Office, he gets an exemption certificate for that year. If the farmer keeps a sporting dog or a pet dog, no exemption is granted.

In Ireland, the license fee is five shillings (\$1.20) a year, and no exemption whatever. Blind persons in any part of the United Kingdom can also obtain an exemption certificate providing they can satisfy the authorities that they possess a dog trained to lead them on the highway. The license is not collected for pups under six months old, and special arrangements are provided for registered packs of hounds. Licenses are issued at every post office, as at the Inland Revenue offices. Every dog must wear a collar, to which is attached a small brass disc bearing the owner's name and address and the license number.

Dogs found straying about towns and villages, without their owner or other guardian, may be seized by the police, and after being detained for three days unclaimed, are destroyed. When they are claimed, the owner is required to pay all expenses incurred during that time. In this connection, dog-homes are maintained in all towns and villages for the purpose. Although the dog laws are rigorously enforced, they are so well observed that legal actions are very rare.

Sheep worrying by dogs is scarcely known in agricultural districts, and most farmers we interviewed had never had a case of this nature. In some localities adjoining towns and villages they are not so free from this trouble. Such cases are mostly found in congested mining districts where useless idle dogs are often found. Sporting dogs are also a source of danger, but they are usually well guarded.

Whenever a case of sheep worrying does occur, and the dog is caught in the act, he may be shot at once, but in cases where valuable dogs are caught in mischief, such as fox hounds, the farmer generally traces them to their owner who gladly meets all the farmer's claim rather than suffer the loss of the dog. When, in other instances, cases are taken to court, if ownership of the dog is proven, and also that the said dog committed the damage, the dog is ordered to be destroyed and the owner obliged to settle damages in full. Claims for losses may be settled through the county council, but the law is so well observed and loss so rare that private settlements are the general rule.

CHAP. VIII.

SHEEP DISEASES AND DIPPING IN GREAT BRITAIN

Diseases, Parasites and Vermin

The breeding of sheep in Great Britain is not all smooth sailing, and indeed, much discouragement is caused by the general prevalence of disease or parasites in some form or other. This fact is attributed to the large numbers maintained on the land which becomes in a measure sheep-sick. Many prescriptions and forms of cure are offered and advocated for the eradication of the various troubles but everyone has faith in prevention rather than cure, and therefore the successful sheep man is continually fighting to ward off these enemies and to prevent them from gaining a foothold.

The diseases and parasites most commonly troublesome are Maggots, Husk or Lung worms, Tape worms, Foot-Rot, Liver-Fluke, Keds, Ticks and Lice. That these may be largely avoided by preventive measures is generally recognized, and with this end in view similar methods are quite commonly adopted.

Lung-worms and Tape worms are constantly causing trouble and loss, especially where sheep are kept too thickly on the land, on old pastures, or in wet low lying districts. They are mostly found in lambs or young sheep and where present quickly cause loss of flesh and general unthriftiness. As a cure and often as a precaution, drenching is very largely practised. Some successful men were of the opinion that by careful farm management and by keeping the young sheep from infested areas and on good feed, thus maintaining thrift and good health, they could avoid serious loss from these pests.

Foot-rot was noticed to a greater or less degree over almost the entire country and more particularly on old pastures and wet land. When once firmly established, and bad cases occur, it is necessary to catch and treat the subjects individually; but if taken in time it may be thoroughly held in check by the systematic use of a foot bath. A number of preparations are sold ready for use by the addition of water and are easily applied by means of a shallow trough, the mixture being just deep enough to cover the hoof. Where the trouble is prevalent, the sheep are driven through this trough in single file every month or six weeks, and severe cases do not often follow. Even when not known to exist, precautions are often taken by administering the foot bath at least two or three times a year, which is sometimes conveniently done at dipping time.

Liver-fluke is scarcely found except on low, ill-drained, marshy lands, but in such instances is often very troublesome. When once developed in the sheep medicine is of little use and so prevention is the only safeguard. Draining or fencing off marshy fields is very beneficial. Even high up on the hills of Scotland we found districts where great precautions are necessary and each year a definite outlay counted on for the maintenance of drainage ditches.

Keds, ticks and lice are all very readily killed by dipping but not entirely eradicated. Dipping must therefore be continued from time to time or else they at once become a great source of annoyance to the sheep.

The Ked is frequently called the "tick," but to the real tick it does not bear the slightest resemblance. The Ked is very common while the true tick is quite rare. Sheep lice are rarely found in Britain.

Maggots are the cause of much loss and annoyance and are considered one of the very worst pests that the British farmer has to contend with. They are created by the common blow-fly which lays its eggs on any damp or dirty part of the fleece and these are soon hatched into grubs that very quickly get to the skin and begin their torture. In case of an attack, the wool on the infested part should be clipped away, the maggots taken off and the parts thoroughly washed with a strong solution of disinfectant. If the sheep are properly dipped in early summer with a poisonous dip, this pest may be largely avoided.

We do not want to give here a treatise on all sheep diseases and only wish to draw attention to those mentioned above as being ever present, and the cause of much trouble and loss to British breeders and shepherds. It is very possible that the moist climate of the country has much influence on the prevalence of sheep diseases, and those mentioned seem to develop very rapidly and persistently under favorable conditions.

Dipping in Great Britain

Dipping is compulsory by law at least twice each year and is practised at other times as well where benefit to the general health and comfort of the sheep may result. Special enactments also provide for the suppression of outbreaks of scab and other very infectious diseases. All regulations are carried out under the supervision of the local authorities. Forms of application for dipping are supplied the farmers and must be filled out, signed and returned to the local police. The organization for the carrying out of all such regulations is so perfect that even if any person would try to escape the law or perform any fraudulent practices whatever, he is at once detected and punished accordingly.

The dates for compulsory dipping vary somewhat according to the variation in the climate and are divided into two periods. In the North of Ireland and Scotland the first takes place between January and the first of August, and the second between the first of September and the first of November. In England the dates are thirty days in advance. It is customary to dip the first time about a month after shearing or up to the end of June.

Dipping preparations are divided into two classes, poisonous and non-poisonous; the first containing arsenic and sulphur, while the latter are made from a carbolic standard. The poisonous dips destroy the eggs as well as the vermin, while the non-poisonous are quick in action but merely destroy the parasite. The arsenical dips have a tendency to open up the fleece and the pores of the skin, while carbolic dips have the opposite effect, which is greater or less according to the formula used in their manufacture. Thus we find, especially in the hill districts or where sheep are subject to continued exposure, that the first mentioned is used more largely as a summer dip and the latter as a winter dip. A good winter dip has a tendency to partially waterproof the fleece and thus afford much protection during the cold wet months of the winter season. An addition of a mixture of mineral oil and whale oil is commonly used with these dips for that purpose. It is claimed for this mixture that it serves the double purpose of waterproofing the fleece and stimulating the growth of the wool.

Dipping, under any condition, unless properly done, might as well be left undone, and it is very important when using prepared dips to follow carefully the directions as indicated by the manufacturers. Owing to carelessness by a few users in this regard, some makers, in order to protect themselves have found it advisable to direct the use of their preparations, rather under strength than up to the regular standard.

Several different types of dipping appliances are in use but the most generally adopted system is by means of the swimming bath. This is so constructed that the entrance end is perpendicular and the other sloping to allow the sheep to walk out into an enclosure provided as a dripping pen. The tank or vat is lowered into a hole in the ground and is usually about five feet deep and from eight to ten feet long on the bottom. Two dripping pens are provided in use alternately and draining back into the bath, while the other is receiving those freshly dipped. Adjoining the two dripping pens is a drying pen, connected with a gate, as it not considered wise to turn the sheep immediately on the pasture until the outside of the fleece is comparatively dry. In the smaller baths the sheep are dropped in rump first, completely immersed and then allowed to swim to the other end where they walk into the dripping pen. When the large sized baths are used, the sheep are allowed to leap in and swim to the other end, and walk up the slope into the dripping pen in the same way. Some active light swimmers keep well up and partially out of the dip, while other very heavy and in full fleece, have difficulty in keeping their heads above water. A simple crook made similar to the letter T, the cross being similar to the letter S, is used for pushing down or holding up as the case may be. Another dipping arrangement that we saw in operation is a patent device, called a "cage-dipper." The entire machine is made of metal, and, although possessing considerable mechanism, is strong, easy to operate and quite automatic. The operators may dip very rapidly without any necessity of becoming wet, much less getting soaked to the skin, and it serves very well for dipping heavy sheep or in-lamb ewes, by avoiding undue handling and rough usage. The vat is placed below the surface of the ground and a cage containing the sheep is lowered into the bath and raised out again by the turning of a hand crank. As the cage rises up a gate at the front end is opened automatically, allowing the sheep to jump out into the dripping pen. Close by is a barrel or tank containing fresh dip, which is kept thoroughly mixed by a plunger attached to the cage, rising and falling as immersion proceeds. Although the smartest and best dipping device we have seen, it is unfortunately too expensive for small farmers. Farmers who possess large flocks of sheep can easily afford the initial outlay of the "Cage Dipping" plant, and they will find it convenient in every respect and at the same time a great labor saver.

Dipping Periods

ENGLAND—
General Dipping Order. 14th July to Sept. 1st.

NORTH WALES—
1st dipping. 1st June to Aug. 31st.
2nd dipping. 1st Sept. to Nov. 30th.

SOUTH WALES—
14th July to Sept. 1st.

SCOTLAND AND NORTH OF ENGLAND—

1st dipping..... 1st Jany. to Aug. 31st.
 2nd dipping 1st Sept. to Nov. 12th.

IRELAND—

1st dipping..... 15th June to Aug. 31st.
 2nd dipping 1st Sept. to Nov. 15th.

Branding with Tar

For the convenient identification of sheep, branding is practised in almost every flock, and other than ear marking, which cannot fairly be termed branding, some substance is used to make a prominent mark on the fleece. It may be that the shepherd wishes to identify readily a certain part of the flock and these are then marked. When sent to market also those with the owners' initial or brand are easily recognized by prospective buyers. For this purpose, a few years ago, black tar was quite generally used but like twine, is very much disliked by manufacturers. When found on a fleece it must be cut away entirely as no method of separating it from the wool has been found. Acids are of no avail, as, if applied in strength sufficient to act on the tar the wool is ruined; bleaching has no effect whatever and so when tar does appear it can be readily realised what a serious annoyance it becomes to the manufacturer. Of late years a number of substitutes for branding purposes have been prepared and placed on the market and found to answer the purpose much better than tar without any of its objections. New Zealand and Australia were the first countries to adopt these preparations, with Argentina and South Africa soon following their example, while Great Britain and the United States only commenced using them three or four years ago.

From careful inquiry we learned from breeders and manufacturers that these new branding inks are all more or less satisfactory, and three brands at least are thoroughly reliable. They are applied instantly with a relief stamp, and not with the slow clumsy and untidy paint brush. The cost is less than that of common paint or "lampblack," and it can be had in black, blue and green. It does not fade or become obliterated by exposure to sun, rain or snow, yet it can be easily scoured out at the mill.

CHAP. IX.

THE WOOL INDUSTRY IN GREAT BRITAIN

Shearing

The actual operation of shearing sheep in Great Britain is, of course, similar to that in other countries but there are some things in this connection that time and long experience have taught the progressive sheep farmer.

Owing to the mild open weather and early spring, shearing is generally done outside in the pasture field. Many small farmers do not possess a regular shearing shed, but drive their sheep into an ordinary pen and then take them out, as required to be shorn, into an adjoining pen. Large farmers of course, have a shearing shed fitted with machine clippers, in close proximity to their dipping plant. The hand shears are generally used by small farmers, while a few use a portable clipping machine with interchangeable parts which can also be adjusted for horse clipping. Machine shearing of some description is generally approved of and also favored by wool merchants, therefore it is gradually displacing the "blades" or hand shears.

Wherever sheep are shorn, the question arises as to whether it is more profitable to wash or clip in the grease. In Great Britain the majority of farmers wash their sheep before shearing. Several reasons favor this practice—transportation charges by rail or boat are considerably less, foreign buyers, from countries with a high protective tariff, object to paying high duties on anything but clean wool, and the price for washed wool is therefore proportionately greater than the shrinkage caused by the loss of dirt and grease. It is estimated that dirt and grease amount to about 20% of the weight of a fleece, in natural condition. Washing is encouraged by wool merchants, as they are then in a position to fill orders for both home and export trade.

Many of the large breeders of pure bred flocks clip early and do not wash. Blackface sheep are also never washed. Their fleeces being very coarse and hairy, hang straight down from the body and do not gather or retain dirt and grease to the same extent as the wool of other breeds. The land also on which they pasture is high and dry and does not adhere to the fleece in the same way as the heavier soil of lower districts. The wool is also inclined to be somewhat harsh, dry and kempy, and the small proportion of yolk it carries is slow in rising. Owing to the peculiar structure of the fibre, excessive exudation of congealed "suint" takes place when the sheep are forced to swim across a stream, therefore the condition of the fleece is generally impaired rather than improved by washing before shearing. For this reason the wool of the Scotch Blackface is the only kind of British wool that United States buyers will regularly accept unwashed. Unless there happens to be some unusual trade depression or acute tariff agitation in the United States, upwards of 60% of Scotland's annual production of this particular wool is shipped there every year.

Another point, but one which requires some attention during the entire year, is the condition of wool at time of shearing. To stand the inspection of critical buyers the fleeces must be free from chaff, straw or any other foreign

matter. Great care is taken so that these substances are not allowed to get into the backs and heads of sheep at feeding time, and also before shearing to see that they are not littered about the floor. Many of the farmers are quite jealous of the reputation they have made on this score.

He is a poor shepherd who does not know how to properly tie a fleece, and as a matter of personal pride most of them take great care in this regard. This requires a little watchfulness in holding and shifting the sheep while shearing, as a tidy, correct roll cannot be wound up if the fleece is torn apart and scattered about at this time. He is careful to fold it evenly and smoothly so that fag ends or broken bits do not drag or tear away. The value and importance of this is fully described in another portion of this report under the title "Wool Sorting."

We asked many times what was used to hold the fleece together and if they preferred twine for this purpose. Their answer invariably was that they had been taught when young how to tie a fleece within itself and could not be bothered using string or twine. On the other hand serious objection is not only offered by the manufacturer, but wool merchants will not accept, under any consideration, fleeces tied with jute twine. Farmers therefore who persist in this undesirable practice, are obliged to dispose of their wool at a great reduction. Sheep farmers in the Old Country are not only educated to devote special care to the condition of the fleece, but are also encouraged with prizes at the annual wool fairs in some districts.

Description of Wool Sheets

A Wool "Sheet" in Great Britain is the usual large pillow-shaped bag, with the opening at the side. For export purposes, "Half-pressed" sheets sometimes have the opening at the end, but it is inconvenient in many respects and therefore unpopular. A small sized sheet with the opening at the end like a sack, is sometimes seen in rural districts in Ireland, but such are only used by very small farmers for bringing odd lots of mixed fleeces to the nearest market town.

The Bradford "Long Sheet" is used all over England, both for home and export trade. The same sheet is used in Ireland at all the Annual Wool Fairs. This sheet is known as the English Standard Size, and measures 9 feet long by 5 feet deep. It is made from 9 yards of 40 inch hemp canvas.

In Scotland a shorter sheet is used for the convenience of carts and waggons passing each other on narrow country roads. With the exception of a few lowland counties, the roads are wide and straight and the long sheet could be used, but for uniform packing on railway trucks and waggons there is one regulation sheet for all Scotland. For similar reasons the same sheet is used in Wales. This sheet is known in the trade as the Scotch Standard size, and measures 7 feet 6 inches long by 5 feet deep. It is made from 7½ yards of 40 inch hemp canvas.

Only in very exceptional cases are wool sheets the property of farmers. Wool growers can always have the loan of any number of sheets they require, free of charge, from brokers, wool merchants and auctioneers, who buy them and stock them for this purpose.

Inferior wool sheets are not only discouraged but condemned. The sheeting is made from selected fibre of the best long hemp, thoroughly scoured after weaving and carefully examined before it is cut up into sheets. By

this precaution small particles of fibre never break away from hemp sheets and get mixed with the wool, but jute hessian invariably casts off short waste fibre, causing endless trouble and often serious loss when the wool reaches the dyer.

Quite apart from risk of injury to the wool, cheap sheets are false economy. A well made English sheet will stand constant hard wear for ten and even fifteen years. When carefully repaired, they will sometimes last twenty years. The cost is from \$1.25 to \$2.05 each, according to weight and size. The quality of the raw material before spinning is always the same.

Wool sheets are made in the following districts: Belfast, Dundee, Barnsley, Hull and Bristol, but nearly all the sheets used in Bradford are made in Bristol, and they are generally considered the best.

The sheeting used for compressed bales is also made of hemp, but a much lighter and cheaper quality, because it is only used once. Some Australian Stations use a cheap sheeting of common Hessian lined with blue paper to prevent the fibre from coming into contact with the wool. The paper also has the advantage of keeping dust out of the wool. For scoured wool especially this paper-lined sheeting is decidedly a great improvement.

Classifying Wool in Britain

This is a many sided subject and varies considerably in different countries. It is first necessary to explain that the simple classification of the fleece of mutton sheep in a woolgrowing district in Great Britain is quite different from "Wool Classing" in New Zealand or Australia. It is also necessary to explain that it is different to "Grading", "Classing" and "Standardizing", as these operations are only done by wool merchants in their own warehouses. "Sorting" is quite another process, and is only done in the mills.

The classification of fleeces is really the work of the wool grower, and unless the farmer or wool grower has been taught the correct system of classifying and packing, he will neither be able to market his wool profitably nor satisfy the requirements of the wool merchant and the manufacturer.

In Great Britain, the simple classification of fleeces is done by the wool grower entirely, but some small farmers with about twenty mixed fleeces can only do part of the classification. This is not for want of knowledge but want of sufficient fleeces to fill a sheet with each class. In such cases, the work of classification is completed by the wool merchant or the brokers. Although the small farmer is often unable to complete the classification of his mixed lot, he knows sufficient about the wool to prevent him from doing his part of the work wrong, therefore the wool merchant having very little extra work to do, pays him the full market price. The elementary classification of fleeces on a large farm is quite simple and ordinary farm hands and shearers can be trusted to do the work satisfactorily. Of course the shepherd or the farmer himself must always oversee the work of shearing classifying, packing and marketing.

Instructions for classifying fleeces cannot be given in a report like this, as it requires a special lecture, or a practical lesson during the shearing season. Although very simple, it is only possible to convey some general idea of what it means. The descriptive terms used in connection with wool are quite familiar to farmers in the Old Country, but they are so confusing in some ways that they are never used when dealing with breeders, drovers or butchers. For instance, "Hogg" wool, is the *first* fleece shorn from any sheep, either

ram, wether or ewe, and the subsequent fleeces are termed "Wether" wool. It is therefore necessary to remember that "Wether wool" does not always mean the fleece of a wether sheep. In most of the counties where Down sheep are kept, they use the term "Teg" instead of "Hogg", so that their fleeces are classified into "Tegs" and "Ewes" only. As this is purely a local custom, we will stick to the terms "Hogg" and "Wether" for the present, just to simplify our explanation. We will now explain these terms, so that their value may be appreciated. The *first* fleece shorn from any sheep, male or female (Hogg wool) is always over twelve months growth, and is therefore longer in staple than the annual fleeces. The chief value however, is the fact that each fibre has a tapered end, and being also finer in texture it spins out better. Hogg is always worth from two to five cents per pound more than Wether wool. The term "Wether wool" originated in the days of big mutton when a carcass was never too large, and spring lambs were never seen at a butcher's. Wether sheep were then kept until two or three years old. Wethers devote themselves to body building and wool growing, and an old wether sheep always has a better "bloom" on his fleece than a breeding ewe. In this way, the wool of wether sheep became a sort of standard, and only good ewe fleeces could be put in the same class. Now that most wethers are sent to the butcher before they are a year old, the term "wether wool" has lost much of its original significance. In the old days, fleeces were classified as follows,—Hoggs, Wethers, Ewes, Seconds or Cotted. Specially selected ewe fleeces were classed among the wether fleeces, and the fleeces of breeding ewes with inferior belly wool were classed "Ewes". Now, with improved sheep farming methods and compulsory dipping, "seconds" and "cotted" have almost disappeared, while the demand for lambs has made the wool of wether sheep a very small item indeed. The term "wether" wool, however, is still used in wool markets and farmers in longwool districts still cling to it. The usual style on an English farm today is something like this:—

When the fleeces have been rolled up after shearing in the usual way, the shearling fleeces (Hogg wool) are kept separate. The other fleeces are then examined and faulty or cotted fleeces weeded out, making three separate lots at the most. As a rule there are no cotted fleeces, so that more than two lots are exceptional. Next, these classified lots are all packed in separate wool sheets, with a descriptive tag label attached to each, and stored in the barn loft, or in a clean dry shed for a few days or weeks until it is time to send them to the wool fair. When a classified lot is too small to fill one sheet it is enclosed in another sheet with a layer of stout paper between and the exact contents of that sheet carefully described on the label. Small lots and mixed sheets are always repacked at the market by the purchaser. There are slight differences in the method of classifying "wethers" and ewes in different districts, but the only terms used are those already described.

It is hardly necessary to add that the wools of two different breeds are never classed together. For instance, Leicester hogg and Lincoln hogg, although somewhat similar, are always kept separate, and even breeds so near akin as Leicesters and Border-Leicesters are not classed together. In the sub-division of long wool fleeces in a wool merchant's warehouse, Leicester is a lustre and Border-Leicester is a demi-lustre. Frequently, Border-Leicester fleeces from districts immediately north of Wensleydale are classed among full lustres, but such minute discrimination is beyond the average farmer and only an expert can tell when it is advisable to depart from the recognized rule.

British Wools, Class Distinction

SUB-DIVISIONS.

LUSTRES
DEMI-LUSTRES
"NORTH"

DOWNS
HALFBREDS
SPECIAL

PRODUCERS

LUSTRE,—Wensleydale, Leicester, Lincoln, Cotswold, South Devon.
DEMI-LUSTRE,—Cheviot, Lonk, Romney Marsh, Border-Leicester, Blackface, Herdwick, Roscommon, Dartmoor, Devon Long Wool &c.
NORTH,—"Galawater", Border-Leicester X Cheviot.
DOWNS,—Shropshire, Hampshire, Southdown, Oxford, Suffolk, Dorset, Ryeland, Kerry, Norfolk, Dorset-Horn, &c.
HALFBREDS,—Blackface X Border-Leicester, Blackface X Wensleydale, Roscommon X Down, Lincoln X Norfolk, Leicester X Shropshire, or any breed of Lustre wool sheep or Mountain sheep crossed with a Down sheep. (First cross only).
SPECIAL,—Welsh Horned, Exmoor, Swaledale, Shetland, Iceland, &c.

Annual Fairs and Periodical Sales of British Home Grown Wool

In Scotland, wool is not as a rule sold at annual fairs but sent to regular wool brokers who sell it chiefly by auction and charge a commission of 2½%. The brokers supply farmers with wool-sheets, warehouse the wool, insure it against loss by fire and issue printed catalogues to buyers, besides advertising and organizing the sale. These sales take place at certain seasons and the exact dates are published at the beginning of each year. When necessary, special sales are frequently held between these fixed dates.

In order to obtain the best possible prices for small lots, brokers often grade or class together, two or three lots of exactly the same description, and in this way make up a suitable quantity of uniform quality as an extra inducement to big buyers. This practice invariably secures the owners of these small lots a higher price than they would realise if their lots were sold individually. Brokers also effect large sales privately, both in their offices and also by mailing samples to manufacturers. The system of selling through brokers seems to answer very well where the varieties of wool are not numerous.

Many large wool growers sell direct to wool merchants and also to American agents, quite independent of the brokers. In some districts private sales between farmers and wool agents appear to be on the increase.

The system of selling by auction at a broker's warehouse differs in many ways from selling by auction at a Wool fair. A wool merchant must on no account be confused with a general merchant dealing in wool. General merchants, or village shopkeepers in England and Scotland do not now deal in wool. Many years ago they did buy wool from local farmers, but the practice was most unsatisfactory and strongly condemned. When the "Truck Act" was passed, it practically made it impossible for shop keepers to buy wool on the old lines, and small farmers have sold their wool profitably ever since. The troubles and worries of the small woollen mills in Scotland ceased at the same time. In order to give a general idea of the system of selling wool through brokers, a specimen page from the catalogue of a well known firm of brokers in Leith and Glasgow will be found in the appendix.

The annual clip in England is sold mostly at the wool fairs, brokers and buying-agents handling a comparatively small portion.

Originally, all the wool sold at English wool-fairs was done by "private bargain," as it was termed, but selling by auction has gradually superseded the old method. There are still some small but important fairs where auction sales have not been adopted and many buyers would not favor a change, still it is only a question of time before the auction system becomes general. Leicester Fair stood out a long time, but gave way a year ago with improved results, so that less important places will soon follow.

From a buyer's standpoint, there is much to be said in favor of private sales. When the wool is indifferently classified, or the fleeces irregular, a buyer has a better chance of careful examination and of purchasing small, odd lots below the price ruling that day. Brokers also favor the private sales, because unsold lots are handed over to them for disposal.

Making due allowance for all the apparently reasonable arguments in favor of the old system, it does not have the tendency to raise the standard of wool growing, nor to improve the prices realised by the farmer. To shear, roll up and classify in accordance with the rules of auction wool fairs, may be a little troublesome the first year, but it is easier and more satisfactory ever afterwards. The small farmer is compelled to take more interest in his wool, he does his work better and always gets the highest market price, because there is no one to banter him down or get the better of him in a deal. He also gets ready cash instead of having to wait for a favorable turn of the market, as he often has to do when his wool has been handed over to a broker.

About two days before the fair, the wool is sent or brought to the sale room, placed in order and catalogued. Printed catalogues are generally mailed to buyers who bought at previous sales, but sometimes this is found inconvenient and they are presented to intending buyers the afternoon preceding the sale day, when the wool is exposed for inspection. For the convenience of buyers who arrive late, the wool is again open for inspection from six A.M. until nine A.M. on the day of sale. Sales usually commence at ten A.M., but in some cases not until one P.M.

The buyers at these sales consist of wool merchants, foreign agents and manufacturers; brokers, of course, do not buy. All buyers are skilled woolmen, well informed on market conditions, and they also possess a thorough knowledge of the various requirements of the woolen trade. While inspecting the wool, they mark suitable lots in their catalogues with the price they are disposed to pay, and when these lots are knocked down, they enter the price it was sold at, whether it fell to them or not. In this way they feel the pulse of the market soon after the sale begins.

Although bidding in the auction rooms of these wool fairs is always brisk, and often excited, it is conducted more like an ordinary agricultural sale than the "Colonial Wool Sales" at London or Sydney.

Selling often takes place where the wool is exposed, and you seldom hear several men shouting the same price at the same time. Smaller lots, greater variety and more variations in quality no doubt prevent the "Coleman Street Style" from being exactly copied. The auctions in a broker's sale room resemble Coleman St., very much, because imported as well as home grown wools are sold there. A description of the wool sales in London and Australia will be found in another part of this report, entitled "Colonial Wool Sales."

Another advantage of selling by auction at Wool fairs, consists in the prizes awarded for the best wool exhibited, the best condition of the fleeces, best washed, and so forth. The name of the owner of each lot is also printed

in the catalogue; and this, together with the prize competition, creates intense interest and also a friendly rivalry which usually improves the condition of wool growing every year.

The interest taken in these wool fairs would surprise a stranger. When the tents and sheds are open for inspection, they are crowded with farmers as well as buyers, the latter keen, eager and anxious, while the former derives as much pleasure from the exhibit as if it were a horticultural or a fat stock show. During the sale, only sellers and intending buyers are interested.

About eight years ago, a very useful rule was added to those already in operation at these auction sales. Whenever a purchaser finds that a sheet of wool opens up differently to the description in the catalogue, it must be immediately brought under the notice of the auctioneer at the close of the sale. The auctioneer, using his own judgment and also that of an independent appraiser, has the authority to make a concession to the purchaser in accordance with the actual quality, and the prices ruling that day. The amount awarded is then deducted from the auction prices of that particular lot. The first year this rule was enforced, there were several claims for concession, but afterwards such claims were hardly ever heard of. On the other hand, wool merchants make a practice of giving the farmer two or three shillings extra for every hundred fleeces that open up superior to the description, or above the average quality. Although there is no recognised rule for this, merchants are always pleased to do it. No one can help being struck with the honesty, fairness and mutual good feeling which exists between farmers and the buyers of their product in the Old Country, especially in the sheep industry.

As a specimen of the best system of selling small lots of wool from mixed farmers, a page from the catalogue of the Wellington Wool Sale will be found in the appendix. Wellington is the centre of the best wool producing district in Shropshire, and the annual wool fair there is considered a model sale for a country town.

In Ireland, the system of handling and marketing wool differs considerably from those of either England or Scotland. The country produces a large quantity of wool and a somewhat mixed variety from every point of view. The leading sheep is the Roscommon, and this breed is not only crossed with Down breeds but is also used for "grading up" several smaller breeds. Farmers also cross other longwool sheep with Downs and hill sheep with long wools. From a mutton standpoint, the Irish crosses are often unfavorably commented on because they produce big fat carcasses, but they generally produce excellent wool. The quantity increases every year, and the quality has justly earned a high reputation.

Unfortunately their auction sales are not numerous, therefore most of their wool is sold privately at the annual fairs. Large growers often sell their wool to agents and merchants before the fairs commence, while others send their whole clip to brokers. Still such transactions only represent a small portion of the wool grown in Ireland.

English wool merchants are represented at these Irish fairs in large numbers, as are also a few manufacturers. All these buyers have stands in the market, await the arrival of the farmers, and, after the wool is examined and the price agreed upon, it is weighed and the amount immediately paid over in cash. Many small farmers have no banking accounts, consequently cheques are seldom used in some markets. Owing to the great number of small lots sold at Irish fairs in country towns, a wool buyer may often have to draw from the bank in one day, £200 in silver alone for odd change. Under these circumstances, it will be seen that wool buyers have much tedious work and

more trouble in Ireland than they have in England. Although these mixed lots of wool are small, the quality is good, correctly described and carefully packed, and this, added to the happy good humour of the farmer, makes the transaction a pleasure, even if the system of marketing is somewhat slow.

