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The Canadian Co-operative Wool Growers

The Co-operative was established in 1918 by the sheep industry as a national system of collecting and marketing its members' wool on a co-operative basis. This meant that regardless of the size of the wool clip, the time of year received or distance from the market, each member was paid the same price for the same grade of wool. Being merely an instrument of the growers, the company is non-profitable and thus operates quite simply. It collects, grades, measures and markets the wool and after deducting the cost of operations returns the entire difference to the growers.

The Co-operative grades and markets approximately 2.5 million pounds of raw wool each year; the majority of this coming from Alberta and Ontario. Each of the three general classes of wool (fine, medium and coarse) are sold wherever the best price is available.

Wool is received directly from the producer by way of truck or rail. The wool arrives in large sacks, raw from the sheep. At the warehouse it is graded according to type classification, quality (diameter and length of the fibres, amount of grease, amount of foreign matter present) and method of preparation. Wool of similar types and quality are hydraulically packed in bales weighing 600lbs. or more. They are stored until sold. Ninety percent of all the wool is exported out of Canada.

In addition to handling wool, the Co-operative operates Stockman Supply outlets across the country and a Real Wool Shop at Carleton Place. The Co-operative also publishes an annual magazine entitled The Canadian Co-operative Wool Growers Magazine, which is designed to assist the wool producer with information and a mail order catalogue for sheep supplies.

The company’s mandate is to be a producer co-operative endeavouring to market wool at the top price it deserves while operating the business efficiently to maximize returns to the wool producer.

Canadian Co-operative Wool Growers Limited occupies what was once the round house and machine shops for the Canadian Pacific Railway. The Company is situated just off Moore Street in Carleton Place and is a totally Canadian Company.

Choosing Breeds for Producing Profitable Market Lambs

Delma Kennedy, Sheep Specialist, OMAFRA

The Ontario sheep industry has not determined an optimum production system for profitability. There has also not been research done in Ontario conditions to determine what specific breeds and breed crosses will result in the most profitable enterprise to produce today's premium lamb. New entrants to the industry are faced with a large number of breeds to choose from and little objective data. As a result, new producers should have a strong business plan formulated before choosing breeds.

If you are starting in the sheep industry, it is important that the production system and the market product for your business has been determined before choosing the breed or breeds of sheep that will be used in the operation. It is much easier to evaluate your resources, choose a production system and then choose a breed of sheep that will fit that system than it is to try and fit a breed into a production system that it may not suit.

Production Systems

The two main commercial production systems in Ontario are annual spring lambing and accelerated lambing. Annual spring lambing is an extensive, low cost production system that is based on having a large flock that lambs when the highest feed requirements of the flock can be met using pasture. Accelerated lambing is a more intensive system based on prolific ewes and high production that aims to produce market lambs and cash flow throughout the year.

Annual lambing profitable enterprise characteristics:

- Lamb once a year in April or May to maximize the use of grass and the conception rate and fertility of the ewes.
- Rely on hardy breeds or breed crosses with the following traits:
    - very strong mothering ability
    - excellent foraging ability
    - medium fecundity

Accelerated lambing profitable enterprise characteristics:

- Lamb 3- 5 times a year, timed to take advantage of best months for conception and fertility of ewes, maximizing use of pasture and use of buildings
- Rely on prolific breeds or breed crosses with the following traits:
    - high fecundity (lambing percentage)
    - early maturity
    - extended breeding season

Common Breeds

The most common breeds in Ontario are Polled Dorset, Suffolk, Rideau Arcott and their crosses. This is based on the most popular breeds tested on the genetic evaluation program, the Sheep Flock Improvement Program (SFIP). Another indication of what breeds are being used in Ontario is the breed registration numbers. These same breeds have the highest registration numbers.

2008 Ontario Sheep Registrations – Canadian Sheep Breeders Association

Breed	# Sheep Registered	% of Registrations
Dorset	640	22.4
Hampshire	118	4.1
North Country Cheviot	151	5.3
Rideau Arcott	342	12.0
Suffolk	642	22.5
Texel	219	7.7
20 other breeds	740	26.0
Total Ontario Registrations	2852	100.0

The benefit of choosing among the common breeds to start your flock is general availability and more accurate average performance information. There are more animals available for purchase providing more potential numbers as well as choice among breeders. There is also better Ontario performance information available.

Breed Performance

It is important to have good expected average performance information when choosing breeds and formulating your business plan. *Although there is information on many breeds listed in the table below, a number of breeds are only represented in one flock by very few ewes. As a result, the performance listed for breeds with little data may not be an accurate indication of average breed performance.*

