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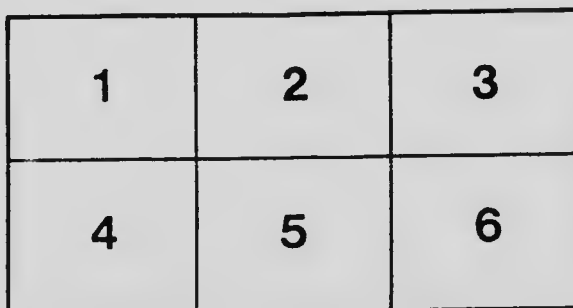
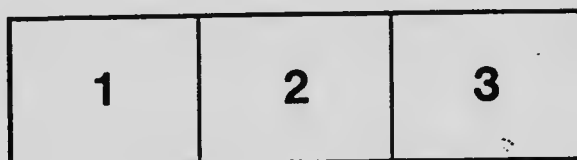
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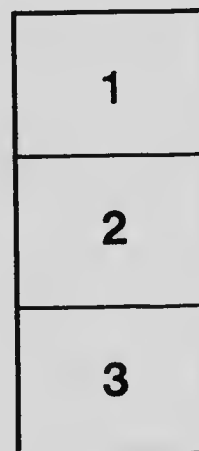
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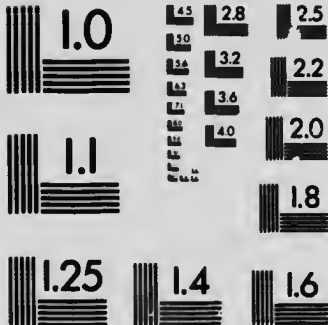
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REVIEW OF CO-OPERATIVE WOOL SALES IN CANADA



PREPARING WOOL FOR MARKET

PAMPHLET No. 14

Published by Direction of the Hon. Martin Barrell, Minister
of Agriculture, Ottawa.

MARCH, 1917

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DOMINION DEPARTMENT OF AGRICULTURE
LIVE STOCK BRANCH.
SHEEP AND GOAT DIVISION.

JOHN BRIGHT,
Commissioner.

H. S. ARKELL,
Asst. Commissioner.

PAMPHLET No. 14.

March, 1917.

REVIEW OF CO-OPERATIVE WOOL SALES IN CANADA.

PREPARING WOOL FOR MARKET.

BY

T. Reg. Arkell and J. K. King.

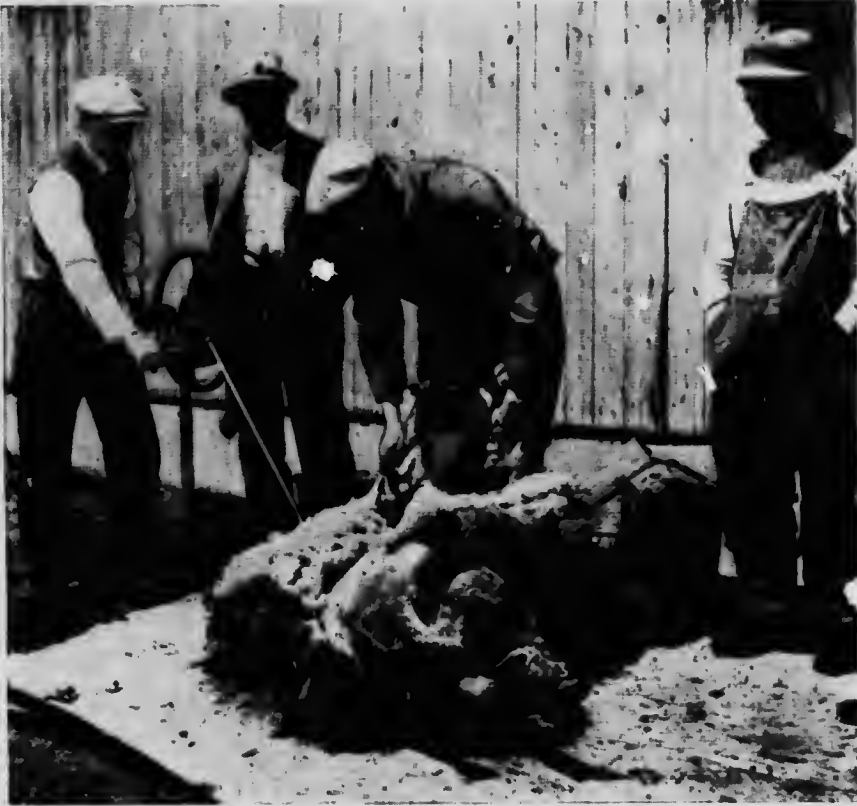
Sheep raising should represent one of the most important phases of live stock production in Canada. The climate is conducive to thrift in sheep, and conditions of agriculture obtaining here, although varying in mode in the different provinces are, in most respects, adaptable to the successful prosecution of some system of sheep farming. In fact, no country of relative area possesses so many natural advantages for their production. Yet the sheep industry has never occupied the prominent position in Canadian agriculture which its importance demands.

One of the reasons reflecting in the past a reactionary influence against the development of the sheep industry on a larger scale has been the low price of wool which until recently so generally existed. The sheep raiser receiving only a few cents per pound of wool had no incentive to engage extensively upon its pursuit since the disposal of mutton could not be depended upon to return a justifiable profit to the producer; on the same account many farmers possessing admirable conditions for the raising of sheep would not be induced to enter the business.

It has been apparent, therefore, that a greater remuneration from the sale of wool would act as a direct stimulus in creating a more favourable attitude by farmers toward sheep raising. As a means to this end, the minister, appreciating the importance of the sheep industry, instructed officers of the branch to undertake a study of the character of Canadian wool and determine what features pertaining to it placed it in such ill-repute for manufacturing purposes. Results of these investigations showed clearly that the principal objections obtained chiefly with condition. Inherently the quality of Canadian wool for those grades produced here was most satisfactory. These grades comprised mainly the medium and coarse classes, which possessed a distinct and serviceable place in manufacture, and although the scoured pound was not so valuable as the fine grades, yet to produce the latter would radically lower the standard of mutton characteristics. The innate character of the wool was not at fault. A ready sale for these grades did exist. They are closely akin to the British types, always in keen demand. The fault lay with the preparation of the wool and its condition. The low price did not really represent the price of low wool, but rather the price of wool made low through careless preparation, the inclusion of dirt and much other extraneous material which increased the cost of manufacture and created waste in the factory. Responsibility for this condition was due to a great degree to the manner of purchase, the flat price, which gave to the sheep raiser little encouragement or incentive to prepare a better article. The farmer's knowledge of wool was restricted.

