

# ALBERTA SHEEP

## WOOL QUALITY

Wool yield and grade are the two main factors that are given consideration when buying and selling wool. As a producer, knowing the quality of the wool that you produce will help when making management decisions.

**Wool Classification** – is the categorization of wool (i.e. Bright, Semi-Bright or Dark) by subjective measurement of the amount of clean wool in a given fleece.

Manufacturers buy wool on a clean yield basis (where all foreign matter and grease has been removed). The presence of foreign matter impacts both the quality and processing costs of manufactured wool products. The inability to remove foreign matter is reflected in the quality of the end product. Increased processing costs are due to the need for extra processes to remove foreign material and maintenance of machinery damaged by foreign material.

The breed of sheep and the general care of them, as well as geographic and climatic conditions can all affect wool class.

**Wool Grade** – is determined by texture (crimp style), length and diameter of the fibre. Different breeds of sheep produce different grades of wool which in turn have different uses.

**Range Wool** is from the breeds of sheep producing the finer grades of wool. Range wool is heavier with natural grease.

Fine - 22/23 Micron Wool, 2.5 to 3 inch Staple Length

Half - 23/24 Micron Wool, 2.5" to 3.5 inch Staple Length

Range 3/8 - 26/27 Micron Wool, 3 to 3.5 inch Staple Length

Range 1/4 - 30/31 Micron Wool, 3 to 4 inch Staple Length

**Western Domestic** from sheep flocks in western Canada. The medium grades of wool predominate and there is less grease.

Domestic 3/8 - 31/32 Micron Wool, 3 to 3.5 inch Staple Length

Domestic 1/4 - 33/34 Micron Wool, 3 to 4 inch Staple Length

**Eastern Domestic** is from sheep flocks in eastern Canada. Medium grades predominate.

Domestic 3/8 - 32/33 Micron, 3 to 4 inch Staple Length

Domestic 1/4 - 33/34 Micron, 3 to 4 inch Staple Length

### Misc. Grades

Lot A - Black or brown fleeces

Lot B - White fleeces containing black fibres

Lot C - Grey fleeces

Low 1/4 - Coarse - 34/40 Micron Wool, Staple Length 4.5 to 10 inch.



## Grade Defects

**Chaff** - This probably makes up the greater percentage of Canadian wool rejects. This is due to the long winter feeding period in Canada, where wool is most prone to contamination of vegetable matter.

**Tags** - Heavy manure tags and sweat locks should be removed.

**Kempy** - Some sheep have hair growth well up the leg to give a mixture of hair and wool which degrades the fleece as it lacks strength and will not take dyes the same as wool.


**Burrs** - The wool contains burrs, which are difficult to remove from the wool.

**Cotted Fleeces** - These are fleeces in which the fibres have become matted or felted together while on the sheep.

**Second Cuts** - Short pieces of wool produced by cutting the staple twice during shearing.

**Stained Wool** - Wool that has been stained by urine, tags, or marked with paint and cannot be scoured completely white.

*Sample of a Canadian Co-operative Wool Growers Ltd Wool Grading Statement. \*Note that wool prices are not current.*