Average Breed Performance 2008 – Sheep Flock Improvement Program

Breeds	# Ewes	# Born	# Lambings	Ave Born Per Lambing	Ave Weaned Per Lambing	Ave Birth Wt (kg)	Ave Adj 50 Wt (kg)	Ave Adj 100 Wt (kg)	Ave ADG (kg)	Ave # Lambings/Ewe/Yr
Border Leciester	30	38	30	1.27	1.20	4.5	22.5	n/a	n/a	1.00
Canadian	15	24	15	1.60	1.00	4.8	20.8	39.9	0.38	1.00
Charollais	79	134	79	1.70	1.56	5	25.6	43.5	0.36	1.00
Corriedale	9	20	15	1.33	1.33	4.9	28.0	46.4	0.37	1.67
Dorset Horn	34	53	35	1.51	1.40	3.8	22.5	35.8	0.27	1.03
Dorset Polled	729	1217	794	1.53	1.44	2.6	25.0	38.2	0.26	1.09
East Friesian	60	124	60	2.07	1.73		23.8	39.1	0.30	1.00
Hampshire	37	59	37	1.59	1.57		28.6	48.0	0.39	1.00
Katahdin	58	109	66	1.65	1.53	3.9	21.1	32.7	0.22	1.14
North Country Cheviot	28	42	29	1.45	1.38		22.8	40.9	0.36	1.04
Newfoundland	24	38	24	1.58	1.29	3.6	17.9	24.5	0.13	1.00
Oxford	14	27	14	1.93	1.71		24.4	46.1	0.44	1.00
Rambouillet	24	26	24	1.08	0.96	4.6	20.3	25.3	0.09	1.00
Rideau	2297	6235	2809	2.22	1.92	3.1	21.6	39.2	0.35	1.22
Shropshire	14	24	14	1.71	1.64		27.3	41.1	0.28	1.00
Suffolk	407	641	408	1.57	1.41	5.1	25.6	44.5	0.37	1.00
Soay	2	3	2	1.50	1.00	2.1	20.3	19.6	0	1.00
Texel	142	204	142	1.44	1.32	4.6	22.6	35.5	0.23	1.00
Crossbred	1699	3794	2019	1.88	1.64	4.2	21.2	31.8	0.21	1.19
Total	5831	13176	6817	1.93	1.70	3.7	22.4	38.4	0.31	1.17

Choosing Breeds

A profitable commercial sheep operation should take advantage of the benefits of crossbreeding. Crossbreeding increases the efficiency of the operation by crossing two breeds which have high genetic merit for different traits. Maternal traits or reproductive traits tend to be negatively correlated to terminal or growth and carcass traits. An example of this is that an animal that has more lambs born and more milk will tend to be less muscular with poorer feed conversion and gaining ability. There is a reason why there isn't a sheep breed that has as many lambs as a Romanov and is muscular like a Texel. It is difficult if not impossible to produce a sheep that is exceptional in both maternal and terminal traits.

Ewe Flock

In general, the ewe flock should be made up of medium to small ewes with good reproductive traits rather than large ewes that grow fast in order to control the largest cost for the enterprise which is the feed cost. Larger ewes cost more to feed per year than smaller ewes. Approximate ewe weight ranges are: small – 50-65kg, medium - 65-80kg and large 80+kg. If you use a crossbreeding program, the maternal ewe flock must

be maintained. As a result, maternal type rams must always be used in the flock to increase flock size and to produce replacement ewes for cull ewes leaving the flock.

Examples of maternal breeds
Prolific: Finn, Rideau, Polpay, Romanov, Outaouais
Hardy: North Country Cheviot, Border Leicester
Extended Season: Dorset, Finn, Rideau, Polypay, Romanov, Outaouais, Corriedale, Rambouillet, Columbia

Market Lambs
Growth rate and size of market lambs can be adjusted by crossbreeding. It is important to remember that the average performance of the progeny will be approximately the average performance of the two parents.

Ontario has a market for several different weight classes of lamb. Lambs should be marketed when they have an optimum level of finish or carcass fat. The proportion of carcass fat is different between breeds and sexes but is most affected by degree of maturity or percent of mature weight at slaughter. Research done by Dr. Eric Bradford of the University of California in 2002 suggests that lambs should be marketed at a maximum of 60-70% of the average of the mature weights of the ewes of the sire and dam breeds to avoid overfatness. The American Sheep Industry Association defined lean lamb as having a backfat thickness at the 12th rib of .10 - .25 inches. The American market prefers a slightly fatter carcass than markets in Ontario. As a result, in Ontario a maximum of 50% of the average of the mature weights will work better. The table below provides a guide to approximate slaughter weights based on the mature size of the ewes of the breed. The table was developed using ewe and wether information on diets relatively high in energy.

Target slaughter weights[a] for ewe and wether lambs produced from sire and dam breeds of varying mature weights

	Sire breed mature weight (kgs)												
Ewe breed mature wt	**105**	**100**	**95**	**90**	**85**	**80**	**75**	**70**	**65**	**60**	**55**	**50**	**45**
105	52.5	51.3	50.0	48.8	47.5	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5
100	51.3	50.0	48.8	47.5	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3
95	50.0	48.8	47.5	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0
90	48.8	47.5	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8
85	47.5	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5
80	46.3	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3
75	45.0	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0
70	43.8	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8
65	42.5	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8	27.5
60	41.3	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8	27.5	26.3
55	40.0	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8	27.5	26.3	25.0
50	38.8	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8	27.5	26.3	25.0	23.8
45	37.5	36.3	35.0	33.8	32.5	31.3	30.0	28.8	27.5	26.3	25.0	23.8	22.5

[a] Target slaughter weight =((sire breed mature wt. + ewe breed mature wt.)/2) x .50

Terminal sires should be chosen to complement your ewe flock and produce the best carcass and growth rate for your production system and chosen target market.

