



# THE ART OF SCOURING SHEEP'S FLEECE

[www.claddaghfibrearts.com](http://www.claddaghfibrearts.com)

KIM MCKENNA

[www.claddaghfibrearts.com](http://www.claddaghfibrearts.com)

## INTRODUCTION TO SCOURING

One of the first steps you can take towards improving the quality of your handspun yarn is to revisit and rethink your scouring technique. Good scouring technique is mindful, taking into consideration the characteristics of the fibre at hand. It is also responsive, adjusting to how the finished yarn will be used. A sound scouring practice is paramount to good fibre preparation which in turn translates to a quality handspun product. Further, if you enjoy dyeing your fleece or handspun yarns, good scouring techniques help to ensure even and thorough dye penetration.

Scouring is the skilful removal of wool wax (the animal's natural grease), suint (perspiration), dirt, dust and other extraneous matter from the fleece. I say skilful because there is a gentle art to retaining the fleece's original softness, strength, lustre<sup>1</sup> and brilliance without felting<sup>2</sup> or damaging<sup>3</sup> the fibre. A thoroughly scoured fleece has a nice hand<sup>4</sup> and is soft, elastic, open and lofty. Well-scoured fibre is also less likely to become damaged during the combing or carding processes.

Be ever mindful that wool is particularly susceptible to damage during the scouring process. Gentle handling techniques during all stages of the scouring process will help to avoid the disappointment of damaged or felted fibre. To avoid fibre damage, remember wool is weaker and more elastic in water. If the water is alkaline the wool will be even weaker and if hot, even more elastic. To compensate, be attentive to the pH<sup>5</sup> of your cleansing and rinse baths. Strive to maintain the baths as close to neutral, a pH of 7, as possible. If your water source is alkaline, adjust the pH with a weak acid such as 5% household vinegar. Use neutral cleansing agents and avoid scouring in alkaline baths, especially those which exceed pH 9 – 9.5, for prolonged periods of time. Further, to avoid damage caused by over-stretching the warm wet wool, always support the wool from below when removing from water. To avoid felting the fibre, do not agitate or over-handle the fleece. In addition, always add the fleece to the water, do not run water onto or over the fleece. Avoid anything that adds pressure while the fleece is wet, including the centrifugal force of laundry appliances to spin out excess water. Ensure consistency in water temperatures. Significant variances between cleansing and rinse water temperatures may shock, and in turn felt, the fibre.



NETTING USED DURING SCOURING  
ASSISTS IN PRESERVATION OF STAPLE  
FORMATION EVEN AFTER THE DYEING  
PROCESS.

---

<sup>1</sup> Lustre is the sheen caused by light reflected from the wool fibre. The standards for lustre vary depending upon the breed.

<sup>2</sup> Felting occurs when the scales on the individual fibres enmesh and lockdown upon one another. Carding or combing felted fleece damages the fibre.

<sup>3</sup> High heat and strong alkali will attack the fatty substances of wool's structural cells and render the fibre harsh, hard and brittle.

<sup>4</sup> Hand is the subjective assessment of how nice a fibre feels with respect to its softness, silkiness, moisture content, grease content, etc.

<sup>5</sup> pH is measured with strips which may be obtained from dye and soap supply shops. A pH of 7 is neutral, over 7 is alkaline and under 7 is acid.

I would like to point out at the outset that these notes were written for novice spinning students who usually deal with longwool or crossbred fleeces. If you are new to spinning it is important, before scouring any fleece, for you to understand breed standards, wool characteristics, what constitutes a sound and healthy fleece and, further, that not all breeds' fleeces are scoured in the same fashion. Excellent resources for information regarding breeding standards can be found in a book by Nola & Jane Fournier, "In Sheep's Clothing, a handspinners' guide to wool" as well as through Breeders Associations. For a better understanding of wool character and what constitutes a sound, healthy fleece I would refer you once again to "In Sheep's Clothing" or to Anne Field's book, "Spinning Wool, Beyond the Basics". The instructions found in this module "The Art of Scouring" are specific to sound longwools and crossbred wools. Some examples of these breeds include: Romney, Blue-Faced Leicester, Border Leicester, Cotswold, Gotland, Lincoln, etc. I stress the word "sound" as even the best scouring practices cannot transform an unsound, unhealthy fleece into beautiful spinning fibre. Scouring information for finer fleece or Merino and superfine fleece may be found in Lee Raven's 1985 Spin Off article and Margaret Stove's book, respectively (See "Suggested Reading" at the conclusion of these notes).