Wool to him was merely wool. His neighbour's coarse grade, dirty and chaffy, brought the same price as his own fine medium wool, clean and light of shrinkage. Under these conditions the careful shepherd, in comparison with a less careful neighbour, was actually losing money. It was rather to his advantage to incorporate chaff and dirt in the fleece since this could then be sold for wool.

Disposal of wool on a flat basis was causing to the manufacturer as great inconvenience and loss as to the producer. He had to grade and afterwards sort the wool in his own warehouse, and frequently was forced to purchase, mixed in a lot, classes of wool which he did not want and could not use to advantage. With Canadian wool



Shearing Sheep by Hand Machine. Note canvas under sheep to keep the wool clean.

he never knew precisely what he was getting. Consequently, he could afford to take no great chances and was compelled for his own financial safety to purchase the wool on the basis of the poorest in the lot. When he imported from Great Britain, he obtained the wool graded and shrinkage declared and thus was assured in every respect of its character. He could utilize it immediately upon receipt without the delay always connected with the preparation of the home product. The flat system of selling was deeply rooted in Canada and existed largely on account of the farmer selling individually either to small dealers or the country storekeeper whose business seldom extended to more than a few hundred or thousand pounds per year, which did not give him a sufficient turnover to compel more than a cursory interest in the venture. Besides, grading of small quantities cannot be satisfactorily pursued since each class

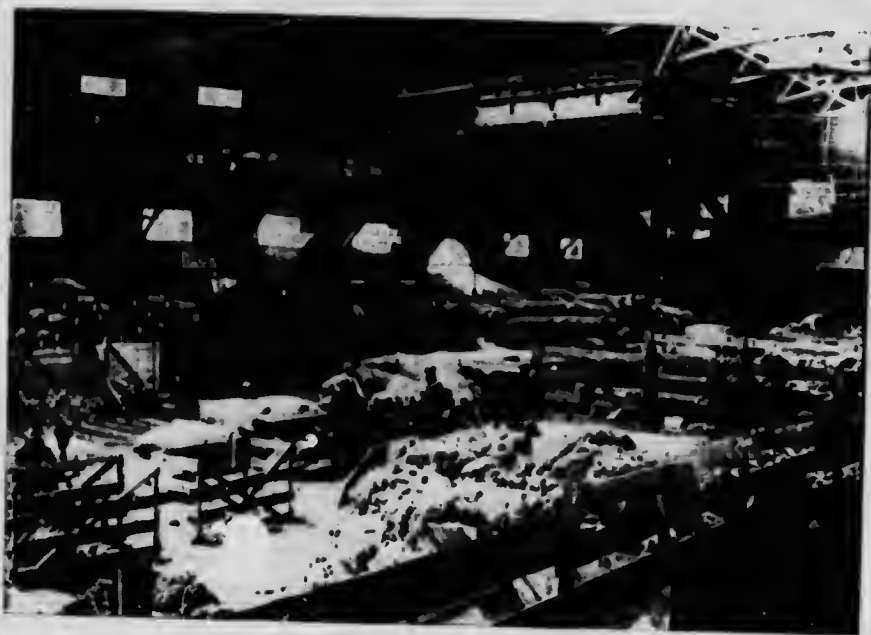
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would contain but a small number of fleeces, which would make it an expensive operation not only with respect to labour and cost of sacking but warehousing facilities as well.

Grading can best be accomplished and return the most profitable results with a carload (20,000 pounds) or more. The greater the quantity, the better is the opportunity of disposing of it to advantage. With a hundred thousand pounds, for instance, each grade will be sufficiently large to permit of its sale separately since some manufacturers have not the facilities for using economically all grades and would, consequently, be in a position to pay a higher premium for the grade which they actually need than under conditions which made it necessary for them to purchase all grades in order to obtain the selected one. If a single grade can make up a complete carload, a distinct saving in transportation is gained with a sale presented in this fashion.



Wool grading at a collecting point in Western Canada.

Sheep raisers, when they fully understood the conditions depreciating the price of wool and how these may to a great degree be rectified, were quick to take advantage of the benefits of grading and the disposal of their product on this basis. In 1913, an active educational campaign was inaugurated by the minister to introduce improved methods of preparing and caring for the fleece before offering it to the market. This was attended with such satisfactory results and the interest developed by sheep raisers so great that the next year seven associations were organized to pursue that year co-operative sale of their wool under the direction and grading system developed by the department. This movement was welcomed by the manufacturers and given their hearty support. In 1914, 206,129 pounds of wool were graded for societies organized in four provinces, namely, Quebec, Ontario, Manitoba, and Alberta. In 1915 the number of organizations formed for this purpose was increased to nineteen. Approximately 420,000 pounds were classified and offered for co-operative sale. In 1916 this amount had reached the total of 1,721,598 pounds with a value of \$579,678.69, and every province was represented. Reference to the tabulated statement will give a clear idea of the progress of this work.

It has been the distinct purpose of the department, in pursuing this work, to help improve the character of the wool clip and develop a national standard of wool grades. Accordingly the services of expert wool graders are furnished, upon application to the Live Stock Commissioner, who classify the wool for a group or society of sheep raisers and arrange it generally in a condition most acceptable for market. Associations organized for this purpose carry on and control through their own officers all business relating to the collection of the wool and the conduct of its sale. In some instances, however, independent action has been taken on the part of provincial departments and colleges of agriculture in loaning to the wool growers the use of warehouses and arranging for them financial aid during storage. This applies to the Manitoba, Saskatchewan and Prince Edward Island Departments and to Macdonald College.