Crossbreeding also results in heterosis. Heterosis is an increase in the performance of progeny compared to the average of the parents. One important thing to remember is that if the two parental breeds are not similar in performance for a trait, the lamb will not be better than both parents, it will only be better than the average of the two parents. For example, if you cross Finn sheep with an average of 2.5 lambs per lambing and a growth rate of .25kg/day with a Suffolk who has 1.6 lambs per lambing and a growth rate of .50kg/day. The Finn ewes may have 2.5 lambs that grow an average of .40kg/day (ave of parents =.375kg/day) and the Finn cross Suffolk ewe lambs if you keep them may have 2.1 lambs per lambing on average (ave of parents =2.05 lambs). In the literature, positive heterosis effects have been reported consistently for pre-weaning survival and growth traits. There is little evidence of any heterosis effect on carcass traits. The small heterosis effects on different traits when using crossbred lambs accumulate and result in significant differences in overall productivity. This example shows how the growth rate of market lambs can be easily improved by using a fast growing terminal sire.

Examples of terminal breeds:
Dorset, Canadian, Charollais, Southdown, Texel, Oxford, Hampshire, Suffolk, Ile de France

Conclusions:
It is most important to formulate your farm business plan and choose your production system before deciding what breed or breeds of sheep will best fit your operation. The best breed of ewe will be a small to medium sized ewe that will produce the most efficiently to fit your production system. Sires will usually be required to produce replacement ewe lambs for the flock as well as market lambs. The best terminal sire to produce your market lambs will improve the growth and carcass traits of your lambs.

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Thomas, David L. Breeds of Sheep in the U.S. and Their Uses in Production. Article. December 23, 2008.

Appointed Sales Agents

SALESBARN	ADDRESS	PHONE #
Aylmer Stockyards Inc.	8933 Walker Rd. RR1 Alymer, ON NSH 2R1	(519) 765-2672
Brussels Livestock	RR 3, Box 59, Brussels, ON N0G 1H0	(519) 887-6461 www.brusselslivestock.ca
Denfield Livestock Sales	RR 2, Denfield, ON N0M 1P0	(519) 666-1140
D.H. Hickson Ltd.	RR 5, Campbellford, ON K0L 1L0	(705) 653-3660 www.hoardstnsalebarn.ca
Embrun/ Ottawa Auction Centre Livestock Exchange Ltd.	Box 340, Greely, ON KOA 1ZO	(613) 821-2634 www.ottawalivestockexchange.ca/
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Ontario Livestock Exchange Inc.	P.O. Box 443, R.R.#1, Waterloo, ON N2J 4A9	(519) 884-2082 www.olex.on.ca/Olex/Default.asp
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Renfrew-Pontiac Livestock Ltd.	RR 3, Cobden, ON K0J 1K0	(613) 646-7335
Selby Livestock & Auction Centre	P.O. Box 453, Napanee, ON K7R 3P5	(613) 354-6260
Talbotville Livestock Ex. Ltd.	P.O. Box 46, Talbotville, ON N0L 2K0	(519) 631-1850
Temiskaming Livestock Exchange	883006 Hwy 65 East, RR 3, New Liskeard, ON P0J 1P0	(705) 647-5415
Vankleek Hill Livestock Exchange	114 Pendleton St., Box 134, Vankleek Hill, ON K0B 1R0	(613) 678-3008

HANDSPINNING FLEECE

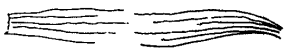
By Joanne M. Hiersch © 1988

A HANDSPINNING FLEECE is one that: 1) is healthy; 2) is clean and well skirted; 3) has the desired fineness (fiber diameter); 4) and has the desired color.

The time to start preparing to raise a healthy, clean handspinning fleece is at least 12 months before it is shorn.

Wool is the “thermometer” of a sheep's general health and condition. Healthy wool comes from healthy sheep.

RANDOM BREAKING (TENDERNESS)



HEALTH PROBLEMS:

TENDERNESS:

Symptoms: When the wool fibers are subjected to a 7 lb. pull test, there will be random breaking/weakening along the wool shafts. Tenderness is the most common problem spinners find in our local fleeces.

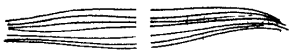
How to test for tenderness: Take a staple about the size of a pencil and hold it firmly at each end. Next give a steady, firm pull of 7 lbs. (think of how much 5 lbs. of flour weighs and add another 2 lbs., that's a substantial pull!). Do not twist the staple or snap it. If the fibers are “tender” you will feel “random” breaking. Hold it up to your ear and you can hear the crackling and snapping of the fibers as they weaken and break apart. A tender fleece is useless to the handspinner because as the wool is carded, the wool shafts continue to break into tiny neps or noils and the more the wool fibers are carded, the worse it gets. Yarn spun from tender wool will be lumpy and weak. Tender fleeces may be used for felting.

Causes: The causes of tenderness in wool are usually subtle and ongoing. Internal parasites are a frequent cause. If sheep are not wormed regularly to keep parasites at a low level, the wool production is affected. How much is enough? A rule of thumb is: the more sheep you have and the closer together they are pastured and the less pastures are rotated, the more frequent the need for worming.

Poor nutrition is another frequent cause of tenderness. Feed a high quality hay (with a minimum of 12% protein) plus energy grain for the gestating ewes. I use a Vitamin 40 stockblock (for ruminants) plus a salt block and don't forget lots of fresh water. I have found that the Vitamin 40 stockblocks give my sheep sounder fleeces, harder hooves and they are more resistant to disease.

Chronic hoof rot is another ongoing health problem that can affect wool quality and cause tenderness.