The fine soft texture and clean condition of Irish crossbred long wool has created a market of its own which the manufacturer cannot overlook, therefore the wool merchant can afford to spend a little extra time in matching up and classing. Irish wools yield an average of 5% more than English, and being similar to "North" and Kent wethers, they are often exported to the United States.

One regrettable feature of the Irish wool trade, is the fact that a good deal of it is still handled by store keepers in country districts. These store keepers buy it by the bag (80 lbs.) and pay the farmer in "kind," the farmer's purchases of implements, seeds, etc., being balanced against the purchases of wool by the store keeper. When the annual wool fairs come round, the store keeper tries to class or grade his mixed stock of wool as best he can and sell it to a buyer at the nearest market town. This practice of buying and selling, although common in many country districts, is obviously most unsatisfactory, and will soon be discontinued.

Buying and Selling Wool in British Markets

Wool is the sheep farmer's finished material and the mixed farmer's by-product, therefore it may justly be termed a finished article from an agricultural standpoint. On the other hand, it happens to be the woollen manufacturer's raw material, so that it becomes necessary for the grower to consider both sides of the situation when disposing of this particular production to the best advantage.

When investigating the British Wool Market to ascertain the prospects and conditions of selling Canadian wool there, we found that the variety of wools sold was even more extensive than we were aware of. Any man visiting these markets for the first time would find that they were much larger than he imagined, and also different from what he expected in many ways. Market operations in raw wool in a free country, exporting about seventy-five per cent of its textile production, constitute a highly intricate and scientific business. In every phase of wool buying, it is only by expert knowledge and intensive specialization that large and prosperous concerns can be run successfully on such small profits.

The inner working of certain details of some of their systems of buying and selling is not only interesting but surprising to those who have not hitherto come into direct contact with it. Having elsewhere described, at considerable length, the marketing organization of Great Britain, we will now attempt to explain why the specializing tendencies of traders in that country are invariably successful, and why this to a great measure, accounts for their reputation of being sound and reliable.

What is a wool buyer? That seems a very simple question, and anyone would naturally answer,—“A man who buys wool.” An English manufacturer or a wool broker however, would tell you that it was a question requiring considerable explanation, because there are at least four different kinds of wool buyers. There is the Spinner's Buyer, the Merchant's Buyer, the Commission Buyer, and the Colonial Buyer.

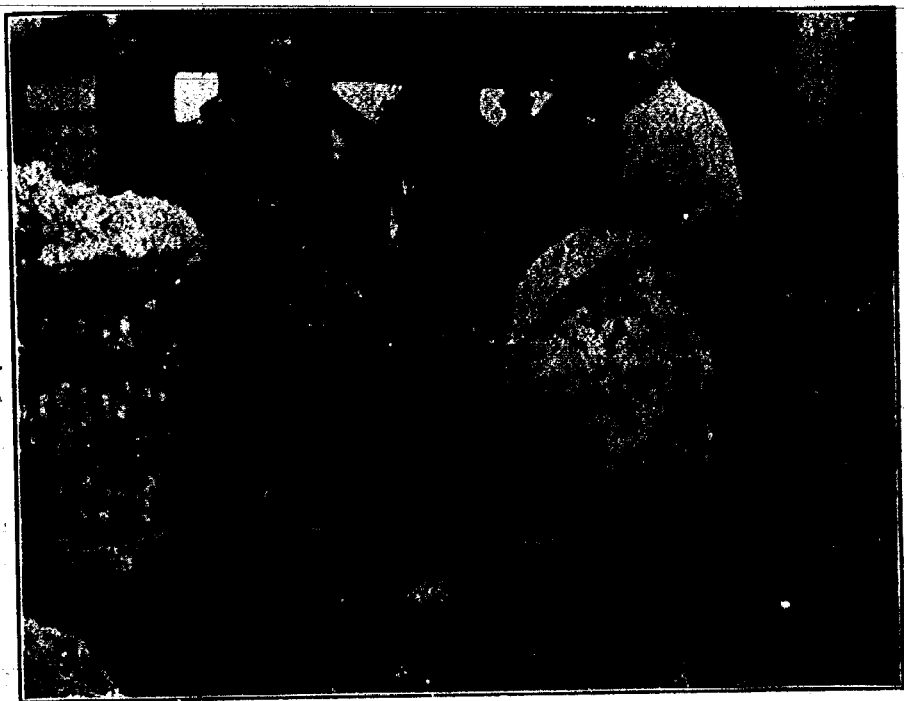


Fig. 63.—Wool Pack Ready for Filling.

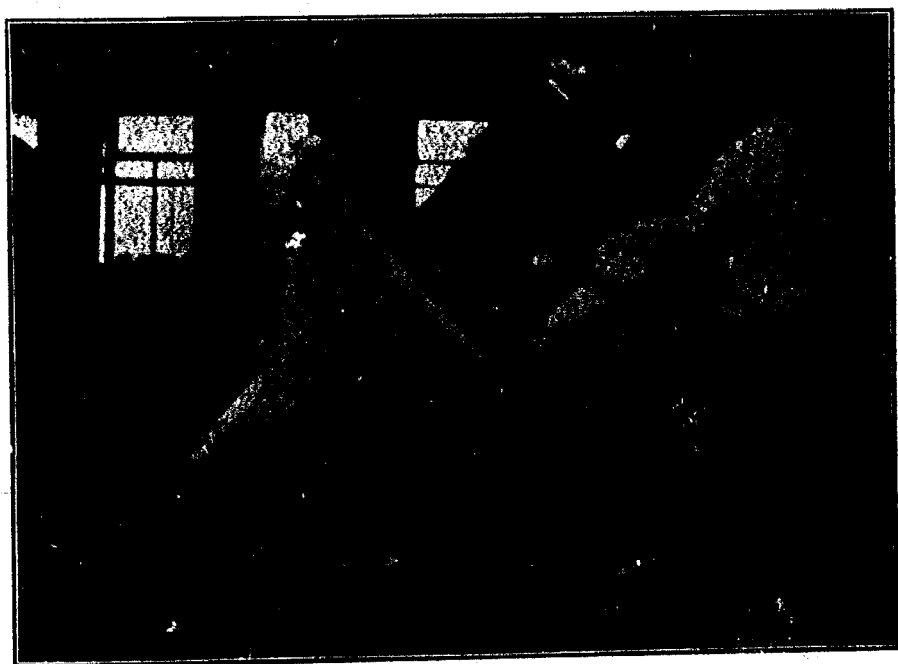


Fig. 64.—Ready for Packing.



Fig. 65.—Packed, Ready for Closing.



Fig. 66.—Sewing Up.

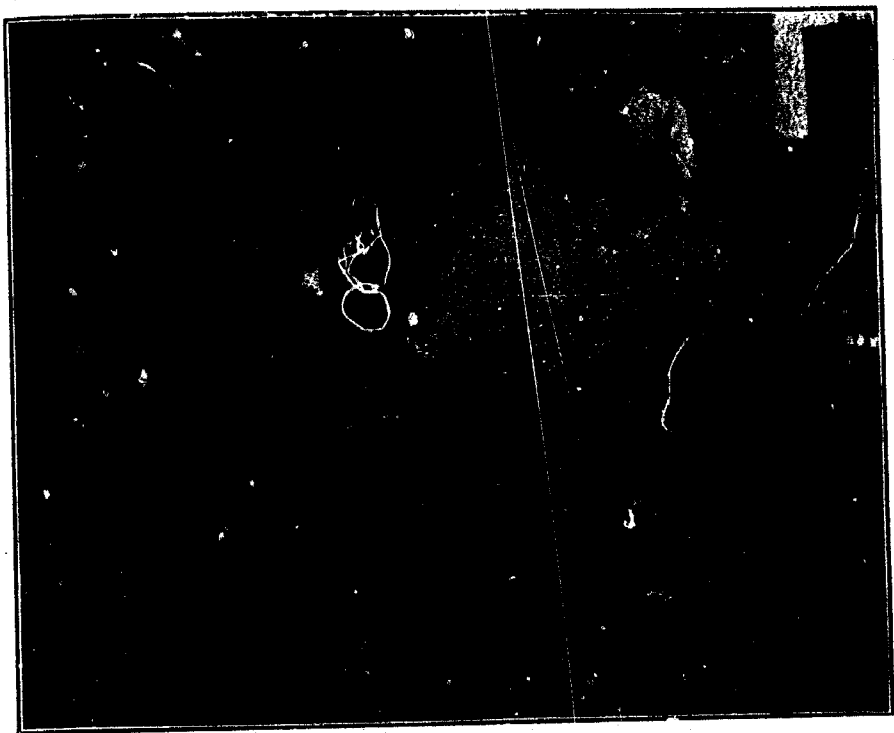


Fig. 67.—Ready for Shipping.

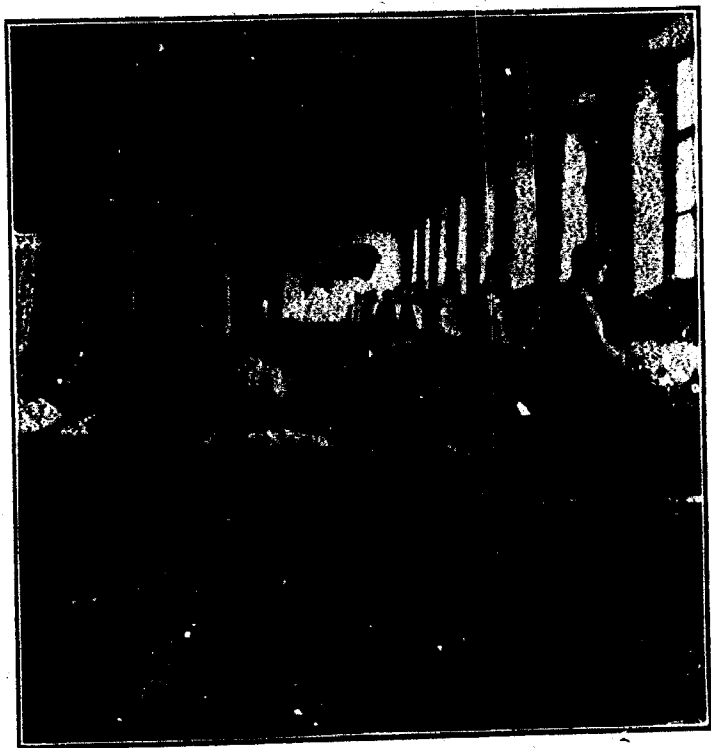


Fig. 68.—Wool Sorting in Yorkshire.

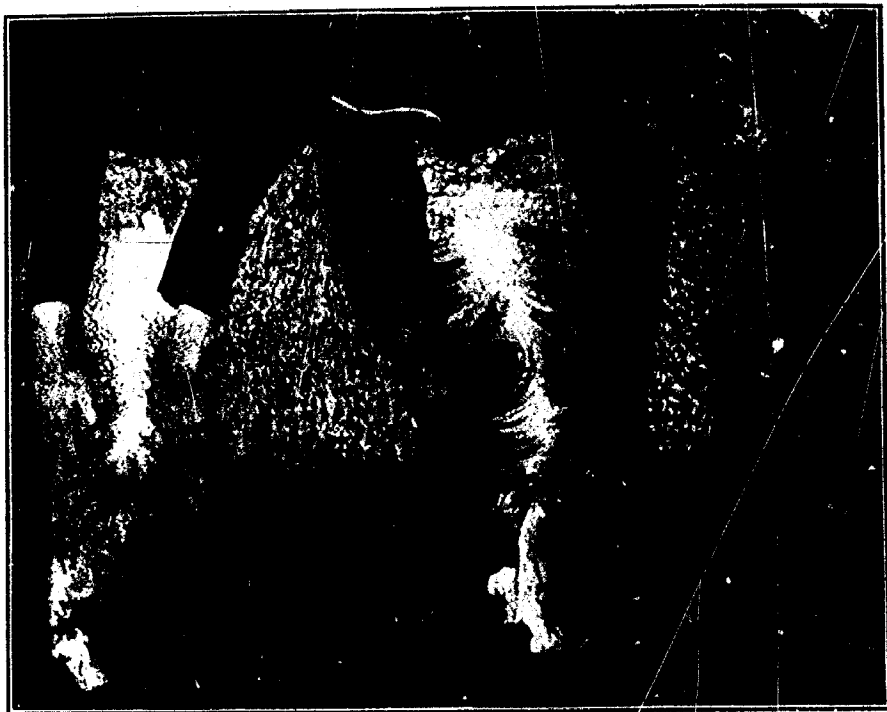


Fig. 69.—A Typical Lincoln Fleece.



Fig. 70.—Romney-Marsh Merino Crossbred. (The Most Popular ⁴⁵ Sheep in New Zealand.)

The Spinner's Buyer is the least important of the four. He usually holds some important position in the mill, generally connected with sorting, carding or combing, and fills up his spare time by buying in the home markets. He only buys the exact class of wool he requires for stock numbers, present contracts and for prospective orders as estimated. The brokers and merchants can supply him with any quantity of the exact class or quality he requires, and when he buys at a wool grower's sale, he is always careful to select some particular lot which contains the class he can make use of and nothing more. In this way his only anxiety is in market fluctuations and he is always an excellent authority on this point.

The Merchant's Buyer has a much more difficult task in every way. Not only has he all the responsibility of meeting the serious fluctuations later in the season, but he is a speculator to a large extent, having to take every class and description of wool available in his own line and trust to chance, opportunity and skillful manipulation to dispose of it. Merchants carry very heavy stocks, sell at ridiculously small profits, often less than a broker's commission, and depend solely on the erratic demands of the manufacturer for their outlet. Only by a huge turnover and by having every department of his business superintended by a man who devotes his whole time and special study to that section can he possibly hope to conduct a profitable business. Wool Merchants are of two classes—those who confine themselves to Merinos and Cross-breeds, and those who deal in home grown wools only. The dealer in home grown wools finds it necessary to specialize in buying as well as in selling. For instance, he will keep one buyer for Down wools, another for Long wools and a third for Mountain wools. These buyers are specially trained experts who devote their whole time and attention to one kind of wool. When the buying season is over, they usually have charge of the department they buy for.

The Commission Buyer is an expert of another type altogether. He is seldom found buying at annual fairs, but chiefly confines his operations to the feverishly turbulent sales conducted in wool exchanges. His services may be retained by any one, at a commission varying from one eighth of one per cent to one and a quarter per cent. He generally has a reserved seat, and will always be found in one particular spot, frequently buying for several different firms in one day,—often firms in different parts of the world. "Occasional buyers," sometimes instruct him to bid for them when they are very anxious to secure any particular lot, because he knows every move of the game, and when several men shout the same price at the same time, he has a special advantage. His is a very intricate business indeed, demanding special training and long experience as well as inborn sharpness, foresight, and nerve power. It is therefore impossible to give more than a vague idea of the complex work of a Commission Buyer to anyone who has never visited the Wool Sales in London.

The Colonial Buyer is still another type. His training and experience cover a much wider ground than any of the others and he also possesses, to a certain extent, the knowledge of all the others without being quite so proficient as they are in their own special subjects. He must, however, possess more than the average initiative and executive ability, as well as an elementary knowledge of sheep. Although his work is varied, and interesting, his position is a very responsible one. Not only is his work of buying more difficult, but he has also to sell on special occasions. In addition to this, he frequently makes long journeys into the sheep-grazing country, gathering information and "sizing up" the condition and amount of the forthcoming clip. Con-

sidering the millions of sheep in the districts he travels through, it is astonishing how near his estimates come to the actual number of bales clipped at the shearing season. In addition to buying at the various markets, including the exchange in Sydney, he often cables "tips" and suggestions to his employers who are then buying in London. Sometimes London prices fall below Sydney, and then he is cabled to "sell out" what he has bought before the reaction may affect the market. At other times when certain kinds are scarce, and the demand in London unusually strong, he will get a cable to buy heavily, yet in the face of such orders he will occasionally cable back advising them to "let go" while he "stands easy," as another consignment of the same class in superior condition will come forward in two or three weeks. He is the man behind the scenes, possessing advance information and knowing exactly what string to pull for the next move. In the slack season it is the reports of such men on which forecasts are based, and forecasts influence markets.

The keen, enterprising and ever watchful Argentine Wool growers, possess a staff of experts with their fingers constantly on the fitful and feverish pulse of the Australian and London markets, while their intelligence department always knows the right moment to make profitable shipments. Being nearer to the great central market than their rivals, they generally get a favorable start. This is one of the chief reasons for the phenomenal progress of Argentina in the sheep industry, and why it occupies the proud position of being the second wool producing country in the world to-day.

Prices of British Wool at Bradford, in 1910.

IN CENTS PER L.B.

Description.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Lincoln Hogs.....	21	21	21	20	19½	19½	19½	20	20½	20	20	20
Lincoln Wethers....	19½	20	20	19½	19	18½	18½	19½	20	19½	19½	20
Nottingham Hogs....	22	22	22	21	21	20	20	20½	21	20½	20½	20½
Nottingham Wethers.....	20	20½	20½	20	19½	19	19	19½	20	20	20	20
Leicester Hogs.....	23	23	23	22	22	21½	21	21	22	21½	21½	21½
Leicester Wethers....	20	20½	20½	20	20	19	19	19½	20½	20½	20½	20½
Yorkshire Hogs.....	23½	23½	23½	23	21½	21	21½	21½	22	22	22	22
Yorkshire Wethers....	20	21	21	20	19½	19½	19½	20	21	20½	20½	20½
Wensleydale Hogs....	25½	25½	25	25	24	25	25	26	26	26	26	26
Wensleydale Wethers.....	22	22½	22½	22½	22	22	22	22	22	22	22	22
"North" Hogs.....	29	29	29	27	26	26	26	27	27	26½	26½	26½
"North" Wethers....	24½	24½	24	24	23	23	23	23½	24	23½	23½	23½
Irish Hogs Super....	29	29	28	26½	25½	25½	25½	26	26½	26	26	26
Irish Wethers.....	26	26	26	24½	24	24	24	24	24½	24	24	24
Irish Hogs Selected.	26	26	26	24	23½	23½	23½	24½	24½	24	24	24
Irish Wethers.....	24½	24½	24	23½	22	22	21	22½	23	22½	22½	22½
Romney Marsh Togs	27	27	26½	26½	25	25	26	26	26	26½	26	26
Romney Marsh Wethers.....	25	25	24½	24½	23	22	22	23	24	23½	23½	23½
Ryeland Togs.....	32	32	32	31½	30	30	30	30	30	29	30	30
Ryeland Ewes.....	30	30	30	29½	28	28	26½	28	28	28	28	28
Southdown Togs....	32	32	31	31	30	30	30	30	29	29	28	29
Southdown Ewes....	30	30	30	29	28	28	28	28	28	28	27	28
Shropshire Pick Hogs.....	29	29	30	28	27	26	26	27	27	27	27	27
Shropshire Pick Wethers.....	28	28	28	27	26	25	25	26	26	26	26	26
Stafford Hogs Super.	20	26	25½	25	24½	25	25	25	25	25	25	25
Stafford Wethers....	25	25	24½	24	24	24	24	24	24	24	24	24
Halfbred Hogs M.C.	25	25	25	24	24	24	24	24	24½	24	24	24
Halfbred Wethers....	22½	22½	22½	22½	22	22	22	22	22½	22½	22½	22
Norfolk Halfbred Hogs.....	26	26	25	24½	24½	24	24½	25	25	25	24½	24½
Norfolk Halfbred Wethers.....	23	23	23	22½	22½	23	23	23	23	23	23	23
Cheviot Hogs.....	25	25	25	25	25	25	25½	27	27	27½	28	28
Cheviot Wethers....	23	23	23	23	23	23	23½	25	25	25½	26	26
Scotch Blackface Hogs.....	14½	15	15	15	14	14	14	14½	14½	14½	15	15
Scotch Blackface Wethers.....	13½	14	14	14½	13½	13½	14	14	14½	14½	14½	15
Hampshire Togs....	27	27½	27½	28	27½	27	27	27	27	27	27	27
Hampshire Ewes....	26	26½	27	27½	27	26	26	26½	26	26½	26½	26
Oxford Togs.....	25	24½	24	24½	24½	24	24	24	24	25	25	25
Oxford Ewes.....	23	22½	22½	23	23	22½	22½	22½	23	23	23	23
Dorset Togs.....	28½	28½	29	29	29	28½	28	28	28	28	28	28
Dorset Ewes.....	27½	28	28	28½	28	28	27½	27½	27½	27½	27½	27½
Welsh Mountain Wethers.....	17	17½	17½	17½	17½	19	20	20	20	20	20	20
Welsh Fleeces Selected.....	22½	22	22	23	22½	22½	23	23	23	22½	22½	23
Welsh Fleeces Best.	21	21	21	21	21½	21½	21½	21½	21	21½	21½	21
Welsh Fleeces Seconds.....	20½	20½	20	20	20	20½	20	20½	20½	20½	20½	20
Radnors Bright....	19½	20	20	19	19	19	20	20	20	20	20	20
Lonk Wethers.....	17	16	16	17	17	18	18	19	19	19	19	19
Herdwick Ewes and Wethers.....	13	13½	14	14½	14	13½	14	14½	14½	14	14	14

Cotswolds average same price as Lincolns.
Dartmoors and South Devons 2 cents less.
Suffolks average same price as Hampshires.

Colonial Wool Sales

How they are conducted in London

Great Britain is the wool exchange of the world. Every country with sufficient wool to export sends it there to be sold, because there is no import duty to increase its cost when landed or hamper it in any way whatever. Market organization is excellent, while the huge turnover makes the selling expenses extremely low. Shipping facilities are unique, and ocean freight so low that it only costs Australia and New Zealand one cent per pound, and other wool growing countries proportionately less. Buyers from every part of the world flock there, consequently competition is exceptionally keen and the highest average prices always realised. Indirectly, British wool markets have a great influence on the wool markets of other countries, while the Colonial Wool Sales in particular directly rule the wool markets of the world.

The great Colonial Wool Sales are held six times a year in the wool exchange on Coleman St., London. These important sales occupy from ten to fifteen days and take place about the middle of each of the following months: January, March, May, July, September and November. Originally, the descriptive name was quite correct as the only wool sold there came from British possessions, but now the term is somewhat misleading as large quantities of similar wools are sent there from Punta Arenas and various other places. The system of selling differs in certain details from wool sales held elsewhere in England, hence we often hear of the "Coleman St. Style" or "Similar to Coleman St." whenever excited bidding becomes embarrassing to auctioneers at smaller and less important sales.

Coleman Street, to a wool buyer or seller in any part of the world, means as much if not more than Wall Street does to an American stock broker. Merchants, manufacturers, brokers and wool growers never utter the words "Coleman Street" without feelings of interest, either excitement, anxiety, impatience, disappointment, depression or relieved pleasure. Not even those who are indirectly connected with raw wool can afford to ignore the doings of Coleman Street, while wool growers in a small way are always better posted and sell their clips to better advantage by studying the forecasts and watching the movements of that market. The immediate and direct influence of prices at Coleman St. affects merinos and crossbreds only, but the indirect influence of that market is always more or less felt in other wools before the end of the season.

From our previous knowledge and also our recent investigation of the Colonial Wool Sales in London, we find comparatively little similarity to auction sales of other kinds connected with agricultural produce. Everything is so intricate when studied carefully, that even a graphic description on paper would convey very little information to anyone unfamiliar with it. The huge turnover, excited bidding, furiously quick selling and intense eagerness, added to the international character of the sellers and buyers peculiar to a free market, together with the universal influence of that market on the value of wool at that moment, all combine to make these sales unique in many ways.

A brief description of the system of conducting the Colonial Wool sales in London may be useful to intending exporters. The wool from Australia, Africa and elsewhere, either washed or greasy, is skirted and classed before packing and arrives in compressed bales, consigned to certain brokers.

Ships are unloaded at some of the various wharves and the bales are stored in large warehouses in that vicinity. Each of the sales is always held in the same month, year after year, the exact date of the opening day being fixed some time in advance and advertised in the usual way. Catalogues are printed and issued by the brokers the day before the sale. As soon as an intending buyer secures a catalogue he proceeds to the warehouses where the wool is stored and placed ready for inspection. One bale of each lot is cut open to enable anyone to pull out sufficient wool for careful examination. The intending buyer after a close examination of the wool, makes notes in his catalogue to guide him in bidding during the sale next day.

The sale takes place in one large room in the wool exchange on Coleman Street, some distance from the warehouses where the wool is stored. Selling begins at 4 o'clock precisely. The room is constructed similar to an amphitheatre, all the seats facing the auctioneer's desk and rising abruptly towards the back; so that each row of intending buyers may see and be seen distinctly. Auctioneer, broker and clerk take their respective seats at the desk, while press reporters are also seated at the front in the extreme right and left corners. The densely packed audience is as quiet and sober as a church congregation, with the exception of a keen, eager look in their eyes indicating the intensity of suppressed excitement within. The moment the first lot is called out, they burst forth in one wild chorus of yells and howls, and may continue shouting and gesticulating in a frantic manner until that particular lot is knocked down. For a fraction of a minute there is dead silence again until you can almost hear your heart beat. In that brief moment the buyer's name and the price of the lot has been recorded. Suddenly the subdued but clear metallic voice sounds the next number from the desk and immediately a dozen or more excited bidders leap to their feet, shouting louder than before and continue those hideous yells and frantic movements for about twenty seconds until that lot is knocked down and so on. Excitement on the stock exchange is tame compared with it, whilst the excitement at a heated election meeting is mere child's play compared with the terrific eagerness displayed here. We met an Australian coming out one afternoon and he said "We call our wool sales in Sydney the dog fight, but this is the world's menagerie turned loose."

Most of this pandemonium is made by foreigners, but the usually excitable Frenchman is by no means the worst. Strange as it may seem the generally stolid German is the most impetuous buyer of all, and yells and shouts louder than all the others. The Frenchman has a knack of starting off quickly, and his characteristic gestures readily catch the eye of the auctioneer. The Englishman is usually found a row or two further back, and although he is less excited and less noisy, he has a way of elbowing himself forward beyond others in the same row, and, thrusting his rolled catalogue upwards like a conductor's baton, he also succeeds in attracting attention. The American, always frowning with the hard set expression of a Roman Gladiator, generally jumps up on his seat and "hollers", not so loud as the German by any means but just loud enough, and he is frequently the highest bidder. Like the Englishman, he is always keen on choice lots. The Englishman, with large export orders on hand for high class goods, must have a certain high grade quality to produce a certain finish. The American wants the pick of Australia because he has plenty of low grade crossbred wool at home and something better is required for blending. Americans buy very little scoured wool, but they are large buyers of fine wools in the grease. Light shrinking wool is of vital importance to them, and whenever they over-bid European buyers

you may be sure they have figured on that lot shrinking less than fifty per cent. Germans and Frenchmen usually favor the finer grades, while Belgians are keen on smaller lots of the same description.

About four huge catalogues belonging to different selling brokers are cleared in one afternoon. Fresh occupants take their places at the desk as each broker's catalogues are cleared. Auctioneers on this continent who flatter themselves as being great "hustlers" should visit "Coleman St." and get an eyeopener in quick selling, because it is quite a common thing to see 100 lots sold in fifteen minutes. Frequently, these lots will average upwards of 18,000 lbs. each.

The wool Exchange in Sydney is run on the same lines as the sales in London but considering the large quantities offered, the attendance is comparatively small. Important sales are also held in Melbourne, Geelong, Adelaide, and Brisbane.

In New Zealand they have six sales during the months of November and December, which is the regular selling season. These are held in Wellington, Napier, Christchurch, Nelson, Timaru and Ivercargill.

The Australian wool sales were originally held with the idea that the grower, in disposing of his wool, should be free from responsibility and should realize upon his work as soon as possible. During the past ten years, however, there has often been considerable difference between the prices in Sydney and those in London, so that the grower has sometimes actually realized less by selling at home. The greater competition in London and the fact that many varieties can be sold which are often unmarketable in Australia has caused large quantities to be resold in London to the advantage of the speculator. In 1906 especially, several lots were resold in London at an enhanced value of twenty per cent. Choice lots and scarce quantities of certain classes, required early in the season, are generally in strong demand at the Sydney Exchange, and buyers from America, France, Germany, Belgium, England and even Japan are found there, eagerly speculating in keen competition. In 1909 and 1910, the amount of wool sold in Sydney increased very much, and this increase is likely to continue in future for certain varieties. It is estimated that nearly 75 per cent of the wool clip of Australia is now sold at the centres of production.

Most of the large growers, however, continue to ship direct to London so that the most important portion of Australasian wool will always be sold there; not to mention the occasional large consignment resold. This, added to the yearly increasing quantity of fine wools from other countries, places Coleman Street in an impregnable position, and there is every indication that London prices will continue to rule the wool markets of the world to a greater extent than ever.