Advantages of the co-operative movement and the success of the operations of these associations are clearly expressed in the rapid increase of amount of graded wool offered for sale since the inception of these activities. The adoption of grading has created a spirit of rivalry, in which each farmer endeavours to outdo his neighbour, or prepare his wool in a fashion which will grade higher, the results of which



Wool packed in bales ready for shipment.

are most wholesome and effective in obtaining a distinct improvement in the character of the product. This does not comprise the only respect in which beneficial results are exhibited. As the co-operative movement grew, a steady advance in the price occurred and the price of the classified product, sold through associations, exceeded during all three years that sold by individuals in the old way. The revenue to a member of a society, it has been demonstrated, was greater than that he could have received by selling at a flat price through the ordinary channels. It is estimated from sources as reliable as can be obtained of conditions of this nature that the average price last year of all graded wool was 5½ cents higher than the average price of other wool sold in the country. This is conservative and, although not definite, yet was gleaned from information derived from many wool men and farmers in close touch with market conditions and in a position to observe actual sales. There are many instances of wool being sold in almost the same district where an association existed at from 8 to 10 cents less. This increase alone was almost as much as many farmers obtained for their wool five years before, and manufacturers gladly paid the higher price, since the preparation was so much better than the ungraded it was a quality as cheap, if not cheaper. In the first year of co-operative wool selling, 1914, the average price throughout the Dominion of graded wool was 20.7 cents; in 1915, 27.2

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cents; and in 1916, 32.83 cents. Wools east of Port Arthur brought an average price per pound of 41.01 cents, and wool west of there 31.53 cents per pound. The difference in the price is explained by the lighter shrinkage of eastern domestic wools and their closer proximity to the consuming market. In 1913, and for many years before, western wool sold at approximately 12 cents per pound and eastern at 15 cents. Of course war conditions have influenced the general upward trend of prices, but the present reawakening of attention by farmers in the sheep industry is due equally as much to the interest aroused by means of co-operative activities.

Expense to the associations of handling the wool ranged from $\frac{1}{2}$ of a cent to 1 cent per pound. The average cost was 0.65 of a cent. The differences were due to local conditions, depending largely upon the expense attached to the renting of a warehouse, which is most variable, since it is required for only a short time. Sometimes, where scarcity exists, must be taken at a high rental. These prices include the cost of labour for handling the wool, sacks, paper twine and insurance. This deduction of a little over one-half of a cent is easily offset by the much greater price which grading and co-operative sale produce.



Defective cloth showing presence of Sisal Fibres. Use put line only for tying Flee ces.

In 1916 a very strict and exhaustive system of grading was adopted, and classes were included which would cover the full range of Canadian wools. In the West the Range wool of Merino origin was separated from the Domestic of Down or Long wool origin produced under farming conditions. The latter was again classified according to condition into firsts and seconds; the former shrinking under 50 per cent in scouring, the latter, over 50 per cent. From these results a very thorough knowledge has been gained of the exact character of the wool in the different parts of the country, as exemplified in the accompanying charts or diagrams. This provides also the opportunity of recognizing the underlying type of sheep within a district. For instance, it will be noted that the wool in the Maritime Provinces is largely lustre and coarse. From this one knows that the sheep must be mainly long wool breeds or long wool foundation, inclining to the Leicester. Quebec and Ontario again show Down crosses most strongly in the preponderancy of the medium combing grade. In Saskatchewan and Alberta the Range wools appear, exhibiting the introduction of Merino blood. Clothing wools or those less than 2 inches in length, remarkably absent in Eastern

Domestic, are present to a great degree in the Range types. Many of the grades representing but a small percentage of the total will another year in field grading be incorporated without difficulty or confusion with others closely allied in character to them.

THE GRADING OPERATION.

Grading represents the classification of wool in the fleece and should be done before the wool enters the mill. It consists of the separation of the entire fleeces into lots of similar character with relation to condition, quality and staple or length. Grading must not be confused with sorting, which is performed in the factory before scouring and comprises the breaking up of the fleece itself into unit parts. These operations are rendered necessary, owing not only to variations in character of fleeces produced from sheep within the same flock of similar breeding, but variations as well in length and quality within the fleece itself. For instance, a shorter wool will be found on the belly than on the thighs and the latter will be much coarser. These two sorts are used for different classes of manufacture.



Proper method of Folding Fleece clipped surface outside; turn in sides and roll from both ends.

Discussion of the classification of Canadian wool will involve an explanation of the following features:—

Grease or Unwashed.—Wool shorn from the sheep in the natural condition. The fleece should be offered for sale in this fashion only. The grade can be distinguished more readily and the manufacturer can sort it to suit his needs. The higher price which the washed or tubwashed product brings, as has been proven experimentally, is more than offset by the cost of labour and loss in weight. Besides, this operation can be performed much more effectively by scouring in the factory.

Washed.—Wool washed with soap and water upon the sheep's back. Washing removes only the foreign material or dirt and creates a shrinkage in weight from 12 per cent to 22 per cent on the average.

Unmerchantable.—Wool poorly washed or not shorn for some time after washing.

Tubwashed.—Wool scoured by hand with soap and water frequently containing a weak solution of caustic alkali, after it has been removed from the sheep. This repre-

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sents a most objectionable practice. In tubwashing the various qualities of the fleece are so badly mixed as absolutely to prevent sorting. It represents an attempt to fulfil the same purpose as scouring, but the process is not as effective. Before the wool can be used in manufacture it must be rescourd, and, although the original loss in weight ranges from 36 per cent to 50 per cent, an additional decrease of an average of 15 per cent occurs in the mill.

Co-operative associations will not accept tubwashed wool for sale.

Scoured.—Wool thoroughly cleansed in the mill by efficient machinery.

Rejection or Reject.—Wool containing an excessive quantity of seeds, burrs, straw, lay or kemp.

Cotted Reject or Cots.—Wool matted together. Cotting is created by ill-health and is due to lack of sufficient yolk or grease in the wool, which ordinarily keeps the fibres from sticking together. Since the wool is already felted to some degree, it cannot be used effectively in manufacture.

Black or Grey Reject.—Wool containing numerous black, brown or grey fibres. The colour prohibits its use for light coloured fabrics.

Tags, Dung Locks or Stained Pieces.—Short locks covered or stained with manure. These are generally of no high commercial value and must be given special treatment in scouring.



Neck pieces improperly used for tying fleeces. These were so firmly twisted they could be unravelled only with great difficulty.

Pulled or Skin.—Wool removed from the pelts of slaughtered sheep by a mechanical or chemical agency.

Staple or Length.—Fleeces are separated very generally according to staple, into two lengths, combing and clothing. Two inches is ordinarily the dividing point. Combing is the long wool, intended for worsted purposes. Clothing is too short for the ordinary combs and must be carded entirely, mostly into woollen goods. Canadian Domestic wool, as may be recognized from a study of the charts, represents in the main combing lengths.