BREAK ALL AT THE SAME SPOT



BREAKS:

Symptoms: A “break” is when the fibers weaken/break at the same point in all the wool shafts. The test for breaks is the same pull test as for tenderness.

Causes: A “break” usually results after some type of trauma occurred to the animal (e.g., a grain overload; an elevated temperature as occurs in lambing; an abrupt change in diet including water; a sudden illness; or even
a dog attack).

Solutions: Shear fleeces shortly after lambing. I have found that the ewes will seek shelter more readily with their lambs. By shearing soon after lambing, you will eliminate the “break spot” and if you have lambs that like to crawl around or sleep on the ewes’ backs, the less fleece, the better.

RAIN ROT:

Another health problem that seems to plague the sheep producer in wet climates.

Symptoms: A pinkish or grey-green color found in the wool usually down the back and top of die shoulders. The wool is dry and brittle as the bacteria actually rots the wool shafts.

Causes: When sheep do not have or will not seek shelter, the continual wet and dry conditions strip the wool of its protective water soluble greases and the bacteria can then grow.

Solutions: Provide shelter in the form of a lean-to from the prevailing rain. Because sheep are “flight” animals, most will resist going into an enclosed barn. However, they will go under a “roof” if they feel they can “escape.” A one- or two-sided shelter closed to the prevailing weather usually does the job. You may wish to try shearing the heads and neck of uncooperative animals as sheep dislike rain directly on their skin. If a few sheep go willingly under the shelter, the rest of the flock will usually follow. Another way to help avoid rain rot or tippiness (weathering) is to trim the lamb curls off in the fall. These finer tips tend to weather easier and because the curls stick together, they form tiny pockets when vegetation and moisture collects and will work down into the fleece. Trimming off the tips gives a smoother and more uniform surface that stays cleaner with less weathering.

From *Black Sheep Newsletter, Spring 1988, pgs. 8-11*

WOOL SCALES

MATTING/COTTING:

Symptoms: Staples are firmly meshed/felted together, usually close to the skin. Matting is actually a form of felting as the wool scales are tangled together and cannot be separated without breaking. A felted fleece is totally useless to a handspinner.

Causes: Usually caused by abrupt changes in humidity and weather conditions. Sometimes heredity plays a major role in matting. Some sheep have kemp fibers in their fleece and the kemp does shed out. This shedding, if substantial, can actually mat into the still growing wool. In the same was as a fleece that "lifts" due to illness or trauma, the wool that lifts is free to mesh and mat into the still growing fibers. Lambs that climb up on the ewes back with their wet feet and into wet wool are another cause of matting/cotting. Matting/cotting/ felting conditions are heat, moisture, and agitation.

Solutions: Shear.

CLEAN WOOL:

A fleece that is free of vegetation: hay, straw, grains, shavings, sawdust, second cuts, keds, etc.

Vegetation clings tenaciously to the wool shafts. No amount of carding or hand picking can remove it all. Yarn spun from this type of wool will never be fine and smooth.

Second Cuts: They act like broken wool fibers, the more you card the cut pieces, the more they noil up in the batt or rolag. Yarn spun from this wool will have noils (tangled bits of short fibers). Be sure that your shearer knows how to shear a handspinning fleece.

Keds: An external parasite, they are very difficult to remove from the fleece as they do not come out during the carding processes, and thus must be picked out by hand. Dusting the sheep with livestock dusting powder will control these parasites.

Solutions: Keeping sheep clean has its challenges, but also its rewards. I do believe that sheep are really little "pigs" with wool on and attempt to thwart all but the most persistent efforts to keep them clean. I feed Eastern Washington timothy hay because there is very little break up of the stalks as there is with alfalfa. The added benefit is that the hay is not "stalky" and my sheep eat every blade. My feeder has a solid slanted front with an opening at the bottom where the sheep pull out the hay. I fill the feeder, which is attached to the north side of our barn, from the inside of the barn thus eliminating the hay being dripped or dragged over the backs of the sheep.

About January, when the wool is getting long on the face and neck, I shear if all off to the shoulders because all those wooly heads and necks pull a lot of hay out of the feeder that can then be draped over the neighbor's back.

On a small spinners flock, sheep coats may be another helper. Having experimented with netting, Gortex (breathable waterproof material), scotchguarded raincoat material, waterproof rucksack cloth, ripstop nylon and fiberglass screen door material, I have yet to discover the perfect material. Gortex comes close, but is very expensive. In our climate, we cannot use waterproof materials if they are not breathable. I believe that a netting with a small enough grid to keep out the seeds and vegetation, yet strong enough to withstand the "sheep torture tests" would be the real solution.

Bedding: DO NOT USE WOOD CHIPS OR SAWDUST. Straw is still the best bet in the handspinners flock.

Keds are easily controlled with livestock dust. It is best done after shearing, but don't forget to dust the bedding material as well as the tender lambs. I have found that the Mectin wormers also help control external parasites.

Second Cuts are all in the hands of your shearer. Some shearers are more concerned with how well the sheep looks after shearing than how the fleece is shorn off. If the shearer does not take the time to brush away the cuts from the second pass with the shears, those short fibers mix into the fleece. Have a talk with your shearer in advance and explain that you are raising handspinning fleeces for a handspinning market. If he cannot brush away the second cuts, suggest that he go back and touch up the sheep after the fleece is off. Consider paying extra for his time and efforts. After painstakingly raising a handspinning fleece for 12 months, the shearers role is crucial. Imagine for a moment that you've hired someone to pick your beautiful crop of peaches. You wouldn't want that person to fill the box from the top of the ladder, would you?

