CANADIAN FLEECE WOOL

IN response to the need for reliable information on the clean yield of Canadian wool of the various grades or qualities following wool control, as exercised under authority of the Wartime Prices and Trade Board, this publication aims to set forth the variations in the quality and value which exist in wool produced in various parts of Canada.

An effort is made to explain to the producer of wool that, regardless of the breed or grade of sheep he keeps, the wool from these sheep, when shorn, has a sale value based on the yield of clean wool.

For many years the Dominion Department of Agriculture has provided a wool grading service so that any producer of wool who desires to do so may take advantage of the opportunity of selling his clip according to grade through the regular co-operative channels. The grading of wool is now more or less generally understood among sheep raisers.

Under existing conditions, the farmer must not only know something about the grade of his wool, but, in addition, something of his clean yield, or shrinkage, in order to correlate the clean price with a relative value in the fleece, or on a greasy basis as shorn from the sheep. For centuries, buyers of wool have based the price for wool on the estimated clean yield, so that the basis of purchase established for wool used in war contracts, or for civilian use in wartime, is no new development so far as the wool trade is concerned.

Owing to wool control in Great Britain, wool prices in Canada will doubtless be influenced by the controlled price paid for Australian and New Zealand wool for the period of the war and one year thereafter. At the outset of the war a measure of wool control was exercised in Canada owing to the scarcity of wool for military contracts and the apprehension that there might be a scarcity of wool for civil uses before the appraisal and distribution of wool under the British wool control system became fully effective.

Definition of Shrinkage

The weight of a fleece of wool, when shorn from the sheep, is made up of not only a large number of wool fibres but also of quantities of natural grease, dried sweat, and very often, varying amounts of foreign matter, such as chaff, seeds, burrs and dirt of various kinds. Before fleece wool can be utilized for manufacture it must be thoroughly cleaned. The grease and soluble dirt is removed in a washing process known as "scouring". If there is an excessive amount of vegetable matter in the wool, further special operations for its removal may be necessary. The loss of weight resulting from the removal of the natural grease and foreign matter from any given quantity of wool in the cleaning process is

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called "shrinkage". The weight of the remaining clean wool is known as the "yield". Both "shrinkage" and "yield" are expressed in terms of percentages of the original weight of greasy wool. For instance, suppose a hundred pounds of greasy wool is scoured and the resulting weight of clean wool (yield) is sixty pounds, then the loss in weight (shrinkage) is forty pounds, or, in other words, the yield is 60 per cent and the shrinkage is 40 per cent.

Factors Affecting the Shrinkage of Wool

Shrinkage is affected by such factors as fineness of fibre, length of fibre, soil conditions, amount of rainfall, breed of sheep and care and management of the flock.

Other conditions being equal, the finer the grade of wool, the greater the shrinkage. This is largely explained by the fact that in a fleece of fine wool there are many more fibres than in a coarse fleece, and consequently, a greater grease-bearing and dirt-collecting area on the fibre surfaces.

Short wools tend to shrink more than the long fibred kinds especially in the finer grades. The dirt or dust in a fleece tends to accumulate at the tips of the fibres, while nearer the skin it is comparatively clean. If the fibres are short, the clean portion is relatively less with a consequent greater proportion of dirt per fleece.

Sheep which roam over dry pastures with scant vegetation, or over ploughed fields and summer fallow, or are folded in dusty yards or corrals, will naturally shear fleeces with a higher dirt content than those which forage over well-grassed fields or ranges.

In western Canada, light rainfall resulting in drought conditions causing soil drifting are characterized by unusually heavy shrinkage of the wool produced in the affected localities.

Sheep of the Rambouillet breed, or grades or crosses of this breed, secrete more grease than the Down or longwoolled varieties, and because of this fact, and also because of the greater tendency of dust to adhere to the wool, the fleeces of such sheep tend to shrink more.

The management of the flock has a great deal to do with shrinkage as well as other characteristics of the wool. Wool from sheep which are dipped annually and whose fleeces are protected from seeds, chaff, straw and burrs, and are not allowed to become fouled with manure, is much more attractive, has lighter shrinkage and is, therefore, more valuable than wool from sheep which have been neglected in these respects.

TABLE No. 1

APPROXIMATE AVERAGE SHRINKAGES OF CANADIAN FLEECE WOOL

	Eastern Domestic			Western Domestic			Western Range	
	Maritime	Quebec	Ontario	Bright	Semi-Bright	Dark	Choice	Average
	%	%	%	%	%	%	%	%
Fine Combing (64's–70's)	..	..	..	..	..	..	60–63	64–66
Fine Medium Combing (58's–60's)	..	..	..	..	..	..	55–57	59–60
Medium Combing (54's–56's)	39	41	43	44	50–52	..	52–53	55–56
Low Medium Combing (48's–50's)	38	40	41–42	41–42	45–47	..	45–47	48–50
Low Combing (44's–46's)	38	40	41	41	43	..	42–43	44–45
Coarse (36's–40's)	38	39	40	40	41	..	40	42

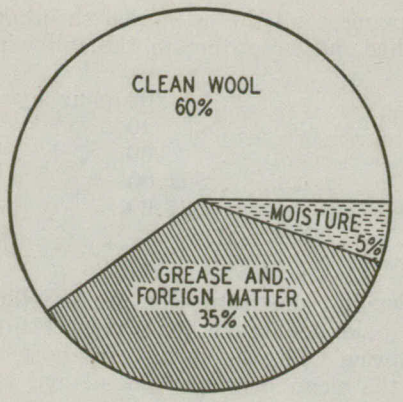
1. These shrinkages are for well-shorn fleece wool comparatively free from heavy tags and vegetable matter.