Quality.—Domestic wool is divided into five classes according to quality or fineness of diameter of the fibre. Of these the Medium and Coarse represent the basic grades and comprise the bulk of the wool of this class raised in Canada. In some districts a finer wool than the distinctive Medium is produced, which may be included in a higher class known as the Fine Medium, and considerable wool exists, coarser

than the Medium but not sufficiently so to be called a Coarse, which is graded effectively as a Low Medium. The Lustre class includes only the bright wool of glossy appearance shorn usually from highly bred Cotswold, Lincoln or Leicester sheep.

Coarse and Lustre are expressly long-fibred wools. Clothing lengths are representative mostly of the Fino Medium and Medium qualities.

Range wools, being of a Merino foundation, possess a decidedly finer quality than the Domestic and incidentally are of higher shrinkage. They can be divided into four classes: Fine, Fine Medium, Medium, and Low. The Fine is not represented in Domestic grades whatever. It is wool from the pure Merino. In reverse fashion Lustre does not appear in Range types, but is exclusively Domestic.



Fleece folding and tying box open showing inside surface.

It is difficult to correlate the types of wool produced by the different breeds with the foregoing grades, for the reason that within each breed there is always a wide range and great variety of qualities. Grading is performed entirely irrespective of breed type, and Shropshire or Hampshire wool may be included in the same grade with Oxford or Suffolk. Fleeces of several hundred sheep of one of the Down breeds, which are the most variable, may fill every category except Fine and Lustre. The wool of the Cotswold, Lincoln and Leicester is the most constant in quality and is never classed as other than Lustre or Coarse.

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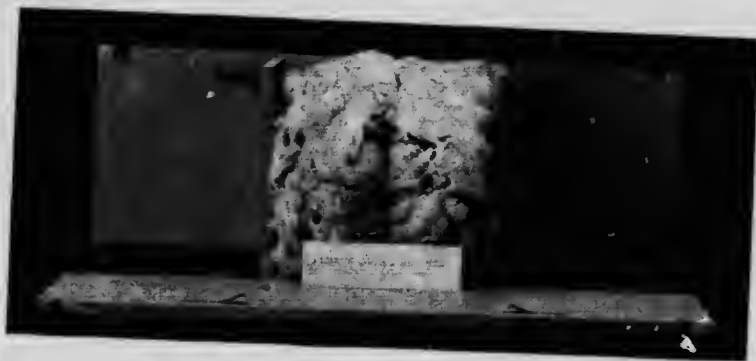
DIRECTIONS FOR PREPARING AND PACKING WOOL.

(1) Feed sheep well and regularly. Sheep poorly fed will possess a harsh fleece lacking in oil and frequently with a feeble or weak fibre. This does not constitute desirable wool for sale. Where sheep are starved for a period, the effects will be shown in the wool by a weak section which will break readily and, consequently, cannot be used satisfactorily for combing or worsted purposes.

(2) Every effort should be taken to keep the wool free from chaff, hay and burrs. This can be avoided by using proper feed racks and care in preventing hay or straw dropping upon the sheep during feeding. Moreover, it should always be remembered in this respect that the more dirt there is incorporated in the wool, the higher will be the shrinkage; and wool is bought by the dealer upon the basis of the clean or scoured pound.

(3) Keep the wool well clipped behind at all times, especially if sheep are scouring, so as to prevent the formation of heavy dung locks.

(4) Endeavour to eliminate in breeding operations black sheep from the flock. Mate only sheep possessing pure white wool. Black wool is sold in the reject class and should be packed separately.



Fleece folding and tying box partially open; Fleece tied.

(5) In marking sheep never use oil paint or tar, which are insoluble and will not scour from the wool. Paint locks must be cut from the fleece by the sorter in the mill and cannot be used in manufacture, thus representing a complete loss to the consumer. There are proprietary materials upon the market which will give a permanent brand under ordinary weather conditions, and yet scour perfectly in the mill.

(6) Sheep must be dipped in some reliable material at least once a year and better twice, in the fall before entering winter quarters and in the spring after shearing.

(7) Shearing should be done on a smooth board floor, never on the dirt, and the fleece should be kept as compact as possible.

(8) Fleeces should be tied only with paper twine, never with sisal or ordinary binder twine. Nor should the neck-piece be used for tying. Effects of cold weather frequently make the neck-pieces so hard, if tightly rolled for this purpose, that great difficulty obtains in unravelling them in the mill. Turn in the sides of the fleece with the skin or clipped surface outward. Then fold alternately the neck-piece and the tail portion until they meet in the centre of the fleece. This arrangement permits the fleece being readily undone in the mill. Folding and tying may be facilitated by the use of a fleece box, which at the same time gives greater compactness and uniformity to the fleece.

(9) The wool should be packed in very closely woven jute, hemp or paper-lined sacks.

(10) Tags or dung locks should never be included with the fleeces, but always packed separately if the wool is adhering to them.

(11) The wool should be absolutely dry at shearing, and should never, subsequently, be permitted to become wet. Damp wool, in storage, will ultimately assume a yellowish colour, which will prohibit its use in the manufacture of white yarn. Besides, mildew may attack it, which will impair the tensile strength of the fibre. Manufacturers greatly dislike and prefer not to purchase wet wool except at a considerable reduction.

DESCRIPTION OF FLEECE FOLDING BOX

FOR USE IN TYING FLEECE.

It is necessary to keep the fleece as intact as possible during shearing. Fold sides and ends of fleece to centre with clipped or skin side out; then place on folding board after paper twine has been threaded on the board as shown in the accompanying illustration. The sides and ends of the box should then be brought into the position illustrated upon the cover page and held together by means of wooden cleats.

Material required will consist of a board 9 feet long by 1 foot wide and 1 inch thick, which may be cut into two pieces 3 feet long and three pieces 1 foot long. The pieces should then be hinged in manner shown in illustration of the open box. For convenience it is advisable to use springs to hold the end board upright when compressing the fleece.

The foregoing description represents the size most suitable for all grades of fleeces, except Coarse or Lustre. The latter will require a box of greater proportions. Two inches added to all dimensions will make it sufficiently large to contain without difficulty fleeces of the average size of these grades.

APPLICATIONS FOR ASSISTANCE.

Sheep raisers desiring to avail themselves of the assistance rendered by the Department should make application to the Live Stock Branch, Dominion Department of Agriculture, Ottawa, for a copy of pamphlet No. 7, in which are given full details respecting such assistance, as also regarding the organization of a wool growers' association.