Comparative Prices of Wool in London

DESCRIPTION	Superior to Extra December		Average to Good December		Inferior to Average December	
	1910	1909	1910	1909	1910	1909
	Cents	Cents	Cents	Cents	Cents	Cents
PORT PHILIP—						
Scoured.....	48 to 53	48 to 52	42 to 45	43 to 46	36 to 40	38 to 41
Greasy.....	28 to 35	29 to 36	24 to 26	25 to 27	16 to 22	18 to 23
SYDNEY—						
Scoured.....	47 to 53	47 to 57	39 to 43	40 to 45	33 to 36	35 to 38
Greasy.....	27 to 30	28 to 34	22 to 25	23 to 26	14 to 20	16 to 21
QUEENSLAND—						
Scoured.....	45 to 53	47 to 54	39 to 43	40 to 45	32 to 36	34 to 38
Greasy.....	27 to 28	28 to 31	22 to 25	23 to 26	14 to 20	16 to 21
ADELAIDE—						
Scoured.....	42 to 44	42 to 44	36 to 40	37 to 41	30 to 35	31 to 36
Greasy.....	23 to 25	24 to 26	19 to 21	19 to 23	12 to 17	14 to 18
NEW ZEALAND—						
Scoured.....	46 to 48	46 to 48	41 to 44	42 to 44	34 to 39	35 to 40
Greasy.....	26 to 27	27 to 28	22 to 24	23 to 26	17 to 20	18 to 21
TASMANIA—						
Greasy.....	28 to 31	30 to 33	24 to 26	25 to 27	17 to 22	18 to 23
WEST AUSTRALIA—						
Greasy.....	24 to 26	25 to 26	19 to 22	19 to 23	14 to 18	14 to 18
AUSTRALIAN CROSBRED—						
Scoured.....	43 to 50	43 to 51	31 to 40	31 to 40	18 to 29	19 to 29
Fine Greasy.....	30 to 31	33 to 35	27 to 29	29 to 31	22 to 26	23 to 27
Medium Greasy.....	24 to 25	28 to 30	22 to 23	24 to 27	19 to 21	19 to 23
Coarse Greasy.....	22 to 23	23 to 26	20 to 21	20 to 21	16 to 18	14 to 18
LOCKE AND PIECE—						
Scoured.....	39 to 43	40 to 44	35 to 37	36 to 38	20 to 34	22 to 35
Greasy.....	24 to 27	24 to 26	21 to 23	21 to 23	12 to 20	12 to 20
LAMBS—						
Greasy.....	29 to 34	29 to 33	23 to 27	23 to 27	10 to 21	12 to 22
CAR—						
Snow Whites.....	42 to 50	43 to 46	38 to 40	40 to 42	34 to 36	34 to 38
Fleeces.....	26 to 28	27 to 29	23 to 25	19 to 26	16 to 20	16 to 23
Greasy.....	19 to 23	20 to 26	15 to 20	15 to 19	10 to 18	11 to 15

This table is merely given to show the average relative value of Cross-bred wool from various districts in Australasia and Africa, and not the average prices realized in the two years mentioned. December is a flat month, and prices are then very often at their lowest. In this table, December 1910 prices happen to be a little under the corresponding month of the previous year, but two months later the prices were considerably higher than 1909. South American wools do not appear in this table as they are mostly sold in Liverpool.

Merino Crossbred wool in Alberta would be similar to Port Philip. Greasy, (Average to Good) and New Zealand, Greasy (Average to Good) if bred correctly. Some flocks would have to be all Lustre-Crossbreds, and others all Down Crossbreds, and not a mixture of Merino, Longwool and Down breeds in one animal, as they are at present in most cases. A mixture of the three distinct characters and breeds in one sheep makes good mutton, but the wool is of less value than a straight crossbred. Flocks in Australasia and South America are bred and crossbred with one fixed object in view and this results in obtaining the exact kind of wool desired.

Liverpool Wool Sales

The auction sales held in Liverpool are of a miscellaneous character. Every description of cheap wools, goat hair and even skins are offered, as well as some types of homegrown longwools and down-crossbreds. Sales of East Indian wools, including both combing and carding qualities, are held six times a year, and attract many buyers. The bulk of South American wools being sold here is another attraction. Many interesting odd lots of wool are sent here by traders in northern Africa and Asia Minor. We were unable to secure particulars of Palestine wools, but we can give details of the others. The following list will give a good idea of the prices ruling in Liverpool last year. The lowest and the highest prices are given, but the greater portion of South American wools were sold at the highest prices quoted here:—

	Cents per lb.		
	Lowest		Highest
EAST INDIA			
White.....	12	to	24
Native, white, grey and black.	3	"	13
PERSIAN			
Bagdad, white	14	"	16
Bastard, white and colours.	8	"	19
EGYPTIAN			
White fleece	18	"	21
Grey, fawn and black skin.	9	"	17
TURKEY			
Angora, washed fleece.	16	"	19
Angora, pieces and grey.	9	"	12
Angora, unwashed white.	10	"	13
Syrian unwashed.	8	"	10
PORTUGAL			
Oporto fleece	15	"	19
Oporto lambs and yellow.	11½	"	15½
Oporto black	11	"	13
RUSSIAN			
Merino unwashed.	14	"	16
Donskio fleece, combing.	14	"	16
Donskio fleece, carding.	16	"	18
Donskio lambs.	15	"	16
ICELAND			
Fleece, white	18	"	23
Grey and black	11	"	14

Cents per lb.

SPANISH AND PORTUGUESE

	Lowest	Highest
Unwashed white	6	14
Unwashed black	10	13½
ALPACA		
Arequipa fleece	35½	38½
Tacna, Chala, Callao	21	32
Seconds, Huarizo, Llama, etc	14	27
Locks and pieces	7	13½
MOHAIR		
Fair average	30	35
Inferior	12	20
CAMELS' HAIR		
China	15	29
Russian	14½	18
CASHMERE		
China	19	42
East India	10	16
BARBARY AND MAGODORE		
Washed and scoured fleece	18	26
Unwashed Rabot and Larache	12	13
Unwashed Casablanca	10	11
Unwashed Mazagan etc	6	10
WEST COAST OF SOUTH AMERICA		
Peruvian, washed Merino	24	29
Chili, unwashed Merino	12	19
Lima, unwashed white	13	19
Lima, unwashed colours	8	12
RIVER PLATE		
Monte Video Merino	18	26
Mestizo Nos. 1 and 2	19	25
Lincoln crossbred	18	26
Lambs	14	21
Bellies and pieces	7	15
Buenos Ayres, Merino	13	21
Mestiza Nos. 1 and 2	14	24
Lincoln crossbred	15	24
Lambs	12	19
Bellies and pieces	7	14

Wools from Puntas Arenas and Falkland Islands are not mentioned in this list as they are sold in London. A peculiar feature of Iceland wool is that the noil is more valuable than the top. When buyers are inspecting this wool before the sale they give far more serious thought to the percentage of noil it will yield than the net amount of wool left after scouring.

It is unnecessary to quote the price of British Homegrown wools sold in Liverpool as they are practically the same as Bradford, the only difference being that Bradford quotations are chiefly for wools washed before shearing, while the bulk of those sold in Liverpool are in the grease.

REPORT OF LIVERPOOL WOOL SALES.

First five series for 1910, in bales.

January	March	May	July	September	Bought by
8,650	2,900	3,150	4,000	2,400	America.
7,650	4,600	7,100	6,300	6,600	Continent.
15,390	11,124	20,045	18,143	20,389	Home trade.
31,899	18,324	30,295	28,443	29,389	Total Sold.
6,377	4,234	6,685	6,514	9,659	Withdrawn.
38,276	22,608	36,980	34,957	39,048	Bales offered.

(These bales would average 900 lbs each.)

Skin Wools or "Pulled Wools"

Every description of skin wool belongs to the fellmongering industry, as carried on in Australia, New Zealand, South Africa, America the European Continent and in Great Britain.

Such wools are divided into four classes.

1st. "Skin" Wools,—Removed from the skin, after fibre separation, by an application of lime, known as the sliping process.

2nd. "Skin" Wools,—Removed from the skin by a process of sweating, generally known as the Mazamet system.

3rd. "Skin" Wools,—Removed by chemical agency, chiefly by Sodium Sulphide, sometimes known as the Colonial process.

4th. "Skin" Wools,—Separated from the skin by a new electric process.

SLIPING, (class 1)—This is the old process, and is chiefly confined to Great Britain where it is generally used on home-grown pelts. In Scotland, sliping is still popular and great care is exercised to prevent the lime from coming into serious contact with the wool, but in England it is rapidly being superseded by newer and more improved methods. In spite of every care, lime penetrates the fibre and the wool handles harsh and possesses a dull ashen-grey tint. The operation of washing is always difficult and frequently very expensive. Strong acids are often used to make sliped wool take the dye properly, but the "bloom" is gone and the "dead" look is particularly noticeable in blacks.

SWEATING, (class 2)—This is still most extensively carried on and although an improvement on "sliping" is not satisfactory. In France, where this system is well understood and invariably well conducted, good results are often obtained but even there the wool fat and yolk is often extracted from the fibre, leaving it lean and tender with a most objectionable slimy feeling. When dyed, the "bloom" is absent and the dead look prevails.

CHEMICAL TREATMENT, (class 3)—This is the only depilatory system now employed in Australasian fellmongering stations, and it is decidedly the best. The Sodium-Sulphide process has no injurious influence on

the wool fibre, and the yolk is seldom destroyed. The process of separation however, requires great care, as well as the exercise of skill in classifying and scouring the wool.

ELECTRIC (class 4)—This is a comparatively recent discovery and is not yet in general use. The process is not only very rapid, but a great labor-saver, effecting a large reduction in the cost of separation. Although the method employed appears simple, it not only requires great care, but considerable skill and experience. Many are inclined to believe that this process has a great future, but so far there is still room for improvement.

"MERRIN" Wool. This is not exactly a "skin" wool, but it is frequently handled by large fellmongers who market their wools in a sorted and scoured state. It is really the wool gathered from the decomposed carcasses of Merino sheep found by shepherds in the range country, chiefly in the United States. Owing to the pronounced saffron color, a bleaching process is necessary after it has been scoured.

Estimate of Wool Grown in Great Britain in 1910

Counties.	Sheep (1909)	Weight per fleece lbs.	Total Weight of wool lbs.
Lincoln	1,092,177	9½	10,375,681
Yorks.—E. Riding	492,977	8	3,943,816
Nottingham	207,300	7½	1,554,750
Cornwall	416,722	7	2,917,054
Devon	914,234	7	6,399,638
Gloucester	405,149	7	2,806,043
Oxford	234,594	6½	1,583,509
Northampton	424,320	6½	2,864,160
Rutland	85,714	7	599,998
Leicester	348,718	7	2,441,026
Warwick	285,850	7	2,000,950
Kent	1,013,228	7	7,092,596
Irish Counties	4,133,358	6	24,800,148
Somerset	518,742	7	3,631,194
Hereford	392,260	5½	2,255,495
Worcester	196,382	5½	1,129,196
Stafford	261,919	5½	1,506,034
Shropshire	557,743	6	3,346,458
Huntingdon	91,041	6	546,246
Bedford	94,464	6	566,784
Berkshire	173,343	6	1,040,058
Buckingham	207,332	6	1,242,902
Cambridge	179,268	6	1,075,608
Herts	115,662	6	693,972
Norfolk	532,048	6	3,192,288
Suffolk	378,857	5	1,894,285
Essex	269,583	4½	1,213,123
Surrey	69,648	4½	313,416
Middlesex	21,906	5	109,530
London	2,541	6	15,246
Hants	368,500	4½	1,658,250
Sussex	444,976	4½	2,002,392
Wilts	491,363	4½	2,214,133
Dorset	344,814	5	1,724,070
Scotch Counties	7,328,265	5	36,641,325
Northumberland	1,139,864	6	6,839,184
Cumberland	636,148	6	3,816,888
Durham	266,001	6	1,596,006
Westmorland	412,991	6	2,477,946
Yorks.—N. Riding	794,701	6	4,768,206
Yorks.—W. Riding	716,419	6	4,298,514
Lancashire	341,983	6	2,051,898
Derby	169,046	6	1,014,276
Chester	125,061	4½	562,774
Monmouth	259,224	4½	1,166,508
Welsh counties	3,795,342	3½	13,288,697
Channel Islands	39,000	5	195,000
Isle of Man	61,000	5	305,000
Total No. of sheep	31,852,777	Total Clip	179,795,361

The weight per fleece is the estimated average weight when washed before shearing, and not the weight in the grease. The Isle of Man and the Channel Islands are included in this list. The sheep and lambs of 1909 produce the wool of 1910. The estimated number of sheep in 1910 showed a big increase over the previous year.

British Fleeces in Bradford Warehouses

While investigating the general condition of British home-grown wools in Bradford, we visited most of the leading wool warehouses there, and the merchants very kindly gave us all the information we desired. We went through their immense stocks and examined all the various kinds of wool from the leading sheep-farming districts. Owing to the large export trade done there, especially with America, most of the wool is washed before shearing, and this is fast becoming the general custom throughout the country.

The moist climate and the frequent damp condition of the pasture fields in early spring often has a tendency to make the underparts of the fleece rather dirty, but this disappears when the sheep are driven across a stream shortly before shearing. Chaff, straw and grass seeds are scarcely ever found in the neck and shoulder parts of a fleece. Cotted fleeces are also very rare owing to the bi-annual dipping and the general care given to the sheep. One warehouse we visited had found three cotted fleeces in all the wool delivered to them between May and October, and they made such a fuss over it that a stranger would have thought they were going to be ruined. When they find a few fleeces with dung tags attached, or a few Southdown fleeces tied with rough string, they will get up a newspaper agitation in the district where the wool was grown. Although such faults are very detrimental to the wool trade, the complaints sometimes heard are usually a little exaggerated. This healthy spirit of criticism in England, is the chief reason for nearly everything being well done and well finished. English criticism is a little overdone, and gives strangers a wrong impression altogether, yet it produces such excellent results that the Old Country could not afford to stop it.

We were particularly anxious to learn what class of wools were chiefly sent to America and an inquiry at one warehouse exactly confirmed what we heard at the other. It can be said that the United States importers buy almost everything from the strongest Lincolns to the finest Downs, it simply being a question with them of what is fashionable and what is going into consumption. First they buy a considerable quantity of lustre wools, Lincoln, Leicester, Nottingham and Yorkshire hogs and wethers, the favorite being Wensleydale. The demi-lustre wools, such as Irish (Roscommon), Kent (Romney-Marsh), Cheviot, Norfolk Halfbreds, Midland Counties Halfbreds and "North" hogs and wethers are really the chief part of the American trade, year after year. Whenever the Americans buy, they always go for demi-lustres first. These wools are shipped to America in very large quantities and never show any sign of falling off. They produce a nice worsted spun thread, and are extensively used all over the United States. Among the Down wools, the prime favorites are Ryeland, Shropshire, Hampshire and Southdown, but all Down wools claim their attention when in good condition. The Derbyshire (Gristone) is another wool they favor when they can get it. In 1908 and 1909, it was estimated that seventy-five per cent of the total clip of North Hogs was shipped to the United States. With the exception of last year (1910), over sixty per cent of the entire clip of Scotch Blackface carpet wool has gone to America for seventeen years at least. From 1904 to 1909, the average trade with the United States was 25,000,000 pounds in British home-grown wools alone. It was thought that the Dingley Tariff would affect the wool trade between Great Britain and the United States, but the trade in home-grown wools has kept steady, while the trade in

Colonial wool has increased during the last few years. The superior condition of British wools, and the fact that mutton sheep have decreased in the Eastern States, are no doubt the chief reasons why this trade continues good.

They have an impression in Bradford, that Canadian sheep, owing to the severe winter, carry a heavier fleece than the same breed does in England. In the United States, they have the opinion that Canadian wool runs a little coarser than English. We went carefully into these two questions, and were unable to come to any conclusion. Regarding the weight of the fleece, the conditions are not favorable for a test, because it is maintained that an average of a pound to a pound and a half more wool is obtained by dipping twice a year. There is no doubt about this being quite correct, as it is also confirmed by reports from New Zealand and elsewhere. If Canadian sheep were dipped twice a year, and had a little more freedom in winter so that they could run out and in at will, getting plenty of exercise and fresh cold air, a fair comparison would then be possible. At present, too many are shut up without sufficient exercise, and their wool does not receive the attention it gets in the Old Country. We are inclined to think that the climate might favor the extra weight of the fleece under improved conditions, but so far, there are no means of arriving at a reliable conclusion. As for the fibre being coarser owing to climatic conditions, we do not think this is correct. Canadian wool may be a little coarser, but there are other reasons for this fact. We have had a few samples of Southdown and Dorset wool from Canadian breeders, and the fibre was quite as fine as English grown. A good deal of Canadian wool is deficient in lustre, and that can be accounted for by climatic conditions and feeding, because lustre varies in different counties in England. It varies still more in different parts of the United States.

Under the circumstances, we think it would be wise to let such theories and impressions stand in abeyance until the sheep industry of Canada has been put on a better footing, and farmers have been educated in growing and handling their wool properly.

While we were in the Bradford warehouses, we examined the "classed" fleeces from various districts and made a few notes, such as weight of fleece, quality, etc. These notes have since been put in a list, and will be found at the end of this chapter. It must be understood that the weight of fleece and the quality of wool does not exactly represent the usual weight and quality of the breeds named, but just the wool we handled and sampled during our visit. It should also be borne in mind that the fleeces we examined and sampled were not those of first class flocks, but the small flocks of the ordinary farmer. All these fleeces would be about twenty per cent heavier unwashed.

NOTES ON FLEECES EXAMINED IN BRADFORD WAREHOUSES.

Class		Breed	Weight lbs.	Quality
Scotch Blackface	Hogg	Blackface	6	28s to 32s
"	Wether	"	5	28s to 32s
Cumberland	Hogg	Herdwick	5½	28s to 36s
"	Wether	"	5	28s to 36s
Cumbria	Hogg	South Devon	9	28s to 40s
"	Wether	"	8	28s to 40s
Devonshire	Hogg	Devon Longwool	9½	28s to 40s
"	Wether	"	8½	28s to 40s
"	Hogg	Dartmoor	8½	28s to 44s
"	Wether	"	7½	28s to 44s
Nottingham	Hogg	Lincoln	11	32s to 40s
"	Wether	"	9	32s to 40s
Lincoln	Hogg	"	12	28s to 40s
"	Wether	"	9½	28s to 40s
Leicester	Hogg	Leicester	10	32s to 46s
"	Wether	"	8	32s to 46s
Yorkshire	Hogg	"	10	32s to 44s
"	Wether	"	8	32s to 44s
"North"	Hogg	Border-Leicester X Cheviot	9	36s to 48s
"	Wether	"	7½	36s to 48s
Ripon	Hogg	Wensleydale	9	36s to 48s
"	Wether	"	7	36s to 44s
Scotch Crossbred	Hogg	Border-Leicester X Blackface	6½	28s to 40s
"	Wether	Border-Leicester X Blackface	6	28s to 40s
Super Irish	Hogg	Roscommon	9½	36s to 46s
"	Wether	"	7½	36s to 46s
Gloucester	Hogg	Cotswold	11	32s to 40s
"	Wether	"	9	32s to 40s
Kent	Hogg	Romney Marsh	11	44s to 46s
"	Wether	"	9	40s to 46s
Pick Irish	Hogg	Roscommon X Down	7½	36s to 48s
"	Wether	"	6½	36s to 48s
Selected Irish	Hogg	Roscommon	10	40s to 44s
"	Wether	"	8	40s to 44s
Norfolk Halfbred	Hogg	Lincoln X Down	8½	36s to 48s
"	Wether	"	6½	36s to 44s
Lincoln Halfbred	Hogg	"	8½	36s to 46s
"	Wether	"	6½	36s to 46s
Leicester Halfbred	Hogg	Leicester X Shropshire	7½	36s to 48s
"	Wether	"	6½	36s to 48s
Yorkshire Halfbred	Hogg	Leicester X Down	7½	36s to 48s
"	Wether	"	6½	36s to 48s
Derbyshire	Hogg	Gristone	9½	44s to 54s
"	Wether	"	7	44s to 54s
Scotch Lustr	Hogg	Border-Leicester	9½	32s to 46s
"	Wether	"	8	32s to 46s
Scotch Cheviot	Hogg	Cheviot	7½	44s to 48s
"	Wether	"	6½	44s to 48s
Welsh Ewe	Hogg	Welsh Horn	4½	46s to 50s
Lonk	Hogg	Lonk	7	36s to 44s
"	Wether	"	6	36s to 44s
Selected Devon	Ewe	Exmoor	6	36s to 48s
Radnor	"	Radnor	5½	36s to 48s
Irish Down	Hogg	Shropshire	6	44s to 54s
"	Wether	"	5½	44s to 54s

NOTES ON FLEECES EXAMINED IN BRADFORD WAREHOUSES.
(Continued)

Class		Breed	Weight lbs.	Quality
Norfolk Down.....	Teg	Norfolk.....	6	46s to 50s
".....	Ewe	".....	5	46s to 50s
Shropshire.....	Teg	Shropshire.....	7	44s to 54s
".....	Ewe	".....	6	44s to 54s
Oxford.....	Teg	Oxford.....	8	44s to 50s
".....	Ewe	".....	7	44s to 50s
Hampshire.....	Teg	Hampshire.....	7½	46s to 50s
".....	Ewe	".....	6½	46s to 50s
Southdown.....	Teg	Southdown.....	5	50s to 56s
".....	Ewe	".....	5	50s to 56s
Dorset.....	Teg	Dorset-Horn.....	5½	50s to 56s
".....	Ewe	".....	5	50s to 56s
Hereford Down.....	Teg	Ryeland.....	7½	50s to 56s
".....	Ewe	".....	6	50s to 56s
Suffolk.....	Teg	Suffolk.....	7	46s to 50s
".....	Ewe	".....	6	46s to 50s

Packing and Pressing

British, Colonial and Foreign Wools

In this chapter, packing must be understood as putting rolled up fleeces in a wool sheet or sack, and tramping them down, previous to fastening up and shipping. Pressing, means putting wool in bales by hydraulic or electric power. This explanation may seem unnecessary, but "packing" is sometimes a misleading word in the wool trade, as it is often used when describing the way fleeces are handled by the grower.

Both packing and pressing in the warehouses of a large wool centre is often a business in itself. The men engaged have been specially trained for the work, and have never done anything else. In a Bradford wool warehouse packing is always a separate department, and pressing is often a separate business. Some prosperous firms in that city run large establishments containing nothing but hydraulic presses, and take in work from wool merchants and brokers a few blocks away.

For the quick despatch of urgent orders in manufacturing districts, wool sheets are merely fastened with wooden "skewers," which are considered more convenient in every way. When shipping beyond the Yorkshire district, the opening of a wool sheet is always sewed up with the usual bale stitch.

For export purposes, "sorted" English wool is shipped in compressed bales, and Merino wool is both imported and exported in hydraulic-pressed bales. In the great majority of cases however, home grown British wool is exported in the fleece, consequently the standard wool-sheet is used. Unless English wool is both sorted and scoured, it never "opens up" quite as well when shipped in a pressed bale. Whenever possible, well-packed fleeces in the regulation wool sheets are preferred.

All the wool shipped from New Zealand, Australia, South Africa and South America, to the wool sales in London, comes in pressed bales, both Merino and fine Crossbred, greasy and scoured. These wools are "classed"

or "graded" at the shearing stations by highly paid experts. Then they are scoured and packed in pressed bales of cheap light hemp sheeting, stitched up, hooped and branded. The sheeting is light and cheap because it is merely a "wrapper" and not a bag. It is never used again like an English wool sheet, but it must be hemp in order to avoid the risk of loose fibre getting mixed with the wool.

Among Bradford manufacturers you will sometimes hear serious complaints of the heavy cost of removing vegetable matter from Australian wool. Recent improvements and new inventions in machinery have well nigh completely overcome this difficulty, but it has increased the cost of production. Burrs, seeds and small fragments of dry grass will always be more or less present in the belly and flank parts, and occasionally in more valuable portions of the fleece. The frequent droughts and the general dryness of the climate produce an enormous quantity of dead and withered vegetation in the grazing country traversed by the sheep, consequently it is impossible to prevent this from getting into the wool.

The presence of other vegetable matter, such as minute particles of stitching twine and sacking, is only heard of in rare cases in connection with Australian wool, and this will soon be a thing of the past. More care on the part of brokers and buyers in London, when cutting the bales open for examination, and also, the general adoption of one of the new devices for closing the bale, will completely overcome this trouble by allowing easier examination without cutting either string or wrapper.

Greasy wools are carefully "skirted" in addition to being fairly clean to start with, and the saving is about 20% in weight. The great bulk of Merino wool, however, is shipped scoured, and this reduces the original weight 50%. The reason for pressing is to reduce the bulk in the hold of the ship, as well as the space in the railway waggon. The wool in the press, measures 12 feet deep, 4½ feet long and 2½ feet wide. When the pressure is turned on, the depth of 12 feet shrinks to 22 inches. Then the wrapper is stitched and the hoops fastened. When released from the press, the bale expands about two inches, so that pressing reduces the height of a bale by ten feet. The length and width, of course, remains the same. Wool presses vary in dimension, but this is a popular size and a fairly good example.

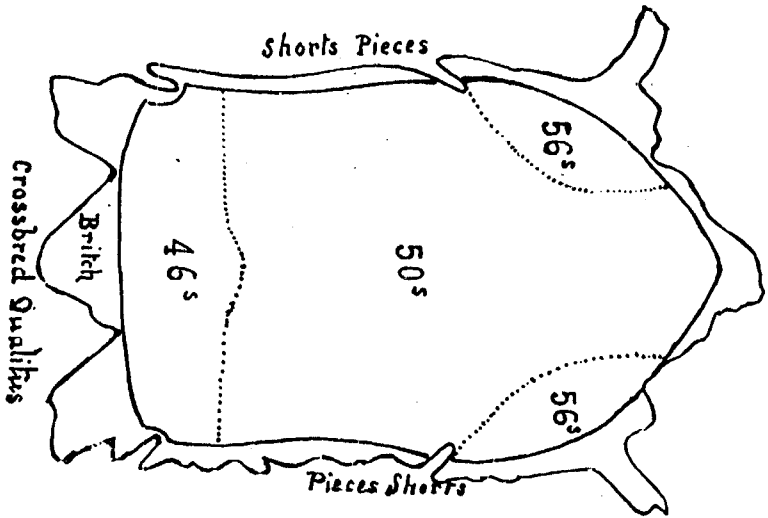
The total cost of bringing wool from a warehouse in Australia to a warehouse at the London docks, is only one cent per pound. From Cape Town and Buenos Ayres, the freight is about three quarters of a cent. This low rate is the result of expert knowledge and careful organization.

Wools from India, Persia and even Russia are shipped in compressed bales and, unfortunately, very inferior jute wrapping is often used. Being a cheap grade of wool, this commonessian wrapper is reluctantly tolerated, but manufacturers strongly object to jute wrapping for better class wools.

Asiatic wools are always dry and dusty and contain a large proportion of broken fibre. This, together with the fact that Eastern sheep are often diseased, makes the risk of Anthrax very great. Special precautions against this risk are strictly enforced in British mills, and an Act of Parliament was passed in 1901 expressly for dealing with this danger. Notwithstanding all this care and legislation, there are still odd cases of sorters being treated for the first symptoms of Anthrax. There is scarcely any risk of this disease in British and Colonial wools.

WOOL SORTING.

Diag. 3.



Diag. 4.

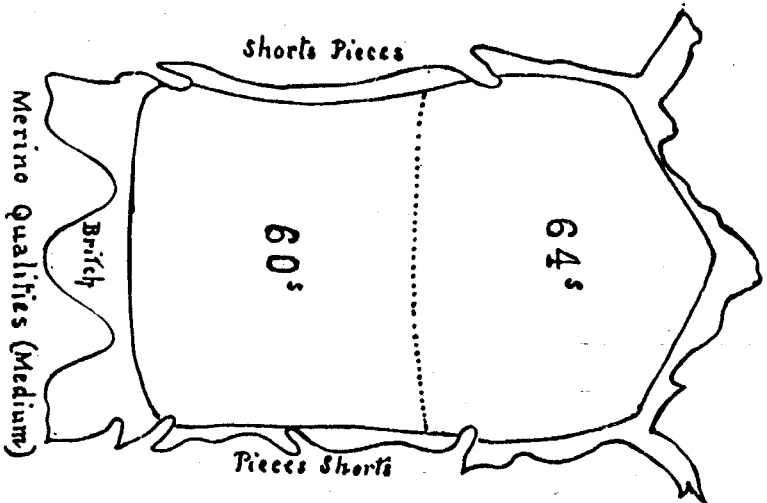
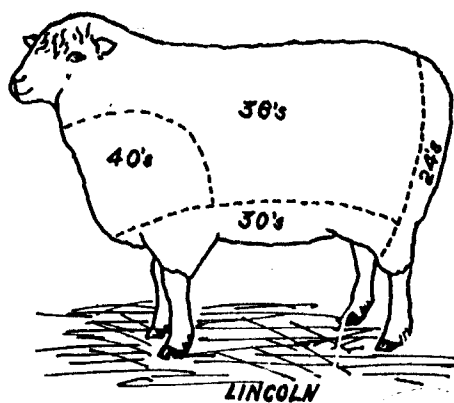


Fig. 72.—Diagrams showing the Different Qualities of Wool in One Fleece.

WOOL SORTING,

Diag. 5.



Diag. 6.

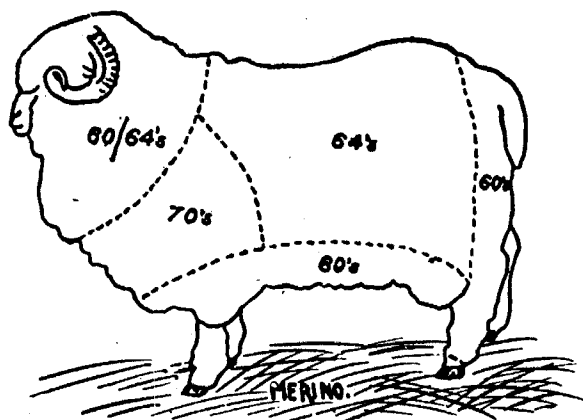
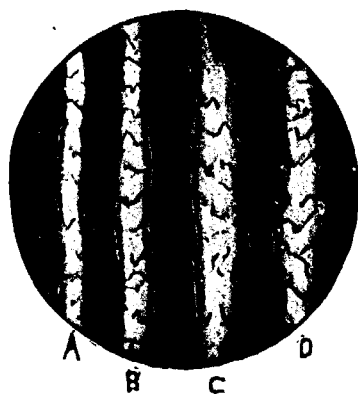


Fig. 73.—Diagrams showing the Different Qualities of Wool in One Fleece.

STRUCTURE OF THE WOOL FIBRE.



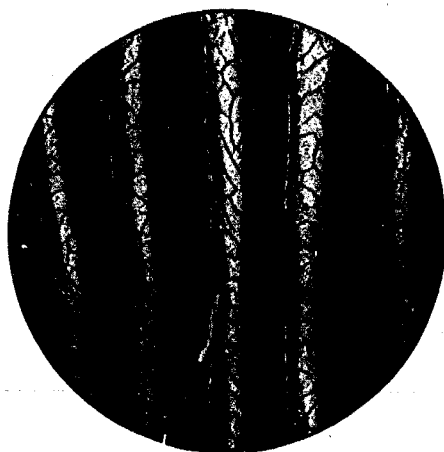
Fibres of Leicester Wool. $\times 225$ diameters.