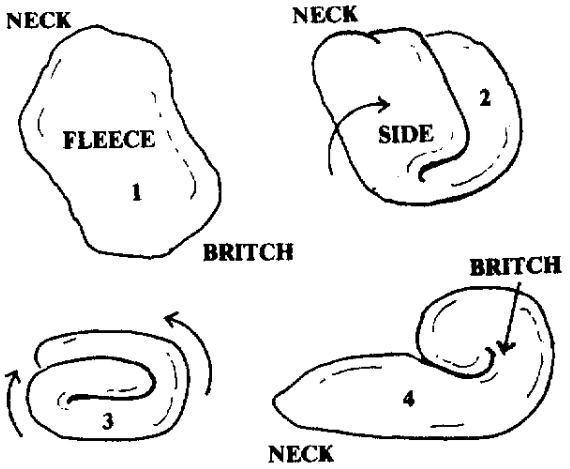
SKIRTING:

Place the fleece, cut side down, on a large table. Pull off ALL dung tags and urine/manure stained wool. Next, remove all the leg, head, neck and belly wool. Remove any britchy or hairy leg/haunch wool. If there is any rain rot, be sure to remove it all. Pick out any surface vegetation. Check the health of the wool by using the 7 lb. pull test in various places of the fleece. Grade your fleece. Check for any dampness, if it is damp, allow it to dry thoroughly before rolling.

ROLLING:

Determine where the neck and britch areas are. Fold ⅓ of one side over and across the back (right to left). Next fold the other side over and across the back (left to right). Starting at the britch end, roll the folded fleece up to the neck end. The prime shoulder wool is now on the top and is easy for the buyer to inspect. If you are selling to a handspinner, DO NOT TIE THE FLEECE.

From *Black Sheep Newsletter, Spring 1988, pgs. 8-11*



STORAGE:

Store your fleece in large unwaxed cardboard cartons (boxes) elevated up off the floor so that air can circulate under them as well as around the wool. Every 5 or 6 days, rotate the wool in the box so that it will continue to dry evenly. NEVER STORE THE FLEECE IN PLASTIC BAGS and don't stuff a freshly shorn fleece into a feed sack. Wool needs room to "breathe" and dry. An oversized burlap bag suspended off the floor would be an alternative way to store wool. Weigh the fleece after it has had time to dry. Spinners get upset when they pay $5 to $8 a pound for water. A fleece can hold 30% of its weight in water and not feel wet. For example: a 10 lb. fleece could have 3 lbs. of water, at $5 per pound, that would be paying $15 for water! If you weigh the fleece after it's shorn and the spinner weighs it later after it's dry, there could be a 3 to 5 lb. difference. Remember, you want the spinner to come back and buy again next year as well as tell friends about your fleeces.

After determining the health and cleanliness of a fleece, a handspinner needs to know how to determine the grade/fineness(fiber diameter) of the wool.

Most wool grades are determined by one of three methods: the blood count (the percentage of Merino blood in a particular breed of sheep) or by the Bradford count (how many hanks of yarn, each 560 yards long, can be spun from one pound of wool top) or by the Micron measure (the precise measurement of the fiber diameter using a micrometer). All of these methods of measuring require a great deal of training and skill or the use of expensive equipment.

An easier though less accurate method better suited to the needs of Handspinners for determining wool grade is the amount of crimp per inch. Take the time to count the crimp per inch and make a note on the grading/evaluation sheet. The more knowledgeable you are regarding your wool and the more information you can supply the buyer, the better.

Fine Wool (Silver Luster)	**Blood Grade**	**Bradford**	**Micron**	**C.P.I.***
Merino	Fine	64's Finer	22.04 Under	12-23
Cormo	3/4	64's Finer	22.04 Under	12-19
Rambouillet	Fine	64's Finer	22.14 Under	12-15
Medium Wools (Silky Luster)	**Blood Grade**	**Bradford**	**Micron**	**C.P.I.***
Targhee (Ramb/Lin/Corr/Col)	1/2 - 3/8	58's - 64's	26.5 - 21.5	9-12
Corriedale (Merino/Lin)	1/4 - 1/2	50's - 60's	31.5 - 24.5	7-11
Columbia (Ramb/Lin)	1/4 - 1/2	50's - 60's	31.0 - 24.0	7-11
Most Meat Breeds	1/4 - 3/8	50's - 60's	31.0 - 24.0	7-11
Coarse Wools (Glassy Luster)	**Blood Grade**	**Bradford**	**Micron**	**C.P.I.***
Romney	Low 1/4 - Braid	44's - 50's	38.0 - 31.0	2-6
Border Leicester	Braid - Low 1/4	36's - 48's	38.5 - 30.0	1-6
Lincoln	Braid - Low 1/4	36's - 46's	40.2 - 33.5	1-4
Cotswold	Common Braid	36's - 40's	40.2 - 36.2	1-4

*Crimp per inch

From *Black Sheep Newsletter, Spring 1988, pgs. 8-11*

Paint and Chalk Scourability Studies - Wool

In order to track and record information on individual animals, paint and chalk branding is a necessity for many sheep producers across the United States, although wool processors say it is best to use no paint or chalk at all. The wool processing segment of the industry has, for many years, expressed concern about the amount of paint, and some chalk, which remains in the wool after it has been scoured, costing the wool industry millions of dollars.