EASTERN DOMESTIC GRADES—COMPLETE STATEMENT OF WOOL GRADED WITHIN EACH PROVINCE.

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Grade.	Fine Medium Combing.	Medium Combing.	Medium Clothing.	Low Medium Combing.	Coarse.	Lustre.	Rejects.	Gray and Black.	Locks and Pieces.	Tags.	Total Weight.	Average Price.	Total Value.
<i>Prince Edward Island—</i>													
Pounds.....	130	7,251	241½	4,130	5,675½	187½	100½	351	333	41½	23,176½	38 63c	\$10,876 74
Price per pound.....	43c	42c	44c	41c	40½c	41c	30c	38½c	36½c	10c			
Value.....	\$55 90	\$3,045 42	\$107 47	\$1,693 30	\$2,298 55	\$76 88	\$30 15	\$135 14	\$121 55	\$11 63			
Per cent of total.....	70	33 31	1 31	22 39	30 77	1 01	54	1 90	1 81	22			
<i>Nova Scotia—</i>													
Pounds.....	121½	1,530½	8	1,821½	1,530½		52	49		5	18,411½	40 98c	\$7,568 53
Price per pound.....	40½	39½c	39½c	38½c	36½c		22½c	27½c		10c			
Value.....	\$48 90	\$611 95	\$3 18	\$706 99	\$558 63		\$11 83	\$12 12		50			
Per cent of total.....	2 12	26 86	13	31 84	26 71		91	85		08			
<i>Quebec—</i>													
Pounds.....	1,455½	83,441	1,574	57,014	13,218	873½	7,921½	2,639½	249	335½	5,130	38 10c	\$1,954 60
Price per pound.....	43c	43c	43c	42c	41c	42c	38c	38c	38c	5c			
Value.....	\$625 86	\$35,879 63	\$676 82	\$24,210 48	\$5,431 58	\$366 87	\$3,009 70	\$782 70	\$94 62	\$16 78			
Per cent of total.....	86	49 33	93	34 16	7 85	51	4 69	1 22	15	19			
<i>Ontario—</i>													
(Manitowish Island only) pounds.....	102	2,491	18	7,950	1,378	5,725	65	53	143	63	168,791	42 14c	\$71,295 85
Price per pound.....	36½c	36½c	36½c	36c	32c	34c	30c	30c	30c	10c			
Value.....	\$37 24	\$909 46	\$6 57	\$2,862 00	\$440 96	\$1,946 50	\$19 80	\$15 90	\$12 90	\$6 30			
Per cent of total.....	56	13 81	10	44 19	7 65	31 82	36	29	79	35			
											17,989	34 95c	\$6,287 43
											238,438½	40 15c	\$97,483 15

WESTERN DOMESTIC GRADES—COMPLETE STATEMENT OF WOOL GRADED WITHIN EACH PROVINCE.

Grade.	Fine Combing.	Fine Clothing.	Fine Medium Co. 1st.	Fine Medium Cl. 1st.	Fine Medium Co. 2nd.	Fine Medium Cl. 2nd.	Medium Co. 1st.	Medium Co. 2nd.	Medium Cl. 2nd.
<i>Manitoba—</i>									
Pounds.....	6,615	2,945	6,569	6,274	119	350	56,484	11,514	64
Price per pound.....	33c.	30c.	33c.	30c.	28c.	24c.	34c.	30c.	23c.
Value.....	\$2,192 85	\$889 50	\$2,174 37	\$1,888 20	\$33 32	\$98 40	\$19,204 56	\$3,454 20	\$18 56
Per cent of total.....	3 85	1 96	4 36	4 16	'07	2 1	37 42	7 62	'04
<i>Saskatchewan—</i>									
Pounds.....	6,615	11,031	12,449	3,605	20,747	8,557	22,407	1,734	32,397
Price per pound.....	33c.	29c.	36c.	34c.	34c.	32c.	37c.	34c.	31c.
Value.....	\$2,192 85	\$3,198 99	\$4,481 64	\$1,293 79	\$7,053 98	\$2,738 24	\$8,290 59	\$590 56	\$11,14 98
Per cent of total.....	3 85	6 33	7 21	2 21	12 02	4 35	12 41	1 04	18 77
<i>Alberta—</i>									
Pounds.....	14,848	21,212 1	33,257	7,976	31,657	13,197	125,790	9,209 1	67,091
Price per pound.....	31c.	26c.	33c.	29c.	31c.	29 1	35c.	31c.	32c.
Value.....	\$4,602 88	\$5,515 25	\$10,974 81	\$2,313 44	9,813 67	\$3,960 65	\$44,376 50	\$2,864 96	\$21,469 12
Per cent of total.....	3 59	5 12	8 04	1 92	7 05	3 36	30 65	2 22	16 21
<i>British Columbia—</i>									
Pounds.....	78 1	2 19	26	.....	6	9,744	4,242 1	9	.....
Price per pound.....	35c.	34 1	36 1	.....	32c.	31 1	36c.	34c.	30c.
Value.....	\$27 48	\$75 56	\$9 49	.....	\$1 92	\$3,093 88	\$1,527 30	\$3 06	\$95 40
Per cent of total.....	49	1 39	16	.....	'03	61 85	26 93	'05	2 02

WESTERN DOMESTIC GRADES—COMPLETE STATEMENT OF WOOL GRADED WITHIN EACH PROVINCE.