Fibres of Coarse Lincoln Wool. $\times 75$ diameters. A and B Fibres taken from the shoulder, C and D Fibres taken from the britch.



Fibres of Cotswold Wool. $\times 225$ diameters. Showing medulla with endochrome.



Fibres of Fine Lincoln Wool. $\times 225$ diameters.

Fig. 74.—These Illustrations show the Different Characteristics of the Wool of Various Breeds, Highly Magnified.

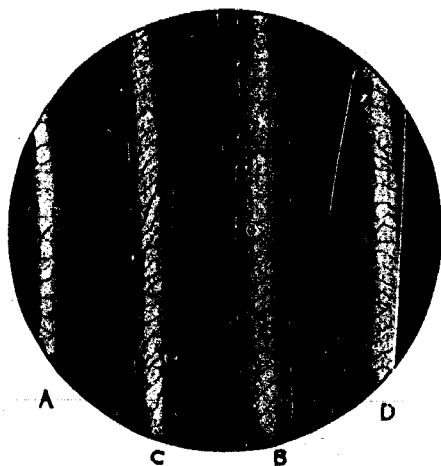
STRUCTURE OF THE WOOL FIBRE.



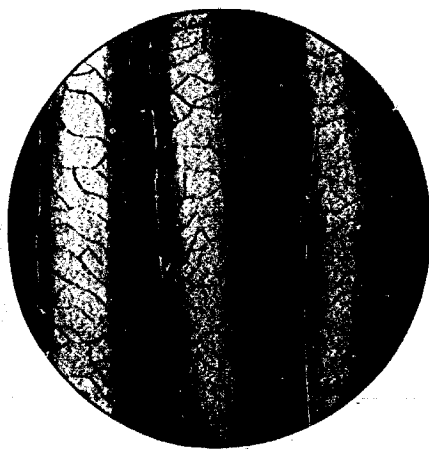
Fibres of Irish Wool (Roscommons).
× 160 diameters.



Fibres of Cheviot Wool. × 225 diameters.



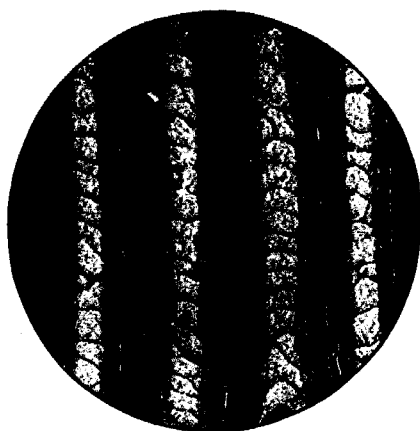
Fibres of Half-Bred Australian Wool, Merino and
Lincoln. × 225 diameters. A and B Lincoln-
like Fibres. C and D Merino-like Fibres.



Fibres of Coarse Merino Wool Crossed with
Leicester. × 250 diameters.

Fig. 75.—These Illustrations show the Different Characteristics of the Wool of Various Breeds,
Highly Magnified.

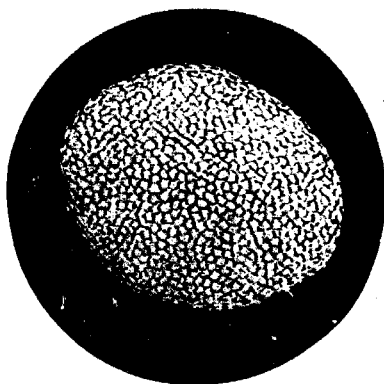
STRUCTURE OF THE WOOL FIBRE.



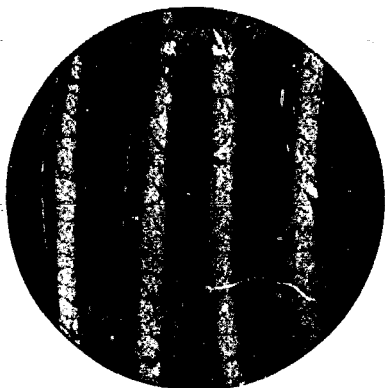
Fibres of Oxford Down Wool. $\times 300$ diameters.



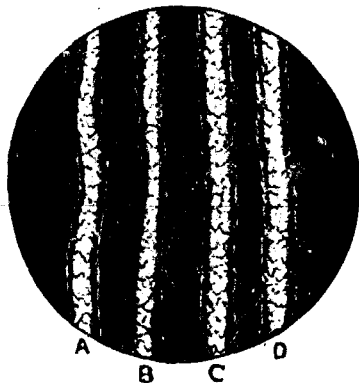
Fibres of Pure American Merino Wool. $\times 300$ diameters.



Transverse Section of Wool Fibre (Lincoln Hog).
 $\times 450$ diameters.
Showing the closely packed transparent cells with outer sheath of epidermal scales.



Fibres of Southdown Wool.
 $\times 225$ diameters.



Fibres of Australian Wool (Botany). $\times 230$ diameters.
A and B. Fibres taken from the best part of the fleece. C. and D. Fibres taken from the coarser parts.

Fig. 76.—These Illustrations show the Different Characteristics of the Wool of Various Breeds, Highly Magnified.

STRUCTURE OF THE WOOL FIBRE.



Fibres of Pure German Merino Wool (Saxony)
× 225 Diameters.



Fibres of Pure French Merino Wool ×
240 Diameters.

Fig. 77.—These Illustrations show the Different Characteristics of the Wool of Various Breeds,
Highly Magnified.

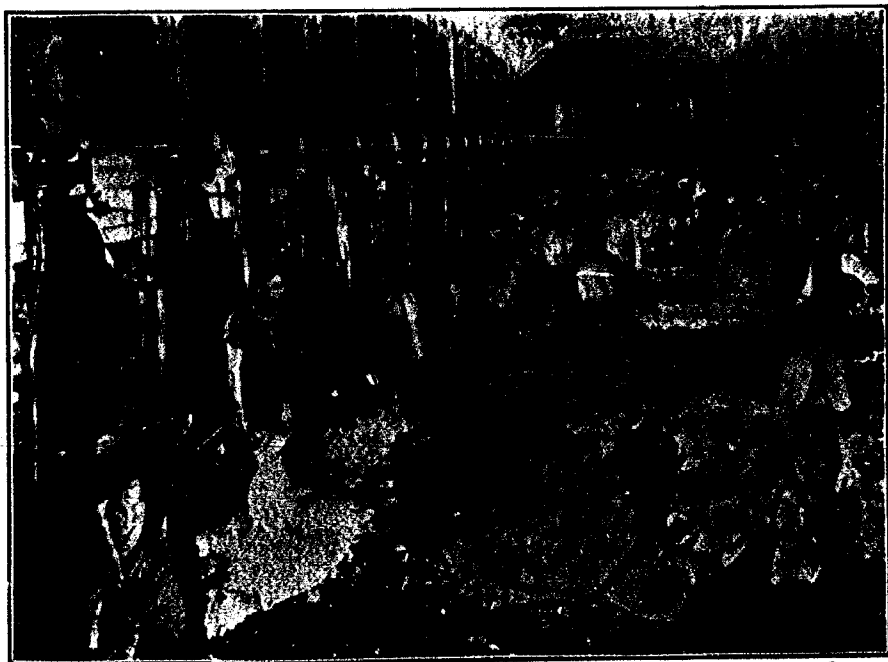


Fig. 78.—A Shearing Shed in Australia.



Fig. 79.—Corner of a Wool Warehouse in New Zealand.

or "graded" at the shearing stations by highly paid experts. Then they are scoured and packed in pressed bales of cheap light hemp sheeting, stitched up, hooped and branded. The sheeting is light and cheap because it is merely a "wrapper" and not a bag. It is never used again like an English wool sheet, but it must be hemp in order to avoid the risk of loose fibre getting mixed with the wool.

Among Bradford manufacturers you will sometimes hear serious complaints of the heavy cost of removing vegetable matter from Australian wool. Recent improvements and new inventions in machinery have well nigh completely overcome this difficulty, but it has increased the cost of production. Burrs, seeds and small fragments of dry grass will always be more or less present in the belly and flank parts, and occasionally in more valuable portions of the fleece. The frequent droughts and the general dryness of the climate produce an enormous quantity of dead and withered vegetation in the grazing country traversed by the sheep, consequently it is impossible to prevent this from getting into the wool.

The presence of other vegetable matter, such as minute particles of stitching twine and sacking, is only heard of in rare cases in connection with Australian wool, and this will soon be a thing of the past. More care on the part of brokers and buyers in London, when cutting the bales open for examination, and also, the general adoption of one of the new devices for closing the bale, will completely overcome this trouble by allowing easier examination without cutting either string or wrapper.

Greasy wools are carefully "skirted" in addition to being fairly clean to start with, and the saving is about 20% in weight. The great bulk of Merino wool, however, is shipped scoured, and this reduces the original weight 50%. The reason for pressing is to reduce the bulk in the hold of the ship, as well as the space in the railway waggon. The wool in the press, measures 12 feet deep, 4½ feet long and 2½ feet wide. When the pressure is turned on, the depth of 12 feet shrinks to 22 inches. Then the wrapper is stitched and the hoops fastened. When released from the press, the bale expands about two inches, so that pressing reduces the height of a bale by ten feet. The length and width, of course, remains the same. Wool presses vary in dimension, but this is a popular size and a fairly good example.

The total cost of bringing wool from a warehouse in Australia to a warehouse at the London docks, is only one cent per pound. From Cape Town and Buenos Ayres, the freight is about three quarters of a cent. This low rate is the result of expert knowledge and careful organization.

Wools from India, Persia and even Russia are shipped in compressed bales and, unfortunately, very inferior jute wrapping is often used. Being a cheap grade of wool, this common hessian wrapper is reluctantly tolerated, but manufacturers strongly object to jute wrapping for better class wools,

Asiatic wools are always dry and dusty and contain a large proportion of broken fibre. This, together with the fact that Eastern sheep are often diseased, makes the risk of Anthrax very great. Special precautions against this risk are strictly enforced in British mills, and an Act of Parliament was passed in 1901 expressly for dealing with this danger. Notwithstanding all this care and legislation, there are still odd cases of sorters being treated for the first symptoms of Anthrax. There is scarcely any risk of this disease in British and Colonial wools.

The cost of a medium sized hydraulic press, with complete outfit is.—

Pumps.	\$1,250.00
Presser and Box.	1,200.00
Electric Motor.	180.00
Regulating Valves.	15.00
Switches, etc.	5.00

Total.	2,620.00
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The large presses used in Australian stations or "factories" cost considerably more. Really good second hand presses can often be picked up in Yorkshire for \$400 complete.

A light simple press for the convenience of small woolgrowers, is frequently used in Australian stations nearer the coast. This type of press is very useful and inexpensive.

Illustrations, prices and all other particulars will be found in the advertising pages of any Australian agricultural journal.

Wool Sorting

Classing by the wool grower and "grading" and "standardizing" by the wool merchant, must not be confused with sorting in the mill.

The main object of wool-sorting in the mill is the classifying of the staples of the fleece according to length, fineness, soundness, color &c. The operation is absolutely necessary owing to the great variation in the wool grown on different parts of the fleece. This variation is far more marked in the wool of British breeds of sheep than in any other sort. Especially is this the case in long wools, lustres and crossbred types. Merino cross-bred wools have rather less variation, while pure merinos vary so little that they can almost be used in an unsorted condition, after being "skirted," "looked-over" and classed at the shearing stations.

If fleeces were used in their natural state faulty yarns would not only result, but the woven cloth would always be imperfect and sometimes unsightly, owing to the impossibility of suiting the subsequent mechanical process to the several types present. Correct sorting yields a profitable series of qualities and enables the maximum value to be obtained from each fleece. The number of qualities obtained is greatest in English fleeces, as individual lots often differ widely in type; moreover, the fleeces clipped from the same breed of sheep in different districts vary to a still greater extent. Another thing to be considered is the fact that English fleeces are not "skirted" like Australian.

Partial "sorting" is done by wool merchants for "top making," and also in a lesser degree when exporting standardized wool in compressed bales, but complete sorting, in the true sense of the word, is done in the mills only, by thoroughly trained and experienced sorters.

Sorting in the worsted trade differs somewhat from sorting in the woolen trade. The extent of sorting for worsteds does not always depend so much on the number of the sorts the fleeces will naturally yield as upon the type of "top" it is required to make. Firms who spin the tops they make themselves, have standards of quality higher than those who are top-makers only, therefore they sort more thoroughly and in a more exacting fashion. In a similar manner, makers of tops for high-class yarns, especially fine lustres, make more and truer qualities than top makers for serge, medium coating and

Woolly yarns.—Owing to such numerous variations, it is impossible to indicate accurately the sorts made and the exact positions they occupy on the fleece, but diagrams of six examples will be found on another page, sufficient to convey a general idea to a wool grower. The numbers on various parts of the fleece are based on the *counts of spun yarn the wool is expected to yield*. The position of these numbers will be found on *diagrams 2, 3, 4, 5, and 6*. These are the trade standards as they are understood by wool merchants and spinners everywhere, and even by some wool growers in Australasia and Great Britain.

To enable farmers who have hitherto given little attention to the different qualities of various sections of the fleece, and also to enable them to appreciate the value of well classed wool for profitable marketing, both at home and abroad, it is perhaps necessary to submit a simplified diagram. For this purpose, a descriptive diagram from the lectures of Professor Bowman to young students, has been adopted. Details of the different qualities and variations of fibre on one fleece will be found on diagram 1, which contains no technical terms. This diagram represents a fleece of English lustre wool laid flat upon the sorting table, so that the various qualities of which it is composed can be clearly seen.

The difference in quality between fibres from one part of the fleece and another is so great that a large number of "sortings" can be made, the number depending upon the general character of the fleece and also the particular purpose for which the sorter intends it to be applied.

Diagram 1 shows the position of the various qualities of wool on the fleece of a Border-Leicester hogg, but similar relative positions hold good in all kinds of longwool fleeces. A sorter would seldom divide a Leicester fleece so minutely, still this diagram exactly represents the different qualities.

The finest and most even grown wool is always found on the two shoulders about the positions marked AA. In some fleeces this quality extends more into E and BB and F than in others, and the quality of the wool at BB is not very much inferior, although rather stronger and coarser. These two qualities would be called in the woollen trade picklock and prime or choice, while the wool found in the position C is frequently finer in the staple but shorter than AA or BB, and apt to be more defaced by irregular or coloured hairs. When free from these defects it forms a super quality. The qualities D and E shade into those on each side of them, and as they form the apex of the neck and shoulders they are less deep-grown or close in the staple than A or C. The quality F closely resembles BB, into which it shades, and for many purposes, especially for spinning down A, B, E, and F, are frequently used as one quality. In Bradford the wool from the shoulders and neck is usually called "blue" or "fine" matching, according as the quality of the fleece may be. In an ordinary Leicester fleece it would be "blue" matching, and would spin to 40's. If however, the fleece was of a superior quality, such as a fine Kent selected for quality, it would make "fine" matching, and would spin to 42's or even 44's. If the fleece was a strong Lincoln or Gloucester, it would probably only be classed as "neat" matching, and would in that case spin no further than 36's. Passing beyond F backwards on to the flanks of the sheep the wool becomes long and coarse, the best being found in the positions marked GG, and this would make what is called "brown" matching or drawing, which would not spin higher than 32's, even in fine selected fleeces of English wool, and in many not so high. At H and I the coarsest part of the fleece is reached, where the wool grows in large locks with long coarse hairs. The latter is called the "breach" or

"britch," and can only be used for very coarse yarns and low numbers, not spinning higher than 26's, even when the fleece is comparatively fine in the other parts. Sometimes it is also called "say cast." From the extremities of I I there is often taken a lower quality still, which is called "tail" or even "cow-tail," from the resemblance which the hair possesses to the strong tuft growing at the end of the cow's tail, and of course this can only be used for the very lowest numbers. There are usually also a quantity of hard lumps, consisting of matted fibre and dirt, which have to be cut off with the shears by the sorter and are called "toppings." These are smaller in proportion as the flock is well tended and the seasons fine. In the ordinary English fleeces all these qualities are long enough to be combed; but just round the edges of the fleece, in the positions marked J J and K K, and at the farthest ends of D and C C nearest the head, we have a very short-stapled wool, which grows in small tufts or staples called "shorts" or "brokes," and which is used for carding. In quality they correspond to the longer wools with which they are associated in the different positions on the body. They are usually divided into three qualities, which correspond to the blue or fine matching, the neat matching, and the britch. The finest, which are derived from the extremities of D, C C, and the position K, are often called "super" or "downrights." Those which grow on the position J J, especially the forward part, are called "middle" or "seconds;" and those from the extremities of J J nearest to I are called "common" or "abb." When the fleece is cross-bred, and even in some cases where it is not, there is always a tendency to the production of "kemps" along the skirt, but specially at the parts marked K K and the extremity nearest the head. The kemps occur in the combing wool most frequently in the region of the tail, in the part marked H.

The difference between the qualities of wool, both in position and quantity, differs very much even in sheep of the same breed, as each sheep and fleece has its own individual characteristics which must be considered in addition to the influence of variations in pasture and shelter.

When one considers all these variations and numerous qualities, it will be realized that wool-sorting is not only a highly intricate and skilful operation, but absolutely necessary for profitable and satisfactory manufacture. The importance of careful classification by the wool grower, and of grading and "standardizing" by the merchant must not be overlooked as these operations greatly facilitate correct and successful "sorting" in the mills.

The top of the sorting table in a woollen mill closely resembles the classing table in a woolgrower's station, but otherwise it is quite different. The sorter's table is fitted underneath with screens, draft channels, fans, dust separators, etc., but as these things have no particular interest for farmers and woolgrowers, a detailed description is quite unnecessary.

The method of sorting English wool appears quite simple, yet it requires experienced workers under the frequent supervision of an expert overlooker. After opening out the fleece by unloosing the band of twisted wool with which it is bound, the next operation consists in dividing it up the middle from tail to neck portion. This goes on, fleece after fleece, until a pile of half fleece is left on each side of the sorter. Then these half fleece are shaken one by one to remove loose dirt, dust and detached pieces. Whenever kemps and grey bits are noticed, they are immediately removed and kept separate. Brand bits are first pulled away, next the shorts, and afterwards commencing at the britch, each particular quality is pulled away and thrown into separate baskets.

These sorted qualities are always kept separate afterwards, each being used for a different purpose. Before sorting, a selected 12-pound fleece might cost, say 25 cents per pound but after sorting, these separated qualities will sometimes vary in value from 4 cents to 40 cents per pound. Eventually when this wool is manufactured, the low qualities will be used in the coarsest and cheapest rugs, while the best qualities will be used in high class suitings. Intermediate qualities are used for various purposes, but in every case careful sorting is imperative.

A thorough knowledge of sorting is of little use to a wool grower, but some idea of its uses and importance will always be found advantageous when marketing his annual clip. It also has the effect of inducing him to take more care of his wool generally.

Wool Sorting

(Final Stage in the Mill).

WORSTED QUALITY TERMS—ENGLISH MATCHING.

"Fine".....	say 44's	from shoulders.
"Blue".....	" 40's	" neck.
"Neat".....	" 36's	" middle of sides and back.
"Brown".....	" 32's	" haunches.
"Britch".....	" 24's	" hind legs.
"Cowtail".....	" 18's	" legs—extra coarse.
"Downrights".....	" 40's	" shorts from neck.
"Seconds".....	" 32's	" belly.
"Abb".....	" 24's	" haunches and legs.

COLONIAL CROSSBRED AND ENGLISH TERMS.

10's.....	equal to 56's	topmakers' quality.
9's.....	" " 50's	" "
8's.....	" " 46's	" "
7's C.....	" " 40's	" "
7's P.....	" " 40's	" "
6's.....	" " 36's	" "
5's.....	" " 32's	" "

Longer shorts are often available from hogg fleeces, which are a quality better and termed Pick, Super, Extra Super or Selected.

MERINO QUALITY TERMS.

Merinos are usually known by the recognized quality numbers (60's, 64's, 70's, etc.) to which is added "Ordinary," "Super," "Weft," or "Warp," according as the quality is very long and uniform, or suitable for warp as against weft purposes.

WOOLEN QUALITY TERMS.

"Picklock".....	from shoulder.
"Prime".....	" sides.
"Choice".....	" middle of back.
"Super".....	" middle of sides.
"Seconds".....	" lower part of sides.
"Downrights".....	" neck.
"Abb".....	" hind legs.
"Britch".....	" haunches.

Transportation Rates in England

RATES ON WOOL BETWEEN MARKET TOWNS AND BRADFORD

	to Bradford	(Wool Raw).	\$5.80 per ton C. & D.
Birmingham.....	"	"	5.62 " " "
Wolverhampton.....	"	"	5.52 " " "
Shrewsbury.....	"	"	5.38 " " "
Leicester.....	"	"	3.39 " " "
York.....	"	"	4.64 " " "
Lincoln.....	"	"	5.04 " " "
Derby.....	"	"	6.61 " " "
Northampton.....	"	"	3.39 " " "
Birkenhead.....	"	"	6.43 " " "
Ex Ship London.....	"	"	4.55 " " "
Newcastle.....	"	"	3.21 " " "
Hull.....	"	"	5.00 " " "
Nottingham.....	"	"	5.61 " " "
Carlisle.....	"	"	5.18 " " "
Durham.....	"	"	6.34 " " "
Dumfries.....	"	"	7.50 " " "
Glasgow.....	"	"	3.86 " " "
Preston.....	"	"	4.07 " " "
Lancaster.....	"	"	3.39 " " "
Sheffield.....	"	"	

Rate on wool from Bradford and Leeds to F. O. B. steamers Manchester, is \$3.21 per ton weight, collected in Bradford and Leeds.

RATES ON WOOL, OPEN SEASON, FROM F. O. B. STEAMER MANCHESTER :

To	Pressed		Half Pressed		Unpressed	
Philadelphia.....	\$3.39		\$5.36		\$7.50	
Montreal.....	4.33		5.40		7.54	
	C.L.	L.C.L.	C.L.	L.C.L.	C.L.	L.C.L.
Toronto.....	\$ 9.61	\$10.42	\$11.79	\$12.60	\$12.67	\$13.69
Hamilton.....	10.42	10.80	12.60	12.97	13.69	14.06
London.....	10.20	11.18	12.37	13.39	13.46	14.48
Almonte.....	6.30	6.73	8.47	8.90	9.55	9.99
Winnipeg.....	15.91	24.49			29.65	35.62
Guelph.....	9.61	10.42	11.79	12.60	12.68	13.46

AVERAGE RATES ON WOOL FROM AUSTRALIAN PORTS TO LONDON.

Wool (greasy) 1 cent per lb. plus 5% for insurance and incidental expenses.
 Wool (scoured) 1½ " " " " 5% " " " " " " " " " " " "

The above rates fluctuate according to the tonnage on the berth.

IMPORTANT:—Quotations are per ton of 2,000 lbs.

NOTE:—C.L.: Car Load. L.C.L.: Less than Car Load. C. & D.: Collection and Delivery.

Serious Faults in Preparing Wool for the Market and how they were corrected.

Elsewhere in our report, we often refer to the good organization of British markets generally and the excellent methods of handling wool there. We have also referred to the great care taken in preparing wool for that market and, what may appear to a few, the somewhat exacting requirements of merchants and manufacturers.

This may give some the impression that all British farmers are naturally orderly and systematic, but such is not the case. Good rules and regulations strictly enforced undoubtedly create good habits, and when good habits are once formed it is sometimes inconvenient to break away from them. To a great measure this is the case with the British farmer, but the chief reason is, that he was first taught to handle his wool properly and having once made a good start, he found that it paid him better to do it the right way than the wrong way.

The fact cannot be denied that there are still a few careless woolgrowers in the Old Country to-day, in spite of the general good record. A few small farms run by retired mariners and city men as a hobby, frequently evidence the need of a sharp reminder. Although British wool is handled better to-day than it has ever been before, as recently as twelve years ago, carelessness in this respect suddenly became so serious that it threatened the prosperity of the whole woolgrowing industry of the South of England. Some young farmers in the Southern counties who gave most of their attention to wheat growing and sporting, and treated their live stock as a side line, were the first to show signs of gross carelessness in rolling up their fleeces. This rapidly spread to neighboring counties until a few of the local wool fairs were almost demoralized.

So serious did this become in the short space of four years that the Bradford Chamber of Commerce was compelled to appoint a committee to investigate and report on the subject, and also to make recommendations to the woolgrowers. Fortunately the indignation of dealers and manufacturers was so strong, and the revised rules so strictly enforced that nearly all traces of carelessness were stamped out within eighteen months. The communication of the committee appointed by the Chamber of Commerce is so practical and valuable that we procured a printed copy, an extract from which is here presented:—

The following is the summary of the conclusions of the Committee referred to:—

"For many generations it was the pride of the British and Irish agriculturists that their wool was got up for the market in a manner superior to that of any other country.

"In their early efforts to arrive at this pre-eminence our ancestors obtained the assistance of the law, and an Act of Henry VIII. provided that 'no person shall wind or cause to be wound in any fleece any wool not being sufficiently rivered or washed, nor wind nor cause to be wound within any fleece clay, lead, stones, sand, tails, deceitful locks, cots, lambs' wool, nor any other deceitful thing whereby the fleece may be more weighty, to the deceit and loss of the buyer."

The penalty for infringement of this Act was 6d. per fleece, which was raised to 2s. per fleece by an Act of George III.

Many years ago these Acts were repealed, along with some others which were obsolete. So ingrained had become the custom of getting the wool up in the most desirable manner, and there was so little trouble arising upon this head that the wool trade allowed the Acts to be repealed without a murmur and the custom since their abolition has been for all practical purposes precisely what it was before. Accidents will always happen; there will always be some careless shepherds and probably there will always be some growers who cannot resist the temptation of selling dirt at the price of wool, but the general bulk of wool-growers have hitherto produced their wool for sale in a creditable manner, and in a manner which is the only one that can be described as the 'custom of the trade.'

During recent years, however, a new spirit appears to have been creeping in, and practices have been indulged in which have resulted in friction, and sometimes law.

Some of these practices must be put down to the unfortunate anti-sheepwashing agitation which was got up some years ago, and which, although emphatically condemned by the trade, has left behind it a legacy of trouble.

Another cause is probably to be found in the long continuance of low prices. It is asked by some farmers, 'What is the use of our taking so much pains upon an article for which we get so little money?'

This kind of argument produces a feeling of despair in the mind of the trader in domestic wool. Low prices are by no means confined to the wool trade. But in other trades both producer and customer are looking around in every direction for any likely means of improving the commodity, and are trying to help each other in working them out. In the wool trade, however, the new school seems to be saying, 'Prices are very low, let us, therefore, deliver the wool in worse condition, and so recoup ourselves.' And so instead of their helping to fight the ever-increasing competition, we have the singular spectacle of the producers of an article doing their best to hamper and inconvenience the other branches of the trade.

It is well to keep in mind the state of affairs as regards competition in wool. Leaving out the mountain wool, such as Scotch black-faced, which has a market of its own, and reducing all the wool to the absolutely clean or scoured state for purposes of comparison, the following is the production of competing wool,—

United Kingdom.....	90,000,000 lbs. washed.
Australasia and River Plate.....	262,000,000 " "

Mutton is now the dominant factor in the wool trade, and is transforming our long-wooled flocks at home into halfbreds. In the Colonies and on the River Plate mutton has given a fresh impetus to the growth of similar wool. What is more, the promise of future increase in this direction appears to be boundless.

In 1898 the Argentine alone bought 6,632 stud sheep from this country, at a cost of £94,323 and in the imports from that country may be found wool which will compete with almost any class grown in the British Isles.

When to this it is added that almost everything is done by the grower abroad to make his wool acceptable in the eyes of the European consumer, it does seem the height of folly that we should, by our own slipshod work, be doing our best to give the importers another point or two in the competition.

This is essentially a farmers' question for it cannot be too clearly understood that the user will soon tire of it. If the practices complained of become general, and the grower insists upon treating his wool as a by-product which is not worth any care, the inevitable result must be that the British manufacturer will give increased attention to the vast quantity and choice of imported wools, which are free from the faults complained of, and in which business is so easy to manage. The trader asks for nothing new or arduous. All he requires is an honest adherence to the best traditions of the past, if he is to do his share in preserving the past pre-eminence of the native product.

To do this the trader expects the grower to observe the following points,—

(1) The sheep should not be allowed to run too long after washing before being clipped, as this means in effect getting the wool back into greasy condition.

(2) Nor should they be clipped while wet, as this takes away the liveliness from the fibre and causes the wool to rot.

(3) They should not be clipped in dirty places, such as barns littered with chaff and straw and other matters which get into the staple, and cause endless trouble and annoyance. The cost of this fault to the user is serious, as it is often impossible to get this foreign matter out without the use of chemicals.

(4) When the fleece is wound, no clags of earth or dung should be left on the fleece, nor put in whilst winding.

(5) No locks, tailings, skin wool, black, or cots should be wrapped up inside fleeces, nor greasy wool wrapped up inside washed fleeces.

(6) The fleeces should be tied up with bands made by twisting a portion of the fleece itself. Strings composed of vegetable matter, such as hemp, jute etc., are bad, and ought not to be used.

The most careful manipulation by the manufacturer often fails to detect small pieces of string, which do not make their appearance until the cloth is dyed, because the dyes which are required for wool will not do for vegetable matter. Pieces of cloth are often damaged in this way to a very aggravating extent.

All the farmers of the United Kingdom can tie up their fleeces with wool bands, and have done so for generations, with the exception of a few western and southern counties. In the latter there is not only a perverse adherence to the use of string generally, but an amount of ingenuity in using the worst kind of string for the purpose, such, for instance, as reaper or binder twine which in any other trade would be called wanton mischief.

Even our great competitors at the River Plate have opened their eyes to this evil, and they do not forget to advertise to the public that their wool is thoroughly skirted and without strings.