Most brands of paint on the market are advertised as scourable, however, there are instances when all the paint does not scour out and the remaining residue continues to be a problem.

The American Wool Council (AWC), in response to an appeal from buyers and processors, will be conducting an informational study this spring to test various paints and paint colors to see which scour out best. If the paints are indeed scourable, then it may be that, in some cases, the directions on the can are not being followed. Growers would then be reminded to adhere to all directions and to not add anything to the paint, avoid direct heat and freezing and keep the width of the paint brand to a minimum.

The study will endeavor to determine if the paint scours out of the wool and the effect the following factors have in the amount of paint residue left in the wool after scouring: the brand of the paint; the amount of paint applied to the wool; the color of the paint; and the width of the paint brand.

The wool samples will be sent to a scouring facility as well as to a lab testing facility to analyze the results. As information becomes available, the AWC will continue to update all segments of the industry on its findings.

"AWC is working to have preliminary results available for producers to use this season with the remainder of the test being completed by the end of the year. I think the results will be valuable for producers to decide which paint, if any, works best on their operation," commented Ron Cole, American Sheep Industry Association wool education consultant.

Where producers use paint as a longer-term marking tool, chalk is used to identify sheep for shorter periods. Chalk residue in the wool after scouring can also sometimes still be troublesome. In 2008, the AWC carried out an informal analysis of some of the various chalk and spray products on the market, as well as wax-based products, to determine the most effective form of marking with the least amount of residue.

The results showed that Dixon Ticondaroga chalk, pink and purple, was the only product tested that was 100-percent scourable. Richey SprayLine, orange and green, left some light residue on the wool after scouring.

All of the wax based products used in the study left significant residue following the scouring of the wool. Rota Stik, MarKing Spray, All Weather Paint Stick and LA-CO Twist Stick were the products tested in this study.

"No matter what product a producer chooses to use, it is always important to read and follow the labeling directions on the product and to know that the markings will scour out of the wool when desired," concluded Cole.

From ASI Weekly

Interested in Joining a Farmer's Market?

If you are interested in marketing your lamb in a Farmer's Market venue, then you will want to be part of the "Farmers' Markets Ontario" new campaign just recently launched to recruit new vendors.

Interestingly, at a time when consumer interest and demand for locally grown food, (especially lamb) is rising we are faced with fewer and fewer 'real' farmers at the farmers' markets. Farmers' markets provide farmers with a viable marketing opportunity - no middleman, direct sales to the consumer and fair retail market returns for your hard work.

This campaign offers a number of incentives to farmers who want to become vendors at farmers' markets:

- Assistance in locating farmers' markets in need of your products and provide your contact information to interested farmers' market managers.
- Inspections by qualified inspectors to verify to the consumer that you are a farmer and grow the product you sell.
- Advice on developing an attractive display, communicating with customers, and other helpful tips.
- Colourful and attractive vendor sign and cards to let your customers know all about your and your farm.
- Your profile on-line on the Farmers' Markets of Ontario website;
- Availability of a high quality shade canopy with your personalized banner for a subsidized price of $300 (taxes and S/H included)- regular price $750.
- Payment of your first two weeks of stall fees to enable you to experience the new market.

If you would like more information please contact Bernie Solymar, Recruitment Officer for Farmers' Markets Ontario at 1-866-498-1784 or email him at recruit@farmersmarketsontario.com or visit www.farmersmarketsontario.com.

Wool Handling and Grading

By: Bob Shopland, Alberta Sheep and Wool Commission
(Modified by OSMA)

Shearing and Care of the Fleece

The following practices will improve the quality and increase the value of the wool clip. The manufacturer (purchaser) makes use of the wool only and not the foreign material that may be present in the fleece. Therefore, the quality of fleece is based on its clean wool content. With the exception of lanolin, everything else is waste material. Consequently, it is in the interest of the wool producer to keep debris to a minimum by all practical means, as careful preparation of the fleece will result in higher returns.