15

Grade.	Low Medium Comb.	Low Medium Cloth.	Coarse.	Lustr.	Rejects.	Gray and Black.	Locks and Pieces.	Tags.	Total Weight.	Average Price.	Total Value.
<i>Manitola—</i>											
Pounds.....	37,187	207	1,675	15,514	4,815	3,163	2,998	1,001			
Price per pound.....	34c.	34c.	32c.	30c.	24c.	22c.	22c.	10 3/4c			
Value.....	\$12,643 98	\$70 38	\$536 00	\$4,654 20	\$1,155 60	\$695 86	\$659 56	\$105 11			
Per cent of total.....	24 51	13	1 10	10 21	3 12	2 09	1 98	.66			
<i>Saskatchewan</i>											
Pounds.....	14,741	648	3,533	10,708	10,426	1,587	973	2,617	150,939	32 25 c.	\$ 48,681 40
Price per pound.....	34c.	34c.	32c.	31c.	24c.	28c.	24c.	11c.			
Value.....	\$1,025 54	\$220 12	\$1,130 56	\$3,319 48	\$2,502 24	\$444 36	\$233 52	\$287 87			
Percent of total.....	8 56	37	2 04	6 21	8 12	.91	1 56	1 51	172,570	32 00 c.	\$ 55,244 97
<i>Alberta—</i>											
Pounds.....	49,521 1/2	491	5,559	1,562	7,474	3,401 1/2	6,074	5,964			
Price per pound.....	33c.	31 1/2c	31 1/2c	31 3/4	25c.	25c.	22c.	11c.			
Value.....	\$16,342 10	\$154 67	\$1,751 09	\$492 03	\$1,863 50	\$850 38	\$1,326 28	\$656 04			
Percent of total.....	11 97	11	1 34	.38	1 81	.85	1 46	1 44	413,687	31 80 c.	\$131,565 94
<i>British Columbia—</i>											
Pounds.....	4	53	.....	.....	85	31 1/2	641	290			
Price per pound.....	33c.	32c.	.....	.....	27c.	27c.	25c.	12c.			
Value.....	\$1 32	\$16 96	.....	.....	\$22 95	\$9 32	\$160 25	\$34 85			
Percent total.....	.02	.33	.....	.....	.54	.22	4 06	1 91	17,751	32 25 c.	\$ 5,079 69
									752,947	31 95 c.	\$240,572 00

WESTERN RANGE GRADES—COMPLETE STATEMENT

Grade.	Fine Staple.	Fine Clothing.	Fine Medium Staple.	Fine Medium Clothing.	Medium Staple.	Medium Clothing.
<i>Alberta—</i>						
Pounds.....	107,658	54,935	257,265	34,199	243,799	5,904
Price per pound.....	29½c	29c	32½c	31c	33½c	31½c
Value.....	\$23,889 96	\$15,931 15	\$84,251 01	\$10,601 69	\$82,282 16	\$1,874 62
Per cent of total.....	14.45	7.37	34.53	4.59	32.73	7.9
<i>Saskatchewan—</i>						
Pounds.....	306	197	1,023	310	2,583	162
Price per pound.....	37½c	27c	31c	29c	31½c	30c
Value.....	\$81 15	\$53 19	\$317 13	\$90 90	\$813 65	\$48 60
Per cent of Total.....	5.63	3.63	18.84	5.71	47.57	2.98

OF WOOL GRADED WITHIN EACH PROVINCE.

Low Staple.	Low Clothing.	Rejects.	Gray and Black.	Locks and Pieces.	Tags.	Total Weight.	Average Price.	Total Value.
21,704 35c. \$7,506 40 2 51	388 35c. \$135 80 05	1,597 20 3/4c. \$427 40 21	4,491 27c. \$1,213 57 00	11,471 23 1/4c. \$2,667 00 1 51	1,858 12c. \$186 96 21	744,969	30 84c	\$230,557 62
553 33c. \$182 49 10 18	..... ..... ..... .....	142 25c. \$35 50 2 16	80 27c. \$24 03 1 63	1 24c. 24 02	64 11c. \$7 04 1 18	5,430	30 49c.	\$1,635 02
						750,389	30 93c.	\$232,213 54

COMPLETE STATEMENT OF GRADED WOOL OFFERED FOR CO-OPERATIVE SALE.

Name of Association	Secretary or Manager.	Address.	1914.		1915.		1916.	
			No. of Members.	Amount of Wool.	No. of Members.	Amount of Wool.	No. of Members.	Amount of Wool.
<i>Prince Edward Island—</i> Prince Edward Island Wool Growers' Assn.....	W. R. Reek	Charlottetown.		Lbs.	58	5,496½	303	Lbs. 28,176½
<i>Nova Scotia—</i> Antigonish Wool Growers' Assn..... Guysboro Wool Growers' Assn.....	Dr. Hugh McPherson Angus D. McDonald	Antigonish. Guysboro			103	12,271	203 21	17,323 1,119½
<i>New Brunswick—</i> Moncton & Westmoreland Wool Growers' Assn..... Sussex & Studholm Wool Growers' Assn.	C. E. Jubien M. A. McLeod	Moncton. Sussex.			9	1,103½	18 21	1,873 3,257
<i>Quebec—</i> Argenteuil Wool Growers' Assn..... Beauharnois Wool Growers' Assn..... Bedford Wool Growers' Assn..... Compton Wool Growers' Assn..... Megantic Wool Growers' Assn..... Pontiac Wool Growers' Assn..... Richmond Wool Growers' Assn..... Sherbrooke Wool Growers' Assn..... Stanstead Wool Growers' Assn.....	J. W. Gall R. E. Hisk W. R. Beach H. A. Taylor E. Bolduc C. H. Hodge L. V. Parent W. J. MacDougall E. E. Temple	Lachute. Huntingdon Covarsville. Cochetville. Lezette Village. Shawville. Richmond Lennoxville. Ayer's Cliff.			67 79 55 150 413 75 53 83	6,372 8,601 6,702 12,849 43,057 10,080 6,045 9,936	106 113 150 281 40 48 172 135 125	10,630½ 13,667 16,521½ 24,404½ 3,998½ 52,500½ 16,323½ 16,084½ 13,456
<i>Ontario—</i> Manitowlin Island Wool Growers' Assn.	W. Hilliard	Kagawong.	69	15,743	81	20,235	69	17,909
<i>Manitoba—</i> Elkhorn Wool Growers' Assn..... †Manitoba Sheep Breeders' Assn.	Sir J. A. M. Atkins G. H. Greig	Winnipeg. Winnipeg.			6 187	10,648 64,777	11 429	9,220 141,719
<i>Saskatchewan—</i> †Saskatchewan Wool Growers.....	W. W. Thomson	Regina.					475	178,000
<i>Alberta—</i> Alberta Sheep Breeders' Assn. (Calgary) Alberta Provincial Sheep Breeders' Assn. (Edmonton) *Carstairs Wool Growers' Assn.	E. L. Richardson, Secy. W. J. Stark. F. J. Downie,	Calgary Edmonton Carstairs.	21 1 1	95,137 11,689½	83 28	105,863 12,788	337 102	365,675 52,270

†Central Alberta Wool Growers' Assn.....	G. Holben,	Ponoka.	11	18,216	25	24,141	73	35,979
Lincoln Wool Growers' Assn.....	A. J. Cameron,	Larville.	14	9,955	18	35,916	27	24,246
Pincher District Wool Growers' Assn.....	F. W. Harwood,	Pincher Creek.						24,246
Southern Alberta Wool Growers' Assn.....	F. Colpman,	Leithbridge.						105,944
Cardston District Wool Growers' Assn.....	Mgr. A. Sheldon,	Magrath.						
Vermilion Wool Growers' Assn.....	J. Mack,	Vermilion.						