In round figures, the total average production of wool in the United Kingdom for many years has been 138,000,000 lbs. per annum. The amount of this exported has been 20,000,000 lbs. per annum.

Probably not one bale of this wool could have been exported unless it had fulfilled the conditions specified above. Our best customer is the United States of America, whose manufacturers cannot afford to pay 5½d. per lb. duty on dirt and dung, and whose labour is too costly to be wasted on picking out chaff and strings.

One satisfactory outcome of the discussion is that the auctioneers of wool have met the Wool Trade Committee, and have agreed with them upon a definition of what constitutes "unfair packing." A large quantity of our clip is now sold by auction, and it is obvious that in these cases a thorough examination of the insides of the fleece would simply stop business. The wool has hitherto been bought, therefore, on the well-known basis of condition which has so long been the custom of the trade. By the new conditions of sale the auctioneers will reserve the right to make allowances to the purchaser for any damage arising from such practices as are condemned in articles 4 and 5 of the Wool Committee's Report."

The circulation of the Committee's report acted like magic, and two seasons afterwards the wool was placed on the market in better condition than it had ever been before in the history of the trade.

"Tub Washed" Wool

Tub washing, as it was understood a century ago, that is washing fleeces in a tub, resulting in the coarse hairs of the britch becoming mixed with the fine wool of the shoulder, would be unthinkable today. Mixing the different sections of a fleece in the process of washing ruins the value of the wool and renders it quite unsuitable for modern manufacturing purposes, because it makes correct sorting afterwards impossible.

This antediluvian system of washing wool is practically extinct in Great Britain. Small crofters in the Hebrides still scour their wool by hand in tubs or troughs, for use in the manufacture of Harris Tweeds and other kinds of handloom woolens, but it is always "skirted" or sorted to some extent. Even in the old primitive days, when crofters were somewhat careless with the wool they sent to the handloom weaver, the britch and belly wools were kept separate. Ever since the cottage industry associations have interested themselves in "Homespuns," an improved system of sorting has become general. The same remark applies to Donegal and Connemara Tweed, woven on handlooms in Irish cottages.

The peculiar irregularities and characteristic "blemishes" so noticeable in Harris and Donegal tweeds, are not the result of bad sorting or careless tubwashing, but of the primitive method of carding, spinning and weaving. These erratic blemishes are really the most attractive feature of Homespuns, because they stamp them with the "hall-mark" of genuineness and make them unique. The same results cannot be obtained with power-driven machinery in modern mills.

Tub-washing not only means a loss of about 40% in shrinkage to the farmer, but it also destroys the yolk. When sheep are washed before shearing, a certain amount of grease is bound to come away with the dirt, but the most valuable part of the yolk next the skin is not lost, while the shrinkage is only about 20%. Whenever the wool merchant finds well preserved "suint" or yolk in the fleece he is never afraid of cotted wool.

There is no place for tubwashed wool on the English market today, and well equipped woolen and worsted factories would not tolerate it. Even manufacturers of heavy blankets, and owners of factories turning out coarse

hosiery, informed us that they never had any "tubwashed" wool offered them now, and competition was too keen to be bothered with raw material handled in such a primitive fashion. A manufacturer of cheap serges said he had heard of tubwashed wool many years ago, but had never seen any, and did not know any manufacturer who had ever used it. Well classed fleeces, or wool scoured after sorting, was all he used. "A uniform finish," he said, "is just as necessary for cheap goods as for better class goods. For large contracts especially, careful and correctly sorted wool is very important, because every fresh delivery must be exactly the same as the last. We all have to put up with a certain amount of worry and anxiety in selling, but we cannot afford to have any unnecessary trouble with our raw material in these keen, price-cutting days."

Wool merchants and wool brokers told us that "tub washed" wool was ancient history, as manufacturers now insisted on having even the scoured tags carefully classed and sorted, while skin wool was graded in the pelt and sorted in pulling. The only wool washing done by English farmers takes place about a week before shearing.

Shoddy

(Description of the industry and its relation to wool growing.)

CLASSIFICATION.

The term "Shoddy" is generally applied by the uninitiated to every description of re-manufactured material, while some even go farther and use this term for woollen goods containing a portion of waste wool, and inferior noil. Although shoddy is the term most frequently used, those more intimately acquainted with the industry classify the various kinds of re-manufactured materials under the following names:—Mungo, Shoddy, Extract, Flocks and Wastes.

BASIS.

Rags alone do not constitute the basis of re-manufactured materials of this description, as many people are led to believe. Although rags form the greater bulk of it, shoddy is also made from wastes, inferior noils and tailors' clippings. Ready-to-wear clothing factories now supply the rag market with many thousands of tons of clippings every year, so that less rags go into shoddy now than formerly. Some years ago, tailors' clippings were nearly all used up in kitchen hearth rugs, known in the trade as "Beam-Rugs", but such rugs are not fashionable now, and the few still used are made entirely from cast off military coats. All tailors' clippings now go into shoddy and mungo, the light in the former and the dark in the latter. The new burring machines for removing vegetable matter from fine wools, provide the shoddy mills with a large quantity of broken fibres and other wastes. Large quantities of carbonized wool and fellmongers' waste are also used. The remainder chiefly consists of hosiery rags, such as stocking legs. All these fibres are short, but they have good felting properties. Mungo is made up principally of worsted rags, and the fibres are longer and stronger than those already named. It would surprise many people if they saw the long clean bright fibres that are turned out as mungo. Extract is merely the wool extracted from union rags.

HOW IT IS MARKETING.

Outside the districts where rag-grinding and carding is carried on, little seems to be known about marketing the raw material for re-manufactured goods. Still it is a highly systematized business, and in many ways surpasses other branches of the textile trade for skill, sound judgment and technical knowledge. Most rags are first sold by the housewife to the peddler, who takes them to the "Marine Store" or "Junk Shop." There, they go through some preliminary sorting; cottons are separated from woollens, and linings are torn out and separated. They next pass to a regular rag-dealer who collects these small, partially sorted lots and subjects them to a thorough sorting, matching and classing. They are next handled by a large merchant or exporter who fumigates them, packs them in compressed bales, under some standard mark, and ships them to the world's markets. By the time they eventually reach the sale rooms they have passed through many hands.

Not being familiar with the rag markets on the European Continent, we will confine ourselves to what we saw in the Dewsbury sale-rooms. The bales are catalogued with a smartness and precision that would do credit to the wool sales in London or Sydney. Everything is well regulated and businesslike, and although competition is very keen, the assembled buyers are less excited and less noisy than those we are familiar with in wool exchanges. The auctioneer's commission never exceeds 2½% but that is high compared with the ½% commission at wool sales, where the work is ten times harder. The skill of the buyers astonished us. No wool buyer at Coleman Street is more familiar with the marks and brands of the Australian Stations than the Dewsbury men are with those bales of rags. They are even quicker than the best wool judges to recognize the origin of any material brought before them, and more prompt in deciding its value. They have been trained to this work ever since they left school, and no sooner is a lot of mixed samples placed before them, than they can instantly pick out French, Belgian, Dutch, Danish, German, Scandinavian, Turkish or American rags. London cloth and Scotch hosiery are the chief favorites.

The clean condition of all those rags was a revelation to us. They were not rags at all, but good clothes very little worn, and a few years ago such clothes would have been pressed and displayed in the windows of the second hand clothier. A generation ago, the tyranny of fashion was confined to the rich and the well dressed, and their slightly worn, cast off garments first found their way to the second-hand clothes dealer. Then, they were bought by the working classes who finally converted them into rags. Today, the tyranny of fashion has extended to the poorer classes, and their craze for cheap ready-to-wear clothes has made the second-hand clothes store a thing of the past. Even at pawnbrokers' annual sales, clothing is bought by rag merchants. The result is that second-hand clothes never become rags at all, but arrive at the shoddy mills slightly worn. The past twenty years has worked incredible changes in this trade. Thread-bare rags are of no use in modern re-manufactured goods, because they have no felting property. Even the stockings we saw had the feet cut off, necessitated by the exacting rules of modern sorting. We asked what became of the very poor rags, the refuse, and we were informed that they were chiefly ground up in factories on the European Continent and used for padding and paper making purposes. It will surprise many to know that new jackets and mantles are a regular line in the rag markets, and are worth \$11.50 per cwt. (112 lbs.). Whether they are fire salvage goods or bankrupt stocks we cannot say.

The highest priced rags we saw during our visit consisted of white flannel, at \$15 per cwt. (112 lbs.). The lowest price as \$1.15 per cwt., for union linsey, but the bulk of what we saw sold at prices varying from seven to ten dollars per hundred-weight.

THE PRICES OF "SHODDY."

Having stated the average prices of rags, we will now give a slight idea of the prices of the re-manufactured materials, the so-called "shoddy," the raw material of the manufacturers of low class woolen goods.

MUNGO.—Hard worsted cloth rags and clippings. Length: $\frac{1}{2}$ inch (about). Generally fine. Color, Varied. Used for cheaper fabrics and as blending material. Average price per lb. in oil 2c. to 15c.

SHODDY.—Soft woolen flannels, hosiery, and tailors' clippings. Length, $\frac{1}{2}$ inch to 3 inches. Fairly fine. Used for cheaper fabrics and as blending material. Average price per lb. in oil, 9c. to 16c.

EXTRACT.—Union fabrics, wool and cotton. Length: Short $\frac{1}{2}$ inch and downwards. Color Varied. Average price per lb. in oil 6c. to 9c.

FLOCKS.—Finishing operations. Length: Very short. Color Varied. Used as blending material and also for mattresses and wallpapers. Average price per lb. in oil, 2c. to 9c.

NOIL.—Short fibres extracted during the worsted combing operations. Length: Varied, from $\frac{1}{2}$ inch upwards. Color, Chiefly white. Used for shawls, woollens and as blending materials for worsteds. Average price per lb. in oil 13c. to 30c. There are various qualities of noil—English, cross-bred, botany, mohair and alpaca.

WASTE.—Loose broken wool fibres. Length, very short. Inferior to noil. Used for blending and felting purposes. Prices irregular.

The prices of Mungo and Shoddy are advancing every year, owing to the scarcity of wool.

METHOD OF MANUFACTURE.

The chief difference between Mungo and Shoddy is the sorting of the material before it is ground up. The methods of manufacturing Mungo and Shoddy are almost the same; the processes consist in dusting, sorting, seaming, oiling and grinding. Dusting and cleaning is done by machinery, and is largely a hygienic process. Sorting is done in accordance with quality or color and sometimes both. Seaming refers to the removal of every particle of cotton thread, which otherwise would cause a "flecked" piece. Oiling is to ensure a gliding of the fibres on one another rather than rupture, which would mean an inferior quality of spinning material. Grinding means the teasing-out of the fibres, so that as much of the original length of the raw material may be retained as possible.

The system of manufacturing Extract is very similar to that of the manufacture of Mungo and Shoddy, but the material to be ground up is obtained from a mixture of cotton and wool cloths or union cloths, from which cotton and all other vegetable fibres have been extracted by the sulphuric acid process.

"Flocks" are produced in certain machines from which they take their name, thus "cropping," "raising" and "milling" flocks are spoken of. Some flocks turn out so short that they are unsaleable in the usual channels, and in such cases are sold to paper mills where they are used in the manufacture of certain kinds of wall paper.

Noil is really the residue or short fibre which the wool comber rejects during the process of preparing and combing wool to form the "top" from which the drawer and spinner produces the worsted thread. Good noil is used in the manufacture of woollens and tweeds, while inferior noil is sold to mills in the shoddy district for mixing with that material.

WHERE IT IS MADE.

Re-manufactured materials of the Mungo and Shoddy class are made in every country in the world where woollen goods are manufactured. In most countries rag-grinding mills are scattered over the woollen districts, but in Great Britain they are confined to two towns,—Dewsbury and Batley. There rag-grinding is a specialty, and about 3,360,000 lbs. are turned out weekly, including the noils and wastes of new wool. Woollen goods from Mungo and Shoddy yarns are woven in that neighborhood, especially in Morley, where some wonderful results are produced with cotton warps. A great deal of the material is exported in yarns to other countries, who use it for various purposes. The fact must not be overlooked, however, that the Shoddy industry, although large, only represents a fraction of the immense woollen industry in England.

ITS USES.

Both Mungo and Shoddy are used as substitutes for new wool as well as for blending purposes. Cheap fabrics of every description are made from this material and, although not generally known, more of it goes into low priced dress stuffs and hosiery than into tailors' woollens. Enormous quantities of shoddy yarns are exported from Dewsbury to various places on the European continent, where they are used for dress stuffs, knitted goods, etc., etc. Another large outlet for mungo and shoddy, is in the manufacture of casket cloths. This is quite an extensive industry in Morley, where beautiful goods of this description are turned out. Coffins are mostly polished in England, and not covered, consequently casket cloth is an export trade. Huge orders come from the American continent where this material is extensively used, as most caskets there are covered with cloth. It is a most erroneous idea that the cloths exported from Dewsbury district are all tailors' woollens. Low priced tailors' woollens yield such a small profit that they have less temptation for the shoddy mills than other branches of the woollen industry. The common adulterant for low-class tweeds is inferior noil and "waste", because these require less trouble than re-manufactured materials, although good mungo is stronger and better than much of this inferior noil. A large quantity of shoddy goes into cheap blankets and flannels, and mungo into cheap rugs and colored blankets. "Extract" and the lower qualities of shoddy go into felted cloths of various kinds, stair pads etc. Large quantities of re-manufactured materials are often mixed with rabbit fur, and used in the felt hat trade. Flocks are used for "bedding" and upholstery purposes, saddlery padding and even for wall paper in some cases. It is impossible to mention all the uses of re-manufactured materials, but we merely wish to emphasise the fact, that it is a great mistake to imagine that they all go into the cheap suits at the ready-to-wear store.

WHY SUCH MATERIALS ARE NECESSARY.

Such materials are absolutely necessary, because there is not sufficient wool grown in the world for the actual needs of the people. If wool substitutes were not used, wool clothing would be limited to the supply of new wool, which would make little more than one pound of cloth annually for each person. The yearly increasing demand for woollen goods, and the extensive use of them being out of all proportion to what it was many years ago, has naturally caused the invention of a substitute which happens to be a kindred material. It is now computed by the best authorities that it would require 100,000,000 more sheep than we have in the world today to answer the double purpose of satisfying this healthy demand and at the same time preventing the shoddy industry from extending beyond its present dimensions.

WHO WEARS "SHODDY?"

It is sometimes worn by people who do not know it, and often by people who do not care. The poorer classes in many large cities in Europe and elsewhere are glad to get it. Among the working classes in England, some wear it who cannot afford to buy higher priced woollens, while others are so thoughtless and improvident that they would rather spend the difference between the price of good and indifferent woollens on drink and sports. There are still others who wear it a short time until it becomes shabby, and then "wear it out" at their work instead of using overalls. This accounts for the untidy appearance of some English laborers when returning from their work. Less shoddy goes into clothing now than formerly, because it can be utilized more profitably in other branches of the woollen industry.

MISREPRESENTATION.

Re-manufactured materials, such as those described have been the subject of much misrepresentation. More falsehoods have been written and published about "shoddy" than about any branch of the textile trade. Sensational magazine writers are busy every day, and we are prepared to make allowances for them in these days of "Yellow Journalism," but sensible people with honest intentions have often written erroneous letters to the press without any knowledge of the subject. In other cases, respectable trade journals have been so indiscreet as to open their pages to prejudiced writers possessing no practical experience. During our investigation, we met an intelligent farmer in Ontario who had become so embittered over the sensational articles he had read about shoddy, that he always burned his cast-off clothes so that they might not fall into the hands of a peddler, and eventually reach a mill where rag-grinding was carried on. He was not a crank in any sense of the word, but simply the victim of prejudiced and misleading articles by ill informed writers. Not only was he an intelligent farmer, but a good sheep man and both he and his son were such excellent judges of fleeces that we are looking forward to the pleasure of meeting them again. Many people complain about the use of shoddy as if the woollen industry were the only one using re-manufactured material. We never hear those interested in gold or silver mines complaining about the remelting of old jewellery, nor those with large sums of money invested in mining iron ore, complaining about the use of scrap iron. During the great rubber boom, no one ever heard of the companies engaged in rubber plantations, uttering a single com-

plain about old rubber being re-manufactured. To mention other industries in this regard would be tedious, but the question is, why should the woolen industry alone, be singled out for attack, and made the subject of erroneously misleading agitation among sheep farmers, when it does not directly concern them? Although we may not like it, we cannot get away from this fact,—the manufacture of mungo, shoddy, etc., is a legitimate industry and an absolute necessity for present requirements. The firms engaged in the manufacture of this material are composed of men of the highest integrity, who run their business in an exemplary fashion. Their mills are also subjected to the most searching government inspection.

In the old days when rags were so extensively utilized in the manufacture of paper, and the machinery used in the shoddy industry was comparatively primitive to what it is now, the work of handling and sorting rags was both dirty and unhealthy. Owing to the great development of wood pulp and other vegetable material in the production of paper, and also the wonderful improvements made in machinery for manufacturing shoddy, the manipulation of rags is now entirely mechanical, so that the former unwholesome and unhealthy conditions have been eliminated. Shoddy is frequently called a necessary evil by those who object to it, but the impression that it is dangerous, either to the mill operatives or the wearer, is now quite erroneous. Notwithstanding this, however, no one attempts to deny the fact that it is neither durable nor satisfactory to the wearer, because garments made from it rapidly lose their shape, and quickly assume a shabby appearance. Although it can be honestly described as "all wool" by dealers, it only stands in the same relation to new wool that skimmed milk does to cream.

ITS RELATION TO WOOL GROWING.

In what way does shoddy affect the wool growing industry, and what concern is it of the farmers? It does not directly injure wool growing in the slightest and never has done, but indirectly extensive sheep farming would make re-manufactured materials almost unnecessary. The presence of a wool substitute in the market, is the best guarantee the farmer can have of high prices. If wool were plentiful, the substitute would be unnecessary and the price of new wool would be very much lower than it is today. The price of good shoddy is now as high as 16 cents per pound, so that it is really a cent higher in the oil, than Canadian wool is in the grease. First grow sufficient wool for the world's needs, and then it will be time enough to object to substitutes. Adulterants and substitutes are manufacturers' questions and do not concern the farmer more than they do the fisherman. Some manufacturers use substitutes for new wool, and others do not. Those who do not use it, desire legislation for dealing with substitutes, so that all goods should be stamped accordingly. The idea is a good one, and it answers well with oleomargarine and butter, but textile fabrics present many difficulties in this direction. It would be easy to detect vegetable substitutes, but almost impossible to trace re-manufactured wool substitutes. Many experts say, that it is just as difficult to detect re-manufactured wool fibres in cloth, as it is to detect re-melted gold among fresh gold in a sovereign, when a small percentage is used. When such questions are brought up in textile journals they are perfectly legitimate, but shoddy questions should have no place in agricultural journals.

Although the world is short of wool, the use of mungo and shoddy in wool fabrics has decreased fully 30% during the past few years, both in

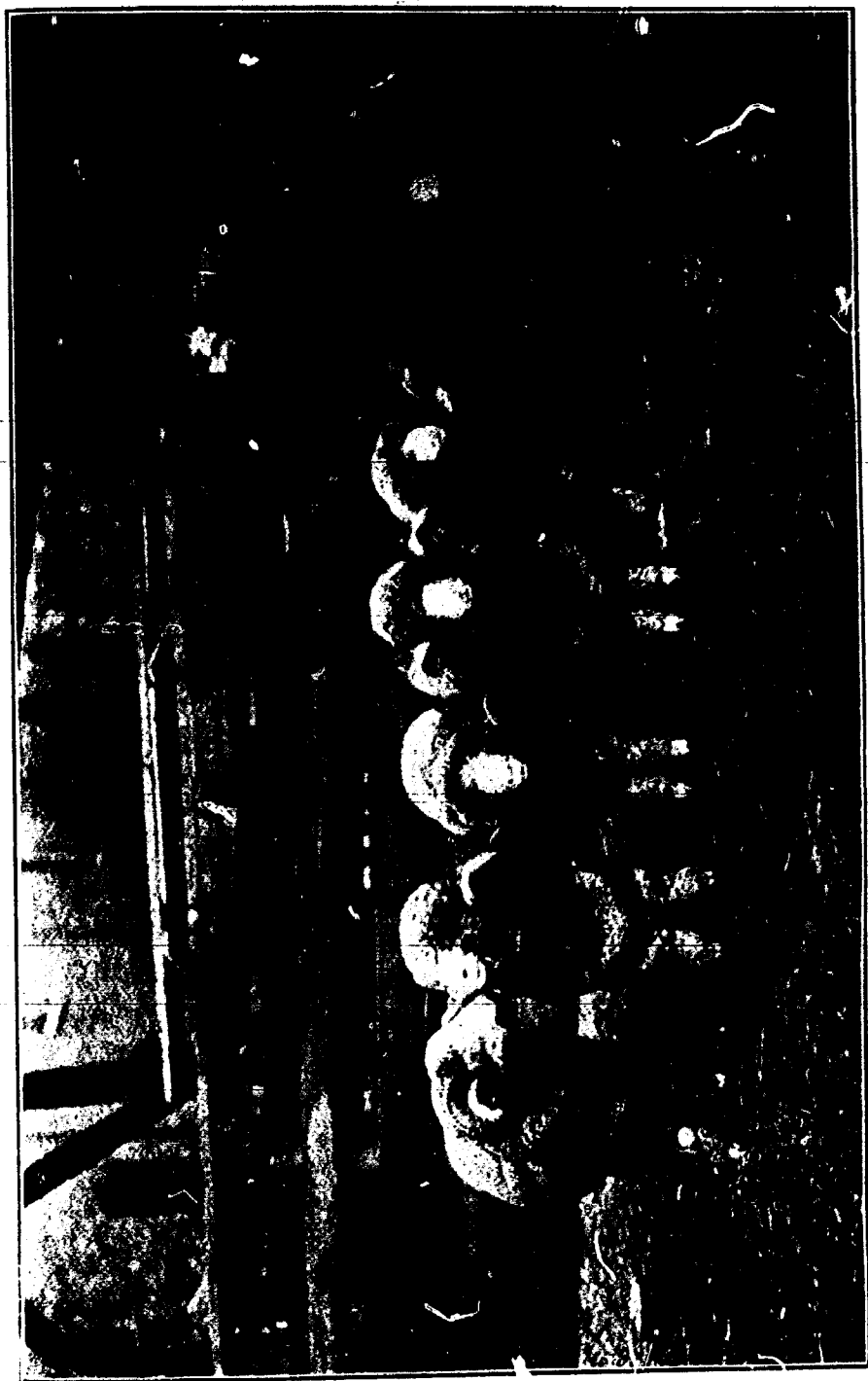


Fig. 80. — Rambouillet Favosites. (Chicago International.)



Fig. 8L.—Dandie Dinmont. (A New South Wales Merino Ram, sold for \$7,750.)



Fig. 82. Donald Dinnic. (Merino Ram, sold for \$6,000.)



Fig. 83. -- Three Merino Champions. (Chicago International.)

England and America. Re-manufactured materials are now being more extensively used in other channels, while inferior noil is taking their place in men's suitings and women's dress stuffs. If the world contained the requisite number of sheep, the woolen mills would have a residue of "wastes" and inferior noils sufficient to satisfy the requirements of many mills using re-manufactured substitutes, so that grinding of rags would then be quite unnecessary for any kind of wearing apparel. It is therefore desirable that a special effort be put forth to extend sheep-farming so as to make up this great deficiency in the world's supply of wool.

CHAPTER X.

COLONIAL AND OTHER WOOLS

Wool Classing in Australia

Although the object of classing wool in Australia is exactly the same as in any other country, the system generally is entirely different to that of England. This cannot possibly be otherwise when the difference in breed, climate, local condition, resources and geographical position is considered. Everything is on such a vast scale, and large tracts of country have to be covered before there is a change of grazing or climate. The flocks also outnumber any to be seen elsewhere, being counted not only by tens of thousands, but by hundreds of thousands.

In the small area of Great Britain, the climate is varied and changeable, one district differing widely from another in many ways. The character of the soil and the kind of grazing is frequently quite different within a radius of five miles. For this, and several other reasons, each of the chief grazing counties is famed for a certain breed of sheep, with the result that over thirty different breeds are the outcome of adaptation to local resources and market requirements. Leaving the numerous cross-breds out of consideration, the variety of wools from pure breeds alone is very perplexing. Australia furnishes a wonderful example of handling enormous quantities, and few qualities in a vast area, while Great Britain furnishes an excellent example of how a large quantity of varied kinds and numerous qualities can be successfully manipulated in a small area. An English longwool fleece will yield from five to nine qualities at the sorting table, while a Merino fleece will only yield three altogether. "Wool Classing" in Australia is practically the same as "Grading" with additional details, and must not therefore be confused with the simple "Classification" of fleeces by sheep farmers in Great Britain, described in another chapter.

In order to convey a slight idea of Wool-Classing in the interior or "Back Country" of Australia, it is necessary to start with a brief description of shearing.

The head-quarters of a large "sheep run" in the interior, is the "Station". The station contains everything required in connection with sheep farming, dipping plant, shearing shed, classing room, pressing room, stores, warehouses, etc., and is generally situated many miles away from the nearest railway depot.

When the shearing season comes round, the sheep are driven long distances by short stages until they reach the "station". After waiting nearly a day outside, they are penned to await examination. A few of the shearers examine one or two sheep in each pen, and after carefully feeling the brisket, they are pronounced wet or dry, as the case may be. Those considered dry, are driven into the "catching pens" ready for the shearers. Then the engine starts and the work begins. Each shearer seizes a sheep and before you are aware of what has happened the little animal is in position and the bright clipper is gliding through the fleece. First, the belly wool comes off separately and falls on the floor. Next, the locks and extremities also fall on the floor separately. The sheep is now "cleared" and the shearing of the fleece proper

begins. Holding up the awkward neck wrinkles, the shearer clears one flank and gradually works round to the other, and so on. Within five minutes from start to finish, the fleece lies on the floor. Within two seconds the "picker up" has it by the hip pieces, and carefully gathering it up he spreads it on one of the tables at the end of the shed, and rushes back to do the same with the next fleece.

No sooner is the fleece on the table than it is "Skirted" by experienced men who do nothing else during the shearing season. "Skirting" may be crudely described as taking the border off part of the fleece, chiefly at the flanks where it is much tangled and full of burrs, seeds and dry grass. This appears a simple job but it requires experience and sound judgment as a careless skirter in a big station would cause his employer to lose a large sum of money with one day's work. When the fleece has been skirted, it is rolled up and placed on the wool-classer's table. The tops of these tables are not solid, but consist of narrow laths about a quarter of an inch apart. Any odd locks, loose bits and second cuts fall through the bars, and drop on the floor underneath, while the fleece is being examined by the "classer". The wool classer is not only an important man at the station—the "Boss of the Board"—but an expert, a scientist with a technical knowledge of the structure of the wool fibre and a thorough knowledge of the requirements of the trade as well. It is unnecessary to add that men of his calling always command very large salaries.

The wool-classer unrolls the fleece, examines it carefully, runs his fingers through the wool, opening out and closing up the dense shoulder parts as only an expert can, sometimes using a magnifying glass when in doubt about diseased fibres. He has to decide right now what the fleece is good for and what purpose it is best suited for when it eventually reaches the mill. If the station did not keep a first rate wool-classer, the manufacturer would be compelled to keep a high-salaried expert to grade the fleece for his sorters, consequently he could not afford to pay as much for the wool as he does at present. Well classed wool, not only means a great saving to the brokers, wool merchants and manufacturers, but ensures satisfactory results as well.

After a keen scrutiny of the fleeces, the wool classer throws those with fine, even wool—two inches or over in "first combings" and those slightly coarser and less even into "second combings". Similar wool to "first combings" but shorter, goes into "first clothing" and a quality slightly inferior goes into "second clothing". Irregular fleeces containing inferior wool, or with the least indications of cotting, never go into any of the four bins named, but are shot into another bin labelled "cast fleeces." Occasionally, one will find squatters who make a practice of calling their first and second combings A and AA, and their clothings B and BB. Some German spinners are in the habit of using the same terms for their yarns.

Having described the classing of the fleece, the next question is, what becomes of the oddments, such as dung bits, floor locks, belly wool, skirtings, fore head wool etc. Nothing is lost. Every fragment is gathered up, classified, scoured and made profit-earning.

The dung bits and "floor locks" are collected in baskets by the "sweepers" and afterwards emptied in a special bin labelled "locks." The same is done with "forehead locks," "table locks," "bellywool" and "skirtings," each in a separate bin. When separately scoured, all the various locks are afterwards packed in bales and branded "locks and pieces," "skirtings," contain many burrs and sell for less than good scoured locks because they have to be specially treated during the carding process in the mill. Belly wool

contains so much vegetable refuse as well as burrs that it frequently has to be carbonized at the mill. Table-locks are very short and realise a small price and are chiefly used for flocks or blending purposes in the shoddy industry.

When Merino wool is thoroughly scoured, the shrinkage is about fifty per cent. Most of this is grease—yellow yolk in some cases—but this is not altogether waste because it is sold to the refiners for making lanoline. Whenever it is found convenient Merino wool is scoured and not shipped in the grease, because it not only sells better and realises a better price in proportion, but it saves the grower a large amount of money in freight. Some of the big stations will scour out one hundred and twenty tons of grease and dust in one shearing. In some of the smaller stations, wool is never scoured, but shipped in the grease after being skirted and classed. Large stations within easy distance of the seaports, skirt and class their wool carefully, and ship it in the grease when there is a good demand for it in this condition. Wool from small flocks of Merinos and cross-breds is merely skirted, in the shearing sheds and sent to a broker who grades it and sells it on commission. Some brokers advance money on the wool at bank interest, and remit the balance when the wool is sold. This is done both in Australia and New Zealand and is very satisfactory as a general rule, but the great bulk of Australasian wool is turned out ready for the manufacturer, by the large well equipped stations, in the condition already described.