1. Consider culling ewes with black fibres and Kemp in fleeces and use good-fleeced rams (not at the expense of strong growth and reproductive traits)
2. Use feed racks and feed roughages carefully to prevent seeds, straw and chaff getting into fleeces. Keep sheep away from burrs, if possible.
3. **Do not** use tar, paint, linseed oil, oil crankcase oil, etc. for marking or branding sheep. Use only water-soluble branding fluids, approved for use with livestock.
4. Shear sheep on a clean floor.
5. Avoid "second cuts" in the wool (first cut isn't close enough to the skin, so a second pass with the clippers is required).
6. Keep fleece all in one piece if possible.
7. Do not shear when fleeces are wet or damp.
8. Spread the fleece skin-side down on a slatted or wire-topped table.
9. Face and leg pieces should be separated from the fleece. For the black-faced breeds in particular, these areas usually contain black or grey fibres that are particularly objectionable to the manufacturer, as they cannot be used in white or pastel-coloured goods.
10. All parts of the fleece that have burrs, chaff or straw, should be removed and packed separately.
11. All dirt and manure encrusted fleece (tag) should be separated and packed separately. Damp tag rolled up in a fleece discolours and damages the surrounding wool.
12. When the low-grade wool has been removed, the most valuable portion is now ready to be tied. One side of the fleece should be folded into the centre one-third of the way and then the other side should be folded in to cover the first fold. The fleece should then be rolled tightly from the britch (hind-end) to shoulder to expose the best portion for inspection when graded (see diagram on previous page). Tie fleece with paper twine or with a strand of wool, if paper twine is not available. **Never use binder twine for tying wool. Strands of twine are a major source of wool contamination**.
13. Black and brown fleeces should be kept separate from the white fleeces. The tags and skirting should be packed separately.
14. Pack wool in clean sacks or bags immediately after shearing in large wool-bags. The upper portion of these bags should be soaked to prevent slippage while being filled, and also should have a handful of tags tied in each bottom corner to facilitate handling of the bags when they are filled. The bag should be mounted on sacking stand with the upper end supported by a ring that holds it open. The fleeces should then be placed in the bag and tramped in firmly. Tight packing permits maximum loading of shipping cars and facilitates handling. When filled, the bag should be released from the ring and sewn with a bag needle and cotton twine. One bag will hold approximately 25 fleeces or over 200 pounds.

15. Storing the packed wool is an important consideration if it is not to be shipped to market immediately. Wool can be held in storage for relatively long periods of time if kept dry and protected from insects. Market wool annually if you can't ensure that the wool will be kept clear of insects and moisture. Holding wool over may result in loss from shrinkage in weight, discolouration and moth damage

Wool Fibres:

Wool growth is a continuous process and, except for the 'hair' breeds, sheep must be shorn periodically. The wool fibre is divided into three sections: the root, the shaft and the tip. The tip of a fibre on a lamb's fleece is pointed, while the tip from a mature fleece is flat, because of previous shearing.

Sheep breed has a significant bearing on the characteristics of the wool fibre. Representative breeds of various wool grades are shown below. Individual sheep of the same breed may have wool that varies either one grade finer or one grade coarser than the breed average

Fine	- Rambouillet, Merino
Fine-medium	- Columbia, Romnelet, Targhee
Medium	- Southdown, Corriedale
Low-medium	- Hampshire, Suffolk, Shropshire, Dorset
Low-quarter	- Leicester, Lincoln
Carpet Wool	- Scottish Blackface
Specialty information)	- Icelandic, Shetland (often highly valued-contact breeders for marketing
'Hair' sheep	- Katahdin, Dorper (these breeds do not require shearing, as the fibres are shed)

Merino Sheep

Within different breeds, the rate and uniformity of wool growth is very dependent on the sheep's nutritional status. A sheep on a high plane of nutrition grows wool with a thicker fibre than a sheep on a poor ration. Increasing protein in a ration, for example, can increase the weight of the fleece from 3 lbs to 9 lbs or more. Animals on a sub-maintenance ration will produce a weak fibred and light fleece clip. The diameter within a given fibre can vary as much as 5 microns due to changes in nutrition and the environment. A break or tender spot in the fibre may occur due to a drop in feed quality or an increase in production demands (e.g. ewes in early lactation). Fibre dimension may also be compromised when the animal is stressed (e.g. illness). Studies have also indicated that exposure to short day length results in smaller fibre diameter.

Wool Grading and Classification

To facilitate its sale, wool is classified and graded to determining its value and use. In Canada, wool is sorted based on its origin (Western or Eastern), and then graded for texture, length, and fibre strength.

Wool Grades

Texture, length and strength of fibre determine the grade of the fleece. The size of crimp or wave in the fibre varies with grade, e.g. crimp is barely discernible in fine fleeces while easily seen in coarse fleeces. Different grades of wool have different uses, e.g. fine and1/2 staple used to make worsted cloth, 3/8 and 1/4 staple used to make blankets, coarse staple used to make carpets and rugs. The term staple denotes fleeces of fibre length of more than two inches. Clothing fleeces are those having a fibre length of less than two inches.

Range Wool is from range flocks predominantly in Western Canada. The breeds of sheep producing the finer grades of wool predominate. Wool is heavier with natural grease or oil. The following grades are found:
Fine - 22/23 Micron Wool, 2.5" to 3" Staple Length
Half - 22/24 Micron Wool, 2.5" to 3.5" Staple Length
Range 3/8 - 26/27 Micron Wool, 3" to 3.5" Staple Length
Range 1/4 - 30/31 Micron Wool, 3" to 4" Staple Length

Western Domestic from small flocks in Western Canada. The medium grades of wool predominate and there is less grease. The following grades are found:
Domestic 3/8 - 31/32 Micron Wool, 3" to 3.5" Staple Length
Domestic 1/4 - 33/34 Micron Wool, 3" to 4" Staple Length

Eastern Domestic is from sheep flocks in Eastern Canada. Medium grades predominate.
Domestic 3/8 - 32/33 Micron, 3" to 4" Staple Length
Domestic 1/4 - 33/34 Micron, 3" to 4" 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"

Separating Offsorts
S.B.O. - Sorted by owner, S.A.G. - Sorted at grading, Micron - Microscopic measurement of fibre diameter, One micron = Thousandth part of a millimetre.