 <b>Canadian Co-operative Wool Growers Ltd</b> 45843 Limited P.O. BOX 130, 142 FRANKTOWN ROAD, CARLETON PLACE, ONTARIO, CANADA K7C 3P3 TEL: (613) 257-2714 FAX: (613) 257-8896 E-MAIL: ccwghq@wool.ca WEB: www.wool.ca <b>WOOL GRADING STATEMENT</b>									
NAME						LOT NO.			
ADDRESS						GROSS WEIGHT 0			
COLLECTOR						TARE 0			
VIA		SACKS 0		BAGS 0		CUSTOMER NO.		NET WEIGHT 0	
105	FINE	BRIGHT	0 1.40	0.00	305	LOT A	BRIGHT	0 0.25	0.00
110	STAPLE	SEMI-BRIGHT	0 1.30	0.00	310	BLACK	REGULAR	0 0.15	0.00
115		DARK	0 1.00	0.00	315	LOT B	BRIGHT	0 0.50	0.00
120		BRIGHT	0 1.30	0.00	320	GREY	REGULAR	0 0.40	0.00
125	HALF	SEMI-BRIGHT	0 1.20	0.00	325	LOT C	BRIGHT	0 0.25	0.00
130	STAPLE	DARK	0 0.90	0.00	330	GREY	REGULAR	0 0.15	0.00
135		BRIGHT	0 1.20	0.00	335	LOW 1/4	BRIGHT	0 0.60	0.00
140	RANGE	SEMI-BRIGHT	0 1.10	0.00	340	COARSE	REGULAR	0 0.50	0.00
145	3/8	DARK	0 0.80	0.00	400	ROMANOV		0 0.00	0.00
150		BRIGHT	0 0.70	0.00	500	SCOTCH BLACKFACE		0 0.20	0.00
155	RANGE	SEMI-BRIGHT	0 0.60	0.00	600	CANADA CHOICE		0 0.00	0.00
160	1/4	DARK	0 0.40	0.00	700		ADULT	0 0.00	0.00
165		BRIGHT	0 0.60	0.00	710	MOHAIR	KID	0 0.00	0.00
170	RANGE	SEMI-BRIGHT	0 0.50	0.00	715		STAINED - SEEDY	0 0.00	0.00
175	CLOTHING	DARK	0 0.30	0.00					
180		BRIGHT	0 0.70	0.00	805	CHAFFY	S.B.O.	0 0.35	0.00
185	RANGE	SEMI-BRIGHT	0 0.60	0.00	810	& BURRY	S.A.G.	0 0.30	0.00
190	LAMBS	DARK	0 0.40	0.00	815	LOCKS & PIECES	S.B.O.	0 0.25	0.00
					820		S.A.G.	0 0.20	0.00
					825	TAGS	S.B.O.	0 0.15	0.00
205	WESTERN	BRIGHT	0 0.70	0.00	830		S.A.G.	0 0.10	0.00
210	DOMESTIC	SEMI-BRIGHT	0 0.60	0.00	835	MOTHY DISCOLOURED & DAMAGED		0 0.35	0.00
215	3/8	DARK	0 0.40	0.00	840	GREY & BLACK CLOTHING		0 0.25	0.00
220	WESTERN	BRIGHT	0 0.65	0.00	845	GREY & BLACK CHAFFY		0 0.05	0.00
225	DOMESTIC	SEMI-BRIGHT	0 0.55	0.00	850	WHITE COTTS		0 0.25	0.00
230	1/4	DARK	0 0.35	0.00	855	BLACK COTTS		0 0.05	0.00
235	EASTERN	BRIGHT	0 0.70	0.00	860	BED BATTS		0 0.00	0.00
240	DOMESTIC	SEMI-BRIGHT	0 0.60	0.00	865	SCOTCH BLACKFACE COTTS		0 0.05	0.00
245	3/8	DARK	0 0.40	0.00					
250	EASTERN	BRIGHT	0 0.65	0.00					
255	DOMESTIC	SEMI-BRIGHT	0 0.55	0.00					
260	1/4	DARK	0 0.35	0.00					
265		BRIGHT	0 0.45	0.00					
270	DOMESTIC	SEMI-BRIGHT	0 0.35	0.00					
275	CLOTHING	DARK	0 0.20	0.00					
280		BRIGHT	0 0.50	0.00					
285	DOMESTIC	SEMI-BRIGHT	0 0.40	0.00					
290	LAMBS	DARK	0 0.30	0.00					
			SUB-TOTAL "A" \$				SUB-TOTAL "B" \$		0.00
							\$		0.00
							TOTAL "A" & "B" \$		0.00
							CREDIT: FREIGHT REBATE \$		0.00
							WOOL HANDLING REBATE \$		0.00
							\$		0.00
							GRAND TOTAL \$		0.00
							DEBIT: SACKS & TWINE \$		
							LOCAL FREIGHT \$		
							CARLOAD FREIGHT \$		
							CHECK-OFF \$		
							SUPPLIES \$		
							SCRUTINY FEE \$		0.00
							TOTAL DEBIT \$		0.00
							LESS ADVANCE -		0.00
							BALANCE \$		0.00
DATE REC'D			DATE GRADED						
TRADER			J. McNeely						
REMARKS & COMMENTS									

## Breed Selection

The first decision a sheep producer needs to make is what breed of sheep to invest in. Even though lamb production is most important when selecting breeding stock it is beneficial to consider wool quality as well. As a producer, if you can raise the quality of the wool your sheep produce without sacrificing the lamb production, better returns can be recognized.