After the wool has been classed and scoured, it is packed in compressed bales (about 300 lbs. weight) and carefully branded. There is a recognized system in branding so that abbreviations and marks form a descriptive sentence to wool buyers when catalogued. For instance, "57. TOORALE. 2nd Combing W.H." That would mean the fifty-seven bale pressed at Toorale and filled with second combing shorn from Wether hoggets. Another example—Scoured B pcs. SL. NOONDOO. H. That is, scoured belly pieces, selected lot, packed at Noondoo and clipped from hoggets.

The wool is now ready for shipping, and only awaits the arrival of the next bullock waggon. Considering the great distance of the "back stations" from the nearest railway, the bullock waggon service is excellent and the huge loads the waggons take are really astonishing. When the wool waggons arrive at the railway depot, they are unloaded by a staff of porters kept expressly for packing the bales on special freight trains. Immediately after the arrival of the train at one of the seaports, the wool is ware-housed to await selling instructions. Some of it may be sold locally and some of it may be shipped to London but in either case no time is wasted and the whole of this vast system is highly satisfactory.

Three strong points in the Australian Wool industry have secured success and a world wide reputation,—expert knowledge, good organization and honesty. No English manufacturer takes more pride in the reputation of his trade mark than the Australian wool grower does in the wool he brands. Even manufacturers of billiard table cloth will tell you that "Australian Wool is exactly what it is branded and is always the same year after year." But for this expert classification and honesty, Australia would not occupy the position she does today in the sheep industry.

The wages paid to Australian shearers are twenty-four shillings for every hundred sheep, and considering that they shear from ninety to one hundred and ten a day, they average about \$3.5 a week. Unfortunately, many of them are very careless in their personal habits and generally spend their money foolishly.

A description of the system of marketing Australian wool will be found in the chapter on "Colonial Wool Sales."

Australasian Wool Exports

The exports of wool from Australia and New Zealand during the past eight years are very interesting in many ways. Australia only exported 994,796 bales in 1904, but increased in the meantime to 1,975,000 bales last year.

New Zealand exported 372,146 in 1904 and 493,000 bales last year. Australia's sheep population is fully ten million below the top figures reached before the great drought nine years ago, yet the past year's wool clip was far in excess of what it was then with nearly eleven millions more sheep. This is a striking instance of improved breeding, because the sheep are vastly superior from a mutton standpoint in addition to the great improvement in quality and increased weight of the fleece.

EXPORTS FOR THE PAST EIGHT SEASONS.

	Australia Bales	New Zealand Bales	Total Bales
1903-04.....	994,796	372,146	1,366,942
1904-05.....	1,218,969	376,765	1,595,734
1905-06.....	1,454,820	414,635	1,869,455
1906-07.....	1,663,130	327,058	2,090,188
1907-08.....	1,620,890	436,941	2,057,831
1908-09.....	1,796,347	491,757	2,288,104
1909-10.....	1,921,705	512,938	2,434,643
1910-11.....	1,975,000	493,000	2,468,000

An Australian bale averages fully 350 lbs., so that the total amount exported last season must have been upwards of 863,800,000 pounds.

Particulars of Australian Wool Sold in London

The quantities of Australian Wool sold at the Wool Sales in London in 1910 were as follows:—

January 15th to 30th	52,500,000 lbs.
March 12th " 27th	57,400,000 "
April 30th " May 16th	51,450,000 "
July 9th " 24th	50,400,000 "
Sept. 24th " Oct. 4th	31,150,000 "
Nov. 26th " Dec. 10th	38,500,000 "

Total sold 281,400,000 "

Upwards of 307,400,000 lbs. were offered during the year, but 60,000 bales were held over for next sales. The above figures are the direct shipments from growers to London. Wool sold in Sydney and resold in London is not included.

The result of keener competition in England through the large attendance of foreign buyers, is worthy of notice.

As a comparison between the average prices realised in Australia and London we give figures for the past nine years.

	Australia per bale	London per bale
1902.....	£ 0—6—4	£13—6—2
1903.....	11—18—4	15—9—0
1904.....	12—7—3	15—6—6
1905.....	12—13—1	16—2—0
1906.....	13—10—3	17—13—4
1907.....	14—3—11	17—18—2
1908.....	13—0—2	13—12—0
1909.....	11—6—10	15—10—0
1910.....	13—12—2	16—18—0

The freight and selling expenses amount to nearly one pound sterling per bale, and this should be deducted from the amount realised in London.

Official Wool Returns of Australasia

(Dalgety's Statistics)

Markets 1910	GREASY		CLEAN		1910 GRAND TOTAL	
	Bales	Gross Value	Bales	Gross Value	Bales	Value
Sydney.....	691,419	\$42,451,560	92,890	\$6,857,030	784,309	\$49,308,590
Melbourne & Geelong.....	463,551	28,713,390	13,616	928,390	477,167	29,641,770
Adelaide.....	143,621	7,765,655	1,428	87,505	145,049	7,853,160
Fremantle.....	1,460	7,250			1,450	72,500
Brisbane.....	164,330	11,437,715	50,830	4,269,255	215,160	15,706,970
Tasmania.....	19,420	987,885			19,420	987,885
New Zealand....	221,050	13,037,955	1,562	124,180	222,612	13,162,135
Australasia.....	1,704,841	\$104,401,410	160,320	\$12,266,350	1,865,167	\$116,733,010

Oversea Shipments of Australasian Wool.

States	1910-11	1909-10	1908-9	1907-8	1906-7
	Net Weight lbs.	Net Weight lbs.	Net Weight lbs.	Net Weight lbs.	Net Weight lbs.
N. S. Wales.	304,864,230	307,598,640	296,659,908	267,545,312	293,254,150
Victoria.	160,085,365	165,968,475	147,401,208	144,959,313	161,821,037
Queensland.	92,283,456	78,092,094	59,683,068	48,888,320	40,319,650
S. Australia.	56,932,314	52,206,225	53,626,212	52,445,440	47,730,506
W. Australia.	27,449,730	23,833,329	18,398,340	18,420,435	14,804,407
Tasmania.	5,223,782	5,018,160	6,247,692	5,992,250	4,041,572
Commonwealth.	646,838,877	632,716,923	582,016,428	538,258,070	561,079,322
New Zealand.	173,173,572	184,144,742	174,573,735	143,559,940	148,189,126
Australasia.	820,012,449	816,861,665	756,590,163	686,818,010	710,168,448

Sheep Returns.

(Sheep of shearing age, corrected to latest dates)

States	1910	1909	1908	1907	1906
N. S. Wales.	45,825,308	46,194,178	43,329,394	44,555,879	44,132,421
Victoria.	12,937,983	12,937,983	12,545,742	14,146,734	12,037,440
Queensland.	20,153,239	19,593,791	18,348,851	16,738,050	14,886,438
S. Australia.	6,432,038	6,898,450	6,829,637	6,624,941	6,061,217
W. Australia.	5,157,658	4,692,419	4,098,500	3,694,852	3,340,745
Tasmania.	1,735,000	1,728,053	1,744,800	1,729,394	1,729,394
Commonwealth.	92,241,226	92,044,874	86,896,914	87,489,850	83,687,655
New Zealand.	23,792,947	23,480,707	22,449,053	20,983,772	20,108,471
Australasia.	116,034,173	115,525,581	109,345,967	108,473,622	103,796,126

These statistics arrived after the foregoing chapters were written.

Some Details of South American Wools

During the past three years, great changes have taken place in South America as well as in other large wool producing countries. The various republics on this vast continent are often credited with frequent political changes, but fortunately for the wool growing industry, they are not much troubled with tariff agitation. Wool growers here, as in Australia, settle down to their work, mind their own business and leave the manufacturing interests to look after theirs. They each know that their country is capable of producing far more mutton and wool than their population can consume, and also that their markets will be regulated by the vast surplus they can export, and not by domestic requirements. In this way they give such careful attention to the demands of their export markets, that the quality of their

production has attained a higher standard than would ever have been possible had they restricted their efforts to their own wants. This appears to be the case in all successful sheep farming countries. Although behind other countries in many respects, and having no small amount of local drawbacks and disadvantages, they have devoted particular study to sheep farming and with surprising results. The quality of their mutton is not only good, but they get up their wool in a very creditable fashion and take a special pride in it.

In addition to devoting careful study to their by-products and exports generally, they are enthusiasts in breeding the very best class of animals. Argentina breeders in particular, have a world wide reputation for paying record prices for stud rams. They have frequently paid from \$1,500 to \$3,000 for Lincoln rams, and in a few cases even \$5,000. What a contrast this is to the practice of many of our own farmers who not only grudge paying the low price of \$15 for a purebred ram, but consider a breeder unreasonable if he asks for a pedigree ram lamb, 75 cents more than the butcher would give. Many others never attempt to get a pure bred ram at all but use an unsightly scrub ram of their own.

Sheep farming has been well understood in Australia for many years, but Argentina suddenly sprang to the front and achieved a huge success in a very short period, by enthusiasm and education alone. South American wools have been a power in the markets of the world for several years now, and their brands are not only recognised, but eagerly sought after wherever wool is manufactured.

Notwithstanding the phenomenal growth of the sheep industry in South America, its different geographical position, its varied climatic conditions and its still more varied local conditions, the changes during the past two or three years have been very similar in many respects to those in Australia. This is particularly true of the Argentine Republic where the changes have been of exactly the same nature.

The great changes which have taken place here, as well as in Australia, during the past few years, have been caused through the rapid progress of mixed farming. Large tracts of range country, which were used exclusively during the past twenty years for sheep pasture, have now become so enriched and fertile as to make them a paying proposition for the extensive growing of grain crops under improved methods, while others still further enriched and more favorably situated, are being cut up into mixed farms. The amount of sheep land now passing under the plough is incredible. This will adjust itself in time, but it will mean a huge decrease of both sheep and wool during the next ten years. Sheep in particular, and live stock in general, will always be a specialty with the South American farmer, but it is doubtful if the numerous mixed farms will ever carry anything approaching the number of sheep formerly kept under range conditions, as winter feeding is not a factor to be reckoned with in that country. Scarcity of pasture is quite common through summer drought, but there is little or no scarcity of winter pasture through severe weather.

Australia has been favoured with abundant rains during the past two years, but Argentina and several other countries in South America have been suffering more or less from droughts for nearly three years. These have had the effect of reducing the number of sheep on the latter continent in addition to causing the range country to be cut up into farms.

The following are the official returns of the Department of Agriculture at Buenos Ayres, respecting the number of sheep:—

1888.	66,701,097.
1895.	74,397,562
1908.	67,211,754

The sheep census in Argentina is taken with great care and may be relied on as being as accurate as possible. Since last census the drought has been more severe than usual and flocks have been reduced by increased killing. It is estimated to-day by the best authorities that apart from young lambs unfit for shearing this year, there are not more than fifty seven million sheep in the River Plate region at present. For several years there has been little or no increase in Patagonia, while the number of sheep in the Falkland Islands is quite stationary. Uruguay and Puntas Arenas wool clips have shown a healthy increase, due no doubt to improved breeding, but we are not aware of any increase in the sheep population during the past three years. The annual production of wool is generally a fair indication of the number of sheep maintained, but in countries exporting large quantities of live sheep as well as mutton, this is sometimes misleading. The following figures give the South American clip for the past eight seasons:—

1902.	1,615,515	bales
1903.	1,679,321	"
1904.	1,460,073	"
1905.	1,426,133	"
1906.	1,445,139	"
1907.	1,404,312	"
1908.	1,551,709	"
1909.	1,627,733	"

The average weight of a South American bale of wool is 930 lbs., and Uruguayan bales contain 1,024 lbs.

Wools from Puntas Arenas and Falkland Islands are sold in London and not in Liverpool, like the greater bulk of the South American clip. The following amounts were catalogued at the London sales during the past five years:—

1906.	37,677	bales
1907.	59,770	"
1908.	70,058	"
1909.	63,844	"
1910.	70,144	"

Each of these bales would contain over 900 lbs.

There is a marked decline in the Argentine clip which is too important to pass unnoticed, although there is a decided improvement in quality:—

1908.	430,000	bales
1910.	340,000	"

The weight of these bales would be 930 lbs. each.

South American Wool Sales

Apart from direct shipments from large stations to Liverpool and elsewhere, South American Wools are sold principally in Buenos Ayres, Bahia Blanco and Monte Video.

The system of handling wool at Buenos Ayres differs in some respects from that in other centres, and we think there is some room for improvement. The wool is first exposed for sale in the large market hall where it is inspected by buyers and speculators, and bought as there shown. Next it is taken to the warehouse, classed and skirted, and then shipped to Liverpool, whether destined for the English or United States markets. Sorting being too expensive in Buenos Ayres, and also somewhat unreliable, is usually carried out in England.

The buying season is from October to March and the total clip of each season is usually cleared within that period. Nearly seventy-five per cent of the wool grown in the Argentine Republic is crossbred Merino and the average quality is 46s. The proportion of Down Crossbred to Lustre-Crossbred wool is very small. About sixty per cent of the crossbred sheep are the offspring of Lincoln Rams and Merino ewes, while less than a hundred thousand are Leicester-Merino crosses. During the past few years, there has been a tendency to follow the example of New Zealand, by importing a few Romney Marsh rams, and this will have the effect of producing a finer quality of crossbred wool.

The wool from the Uruguay Republic is Merino of a very fine quality, while the Falkland Islands chiefly produce a superior quality of lustre-crossbred. In both cases the greater bulk of their annual clip is shipped direct to England.

There is one general feature of marketing wool in South America which differs from the custom of other wool producing countries. Elsewhere, wools sold in the grease are bought with regard to their probable net yield after scouring, and buyers exercise their own judgment and bid accordingly. South American wools, with few exceptions, are dealt with on a different basis. The sellers take the whole responsibility for the scoured yield. Buyers order raw wool at such a price as will bring the net scoured wool in at a stated cost, and the sellers invoice the greasy wool at the price per lb. which they estimate will produce the desired result. So long as they get their net wool at the bargained cost, the invoiced price per lb. is a matter of indifference. Large firms in Buenos Ayres and Monte Video, who deal on this basis are prepared to guarantee the net yield under certain conditions. The contracts of the various firms in the chief centres differ in some details, but the form of contract drawn up by the British Association of Wool Buyers, and approved by that body, is the one in general use.

Although this system gives general satisfaction in Monte Video, we do not consider it suitable for Canadian conditions, therefore, a copy of the terms and conditions of purchase is quite unnecessary. We have already given sufficient details to convey some idea of the system of marketing and exporting wool in South America.

South African Wool

The chief producer of what is known as Cape Wool is the Spanish Merino, and a cross between the Merino and the native Fat-tailed sheep. The average price of this crossbred wool is only 42 cents in scoured state, but the

shrinkage is generally about 47% and seldom over 50%. South African wool has improved very much during the past eight years through the increase of Down and Lustre cross-breds. Shropshire and Ryeland rams have been introduced for producing Down-Crossbred wools; and Romney Marsh, Lincoln and Leicester rams have been imported to produce Lustre-crossbreds. There is a general revival in the wool growing industry of the country, and many of the Orange River and Transvaal farmers who formerly gave most of their attention to cattle are now turning to sheep. The wool produced in this country is rather dry on the surface of the fleece, but it is described as sound, free wrap combing, with a soft handle and fairly bright.

The wool is chiefly sold in London, and used up in Yorkshire, West of England, France and Germany. In England, it is chiefly used for dress goods, coatings and flannels. The following are the exports since the Boer War:—

1900.	34,944,263 lbs.
1902.	79,372,840 "
1903.	65,524,078 "
1904.	64,372,270 "
1905.	63,473,983 "
1906.	70,896,366 "
1907.	77,500,000 "
1908.	81,144,000 "
1909.	111,720,000 "

In July last year, the Government of Cape Colony engaged a wool expert in Yorkshire to spend a year in their country, lecturing and instructing wool-growers in the correct method of handling their wool. This was found to be of immense value, and surprising results have been accomplished since. The improved condition of wool recently received from South Africa, has been favorably commented on at the London sales.

The exports for last year have just been given in detail, showing the amount shipped from each port, and the increase over previous years is highly creditable.

South African Wool Exports in 1910.

Via	Quantity Lbs.	Value
East London.	49,065,088	\$ 7,370,286.00
Port Elizabeth.	33,241,069	5,285,000.00
Durban.	30,720,641	4,933,035.00
Cape Town.	6,610,036	1,151,360.00
Other Ports.	2,024,594	414,330.00
Totals.	121,663,028	\$10,154,095.00

In the Transvaal sheep were almost wiped out during the war, but some excellent breeding stock was imported three years ago, and the country now possesses some excellent young flocks. The last sheep census gave 2,810,053 head. Both Dutch and British farmers who formerly gave most of their time to cattle, are now taking great interest in sheep farming. Mr. C. Malinson, Transvaal wool expert, is doing some splendid work here, while Mr. Godfroy, his able assistant, instructs farmers in breeding, and general management. The Orange Free State has doubled its sheep population during the past four years, and the present estimate is 8,220,426 head. A few years ago, the condition of Orange River wool left much to be desired, but two seasons of practical instruction by experts have produced excellent results. Sheep farming in South Africa is now in a flourishing condition.

Canadian Wool in European Markets

A Few Unsatisfactory Shipments.

So far, all experimental shipments of Canadian wools to Great Britain have been disappointing to the growers and unsatisfactory to both sellers and buyers. Considering the way it is handled and packed, the lack of any knowledge of marketing conditions and the entire absence of organization, this state of affairs is by no means surprising. This is particularly unfortunate when we find all other wool growing countries doing better in British markets than elsewhere. We are now speaking from our investigation of this matter in Great Britain in October last year. Knowing that market requirements there, are rather exacting and slipshod methods resented, we were careful in finding out precisely what was wrong with Canadian wools.

Not being satisfied with the discouraging reports we heard, we endeavoured to secure samples of Canadian wool, and saw six altogether, one in Glasgow, two in Bradford, one in Roubaix, a few fleeces in London and a small stock in Liverpool.

Our first information regarding this matter came from a leading wool expert in Bradford, who told us that a firm of wool brokers in Liverpool occasionally received small consignments of Alberta wool, and often sent samples to likely buyers. Further inquiry put us in touch with the firms who had received samples, and we examined them. Their opinion was favorable to the original quality of the wool, but they regretted that the value had been seriously injured through lack of knowledge on the part of the growers. One of the leading Merino wool merchants in Bradford showed us the first sample, and called our attention to the fine healthy fibre, its strength and lustre, as well as its tested tarage, (noil 6 per cent) and also its excellent felting property. The shrinkage was under 60 per cent but the presence of particles of vegetable fibre from either the sack or the twine, made it impossible for him to handle it in the usual way, therefore he did not buy any. The price quoted was much too high for faulty wool requiring a carbonizing treatment, but really a low price if the wool had been handled and packed properly. Another unfortunate mistake in connection with this particular lot of wool, was the fact that it had all been consigned to a firm in Glasgow. Some of the wool sent to Glasgow was suitable for that market, but a great deal of it was too fine, and should have been sent to Liverpool or London. The Glasgow firm had part of it left unsold and was trying to sell it in Bradford. About a week later, we saw a sample of Alberta wool in Glasgow, and although

part of the same lot, it was a coarser grade, about a quarter blood, as it would be known in Western Canada. This was a good sound wool and fairly clean, but also contained particles of vegetable fibre. On our return to Bradford, we obtained another sample of Alberta wool, but not part of the Glasgow lot. This particular sample had come from Liverpool, and was a finer grade of cross-bred merino than the other, although it contained more grease and dust. We submitted this to one of the largest spinners of fine yarns in the district, and his opinion coincided with that of others we consulted—good wool and a fine quality but carelessly packed and containing jute or hemp fibres. Finding that a sample of the same shipment had been sent from London to Roubaix, and knowing that the French style of "dry" spinning differed slightly from the Bradford method, we obtained the opinion of the spinner there, who received it. He informed us that the presence of vegetable impurities, and also careless handling, made it useless for his particular business, so that he could not entertain it at any price. Had the wool been intelligently handled and properly packed, he thought it would have made an excellent 50s to 56s. The other sample was seen in the office of a broker in London. He informed us that the bulk was in Liverpool, but its condition made it unsuitable for the Colonial Sales in Coleman St., unless offered in the faulty wool class, and that would mean considerable loss to the grower. He also spoke favorably of the wool, but deplored the lack of knowledge in handling wool in Canada, where it was evident that really good wool of certain kinds could be successfully grown. Everyone we consulted, seemed interested in Canadian wool and was not only disposed to welcome it on the English markets, but eager to take it up if it was properly packed and shipped in accordance with up-to-date requirements.

A few hours before sailing for Canada, we called on Hughes & Isherwood, wool brokers, Liverpool, who have repeatedly received small consignments of wool from Western Canada. Here we saw a small stock in the actual condition in which it was shipped. The wool was really a good quality and rather a long staple for crossbred merino, but the condition was lamentable compared with similar wools from South America, stored in the same warehouse. Not only did it contain more than the usual amount of burrs and kindred vegetable matter, but traces of dead parasites to an extent that would be impossible where bi-annual dipping was regularly practised. This was not the worst. The fleeces were very badly rolled and tied up with very rough hemp twine, and in some cases sisal twine. This ruinous twine had cast off a considerable quantity of loose fibres among the wool. Quite apart from this, the sacking itself was of such an inferior quality that it was enough to make any buyer suspicious, even if no particles of vegetable fibre had been traceable.

Through such faults as these, Canadian wool has unfortunately earned a bad reputation on the European markets and has never commanded a price in England to repay the grower. We made repeated inquiries if the existing bad reputation would still stand in the way of realizing good prices in the event of future shipments being entirely free from existing faults, and we were assured that it would not, providing that a thorough education of the grower was backed by businesslike organization. "There is nothing to prevent you from selling in this market as profitably as New Zealand and Australia," they said. Several brokers stated that they would circularize all the leading buyers at their own expense, and also mail samples of the wool as soon as it arrived. Of course they would first have to be assured that the wool had been shipped in accordance with market requirements.

FUTURE PROSPECTS.

While we were on the spot, we made careful inquiries as to the standing of the leading brokers and auctioneers everywhere, as well as to the chief selling centres, both periodical sales and annual fairs. All imported wools are sold at periodical sales and the brokers are thoroughly reliable. Many brokers in Liverpool, dispose of large quantities of South American wools, and are therefore particularly anxious to increase the wool trade at the local exchange from any part of the American continents. A few Liverpool brokers have branches in London, and such firms have a double advantage, as in the event of any unforeseen depression in Liverpool, their offerings could be withdrawn in the interest of the consignee, and sold in London from sample fleeces, without transferring the bulk. If purchased by a foreign buyer, it could then be shipped from Liverpool to any port in Europe without additional expense. On the other hand, if purchased by an English buyer, the nearness of Liverpool to the chief centres of the woollen industry compared with London, would effect a slight saving in inland freight, and would therefore be an extra inducement to such a buyer.

Although annual fairs have never been utilized for selling imported wools, we find that small shipments of Down wools and Long wools could be consigned to certain auctioneers at a few of such fairs, and sold to advantage. With this object in view, we obtained some useful information from auctioneers and brokers in Bristol regarding the prospects of selling Canadian wool there. Bristol recently established a regular direct line of steamers with Canada, and the Chamber of Commerce is now eager to compete with Liverpool for the Canadian trade. Any Canadian wool sent direct to Bristol for sale, would certainly be well advertised, and inducement made to secure a good attendance of buyers from a distance. The fact that Stroud and several other towns engaged in the manufacture of the famous West of England woollens are situated in the same county as Bristol, would also provide a large attendance of local buyers. The Bristol annual wool fair is held rather late in the season, and this might be found suitable for the time of shearing in some parts of Canada.

The best annual fairs for Down wools, are undoubtedly those held in Shropshire, at such places as Shrewsbury, Wellington and Market Drayton. Wellington, in particular, has a model auction sale and commands a large attendance of the best buyers. The wool sold there is chiefly offered by small farmers with flocks ranging from fifty to three hundred ewes. Owing to the good condition and uniform quality of the wool, prices run about two cents a pound higher than at the fairs in neighboring counties. One of the leading firms of auctioneers in that district has, at our request, consulted all the large buyers at a recent sale, and they said they would rather buy Canadian Down wool in Wellington than in Liverpool. If consigned direct, the through rates would be about the same. If Canadian wool was first offered at Liverpool and withdrawn, it could then be transferred to Wellington at a cost of less than one fifth of a cent per pound. Further details need not be given at present, but we are now in possession of all the necessary information, so that satisfactory arrangements can easily be made when the time is ripe for them. In the meantime, more wool must be produced and farmers must be taught how to handle it properly, so that they can command the best market prices. The prospects were never better than they are at present and the outlook is most encouraging. The world is short of wool and the central market of the world is open and waiting.

CHAP. XI.

NUMBER OF SHEEP IN VARIOUS WOOL GROWING COUNTRIES

Most recent available statistics and estimates.

	No. of sheep
NORTH AMERICA—	
United States (1910 estimate)	51,216,000
Hawaii	102,098
Porto Rico	6,363
Canada (1910 estimate)	2,000,000
Newfoundland	78,052
Mexico	3,424,430
Central America	92,780
Cuba	9,930
British West Indies	17,365
Dutch West Indies	22,385
Guadeloupe	11,731
Honduras	11,806
Total, North America	57,023,418

SOUTH AMERICA—	
Argentina	67,211,754
Chile	4,224,266
Uruguay	26,127,071
Falkland Islands	702,696
Colombia	3,480,026
Paraguay	214,060
Venezuela	176,668
Bolivia (estimate)	50,000
Other South America	409,040
Total, South America	102,595,581
Memo—Brazil (no estimate available).	

ASIA—	
British India	21,824,229
Ceylon	100,603
Cyprus	301,669
Cyprus	3,949
Japan	23,356,557
Russia in Asia	45,000,000
Turkey in Asia	30,428
Philippine Islands	
Total, Asia	181,204,442
Memo—China (no estimate available).	

OCEANIA--

Australia.	105,615,978
New Zealand	28,480,707
Other Oceania.	12,452

Total, Oceania. 134,109,137

EUROPE—

Austria Hungary.	13,974,428
Belgium.	235,722
Bulgaria	8,131,004
Denmark, Iceland and Faroe.	1,502,925
Finland.	912,467
France.	17,460,284
Germany.	7,703,710
Greece.	4,568,158
Italy.	11,160,420
Montenegro.	495,000
Netherlands (1904).	606,785
Norway.	1,393,488
Portugal	3,150,000
Roumania (1900).	5,655,444
Russia in Europe.	45,840,541
Servia.	3,160,166
Spain.	16,119,051
Sweden.	1,021,727
Switzerland.	209,997
Turkey (estimate).	0,000,000
Great Britain (1909).	31,852,777
Crete.	401,000
Bosnia.	94,717
Rest of Europe (estimate).	22,530

Total, Europe. 184,672,341

AFRICA—

Algeria.	9,314,515
British East Africa.	3,740,110
Cape of Good Hope.	16,323,987
Natal.	945,477
Orange River Colony	8,020,308
Rhodesia.	204,000
Transvaal.	2,810,053
German East Africa.	1,560,000
Sudan	1,421,721
Tunis.	833,562
Madagascar.	364,083
All other Africa.	477,523

Total Africa. 46,015,349

Total, World. 705,620,268

(With the exceptions of Great Britain and Scandinavian Countries, the estimated populations include both sheep of shearing age and young lambs).

CHAP. XII.

WOOL PRODUCTION OF THE WORLD

Our report would be incomplete unless we gave the wool production of world in detail. This is necessary for general information and also for comparison of one country with another. Reliable information on this subject is very difficult to obtain, as many countries are so backward with their returns. After considerable trouble in collecting returns from some of the leading wool growing countries of the world for 1910, we were obliged to give them up and fall back on a list supplied up by the National Association of Wool Manufacturers, Boston, U.S.A. This list is only corrected to the end of 1909, for all countries, but it gives the best opportunity for comparison of any list we could obtain.

Since these statistics were so carefully compiled, the production of some countries has changed considerably. There is a big decrease in the United States, a decrease in Argentina and several other countries of less importance. Then there is a large increase in Australia, New Zealand, and South Africa, with a healthy increase in Great Britain.

In this list, washed and unwashed wools are bulked together. North American, and South American wools are mostly unwashed, while the greater portion of the Australasian wools are scoured. English wools are generally washed before shearing. Scouring reduces the weight about 50%, and washing before shearing about 20%.

Country.	Wool.
	Pounds.
NORTH AMERICA—	
United States.	321,302,750
British Provinces.	11,210,000
Mexico.	7,000,000
Central America and West Indies.	1,000,000
Total, North America.	340,572,750
SOUTH AMERICA—	
Argentina.	414,404,800
Brazil.	1,130,000
Chile.	20,754,000
Peru.	9,940,000
Falkland Islands.	4,324,000
Uruguay.	129,961,170
All other South America reported.	5,000,000
Total, South America.	583,573,970

WOOL PRODUCTION OF THE WORLD.

(Continued)

Country.	Wool.
	Pounds.
EUROPE—	
United Kingdom.....	141,939,600
Austria Hungary.....	41,600,000
France.....	78,000,000
Germany.....	25,600,000
Spain.....	52,000,000
Portugal.....	10,000,000
Greece.....	14,000,000
Italy.....	21,500,000
Russia (Europe).....	320,000,000
Turkey and Balkan States.....	90,500,000
All other Europe.....	18,000,000
Total, Europe.....	813,139,600
ASIA—	
British India.....	50,000,000
China.....	50,000,000
Russia (Asiatic).....	60,000,000
Turkey (Asiatic).....	45,000,000
Persia.....	12,146,000
All other Asia reported.....	1,000,000
Total, Asia.....	218,146,000
AFRICA—	
Algeria.....	33,184,000
British South Africa.....	111,720,000
Tunis.....	3,735,000
All other Africa reported.....	13,000,000
Total, Africa.....	161,639,000
OCEANIA—	
Australasia.....	833,611,665
All other Oceania reported.....	100,000
Total, Oceania.....	833,711,665
TOTAL, WORLD.....	2,952,782,985

CHAPTER XIII.

