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# HANDSPINNING FLEECE

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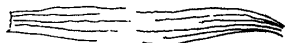
By Joanne M. Hiersch © 1988

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.

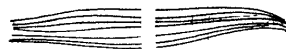
**Causes:** The causes of tenderness in wool are usually subtle and ongoing. Internal parasites are a frequent cause. If sheep are not wormed regularly to keep parasites at a low level, the wool production is affected. How much is enough? A rule of thumb is: the more sheep you have and the closer together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

## 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 way 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 it 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.

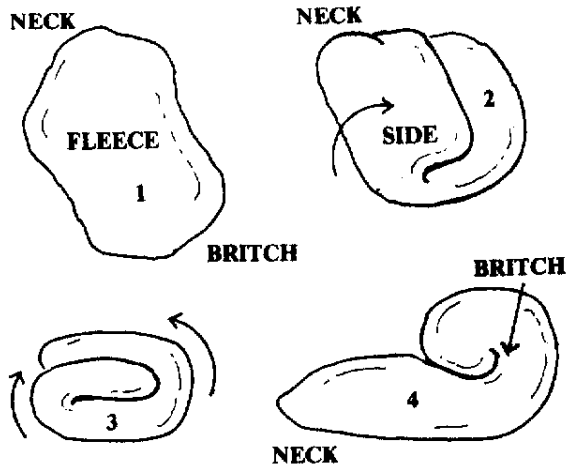
**Second Cuts** are all in the hands of your shearer. Some shearers are more concerned with how well the sheep looks after shearing than how the fleece is shorn off. If the shearer does not take the time to brush away the cuts from the second pass with the shears, those short fibers mix into the fleece. 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  $\frac{1}{3}$  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.



**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.

<b>Fine Wool (Silver Luster)</b>	<b>Blood Grade</b>	<b>Bradford</b>	<b>Micron</b>	<b>C.P.I.*</b>
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
<b>Medium Wools (Silky Luster)</b>	<b>Blood Grade</b>	<b>Bradford</b>	<b>Micron</b>	<b>C.P.I.*</b>
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
<b>Coarse Wools (Glassy Luster)</b>	<b>Blood Grade</b>	<b>Bradford</b>	<b>Micron</b>	<b>C.P.I.*</b>
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