### Wool Income Comparison between Two Grades

1) Range 1/4 (30/31 micron) and 2) Range 3/8 (26/27 micron)

1) 200 sheep @ 9 pounds of wool/sheep = 1800 pounds minus 8% after skirting = 1656 pounds for main wool line of Range 1/4 classed as bright @ \$0.70/pound = \$1159.20

8% or 144 pounds of locks and pieces @ \$0.25/pound = \$36.00

**Total \$1195.20**

2) 200 sheep @ 9 pounds of wool/sheep = 1800 pounds minus 8% after skirting = 1656 pounds for main wool line of Range 3/8 classed as bright @ \$1.20/pound = \$1987.20

8% or 144 pounds of locks and pieces @ \$0.25/pound = \$36.00

**Total \$2023.20**

\* See sample of CCWG grading statement for prices and to make more comparisons.

### Things to Consider when Selecting the Breed that is Best Suited for Your Operation

**Climate** – Different breeds are better suited for different climates. For example, fine wool breeds, because of their dense fleeces, do better in dryer climates. The same applies for breeds with long stapled open fleeces where the wool splits down the back exposing the skin to rain, snow and cold.

**Consistency** – There are benefits in selecting a single breed. There is less work when shearing and preparing wool for market because there is no need to sort for different grades. Not only will you have a more consistent wool clip to sell, but you will also have a more consistent lamb crop, something that both wool and lamb buyers like to see.

**Selection** – It is important to note that there are variations found in wool not only within a given sheep breed but also within a single fleece. Variation can also be seen in fleece weights. When selecting rams and replacement breeding stock, it is a good idea to look at wool production. Select for fleece quality, consistency and fleece weight. Through selection, it is possible to have a breeding flock that can produce eight pounds of wool and two lambs on the same feed as a flock that produces five pounds of wool and two lambs.

### Nutrition and Health

It is important to feed a well balanced diet for wool production. At shearing time, inspection of fleeces will reflect the ewe's diet through out the past year. Inadequate feed can be seen in an overall shorter staple length, and finer fibre diameter, which in turn amounts to lower wool weight production. The opposite is true for ewes that are overfed.

Changes in fibre diameter may be seen when looking along the length of the individual staples and is a direct reflection of differences in nutrition during the year. Changes in fibre diameter can also be a sign of stress and/or sickness. Depending on the severity, you may see anything from a ewe losing her wool to breaks or weak spots within the staple. Sometimes it is possible to see these breaks or weak spots when inspecting the wool but not always. By taking a single staple and giving it a slight tug you may find that it breaks in two. This is showing you that there was a problem sometime dur-

ing the year. If you see this problem in only the odd fleece it is a sign that an individual animal had something go wrong. For example you may see this in a ewe that had a difficult time at lambing or in a ewe that has had a bout with mastitis. If you shear a few weeks before lambing you may find that the ewe that had troubles lambing has a break closer to the tip of the staple, while the ewe that had mastitis has a break further down from the tip. If you see this problem throughout your entire wool clip or in a particular group of sheep it is showing you that there was a bigger problem and you will find the break in the same place of the staple on every fleece. If it is seen through out the fleeces of your breeding ewes, it is most likely an indication of a significant drop in nutrition. Where along the length of the staple the break occurred indicates the time of year there was a problem. Another group you may find this in is ewe lamb replacements, with stress of weaning and maybe a change in feed causing the break that will most likely be found close to the middle of the staple.

The condition of your wool clip at shearing time can give you important information in regards to managing your flock. A healthy wool clip will likely coincide with higher lamb survival and weaning weights.

The presence of sheep keds (small, tick-like parasites that live near the skin in the wool of the sheep) or lice can cause damage to wool and it is important to monitor and treat sheep to avoid infestations. Fleeces can be damaged when sheep rub due to irritation and discoloured fleeces can be caused by high infestations of lice. Be sure to have your shearer let you know if he sees either of the two.