SUMMARY OF SHEEP FARMING AND MARKET CONDITIONS
IN CANADA

In a complete summary of our subjects for the entire Dominion, sheep breeding opportunities and market conditions will appear varied and opposite in character. In parts of Ontario, Quebec and the Maritime Provinces are districts in which low priced, well watered, hilly or mountainous, summer grazing lands offer natural and peculiar advantages for the cultivation of sheep. This ambitious, hill climbing animal does so well in these places that very often we hear such districts described as "good sheep country." This may not necessarily be because it is the best sheep country imaginable but, on account of its disadvantages for other purposes, it is granted as being suitable for their maintenance. The fact is true, however, that in such places sheep thrive well and remain practically free from diseases which sometimes cause considerable loss on farm lands of better quality. The most apparent and outstanding reason why such lands are not now more largely used as sheep farms seems to be a general lack of knowledge as to the best methods of operation under such conditions. The small size also of the average flock in these districts makes summer herding expensive and out of the question. Where large farms are not found the only alternative is for the small farmers to combine in a co-operative way, for at least a part of the year, and pasture their several flocks on a common range under the care of a competent shepherd. The possibilities of expansion in sheep breeding under such conditions must be at once apparent and with careful encouragement the limit of development can hardly be realized. We found in our work that such a scheme had scarcely, if ever, been thought of by those living in these districts, but, when suggested, the proposition outlined was very generally accepted as reasonable and easily practicable. It is hardly to be expected that such lands could be profitably utilized in any other way, and development along these lines would furnish a splendid opportunity for nearby farmers, not directly interested, to purchase young lambs, not ready for fall trade, to put in their barns and feed for a later market. A little education as to the requirements of the best markets and some experience in feeding for the winter trade would undoubtedly conduce to more enterprise in this direction.

Instead of trying to grow grain on steep hillsides and in stony places, farmers may take up sheep breeding with less labour and more profit. The importance of this industry, therefore, may well be impressed on those in possession of such lands. A good deal may be done by education in regard to suitable breeds, methods of crossing and manner of handling, to obtain the most economical results under special local conditions.

An entirely opposite situation presents itself in other parts of the country where farm lands are better and higher in value. Rent is higher, interest on capital invested is greater, general farm expenses are increased and a more intensive system of farm operations is necessarily practised. The keeping of a flock of sheep under these conditions requires more definite knowledge and better farm management than are necessary under the same conditions when sheep are not kept. In our investigation in England and even on a

few farms in Canada where sheep breeding is the special study, we were not surprised to find that such farms excelled in almost all points of good management. When care and judgment are exercised in the keeping of sheep, the practice of improved methods and better management is usually to be observed in the work of each department of the farm. Thus these farms presented cleaner grain fields, better buildings, tidier fences and a general air of thriftiness not possessed on neighboring farms on which other lines were followed. Compared with practices in the "Old Land," our average farmer in Canada does not show more than a very primary knowledge of the care and management of sheep. In the first place, sheep are a side line and no attempt is made in any special way to give them more than ordinary care. They are often turned to pasture in the spring before the old run out grass has an opportunity to make any headway, and being given possibly too few acres to run over and turned in along with the cows and a few colts, the sheep are blamed for being hard on pasture and robbers from the other stock. This condition is avoided in Great Britain by the use of crops specially sown for sheep. Our people, however, have little knowledge of such management as is borne out by the fact that very few of them practise it. The old grass field might have a rest in early spring while the sheep are making use of a plot of fall rye, specially grown for their benefit. Later the pasture would provide more and better feed, when the rye is all gone. In case the grass field is carrying other live stock to its capacity, a small patch of oats and tares may be ready after the rye, or a piece of clover might come in handy. By such means the sheep may be carried along until rape, kale or cabbage is ready on the land which produced the rye for the early spring feed. A knowledge of the carrying capacity of our land and a little experience along this line would undoubtedly lead to a more general adoption of such a practice.

We must not be forgetful also to give due credit to sheep as agents in soil building and in eradicating weeds. When we consider that it is our common practice to keep very few sheep on our farms, and that these few are pastured on the road side or in a back field, it is not hard to realize how ignorant we must be as to the benefits which might accrue from keeping larger numbers and maintaining them on our good land. The weeds cannot be eaten by the sheep unless they are allowed access to them and the soil will not be enriched by the "golden hoofs" unless they are allowed to tread over it. A succeeding crop of fall wheat or spring grain on land fed off by a large number of sheep, displays without question, the advantages of their presence. In all our efforts at farm development and improved methods on mixed farms throughout the entire Dominion we should not overlook the indirect value of sheep in this work. We realize that certain of our Canadian farmers may not appreciate the advantage to be gained by the practice suggested, but with a practical illustration of the benefits that would speedily follow the adoption of such methods, we feel sure that the wisdom of undertaking them would be granted.

Although the physical conditions of the land create such diverse opportunities for sheep breeding, one season of the year presents difficulties common to all localities. Our winter season is always annual and must be reckoned with. During this period many farm flocks are so neglected as to destroy the splendid advantages of summer keep. The lack of a balanced food ration, and often an insufficient supply, coupled with a loose way of feeding, produce a poor lamb crop and a dirty wool crop, neither of which can ever be made profitable as a marketable commodity. The care and management of a flock of breeding ewes during the winter season determine the profit or loss

to be derived at a later period and continued loss is to be expected until information regarding these points is supplied through lectures or by means of a few well managed demonstration sheep farms.

A moist, temperate climate in parts of the province of British Columbia, notably on some of the islands and in the river valleys close to the coast, is characteristic even of the winter season, and the disadvantages of severe weather are consequently not experienced. The province has very mild winters, moisture in abundance, good soil and splendid home markets. In view of these outstanding features, we were quite impressed with the opportunities afforded for the development of the sheep industry, especially along lines such as are generally followed in many parts of England.

Parts of Saskatchewan, Alberta and British Columbia, present the only other important phase of the sheep breeding problem in Canada. We refer now to the districts in the southern portions of these Provinces, which, in the past, have always been considered entirely useless, except for the range running of live stock. The rain fall is not great and the growing of farm crops has hitherto been considered questionable. By the adoption, however, of improved methods, specially suited for such districts, these lands are now believed to be capable of producing greater national wealth than under the old system of grazing horses, cattle and sheep. With the breaking up of these areas by the settler a new order of things appears. By the enclosing of springs and other watering places, large tracts of land are often rendered useless, particularly such as immediately surround those directly occupied by the homesteader. As a result, the ranchman has been obliged to reduce his holdings. Herd laws and other regulations, necessary for the protection of the farmer, have also had their effect on the ranch man. These, however, have interested the cattle and horse men more directly than the sheep owners. Cattle and horses are believed to do better when running at large while sheep, on account of the presence of "coyotes" and other animals, must be run in bands and accompanied by a herder. When the herd law is put in operation the cattle or horse rancher finds that his stock do not thrive so well and his losses for this reason become heavier. His operating expenses also increase so that, with both these problems to face, he is soon compelled to reduce his stock or sell out entirely. This has been done in a great many instances, and owing to the fact that crown lands are divided for grazing purposes, much of the territory once used for cattle and horses is now unoccupied. With a slight modification of regulations in this regard and some alterations in the terms of lease hold, we feel confident that the men at present engaged in sheep ranching in Western Canada, would be greatly encouraged. A good deal of such territory is comparable to the abandoned farms of the Maritime provinces, and might easily be profitably utilized rather than be allowed to remain unproductive, until the arrival of the settler.

Dogs, wire fencing and the various other factors, given as reasons for the decline of the sheep industry in Canada, would, we believe, quickly cease to exert an influence if the business were firmly established and the importance of the direct and indirect benefits derived from a flock of sheep, thoroughly understood by our farmers. The difficulties created by these obstacles are certainly not insurmountable and if the interest in sheep breeding were aroused to the proper point, ways and means would easily be found whereby one branch of Canada's greatest industry need not suffer, from such causes, any loss whatever.

We have referred more definitely to the market conditions in both Eastern and Western Canada in other sections of our report and merely wish here

to add another word to draw attention to one or two phases of the situation which may be of more general application. Canada has reduced her flocks of sheep and at the same time has increased her consuming population, so that it is no cause for wonder that we find her production of lamb and mutton, which at one time was considerably more than enough to supply the home demand, is not now sufficient to meet the needs of her own people. This situation is emphasized at the present time, more particularly, in Ontario and the Western provinces. On the other hand a seemingly small surplus is exported annually each fall from Quebec and the Maritime provinces to sister provinces and the United States. That this latter movement, however, does not actually denote a national surplus is apparent when we consider that large quantities of frozen meats, including lamb and mutton are in turn imported each year.

A point or two relative to the development of our home markets seem to stand out very prominently. One of these, and a strikingly important one, is to be noted in the general lack of knowledge of the demands of the best markets. That high class trade requires a superior article seems to be granted but that the general trade would be greatly strengthened by the production of a uniform article, does not appear to be very generally understood. This point in the past has never received very careful study by our farmers. No thought whatever seems to be given to such requirements when the market sheep breeder is making the selection of a ram for the production of lambs for slaughter. Most farmers follow their own individual fancy, whether it be for a big sheep or a little one and often allow their fancy to change with such abruptness that the work of several years in breeding is at once destroyed or lost. If our mutton industry is to prosper we must endeavor to supply the demand with the very choicest article obtainable. An educational campaign would induce the production of a desirable article and through the insistent demands of our consumers for the best class of goods, the trade at home would be bound to increase. Many people are not eaters of mutton simply because the mutton they have been accustomed to buy has not been of the best quality. Increased consumption will speedily follow an improvement in the product.

Another feature which merits attention is the winter feeding of lambs. Drovers are accustomed to buy the entire season's lamb crop, the good and bad, at a flat price and for delivery in the early fall months. This custom does not tend to encourage the breeder to reduce the percentage of inferior animals in his market offerings nor to teach him the value of a fitted product. He gets the same price for his good lambs as he does for his thin ones and if the latter are not too largely in evidence he receives the same price as his neighbour who may offer for sale a superior and more uniform lot. The result of these annual marketward movements each fall is a low price at time of sale and frozen mutton for the consumer all winter and spring. Many of the lambs are often young or in thin condition and would return a profit for feeding and also present a better carcass to the consumer, if held for a time and fed a liberal grain ration. Winter feeding offers splendid opportunities to progressive men.

Even with the markets of Canada and the United States supplied, this country need never want for an outlet for her lamb and mutton. The door to Great Britain's markets is ever open to receive almost any quantity of meats which the Dominion may be able to produce as a surplus. The British trade, however, is even more exacting than the home demand in its insistence upon quality and finish. Should we ever again be able to engage in a respect-

able export business, strict attention must be paid, amongst other things, to docking and castration. The British market will not favor us with its recognition unless we demonstrate our ability to supply it with a superior article, uniform in quality, attractive in appearance and fitted to meet the most fastidious demands of the trade. Big, fat, over-ripe sheep are now a drag in the the butcher stalls. The compact, fleshy, deep-quartered sort is appreciated and sells to the most discriminating customers. Moreover, the market for the best stuff has never yet been over supplied.

Canada has a great advantage over her foremost competitors in her comparative nearness to British ports. Practically all Australian, New Zealand and Argentine mutton and lamb is frozen for shipment and, as the freezing process depreciates its quality and detracts from its appearance, it goes to supply only the second class trade. The Dominion is in a position to land its export sheep at Liverpool on foot or to develop a chilled meat trade, which possibly is the better and more practicable plan. In either case, the commodity should reach the British market in a highly attractive form and there compete not unsuccessfully with the home grown product. If ever this position is reached, the future of the Canadian mutton trade is assured.

In the meantime, we must bear in mind the anomalies of the situation at present existing in Canada. In 1908, the number of inspected sheep exported to various foreign ports amounted to 67,701 head; in 1910 the exports had fallen to 5,584 head. In the three months of April, May and June 1911 there were imported into Canada to the Toronto market alone 14,276 head. We are told that of all the mutton and lamb handled in British Columbia fully 90% is imported. Canada's sheep industry, if ever it is again to find its feet, needs to experience the impetus of a great revival.

In concluding the summary of this part of our report, we wish to emphasize the need for education. This is required in every section of Canada and not in one phase of sheep breeding more than in another. An educational campaign should include in its programme the offering of information upon every branch of the subject. We feel confident that when the farmers are seized of the possibilities natural to the industry and are aroused to the opportunities awaiting their efforts, the response will be more than gratifying and will fully endorse and justify any efforts which may be put forth by our Federal Department of Agriculture.

CHAP. XIV.

SURVEY OF THE WOOL SITUATION IN CANADA

General Summary

Before going into this subject, we must first remember that the Sheep Commission was appointed by the Minister of Agriculture to investigate the sheep industry and its by-products. It must therefore be clearly understood that sheepfarming and wool growing is a branch of agriculture, and we must review the situation from that standpoint and no other. If we do this, it will simplify matters and help us to solve this difficult wool problem. Hitherto, the wool growing industry has always been considered in conjunction with other industries, with the result that no satisfactory solution has ever been reached. Wool growing has been a failure in itself, therefore it must first be examined by itself, and quite detached from any industry outside of agriculture. If a commission were appointed to investigate wheat farming, no one would expect them to encumber their report with the cost of constructing bakers' ovens. The fact that wool is mostly used for clothing must be set aside for the moment, because we must first grow the wool.

The history of wool growing in Canada makes melancholy reading indeed. In spite of all the theories advanced for its revival, it has steadily decreased until we are now left with only two million sheep available for wool production. We cannot have wool without sheep, and the reasons for the decline of sheep farming have been exhaustively dealt with in other chapters. Wool growing in other countries where the industry is prosperous, has also been described in detail. All that is necessary now, is to compare the methods of growing and handling wool in Canada, with the systems of other countries and note the contrast. When this has been done it will be admitted that the methods of handling wool in Canada are so far behind other countries where the industry enjoys natural prosperity, that failure has been inevitable. Having admitted that, some may still be inclined to wonder why the price was so low, and it may be necessary to explain this further. All our interviews with farmers revealed one sore grievance, and that was the price of wool. Next to dogs and fencing, the low price of wool, was the chief excuse given for not keeping sheep. The fact that mutton and lamb had doubled in price, the demand being so great that price would keep up, while wool in spite of its general scarcity was always erratic, would not satisfy them.

When the improved methods and superior marketing organization of other countries were described at some of our meetings, farmers appreciated this information, but some were quite unable to understand why the difference between the price of wool in Canada and other countries should be so great. Two questions were often put to us in different districts until they became stock questions. "Why is the price of our wool so low?" and "Why is the price of wool lower in Canada than in other countries?"

The answer to the first question is:—the price of our wool is low because it is not worth more, and the reason why it was not worth more is its bad condition in most cases, and its irregularities in others. The answer to the second question is:—the price of wool is not low in Canada,

it is only the price of Canadian wool that is low. The market value of wool is the same in Canada as elsewhere, because the Canadian manufacturers have to pay the full market price for imported wool in the world's market, in competition with all the rest of the world. Some farmers have got the impression that manufacturers have been buying cheaper or lower priced wool abroad, and that that has been keeping down the price of homegrown wool. This is a most erroneous impression. Manufacturers have paid the full market price for every pound they have imported, and all freight charges besides. The market prices for every kind of wool imported last year, are given in clear simple tables in this report, in Canadian currency. In addition to the countries visited during the past ten months in connection with this investigation, we have given all necessary information about other sheep countries, from experience gained in previous visits and recent correspondence. Particulars of all the wool grown and exported by the leading sheepfarming countries of the world are also given, together with the prices received. Every bale has been accounted for.

A very common remark of farmers who attended our meeting was,—“Look at the price of wool in the States!” We have carefully examined the price of wool there and this is what we find. In the fiscal year ending March 31st, 1910, the Canadian manufacturers imported 857,855 lbs. of wool from the United States, and again in the fiscal year ending March 31st, 1911; they had imported 876,406 lbs. For both these lots they not only paid the prices received by the producer, but the additional cost of grading in Boston or Philadelphia. It is quite evident that Canadian Manufacturers do not hesitate at paying a good price for wool when they get the class they require in proper condition. The farmers who said “Look at the price of wool in the States” were invariably men who kept mutton sheep, mostly Down sheep, so we went to the States and made special enquiry on their behalf. In such states as Wisconsin, Illinois, Michigan, and Ohio, we met men well known to Canadian farmers. They are men who import and breed Down sheep, and win prizes at the International Shows. They had been in England during the summer and visited some sheep fairs and wool markets. They saw Shropshire wool selling at 24 cents for wether, and 26 cents for hogg wool. When they returned home, they struck out for 25 cents and held their wool. By Christmas they had not been offered more than 23 cents, and when we saw them in May this year, they had just sold it for 18 cents along with this year's clip. The same class of wool was 23½ cents in Shropshire on June 28th, and 24 cents on the 29th. We are comparing the prices of wool in the States just now, and we find “Territory” wool selling below British wool prices in spite of a duty of eleven cents. They have their ups and downs, and their worries and troubles in the United States as in other countries. We found them more troubled over tariff agitation than other wool growing countries are about droughts. We must admit however that the duty on wool has forced American manufacturers during the past few years, to pay as high a price for Western wool in bad condition, as imported Australian wool in good condition. That situation only lasted for a time, and gave way last year. At the present moment the high duty is quite impotent. When agitation ceases, and their wool is put up in better shape, their prices will recover, because the wool trade is good elsewhere and American manufacturers are paying high prices for imported wool, before it goes into bond.

Another class of farmer who complained about the low price of wool in Canada, was the purebred sheep man. He has our sympathy because his wool was of good quality and in fairly good condition, far better than the

average, if not quite so good as the imported. In many cases he got only the same price as his neighbors did for inferior wool in inferior condition, and in other cases, only the usual difference between "mixed grades" and pure-breds. This man says that his price should only have been two or three cents a pound below English wool of the same class, instead of two cents above his neighbor's inferior grade fleeces. He is quite right, but there was no help for it. What are the fleeces of 50 pure bred sheep to a manufacturer? When he has graded 50 fleeces into three classes and sorted each fleece into six qualities, (each quality to be used for a different purpose,) and when he has scoured out 47 per cent of dirt and grease, what has he left? This is not all. In the process of manufacture, there is the waste, and the separation of the noil from the top, each to be used for a different purpose. What has the manufacturer left now? Only enough for samples, as each of these different qualities would be insufficient to make one stock line of goods. In this way he cannot possibly afford to pay a sheep breeder the full market value for his wool. If a hundred breeders of one breed of sheep put all their wool together, and classed it and said—"We have 1,000 fleeces of selected Shropshire wool, averaging 8 lbs. each, correctly classed and properly packed. What will you give?" He would no doubt, give them 24 cents and it would pay him better at that price than giving one farmer 15 or 16 cents a pound for fifty fleeces. This is only a crude illustration, but it is sufficient to prove the point. After the farmers have been taught to pack their wool properly, some organized system of marketing is absolutely necessary before their wool can command its full market value. The manufacturer is not to be blamed for the present low prices because he is giving quite as much as he can afford for wool under present conditions.

Here are three of the principal reasons why the Canadian Manufacturer buys some of his wools abroad.

First, he has to import wool because Canada does not produce enough.

Second, he has to import wool because Canadian wool is not put up in a suitable condition for his better class work.

Third, he has to import certain kinds for certain purposes, and a great many kinds are not grown in Canada at all.

Now we will try to explain these three reasons. There is no excuse for the first reason because Canada is capable of producing more wool of certain kinds than domestic manufacturers will ever require.

The second reason also admits of no excuse, as every farmer ought to be able to get up every product of his farm in proper condition, so that he can command the best market value.

The third reason is quite different, because it is impossible for any country in the world to grow every kind of wool required in the various branches of the woolen trade.

The resources of Canada as a sheep country have hitherto been underestimated, and the common impression has been that Canada could only produce sufficient wool for her own requirements. How this ridiculous idea has lived so long we cannot imagine. As far as the wool of useful breeds of mutton sheep is concerned, Canada can always produce far more wool than her growing population can consume during the present century. If the sheep industry of Canada were once placed on a healthy footing we would have a surplus of wool directly. At the same time, certain wools of sheep unsuitable for Canada's climate and conditions would still have to be imported. Of course, we must add that Canada ought to produce more than double the variety of wools she is doing at present, but that cannot be done until our average farmers become better sheepmen.

We will just mention a few of the British wools Canada does not produce at present,—Cheviot, Blackface, "North" (Halfbred), Bright "Pirley" Lustres (Wensleydale), Roscommon, Romney Marsh, Ryeland, Gritstone, Demi-Lustre Crossbreds etc., etc. All these wools are specially adapted for certain purposes, and they all come into Canada in the shape of tops and yarns or raw wool. All these sheep are mutton breeds, and would thrive in different parts of Canada, but we are not just yet ready for some of them, and it may never be found necessary to have all of them. Mutton sheep should first be proved to be profitable for mutton purposes before wool is considered. Competition in woollen goods is so keen now, that manufacturers must have these wools to produce a certain finish. They cannot use substitutes and keep pace with fashion and competition. In addition to these wools, there are certain kinds of crossbred Merino different from those produced in Alberta, and special kinds of very fine Merino from Tasmania and Australia, and also an endless variety from Asia and Northern Africa. It will therefore be seen that it is unwise to either regulate or restrict our sheep industry to the requirements of our manufacturers.

Having explained *why* the price of wool is so low, and also that the manufacturer is not to blame, we will now try to give some information about the amount of wool exported. It is impossible to accurately get at the amount of wool grown in Canada, but a Boston authority gives the wool production of British North America, as 11,210,000 lbs. in 1909. That includes Newfoundland of course, but that country only possesses 80,000 sheep, and if these average a clip of 8 pounds to the fleece, Canada is left with a production of 10,570,000 lbs. Our recent enquiry into the sheep population of Canada gives us only two millions, and supposing they average a fleece of 7 lbs. each, this would give us about 14,000,000 lbs. of wool in the grease. If we took the lambs into consideration, this would make the Boston estimate appear nearly correct, but the pulled wool ought to count for something, so that we cannot be so far short of 14,000,000 lbs. after all, as 7 lbs. is a low average for a Canadian fleece. When the complete census figures appear, reliable estimates will be possible.

About thirteen years ago, all sheep farming countries began to make more progress than usual, and Canada has also been prosperous during the past thirteen years in almost everything except sheep farming. We will therefore go back to 1898 and give the wool exports up to the present year.

Exports—1898.....	1,172,034 lbs.
" 1899.....	91,991 "
" 1900.....	2,213,853 "
" 1901.....	1,152,661 "
" 1902.....	1,973,772 "
" 1903.....	2,527,450 "
" 1904.....	1,836,566 "
" 1905.....	2,400,559 "
" 1906.....	1,505,384 "
" 1907.....	1,290,130 "
" 1908.....	1,956,987 "
" 1909.....	1,137,099 "

In the fiscal year ending March 31st, 1910, the wool exports were as follows:—

Countries	Wool	Amount
To Great Britain.....	490,040 Lbs.	\$ 80,361
" United States.....	1,829,473 "	457,399
" Newfoundland.....	1,269 "	317
Totals.....	2,321,146 Lbs.	\$538,077

The fiscal year ending March 31st, 1911, again shows a slight decrease.

Countries	Wool	Amount
To Great Britain.....	780,024 Lbs.	\$159,147
" United States.....	416,166 "	98,414
" Newfoundland (washed).....	734 "	215
Totals.....	1,196,924 Lbs.	\$257,770

These figures are so insignificant that any deduction seems a waste of time, but every little movement can be attributed to some cause. Newfoundland's raw wool trade is only a matter of retail transactions and may be left out of account. The woolen trade was bad in the United States last year, and its wool imports from all countries decreased very much. The increase in the amount sent by Canada to Great Britain was not owing to the fact that the British woolen trade was in a flourishing condition, but merely owing to the fact that a few growers in Alberta sent a few sample shipments to the Glasgow market as an experiment. Two reasons lead us to believe that more Canadian wool is being used at home. First, the hosiery trade is good, and domestic blankets are becoming more popular every year. Apart from the different kinds of wool sometimes used, the grading and sorting necessary for hosiery and blankets is not so exacting as it is for tailors' wools. The second reason is the decrease in wool imports in spite of improved trade.

Last year, Canada only imported 6,422,396 pounds of wool of all kinds. The previous year's figures aggregate 7,427,079 pounds. The amount of British wool imported, has decreased from 4,595,434 pounds in 1910, to 3,142,209 pounds during the fiscal year ending March last. This indicates that home grown wool has taken the place of British grown to a great measure. When we remember that there are thirty nine breeds of sheep in Britain, not to mention the numerous crossbreds and halfbreds, and the great variety of wools these produce, many of them special purpose wools, three million pounds is a very paltry amount. Canada grows no special purpose wool. Take the carpet trade alone, there are two kinds of wool this industry must have,—certain varieties of Asiatic wool and the wool of Scotch Blackface

Sheep. Canada cannot produce the former, and does not produce the latter. It is not necessary to mention other special-purpose wools, because three million pounds of wool could be overcome by an increase of 375,000 sheep (mutton breeds) averaging a fleece of eight pounds each.

We commenced our statement of the exports with the year 1898, therefore, we will also give the imports for the same period. We were told by some farmers that the "imports had gone up by leaps and bounds since the collection of the duty was suspended," but we find the imports have shown a slight inclination to decrease rather than increase, during the past twelve years.

WOOL IMPORTS.

1898.....	11,785,899 lbs.
1899.....	9,413,739 "
1900.....	8,054,699 "
1901.....	8,574,605 "
1902.....	10,360,738 "
1903.....	7,994,702 "
1904.....	7,339,369 "
1905.....	7,617,211 "
1906.....	6,311,837 "
1907 (9 months).....	3,923,791 "
1908.....	6,129,210 "
1909.....	5,683,948 "

From 1903 to 1911 the imports have kept very near to seven millions. The imports of wool for the past two years, and a list of the countries in which they were produced are rather interesting. In the fiscal year ending March 31st, 1910, the imports were as follows:—

Country	Wool	Amount
From Great Britain.....	4,593,434 lbs.	\$975,887
" United States.....	807,855 "	159,341
" France.....	655,826 "	193,185
" Australia.....	569,086 "	125,087
" New Zealand.....	361,802 "	73,203
" Africa.....	247,835 "	26,829
" Italy.....	86,676 "	11,620
" Germany.....	51,575 "	7,999
" Uruguay.....	29,280 "	0,503
" Argentina.....	21,710 "	5,505
Totals.....	7,427,079 lbs.	\$1,587,175

The figures for the following year show a wonderful redistribution of purchases. Few farmers are able to realize what an influence fashion has on raw material. It is also astonishing how a country importing raw material, especially wool, finds it necessary to divert its purchases from one country to another as the following list will show. Every country however has to do this.

WOOLS IMPORTED DURING THE FISCAL YEAR ENDING MARCH 31st. 1911.

Country.	Wool	Amount
From Great Britain.....	3,142,209 lbs.	\$736,663
" United States.....	876,406 "	181,104
" New Zealand.....	432,413 "	101,84
" France.....	812,368 "	250,562
" Australia.....	317,742 "	99,623
" Br. South Africa.....	353,034 "	42,567
" Br. West Indies.....	766 "	92
" Argentina.....	225,928 "	47,167
" Turkey in Asia.....	2,228 "	248
" Germany.....	122,038 "	19,479
" Italy.....	63,158 "	9,755
" Mexico.....	74,111 "	7,411
Totals.....	6,422,396 lbs.	\$1,496,520

Most farmers would like to know how much of this six and a half million pounds of wool is competitive. At present none of it is directly competitive because Canadian wool is not put up in proper condition, and many suitable breeds of sheep are not kept. Let us suppose however that Canadian wool-growers are instructed in packing their wool so that it was equal to that of other countries, and let us also suppose that Canada was actually growing all other kinds of wool suitable to her climate and condition,—how much of the wool now imported would then be competitive? According to last years importations, only 4,676,956 pounds would be competitive. This amount is smaller than we imagined until we went carefully into the importations. If we increased our sheep by 600,000 head, and were careful that this increase included the breeds most suitable for the country, it would just give us the amount we want. The wool from 600,000 sheep with a clip of 8 lbs. each would give us 4,800,000 lbs.

IMPORTATIONS OF COMPETITIVE WOOL.

We were told by a few farmers during our investigation that "Upwards of eleven million pounds of competitive wool was dumped into Canada every year." We have recently seen it stated in the press that "Canada imports twenty million pounds of competitive wool annually." Such erroneous statements are very misleading. The total imports for the past two years average barely seven millions, and of this, the possible competitive wool amounts to about four and a half millions. A fair proportion of the amount imported was "pulled" wool, and this is now found very suitable for certain kinds of hosiery yarns. Now the fellmongers cannot be blamed for this, because they do their work well. Our wool-pullers are up-to-date. Most

of them have adopted the Depilatory process (sodium Sulphide) while others remove the wool by the "Mazamet" process, and none of them use the old "slipe" or lime process. Of course we cannot get pulled wool from the frozen carcasses we are compelled to import through the scarcity of mutton.

IMPORTATIONS OF WOOL TOPS.

A few farmers complained about tops being imported by manufacturers. Now this is a question for the manufacturer alone, and farmers should not worry over it. When there is a run on certain kinds of worsteds, it may help manufacturers to fight competition better, and employ more labor by importing tops. In Yorkshire, tops are not sold by manufacturers, but by wool merchants. It is part of their business. Many large manufacturers there, make some tops for their own use, but find it pays better to buy others. Highly protected and pushful Germany is one of England's best customers for tops. However, it is part of our work to answer all the farmers complaints to the best of our ability, so we have looked into this question also, and this is what we find. In the fiscal year ending March 31st. 1910, Canada imported from Great Britain, \$2,620 worth of tops. Farmers need not lose any sleep over this small amount. The fiscal year ending March 31st. 1911 shows no record of any tops being imported at all.

IMPORTATIONS OF YARNS.