† Central Alberta Wool Growers' Assn.	G. Holben.	"	Ponoka	11	18,216	25	24,141	73	35,979
Lacombe Wool Growers' Assn.	A. J. Cameron.	"	Lacombe	14	9,535	18	35,916	27	24,246
Pincher District Wool Growers' Assn.	F. W. Harwood,	Mgr.	Pincher Creek					26	143,944
Southern Alberta Wool Growers' Assn.	F. Colpman,	Secy.	Leithbridge					5	106,455
Cardston District Wool Growers' Assn.	A. Sheldon,	"	Magrath					29	35,901
Vermilion Wool Growers' Assn.	J. Mac,	"	Vermilion			33	29,642		
<i>British Columbia—</i>									
Vancouver Island Flock Masters' Assn.	A. C. Aitken,	"	Duncan					62	15,751
Total				363	206,124½	1,678	47,153	3,916	1,721,604†

* United with Alberta Sheep Breeders' Association, 1915.

† Supported also by Prov. Dept. of Agriculture.

† United with Lacombe Wool Growers' Association, 1915.

Diagram showing percent of Domestic Grades for Maritime Provinces.

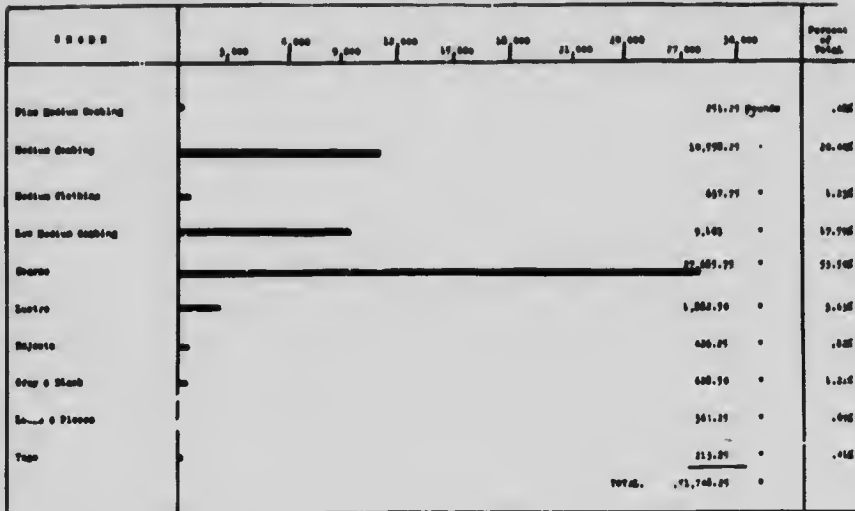


Diagram showing percent of Domestic Grades for Quebec.

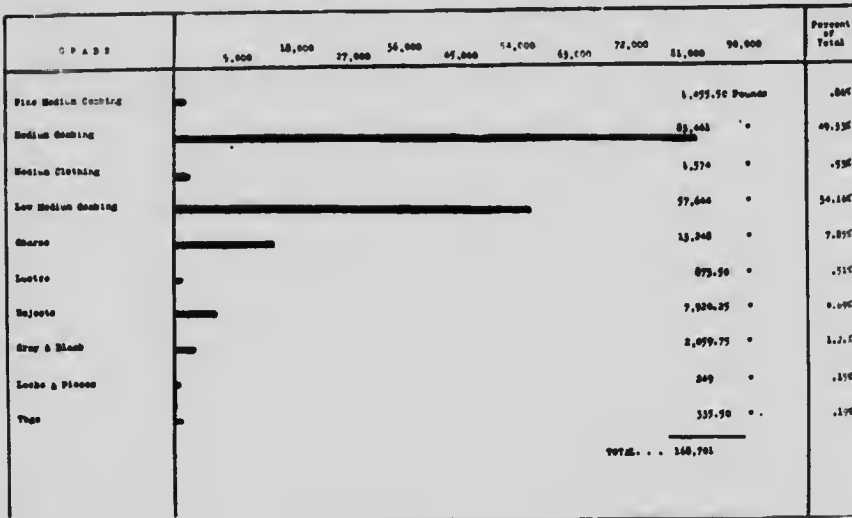


Diagram showing percent of Domestic Grades for Ontario.

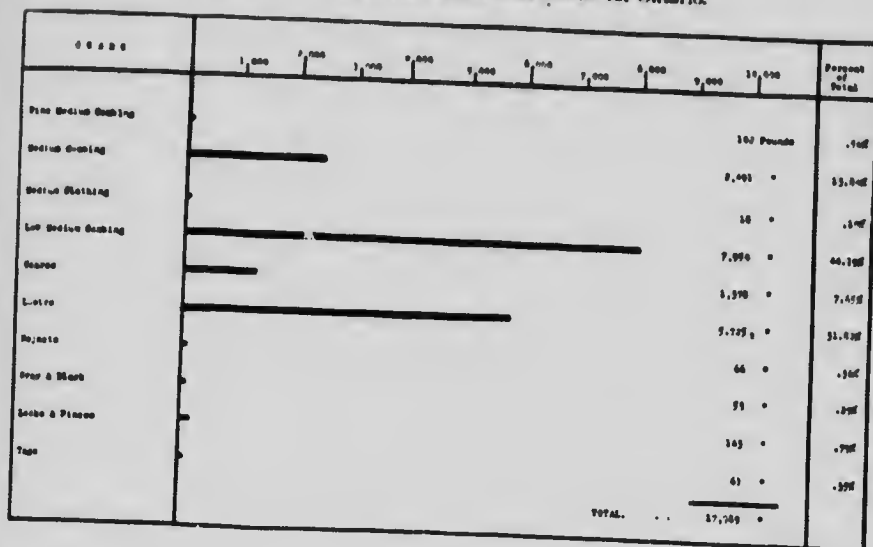


Diagram showing percent of Domestic Grades for British Columbia.