## **Winter Feeding**

Winter feeding is the number one cause of wool contamination. There are many different methods for feeding sheep in the winter and with each method there are varying degrees of wool contamination. Though it is not practical to base feeding methods on clean wool production alone, it does help to keep it in mind when deciding which method works best for your operation.

Give sheep space. Sheep have a tendency to have a look around while they are chewing a mouthful of feed and all the while dropping little bits of hay which more often than not end up on their neighbour's back.

Provide feed at ground level when ever possible. Setting out whole round bales with or without bale feeders is probably the worst method of feeding in terms of wool contamination. The contamination is due to the close proximity of the sheep while they are pulling down mouthfuls of feed from the bale with some of it again ending up on the backs of those next to them. Instead, consider rolling the bales out to give sheep more room with their feed at ground level. When possible, feed just what can be consumed by the sheep in a day to avoid feed contamination and waste.

Lock sheep out of the feed area while feeding. When feeding with a pitch fork and it isn't possible to lock sheep out while feeding avoid throwing feed on their backs. A bale processor always creates a cloud of fine hay particles which creates dusty fleeces if the sheep are near when processing hay.

Provide a clean, dry area for sheep to bed down to avoid wool contamination from the manure build-up during the winter and mud in the spring.

## Wool Income Comparison between Two Feeding Methods

1) Sheep fed whole round bales and 2) The same sheep fed rolled out round bales	
1) 200 sheep @ 7 pounds of wool/sheep = 1400 pounds minus 15% after skirting = 1190 pounds for main wool line of Western Domestic 3/8 classed as Semi-Bright @ \$0.60/pound = \$714.00	
8% or 112 pounds of locks and pieces @ \$0.25/pound = \$28.00	
7% or 98 pounds of chaffy & burry @ \$0.35/pound = \$34.30	
	<b>Total \$776.30</b>
2) 200 sheep @ 6.5 pounds of wool/sheep = 1300 pounds minus 8% after skirting = 1196 pounds for Western Domestic 3/8 classed as Bright @ \$0.70/pound = \$837.20	
8% or 104 pounds of locks and pieces @ \$0.25/pound = \$26.00	
	<b>Total \$863.20</b>

\* These wool weights are estimated.

## Shearing and Wool Preparation

Ensuring wool quality begins while the wool is still on the sheep and is dependant on sound management practices in regards to nutrition, handling and health. The next step is at shearing time when a good shearer will maintain wool quality when the following steps are taken. Provide the shearer with a clean adequate work space that is well lit and sheltered from the weather. Take sheep off feed and water the night before shearing to prevent the increased discomfort of having a belly full of lambs, food and/or water while being sheared. Shearing sheep is hard work and even harder when the sheep are uncomfortable or worked up and kicking. Shear in a facility that the sheep are familiar with and avoid working them up on their way to the shearer.

Good wool preparation practices are very important when it comes to wool quality. Be sure to have enough clean organized space to facilitate wool preparation. Fleeces and offsorts (inferior wool that is cut away from the good fleece at shearing— often the dirty/ matted bits and pieces of wool) must be packed separately and if they are not going to be packed immediately they need to be placed where they will not get mixed up or contaminated by foreign material. It is best to pack the wool as it comes off the sheep and is skirted to not only prevent contamination but to eliminate having to handle the wool more than once. If your packed wool is not being shipped right away ensure that it is stored in a clean dry area to prevent damage and loss of quality that you and your sheep worked all year to produce.

## Marketing

Talk to your wool buyer(s) prior to shearing to discuss all available options and to negotiate prices. The natural fibre industry has grown over the past few years with small mills starting up all across the country. Canada also has an ever growing population of fibre artists not to mention a new generation of knitters. All of which presents more market opportunities. Take the time to learn what you can about the wool industry, what kind of wool you produce and where it fits within the industry. Find out what potential buyers are in need of and offer high quality wool, as there is no better advertisement than a satisfied customer.

Prepared by Lianne Read with funding from the Diversified Livestock Fund of Alberta with special thanks to OSMA and CCWG for sharing information

Information provided by the Alberta Sheep & Wool Commission  
Rite:(310-0000) 403-948-8533, info@absheep.com, [www.absheep.com](http://www.absheep.com)

2007