In some cases farmers complained about yarns being imported, and they had an impression that this injured the demand for domestic wool and kept the price down. Now this is more a manufacturer's question than the tops, and we do not care to meddle with it, as the manufacturer ought to know his own business best. Every country imports yarns of some kind. The Canadian manufacturer pays a duty on yarns made from what might be called competitive wool. If Canadian wool is sold in European countries and some of it comes back in the shape of yarns, the wool grower loses nothing. It is purely a manufacturer's question, still we must try to relieve the wool grower's mind a little, even if we fail to satisfy him. The amount of tops and yarns imported by domestic manufacturers is less in proportion than in the case of other countries. All manufacturing countries are interdependent in yarns. England sells yarns to Germany, France and all other countries, yet she also buys yarns from France and Germany and they are all benefitted by the exchange. Canada imports yarns from Great Britain, Germany, Belgium, France and United States. During the fiscal year ending in March last, the yarn imports were 4,282,002 pounds and the cost was \$2,132,535. When the proportion is considered, wool growers need not worry over this matter. Germany buys about 16,000,000 pounds of tops from England in one year, and the yarn trade is a steady one of 38,000,000 to 40,000,000 pounds a year. Last year England sold to Germany 39,245,000 lbs. of yarns, amounting to \$18,088,455. Of course Germany buys yarns from other countries also, but we have said quite enough about yarns and tops. Some may think that we have drawn this explanation out too long, but unfortunately this is not all.

THE SUPPOSED COMPETITION OF SHODDY.

The wool grower has still another grievance, which is also a manufacturer's question. It is astonishing how fond some farmers are of bearing the

manufacturer's burdens when they can be used as excuses for not keeping more sheep. This excuse is shoddy. The manufacture and use of shoddy has been specially dealt with in another chapter of this report, so that a further explanation here would be superfluous. The common impression that shoddy directly injures the wool grower is ridiculous. This has been harped on by unscrupulous persons for selfish purposes, and also worked up by sensational magazine writers, men without any practical knowledge of such subjects who only sit on office chairs and imagine things. When properly understood it is not the awful thing it is made out to be. Everyone knows it is unsatisfactory when a large percentage is added to woollen cloths, and well dressed people avoid buying it, but the world could not get on without it today, because there is not enough wool grown to clothe all the people who need woollen goods of one kind and another. The world's production of unwashed wool is only 2,952,782,785 pounds, and if that were used for every purpose for which wool, both new and remanufactured is used, we would be half naked unless we used vegetable substitutes. One of the greatest authorities in America on this subject goes even further, and figures it out to a fraction,—“If all the wool grown in the world were converted into cloth, and distributed pro rata among the people who inhabit the globe outside the Tropics, the annual per capita share would be 14 ounces of pure wool cloth. The ordinary light weight cloth weighs about 14 ounces per yard, 55 inches wide. A suit of clothes requires $3\frac{1}{2}$ yards. A man's share of the wool clip is therefore, enough cloth to make a light-weight suit every three and one half years.” Such far reaching statistics are beyond us, but reckoning population and production it appears to be a reasonable estimate.

Canada imports no rags, but exports a small amount. The greatest part of domestic rags is ground up and manufactured in this country. There is also a common impression among farmers that no shoddy is made in Canada, but this is a mistake. Goods containing shoddy are also imported, and the contention of some of our manufacturers is this,—that the percentage of shoddy in any cloth, either imported or domestic, should be stamped on every piece. Whether this scheme is workable or not we are unable to say, because it is purely a question between manufacturers themselves, those who use shoddy and those who do not use it. All we have to say here on this subject is,—leave the matter in the hands of the manufacturers, to settle between themselves. It is no immediate concern of the woolgrowers' and never concerned them directly.

Having explained, to the best of our ability, all the points raised at our meetings by wool-growers, we may add that it has been a pleasure to do so. Although we have been obliged to be very candid in our remarks on certain shortcomings which we discovered, it was only because we had to get at the very root of the trouble before a remedy could be found. It is not the fault of our farmers that they have been laboring for several years, under wrong impressions about wool, because they have had little beyond theories put before them on this subject, while sheepfarmers in other young countries have been helped with practical information and marketing organization. While thanking them for the assistance they gave us during our investigation, we now take the liberty of advising them to leave all theories alone, and insist on getting all the practical information they can. They should also devote special attention to sheep raising and wool growing and not trouble about the intricacies of other industries which use their by-products. The home market will have a surplus of certain kinds of wool before there is any surplus of mutton, but in addition to the wants of this continent there is

always a market in the Old Country for more than Canada is likely to produce. The world is short of both mutton and wool, and over production is impossible under present conditions, while good organization will always prevent temporary gluts on the market. Canada has now a splendid opportunity and ought therefore to take immediate advantage of it.

The Wool Problem and its Solution

A good many farmers we met, had got it into their heads that some one was to blame for the low price of wool. As far as we could trace, no one was directly to blame. When we stated that the manufacturer could scarcely be charged with the low price as far as we could see, some would say, "Then the policy of the country in this matter must have been wrong." Even on this delicate point, as in all others, we had strictly open minds, but this was a subject we could not discuss during our investigation. Now, when our investigation is over and we come to write our report, we are happy to say that we can afford to ignore "policy," and for this reason, neither one policy nor another will have any real effect on the wool growing industry. People who have held the opposite opinion, were under the impression that Canada could only produce sufficient wool for her own consumption. When anything is produced for internal consumption only, and never yields any surplus, it is possible to retard or further its production by changes of policy. Particularly is this the case with manufactured goods. Changes of policy, however have no effect on any healthy industry producing a large surplus of raw material to be marketed abroad. From every point of view this is especially true in regard to the by-products of the sheep industry.

The fact that the United States is our only neighbor, gives many people wrong impressions on this subject. The position of the United States is unique in many respects, enabling her in one way, and compelling her in another, to adopt policies and even methods, quite unworkable elsewhere. Her productions are varied, owing to the variety and scope of her natural resources. She has still most of the natural resources of a new country, with more than the average population of old countries. It may pay her in some cases to aim at being independent while it may be more profitable for other countries, less favorably situated by nature, to be inter-dependent. Other young countries are alive to this fact, and are making the most of their natural resources. The wool problem of the United States is now reaching that critical stage when domestic consumption is almost double the amount of production, and the state of the wool trade during the next few years is bound to be somewhat strained, if not unsettled. While this fact is doubtless true, what concerns us at the present moment is this,—the wool problem of the United States is exactly the opposite of the wool problem of Canada. The great mistake all along, has been our persistent desire to imitate our neighbor in matters relating to the wool trade. Whatever advantages we may have gained by following her example in the construction of labor-saving agricultural implements, one of the chief reasons for our failure in wool growing, has been the mistaken policy of trying to imitate her in this matter also.

The United States has a population of about 95,000,000 people, with a sheep population at present, of less than 50,000,000 head. Her wool production is a little over 300,000,000 pounds a year and her annual importation of wool is over 250,000,000 pounds approximately. Our population is only 8,000,000 people, and although we have only the consuming power of eight millions, yet we have the producing power of many times that number.

The United States will never be able to supply her own wants; we will always be able to export the major portion of our production. The United States is adapted by nature to grow a large variety of wools in insufficient quantities, while we are adapted by nature to grow fewer varieties in more than sufficient quantities, for domestic consumption. In every way our problem is exactly the opposite.

Now other young countries such as Australia and New Zealand, countries with climatic conditions somewhat different from Canada's but with the same problem in front of them, have acted differently and made a great success of sheep farming. They saw that their natural resources for producing wool would always be far in excess of domestic requirements, and they set themselves to develop those natural resources to the best advantage and turn them into money. Their chief surplus was the Old World's chief want, and they took advantage of the circumstances. Other countries followed, notably South America and South Africa, and they were also successful. Canada did the same in wheat farming, and look at her success. Unfortunately she did not do the same with sheep farming. No, she either forgot or ignored her natural resources and became enamoured with "policy." Instead of developing her natural resources, as a mutton and wool producer for exportation, she began to think and talk like her neighbor with a different problem and a vast population, until she persuaded herself that the keystone of successful sheep farming was growing wool for domestic consumption. The whole argument was, "The States does it." She clung to this theory and neglected to take action in accordance with her own circumstances and natural conditions until the sheep industry began to decline. In the meantime, she received no practical information and fell behind other countries in improved methods and organization. What is the result? We are now importing frozen carcasses from those other young countries who were faced with the same problem but who have acted differently.

We will again return to the remark of the few farmers who said that the policy of the country must have been wrong. We have shown that it was possible for the United States to adopt the policy she did. We have also shown that other countries with a different outlook saw that it was impossible for them, and did the very opposite with great success. We all know that slight changes of policy, or the least agitation, seriously interferes with wool-growing in the United States, because her production is very far short of her own requirements. Now we will show that political changes in other countries never interfere with wool-growing, because their production is far in excess of their domestic wants. Look at the South American Republics for instance. They are not famed for political stability, yet their wool-growing industry enjoys continued and uninterrupted prosperity. Look at Cape Colony. The wool-growing industry there goes on quietly and steadily improving in spite of political changes. The people of Australia and New Zealand are steady, sensible, intelligent and very progressive, yet they sometimes have political changes of a somewhat embarrassing nature. Their great prosperity in wool growing however, continues unchecked. The sheepmen in these countries never trouble about "policy," because their only trouble is droughts. Nothing but the failure of nature itself can seriously affect their natural industry. Their product is the raw material of the manufacturer, both domestic and foreign, and their prices are governed by the great consuming markets abroad.

As soon as we produce a surplus of raw material to be exported every year, the price at home is bound to be regulated by the market value abroad.

Which market rules the price of Canadian wheat, Winnipeg or Liverpool? Would any man say to-day, "Let us restrict the production of wheat to the limits of our own requirements, so that we may be able to form a policy to regulate our own prices, independently of other markets"? No matter what opinions people may have about manufactured articles for domestic consumption, it is quite a different question when we have a surplus of raw material to be marketed abroad.

Now it must be clearly understood that Canada is capable of producing more wool of certain kinds than a population of eighty millions of people can consume. Great Britain has 32,000,000 sheep of mutton breeds, and a population of nearly fifty million people, yet with her home consumption and her huge export trade in woolen goods, she cannot use up all her homegrown wool, but exports millions of pounds annually. She is obliged to use up enormous quantities of wool grown in other countries, because these wools are absolutely necessary, although she cannot grow them herself. The kind of wool produced in Canada will be chiefly that of mutton sheep. Owing to the rapid influx of settlers into the prairie country of the West, the sheep range is getting smaller every year, so that the production of crossbred Merino wool will never be large. A very slight increase in the number of sheep would produce a surplus of wool. We are only using about 21,000,000 pounds of wool annually, including every variety grown in hot countries and in the far East, yet three and a half million sheep would give us about 28,000,000 pounds of wool. The competitive wool we are now importing is only four and a half million pounds, just the clip of 600,000 sheep, so that twenty eight million pounds of wool means that we shall have a surplus for which a market must be found. Would anyone say, "Let us keep the number of our sheep under three and a half millions?" No, certainly not. Sheep farming in Canada must now go ahead and become a great and profitable industry, exporting both mutton and wool in large quantities, so that it may bring millions of dollars into the country instead of frozen carcasses.

"What must we do to get a better price for our wool?" was a question often put to us during our tour of investigation. When we tried to explain what would be necessary, the next question was invariably, "How can we be sure of getting full market value?" We never forgot those two questions, and they are the last two on our minds as we write the closing chapters of our report. These two questions are really answered in almost every chapter we have written in connection with wool,—practical information and thorough organization. The Canadian farmer must be educated in growing and handling his wool properly, until he is able to turn it out as well as wool growers in other countries. His wool will then be worth the full market price, either at home or abroad. He cannot be sure of getting full market value until a well organized system of marketing has been put in operation.

While carefully studying the system of marketing wool in Great Britain, United States, Argentina, Australia, New Zealand and South Africa, we were convinced that none of these systems could be copied entirely. We felt that some new plan would have to be worked out, containing borrowed ideas and suggestions from all these countries, which might then be woven into a constructive plan specially suited to our own conditions. The rough outlines of this plan will be found in our recommendations, and full details will be explained when a scheme of education has been arranged.

Leaving all contentious matter out of the question, and avoiding all the widely diversified views which have been expressed in the past, we are happy to be able to state with perfect confidence, that the wool problem ~~can be solved~~ and the industry be made profitable to those engaged in it, without any injury whatever to those indirectly connected with it. With a substantial surplus of wool in proper condition to place on the free markets of England, where every manufacturing country in the world is buying in competition, the highest market prices will always be realized, and satisfaction assured, quite independent of any policy advocated in the past or anticipated for the future.

CHAPTER XV.

RECOMMENDATIONS

In now concluding our report, we will not dwell upon the advantages which would accrue to Canadian farmers through the creation and establishment of a great sheep industry in the Dominion. These we hope will be apparent. We are under obligation however, to set forth, if only in a general way, the outlines of a policy which we would recommend for adoption in the interests of this important work. It will have been observed that all through the report much emphasis has been placed upon the necessity of an educational campaign being undertaken, in districts where there is little intuitive knowledge of sheep keeping, and upon the need of a more thorough organization in connection with the production and marketing of wool. In order, therefore, to give effect to the proposals which may receive the endorsement of the Department and in order to give permanence to the policy which may ultimately be adopted, we would recommend the appointment to the Live Stock Commissioner's staff of two specially qualified officers to represent, respectively, the sheep and wool industries, as a part of the executive organization of the Live Stock Branch. The sheep industry, with all its attendant features, is in need of definite organization and systematic direction, and, in order to effectively serve the interests involved, we think the Minister might wisely consider this means of initiating the work.

Following the adoption of this proposal, an extensive campaign of education should be commenced. This campaign should cover every phase of the production and marketing of mutton and wool. The more important features which our investigation leads us to emphasize as deserving of special consideration, we may now proceed to give in detail.

1. The general adoption of improved methods in breeding sheep is of primary importance. The haphazard system now in vogue has done incalculable harm in retarding progress from the standpoint of both the wool and mutton markets. The undertaking of a business-like policy, pre-supposing close attention to the requirements of the trade will alone save the situation. Scientific breeding must be understood and its principles practised. The maintaining of a single breed in any one locality is worth encouraging.

2. Farm management, in relation to sheep husbandry, is almost a science in itself and the subject should receive full discussion. The management of land, from the standpoint of sheep keeping, is practised by only a very few breeders. Definite systems should be advocated. The advantages of special pasture crops should be pointed out and the danger arising from infested pastures made clear.

3. Sheep are, as a rule, poorly housed and poorly fed. Severe losses are sustained through lack of proper care during the winter season. Information regarding the successful feeding and management of a flock is badly needed. Dipping, docking and castration must be intelligently undertaken by the breeders.

4. The demands of the meat market are insistent but are disregarded. Age, size and quality are factors of importance. Farmers should be urged to form the habit of regularly informing themselves as to the trend of the

trade in the purchase and sale of mutton and lamb. The present irregularities and anomalies, both of supply and demand, are due largely to lack of foresight on the part of the breeder and feeder.

5. Definite information is needed as to the requirements of the best markets for wool. This, when provided, should include a full explanation regarding the care of the fleece on the sheep's back, on the shearing floor and up to the time it leaves the farm.

6. Wool exhibits should, we think, be provided at a number of the more important exhibitions of the country. Such exhibits elsewhere have proved to be an excellent means of enlightening farmers on all matters connected with wool production and market requirements. So far as possible, the exhibits should be in charge of demonstrators fully qualified to give to wool growers needed information upon these and related subjects.

7. The educational facilities offered by the Agricultural Colleges in the Dominion are such as to make it desirable that advantage be taken of them to create amongst the students a special interest in the trade in wool. We would suggest that the Department provide these colleges with carefully arranged wool displays. We would urge also that their co-operation be secured and that they be earnestly requested to include in their courses on sheep husbandry a set of lectures on the structure of the wool fibre and on the scientific production of wool.

8. Demonstration farms should be established in various parts of the Dominion. Each farm should furnish a practical example of the advantages to be derived from the keeping of sheep under the conditions obtaining in the particular district in which it is located. The purchase of land would in few cases be necessary, rented farms being quite as suitable for the proposed undertaking. The sheep industry is in need of practical object lessons and nothing less will serve. The Live Stock Commissioner's expectation that these farms would be self-supporting is a strong argument in their favor and should further commend their practical value to the sheepmen of every province. The farms should be so situated as to effectively illustrate the advantages of sheep keeping, as for example,—in profitably utilizing rough land, in fostering a more intensive practice on mixed farms, in assisting to clear Western lands of weeds and in bringing into more productive use the rich valleys of British Columbia, where an early lamb trade is awaiting development.

9. The further distribution, in isolated districts, of pure bred sheep, especially rams, should be undertaken in a comprehensive way. Canadian breeders have neglected the home trade and suitable breeding stock needs to be wisely directed into channels where it will more effectively serve the interests of our own farmers.

10. Co-operative summer grazing should be encouraged, especially, in the Eastern provinces, as previously suggested in our report.

11. Co-operative marketing of sheep and lambs should be organized in specially selected districts in order to ascertain the feasibility of the more general adoption of such a system. Our investigation leads us to strongly favor this method of marketing.

12. The settlement of abandoned farms where sheep raising could be made a specialty should be encouraged. In order to render this practicable, it would be necessary that the land be cleared of stones, under-brush and much useless timber. Temporary loans to the farmers, to be paid back in annual installments extending over a period of years, would enable them to

effect the necessary improvements. We commend to the provinces the consideration of the whole question. Lacking their initiative in opening up these abandoned areas for settlement, much useful land will, in all probability, continue to lie idle.

13. Realizing that the enactment and enforcement of dog legislation may be undertaken solely by the Provincial Governments, we would suggest that the Minister represent to these Governments the necessity for the rigorous enforcement of the existing dog laws or for their amendment, if such be required. Suppression of the evils attendant upon the attacks by dogs would remove the greatest obstacle to successful sheep raising and restore a sense of security and confidence to this important industry. After careful study, we have come to the conclusion that a regular tax should be imposed upon the owners of dogs, the annual payment of which would place needed restriction upon the maintenance of useless animals and at the same time provide sufficient funds to fully compensate farmers for such losses as they might incur through the worrying of their sheep. As proof that the tax has been paid and as a convenient means of identification, all dogs should be required to wear a collar, with a small metal disc attached, which should bear on the one side the owner's name and address and on the other the license number.

In those provinces where sheep suffer through the attacks of coyotes and other harmful wild animals, we would recommend that the enactments providing for the suppression of these pests be systematically enforced.

14. Special assistance should be afforded to Sheep Breeders' Associations to enable them to forward experimental consignments of wool to British markets in order to test the advantages to be gained through such shipments. Careful arrangements should be made to ensure having the wool in the best possible condition, not only in the case of such as may be selected for experimental shipments, but in regard to all consignments intended for sale in Great Britain.

15. After carefully studying the various methods of handling wool in successful sheep farming countries elsewhere, we have come to the conclusion that Canadian wool should be handled on co-operative lines, so as to combine the advantages possessed by the marketing system of Great Britain with those secured through the organization of Australasia, together with such as would likely be obtained through the adoption of approved methods recently undertaken in other countries. As a means to this end, central wool depots or receiving stations should be established in suitable localities for collecting, warehousing, grading and classing, Canadian grown wool for shipment to the home or to the export trade.

THE RANCHING INDUSTRY IN THE WESTERN PROVINCES.

We have elsewhere referred to the great influx of settlers to the Western prairies occupied hitherto by the sheepmen. While this immigration has apparently been an advantage to the country generally, it has broken up the range holdings to such an extent that the sheep population has not only decreased to a serious extent but many sheepmen have been driven out of business entirely, while the few who now remain are disheartened and discouraged.

A very important branch of live stock is therefore likely to disappear during the next few years, unless some measures are undertaken to prevent it. In view of this fact, we have taken the liberty of bringing these circumstances to the notice of the Department.

There is an abundance of range country still left which, if the right of grazing on Crown lands were permitted and a slight alteration of the terms of leasehold allowed, would maintain increased flocks of sheep for the ranchmen still in business. Being confident of the advantages to be attained through the grazing of sheep over this largely unoccupied range, we have prepared a list of suggestions with the view of securing for the rancher more extended rights in this territory. This list, together with the details of our special investigation of the question, have been placed in the hands of the Live Stock Commissioner who has given us the assurance that the matter will receive the consideration which its importance deserves. Although the details of this part of our investigation, pending a fuller study of the whole subject, have been purposely left out of our report, the sheep men of Alberta and Saskatchewan can rest assured that their interests have not been overlooked.

ACKNOWLEDGMENTS

It is fitting that before concluding this report we should avail ourselves of the opportunity to make brief though none the less cordial acknowledgement of the generous assistance that was accorded us in the preparation of the material for the report and of the many favours and courtesies which we received during the itinerary of our investigation. Throughout the Dominion, in the United States and in Great Britain we were everywhere the recipients of interested hospitality and of many unexpected kindnesses.

To farmers in isolated districts, to skilled breeders in prosperous communities, to editors of trade journals, to professors in technical and agricultural colleges, to busy public officials and to directors of large commercial establishments we are alike indebted. Upon the Provincial Departments of Agriculture in Canada we were always able to rely for assistance and none the less free and unhesitating was the co-operation of public officers and private individuals in the other countries visited. Personal interviews were gladly given, inquiries by correspondence painstakingly answered, valuable statistics and reference material freely supplied and, in short, a sympathetic appreciation of the work was evidenced by those with whom we came at all intimately into contact.

It will be quite impossible to make individual mention of those to whom our thanks are due. We had set ourselves the task of preparing a list of persons whose assistance had been particularly useful but we speedily found that any adequate list would be much too long for publication. We trust therefore that this sincere and grateful expression of appreciation will be accepted as at least partial acknowledgment of the many services which have been so freely rendered us.

APPENDIX.

No. 1.

Order of Selling :—

H. IRWELL & Co.

WINDELER & Co.

BUXTON, RONALD & Co.

TO BE SOLD BY AUCTION

BY

H. IRWELL & Co.,

AT

THE WOOL EXCHANGE,

25, COLEMAN STREET,

ON

MONDAY, OCTOBER 3rd, 1910,

At FOUR o'Clock precisely,

THE FOLLOWING GOODS, VIZ. :—

		Wool.
842	Bales Victorian	
785	„ New South Wales	„
702	„ New Zealand	„
582	„ Queensland	„
15	„ Adelaide	„
187	„ Cape	„
100	„ Punta Arenas	„

3,213 Bales.

NOTE.—The above is a fac-simile of a specimen page from a Colonial Wool Sales Catalogue.

Conditions of Sale.

- 1.—The highest Bidder to be the Purchaser; and if any dispute arise between the Bidders for any Lot it shall be decided by the Brokers, unless one of the Claimants will advance; in that case the Lot shall be put up again.
- 2.—The Goods to be weighed off by the Warehouse Keepers, and taken away by the Buyers, at their own expense within fourteen days, with all faults and defects of whatever kind (including defect or error of description). One Invoice to be rendered to each Buyer for the whole amount of his purchases, and delivery to be given not later than the seventh day after the day of Sale, upon payment of the Invoice in full, or, if the same be not then ready, of an estimated equivalent sum, in Cash, or Bank of England Notes, without discount.
- 3.—The Goods to be free of Rent, and at the Risk of the Vendors from Fire, without reference to any payment which may have been made by the Buyer to the Brokers, until Six o'Clock p.m. of the third day from the expiration of the Prompt, unless delivered from the Warehouses, or transferred for re-housing in the Books of the Warehouse Keepers.
- 4.—The Buyers to pay the Brokers One Shilling per Lot, and to deposit £25 per cent, (if required) at any time during or after the Sale.
- 5.—And if any Lot or Lots remain uncleared after the expiration of the said fourteen days, the before-mentioned deposit to be absolutely forfeited and the Buyer to be further subject to all loss and charges that may accrue on the re-sale thereof, which it shall be at the option of the Brokers to effect either by Public Sale or Private Contract.
- 6.—If the weighing, delivery, or receipt of any Lot shall be delayed or prevented by reason of a general or partial strike of workmen, the respective periods under these Conditions for weighing, delivery, and receipt of, and payment for, the Goods shall be proportionately extended for such period as may be necessary, not exceeding the twenty-eighth day from the date of Sale. If at the expiration of such twenty-eighth day the weighing, delivery, or receipt of the Goods is, and shall have been prevented by any such strike, the Contract of Sale shall as respects undelivered Goods, be annulled; and all payments (if any) made by the Buyer for such undelivered Goods shall be repaid to him. If, however, a Delivery Order shall for seventy-two hours (exclusive of Sundays or Bank or Public Holidays) have been in the possession of the Buyer or his Agent, delivery as between Buyer and Seller shall be deemed complete. If delivery shall, from the causes specified in this Condition, be delayed or prevented, the charges on the undelivered Goods shall, during such extended time, be borne by the Seller; and unless the Buyer shall have made default in taking delivery the undelivered Goods shall be at the Seller's Risk as regards Fire until Four o'Clock in the afternoon of the thirty-first day, computed from the day of Sale.

NOTE.—The above is a fac-simile of a specimen page from a Colonial Wool Sales Catalogue.

London Docks.

18

Ex ORONTES, @ Sydney.

Lot Tare, lbs. Mark Bales

Scoured HB super comb.	247	11	TE&Co.Ltd. B	14
„ „ fine „	248			13
„ sup. fine cross-bred	249	11	JNP	3 X
„ „	250			1 X
„ HB fine combing	251	11	MAC B	6
„ pieces	252	11	Z	2 X
„ super lambs	253	11	C	4
„ D	254	11	Goorlanawa	3 X
„ BF	255	11	B Merriwa	1 X
„ lambs	256	11	ECJW Bingara	3 X
„ 1st cross-bred	257	11	WW A	2 X

NOTE.—The above is a fac-simile of a specimen page from a Colonial Wool Sales Catalogue.

The Auctioneers have pleasure in announcing that they will give

£6 6s. in Prizes,

For the Best Lots of Wool.

Class 1.—For the Best lot of Washed Wool, over 300 Fleeces..	2	2	0
Second Prize.	1	1	0
Class 2.—For the Best lot of Washed Wool, under 300 Fleeces..	2	2	0
Second Prize.	1	1	0

• CATALOGUE. •

Buyers are respectfully requested not to mix the Wools.

FLEECE WOOL.

Lots 1 to 82a are pitched in Tent No. 1. in Field near Smithfield.					
Lot.	Vendor.	Sheets.	Fleeces.	Remarks.	Price.
1	Davies E., The Oaks	1	47		
2	Dickin F.	1	33	15 tegs	
3	Tapley J.	2	96		
4	Bebb R. & J.	1	50		
5	Ward A., Chirbury	3	130		
6	Shakeshaft P.	4	192	101 tegs	
7	Thomas J., Coulton	1	50		
8	Steele Geo.	2	80	30 tegs	
9	Marston T.	2	60		
10	Critchley J.	3	122		

NOTE.—The above is a fac-simile of a specimen page from catalogue of Wellington Sale.

CONDITIONS OF SALE.

- First. The highest bidder to be the buyer, but if any dispute arises the Lot in dispute is to be immediately put up again and re-sold, or in case of more than one bidder, the Auctioneers reserve the right to declare the buyer. The Auctioneers reserve to themselves the right of refusing the biddings of any person, and of altering or withdrawing any lot or lots.
- Second. One farthing per lb. shall be the lowest advance, and no bidding shall be retracted without permission from the Auctioneers.
- Third. The Purchasers to give their names and places of abode to the Clerk, immediately on the fall of the hammer, to pay a deposit of 50 per cent. before removal, and the balance before delivery (if demanded).
- Fourth. The Lots to be taken to with all faults and errors of description (if any), and to be taken to at the respective weights as weighed by the Auctioneers, or their Clerks, at the London and North Western or Great Western Railway Company's Stations, at Wellington.
- Fifth. All Sheets to be returned to the Auctioneers free of expense within 3 months from the day of Sale, or they will be charged 10s. each, and Bags 5s. each. *This condition will be strictly enforced.* Drafts, 2lbs. per cwt., will be allowed.
- Sixth. The statements contained in the Catalogue are believed to be correct, but the Auctioneers do not guarantee same, and will not be responsible for mis-descriptions of any sort. All the Lots are previously exposed for examination by Buyers, and must be taken as they stand. No allowance will be made for Grey Fleeces.
- Seventh. Any complaints must be reported to the Auctioneers within 14 days of date of Sale, after which time full settlement must be made, and no allowances of any sort will be entertained.
- Eighth. *Should the Auctioneers consider that there is any delay in despatching the Wool, they reserve the right to consign the various Lots by whichever Railway Company they think fit.*
- Ninth. Upon failure of complying with the above Conditions, the Lots will be re-sold, either by public auction or private contract, and the deficiency (if any) and all expenses attending the same shall be made good by the defaulters at this present Sale, who shall have no claim for any surplus that may arise.

Barber & Son,

Auctioneers and Salemen,

Wellington and Hednet, Salop.

HEAD OFFICE:—CHURCH STREET, WELLINGTON.

NOTE.—The above is a fac-simile of a specimen page from catalogue of Wellington Sale.

<i>Lot</i>	<i>Bales</i>	
483	5	$\frac{1}{2}$ -bd H washed
484	4	" " "
485	3	$\frac{1}{2}$ -bd
486	1	$\frac{1}{2}$ -bd H
487	4	$\frac{1}{2}$ -bd H washed
488	6	$\frac{1}{2}$ bd washed
489	5	$\frac{1}{2}$ -bd H washed
490	5	" " "
491	5	$\frac{1}{2}$ -bd H washed (1 fl Bd)
491a	2	$\frac{1}{2}$ -bd unwashed
492	4	$\frac{1}{2}$ -bd washed
493	1	$\frac{1}{2}$ -bd H washed (1 fl Wr)
494	2	$\frac{1}{2}$ -bd H unwashed
495	1	$\frac{1}{2}$ -bd washed
496	1	$\frac{1}{2}$ -bd H
497	1	$\frac{1}{2}$ -bd H washed
498	1	Shrop unwashed
499	1	Shrop washed
500	3	$\frac{1}{2}$ -bd washed
501	1	$\frac{1}{2}$ -bd unwashed
502	1	$\frac{1}{2}$ -bd washed
503	1	$\frac{1}{2}$ -bd H washed
504	2	Bd
505	1	$\frac{1}{2}$ -bd H washed
506	1	$\frac{1}{2}$ -bd unwashed
507	9	$\frac{1}{2}$ -bd H

NOTE.—The above is a fac-simile of a specimen page from catalogue of a broker in Leith and Glasgow.

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