2. Clothing grades will shrink about 2 per cent more than their corresponding combing grades.

3. Western Domestic "Dark" grades are made only when wool is unusually dark in colour or heavy with soil particles.

The Shrinkage of Canadian Wool

Canadian wool falls into three broad classifications, namely: Eastern Domestic, Western Domestic and Western Range. The term domestic applied to Canadian Wool means that it has come from sheep mainly of the Down and



The clean wool, foreign matter and moisture possibly contained in wool from an Eastern Canada clip.

long-woolled breeds which have been raised under ordinary farm conditions east or west. The term range, on the other hand, applies to wool from sheep, mainly of Rambouillet type and its crosses, which are kept in large bands in southwestern Saskatchewan, southern Alberta, central British Columbia and elsewhere in Western Canada as under range conditions.

Wool grown in Western Canada varies widely in shrinkage and, therefore, is subject to several sub-classifications at time of grading. Western domestic wool is divided into Bright, Semi-Bright and Dark classes, while Western range is graded as Choice or Average, although some special lots may be identified as Excellent. The difference between these various subclasses consists mainly in the variations in shrinkage.

Eastern domestic wool includes that which is produced in the Maritime provinces and in Ontario and Quebec where all the wool produced is regarded as bright. The shrinkage is more uniform in the east; nevertheless, it tends to decrease somewhat from Ontario eastward, and wool from the Maritimes, from Quebec and from Ontario is usually kept separate when graded and is subject to different grease price quotations when offered for sale. Individual clips may vary considerably, largely because of differences of breeding and flock management, but the wool from a given area will have a fairly constant average shrinkage, with only slight variations from year to year.

Shrinkage in Relation to Prices

While the variation in shrinkage of Eastern wool does not usually vary more than 5 per cent, in Western Canada the difference may be as great as 25 per cent. A wool buyer, therefore, must be able to carefully estimate the yield of a particular clip in order that he may arrive at its true grease value. In the case of wool produced by two growers in Western Canada, the one living in a drought farming area, and the other in a protected ranching district, the clips might show a considerable difference in sale value. In the former case the shrinkage might easily be as high as 65 per cent and in the latter case only 55 per cent. If the clean price were 55 cents per pound, the grease price in the former case would be 19¼ cents per pound and in the latter case 24¾ cents per pound.

Calculation of Grease Price

Not all farmers may be thoroughly familiar with the fact that shrinkage is always taken into consideration in the purchase of wool or in establishing the value of wool. Accurate estimates of shrinkage or the appraisal of any grade or lot of wool can only be made by those who have had years of experience in the handling of wool. This is one reason why thousands of farmers annually support their own marketing organization which has the service of highly skilled appraisers and pays the farmer on the basis of the actual yield obtainable. Many, however, make a practice of selling their wool to the travelling buyer, the local storekeeper or in some cases wollen manufacturing mills in close proximity. In order that the grower of his own wool may have some understanding of the basis for calculating the fleece value (greasy basis) from the clean price the following example is given. The calculation is usually made on a lot of one hundred pounds.

If the clean basis price is 45 cents per pound, and the estimated shrinkage is 40 per cent, the grease price can be worked out according to the following calculation:

Weight of grease wool	100	pounds
Shrinkage (loss of weight in scouring)	40	"
Yield (weight of clean wool remaining)	60	"
Value of clean wool at 45c. (45 x 60)	$27.00	
Value of 100 lbs. grease wool will be the same	$27.00	
But value of 1 lb. grease wool will be $\frac{\$27.00}{100}$	.27c.	

It should be remembered that 27c. would constitute the gross selling price. Any handler would naturally have to make deductions for transportation, grading and overhead in arriving at a net price f.o.b. the farm. In short, to ascertain the grease price per pound when the clean price per pound and the shrinkage are known, the following formula should be used:

$$\frac{\text{Yield x clean price per pound}}{100} = \text{Grease price per pound.}$$

Calculation of Clean Price

The calculation shows that the wool in question is worth 27c. per pound in the grease. If a buyer should offer 24c. a pound for the same wool, the owner might want to know what this price would work out to on a clean basis. This can be very quickly calculated by multiplying the grease price by one hundred and dividing the result by the yield, as follows:

Formula: $\frac{100 \text{ x grease price}}{\text{yield}} = \text{clean price}$

Example: $\frac{100 \text{ x } 24}{60} = 40\text{c. per pound}$

Therefore, the offer of 24c. per pound grease basis works out to an equivalent value of 40c. per pound clean basis.

Local Grease Price

In the last example it might seem that the buyer who offered 24c. per pound was making a clear profit of 3c. a pound when the wool should be worth 27c. a pound. However, the 27c. represents, in all likelihood, the value at some central distributing or consuming centre, such as Toronto or Montreal. The offer of the buyer, or the return from a marketing agency, will be less by the amount of freight or cartage charges to the central market and also a number of other marketing costs all worked out on a per pound basis.

The cost of freight or cartage will vary with the distance of the wool from the centre where the wool is used. In Eastern Canada, this item is usually less than one cent per pound but freight costs from points in the Prairie Provinces to Eastern centres average about two cents per pound. A small charge for grading must also be included, for, although the services of Dominion Government wool graders are free to producers who consign their wool for grading and co-operative sale, the operation of grading requires considerable labour, aside altogether from the grader, so that a charge must be allowed for this service. Other charges include interest, insurance, storage and selling costs. The total marketing costs for fleece wool, apart from freight or cartage, will usually average about two cents per pound on wool which goes through the usual trade channels. The wool grower, therefore, must calculate, as best he can, the freight and other marketing costs per pound and deduct this amount from the quoted gross selling price before he can estimate the local value of his clip.

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