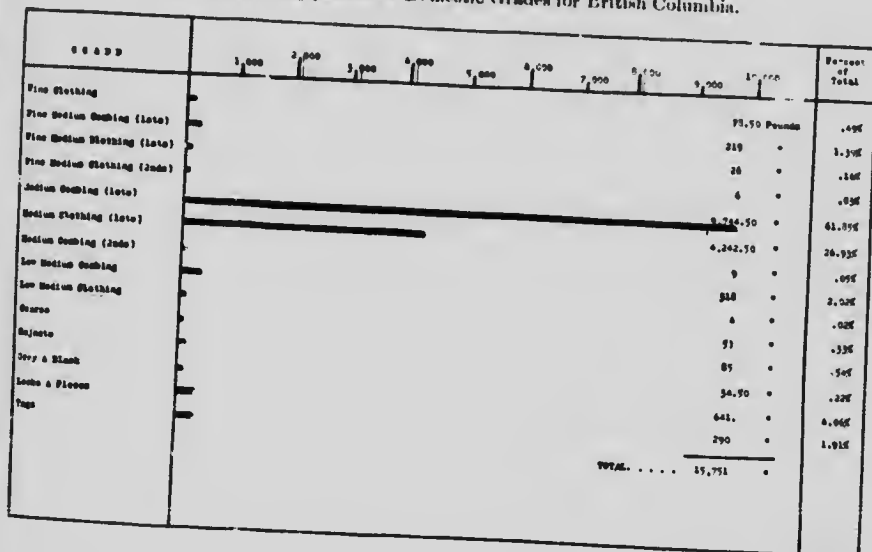


Diagram showing percent of Domestic Grades for Manitoba.

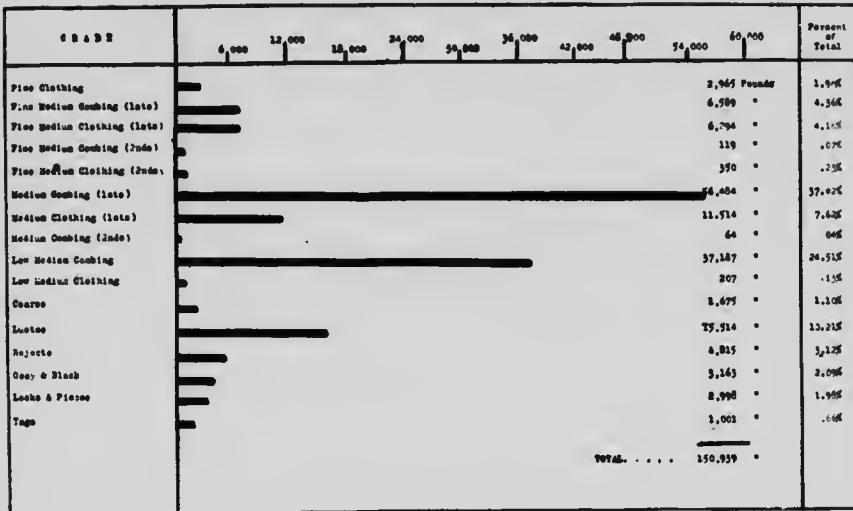


Diagram showing percent of Domestic Grades for Saskatchewan.

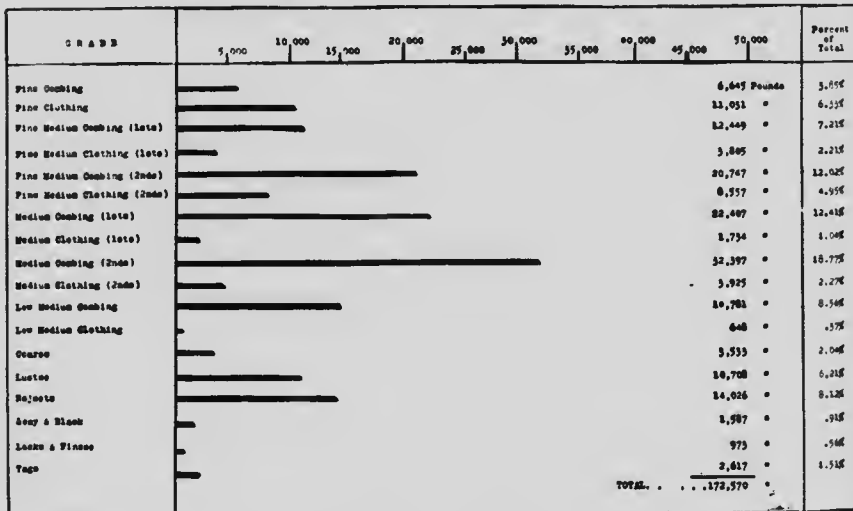


Diagram showing percent of Domestic Grades for Alberta.

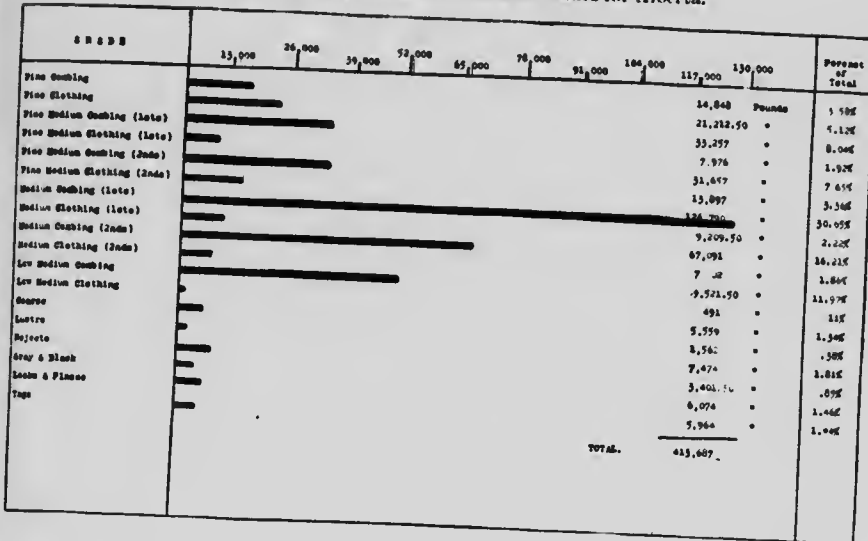


Diagram showing percent of Range Grades for Alberta.