Wool Classification

Manufacturers buy wool on a clean or soured basis after all dirt, grease, etc. has been removed. The amount of clean wool is estimated, or determined on actual core test or scouring results. Classification of wool is estimating the amount of clean wool in any given fleece by means of subjective measurement i.e. Bright, Semi-Bright, Dark. The amount of clean wool in a fleece depends on the breed of sheep, geographic and climatic conditions and general care of sheep and fleece.

Rejects In Fleeces

Chaff: This probably makes up the greater percentage of Canadian wool rejects. This is due to the long feeding period in Canada, and where hay is thrown out on the ground or into feeders with a percentage landing on the backs on the sheep. The top half of a sloping hay feeder should be closed in with plywood to avoid a sifting of chaff on the necks and shoulders of sheep while feeding. It is advantageous to place

the feed in the feed bunks and then allow the sheep to enter the feed area. Fence feeders prevent excess amounts of chaff getting into the wool.
Tags: Heavy manure tags and sweat locks should be removed. Soft manure can cause heavy manure tags and sheep out on lush grass or wormy sheep tend to be the worst offenders.
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.
Burry Wool: The wool contains burrs, which are difficult to remove from the wool.
Black Grey or Brown: Coloured fibres or patches of coloured wool in the fleece. These degrade the wool as the fleece cannot be dyed uniform and can only be dyed a dark colour.
Cotted Fleeces: These are fleeces in which the fibres have become matted or felted together while on the sheep. The condition is usually caused by sickness and lack of yoke to protect the fleece. **Soft cotts:** only a small length of the fibre affected. **Hard cotts:** most of the fibre length matted tightly.
Second Cuts: Short pieces of wool produced by cutting the staple twice in shearing.
Stained Wool: Wool that has been stained mainly by urine which cannot be scoured completely white.

Rebates and Deductions

Wool handling Rebate: is a refund based on a pre-determined rate for wool slips that are well packaged and prepared by the producer. Criteria as follows:

1. Minimum shipment 200 pounds.
2. All offsorts, dark fleeces etc., separated from main grades.
3. High percentage of bright wools.
4. Well packed sacks to reduce freight costs.

Scrutiny Fee: is a charge based on a pre-determined rate for extremely poorly prepared wool clips that require additional time and effort to grade and process, i.e. fleeces tied with baler twine or containing other contaminations.

Freight Rebate: an additional rebate for exceptionally well packed woolsacks

Supplies, Sacks and Twine: refers to purchases made of these items and charged on account. At the time of wool settlement any outstanding amount is transferred to the wool account.

Ontario Wool Collection Deposit

(Note: These locations and contacts may not be current. Check with the Wool Growers for current listings at http://www.seregonmap.com/SCM/ or phone at (613) 257-2714 or 1-800-488-2714)
Contact the CCWG for bags for packing raw wool

Number & Name	Location/Details	Contact & Number
No. 1 **WINGHAM WOOL DEPOT**	R.R. #2, Wingham, Ontario NOG 2W0 (Formerly located at Ripley, Ont.)	John L. Farrell (519) 357-1058
No.2 **GLEN HURON WOOL DEPOT**	R.R. #1, Glen Huron, Ontario LOM 1S0	Richard Metheral (705) 466-3295
No. 3 **LITTLE BRITAIN WOOL DEPOT**	R.R. #1, Little Britain, Ontario KOM 2C0	Gord Mark (705) 786-2679
No.4 **YORK WOOL DEPOT**	R.R. #1, York, Ontario NOA 1RO	Jerry Kelleher (905) 772-3298
No. 5 **GLEN MEYER WOOL DEPOT**	R.R. #5, Langton, Ontario NOE iGO	Garnet Russell (519) 875-4007
No.6 **THAMESFORD WOOL DEPOT**	R.R. #4, Thamesford, Ontario NOM 2M0	Doug Kennedy (519) 285-2845
No.7 **SUTTON WEST WOOL DEPOT**	Sutton West	Brad Smokum (905) 836-3077
No.8 **MILLBROOK WOOL DEPOT**	R.R. #2, Millbrook, Ontario L0A 1GO	Ruco Braat (705) 939-2366
No.9 **INDIAN RIVER WOOL DEPOT**	R.R. #1, Indian River, Ontario KOL 2B0	Bill McMaster (705) 295-4231
No. 10 **COOKSTOWN - BRANCH OF CCWG**	Located at the Ontario Stockyards Inc. R.R. #1, Hwy. #89, Cookstown, Ontario LOL 1LO Weekdays: 9 am- 4 pm	John Cuthbert or Al DeGasparro (705) 458-4800
No. 11 **CARLETON PLACE**	HEAD OFFICE & WOOL GRADING WAREHOUSE - C.C.W.G. LTD. 142 Franktown Road, Carleton Place, Ont. K7C 3P3 Hours of Operation: Weekdays 9 am - 4 pm Closed- noon to 1pm Saturday - please call ahead	1-800-488-2714 (613) 257-2714 Fax: (613) 257-8896
No. 12 **MADOC WOOL DEPOT**	Madoc	Terry Spicer (613) 473-1278
No. 14 **HANOVER WOOL DEPOT**	R.R. #3, Hanover, Ontario N4N 3B9	Judy Miller-Shelley (519) 364-6193
No. 15 **BLENHEIM WOOL DEPOT**	Blenheim	Calvin and Jeff Russell (905) 676-2560
No. 15 **BELLE VALLEE WOOL DEPOT**	Belle Vallee	Dave Wight (705) 647-8686