*Please Note: The techniques described in "The Art of Scouring" are unrealistic if you will be scouring more than 1 to 3 fleeces per year. The method described herein would be an inefficient use of your time. Also, if you have a lot of experience scouring fleece or with scouring a particular breed you probably don't need to conduct a sample scour.*

Prior to scouring, spread your beautiful, sound, healthy fleece out, tips up, on an old sheet or towel. Without disturbing the staple formation, remove vegetation. If little bits of hay and seeds prove difficult to pick out without disturbing staple formation, leave them be. They will work out later as the fleece is combed or carded. Remove all second cuts and any discoloured or heavily soiled sections of the fleece. Now the fleece is ready for a sample scour. Sampling provides an opportunity to observe the effects different water temperatures may have on color, lustre, hand and tackiness of the fleece. Further, it enables us to predict how the fleece will perform during fibre preparation and finishing.

#### ORVUS versus EUCOLAN

I most often use Orvus Paste as my cleansing agent. When faced with a particularly dirty or greasy fleece, you will want to use Orvus as it opens up the staples and tips particularly well. It does, however, leave the fibre with a slightly harsher hand than Eucolan.

Eucolan is another great cleansing agent. It is best used on fleece that is not very greasy and/or waxy. You will find that it leaves the fleece with a slightly softer hand than Orvus. You will also find that with Eucolan the tips do not open up quite as much. This is an added benefit if you are trying to maintain staple formation for a combed fibre preparation. The closed tips do translate, however, to a slightly longer drying time.

## SAMPLE SCOUR

Add one tablespoon of Orvus Paste to 4 litres of warm, 120°F, water. *Substitute another neutral cleansing agent if Orvus is not available through your local feed or tack shop.* Remove a staple<sup>6</sup> from the fleece and place it on the water's surface. Allow the staple to sink into the warm liquid and observe its behaviour over the next 15 – 20 minutes. If the staple formation dissolves and the fibres spread out and float around individually, consider scouring in smaller volumes of water and employ the use of netting or slotted baskets to keep the staples intact and minimize matting.

Prepare 8 sample scouring baths. Fill two buckets (I use ice cream buckets) with cool (80° F)<sup>7</sup> water, two with tepid water (95° to 100° F), two with warm water (120° F) and two with hot water (140° F). Label each bucket with painters tape to indicate the water temperature. Add 1 tablespoon (per 4 litres of water) to one of each temperature pair (see “Suds” notes) and label with an “O” for Orvus. The other buckets are labelled with an “X” (no Orvus). To help me keep track of things I keep a similarly labelled clothes peg with each sample as I work my way through to the drying stage.

Present 10 grams of fleece to each bucket, tips first. Use lids to keep the heat in. Allow the fleece to gently sink<sup>8</sup> into the water on its own accord. Once the fibre is fully immersed, start timing. After 20 minutes and working one bucket at a time, remove<sup>9</sup> the fibre. Take note of the water temperature upon fibre removal and prepare two rinse baths at that same temperature. Place the 10 grams of fibre in the first rinse, remove, squeeze gently to remove excess liquid, place in the second rinse, remove, squeeze gently, and lay out on a layer of thick cotton towels. Place a second thick, thirsty cotton towel on top. Repeat for each bucket. After a few hours remove the samples from between the towels, straighten the staples and spread out on a screen to finish drying. I gently straighten the staples before laying them out to dry. This is akin to hanging up a shirt removed from the wash as opposed to leaving it to dry in a crumpled mass.

Once the samples are dry, compare their hand, color, cleanliness, tackiness and lustre. Examine the sample pairs scoured at the same water temperature to compare how well dirt and grease were removed. Further, compare how well the fibre opened up and released dirt. Then make comparisons between the four water temperatures. Which temperature best preserved the hand, color and lustre of the fibre? Choose the sample possessing the best balance between hand, lustre and cleanliness and scour accordingly.

### SUDS

Suds can keep some fibre suspended and out of the water. Minimize suds by first dissolving the cleansing agent in a cup of water and then carefully pouring the cleansing solution into the water.

---

<sup>6</sup> A grouping of adjacent wool fibres is referred to as a staple or a lock of wool.

<sup>7</sup> Temperature is very important. It is wise to use a thermometer until you have experience and can determine the water temperature by feel.

<sup>8</sup> Forcing the fleece under the water risks the formation of air pockets; areas which resist water penetration.

<sup>9</sup> Remember to squeeze gently when removing from both cleansing and rinsing soaks.

## SCOURING

**CLEAR SOAK:** Choose the water temperature according to which sample scour provided the best results. Place 1 to 1.5 lbs of fibre in approximately 4 gallons of clear water, tips first. The water volume should be such that the fleece has plenty of room to expand as it takes up the water. I also place a wire rack on the bottom of the tub to keep the clean fleece up and out of any dirt released from the fibre. Place a lid on the container and allow the fibre to sink into the water. Start timing once fibre is totally immersed. Allow it to sit undisturbed for 15 minutes. Gently remove the wool. Remember to support the wool from below as it is lifted from any soaks, baths or rinses. Carefully squeeze out, not wring out, the excess water. Place the fibre in a cleansing bath the same temperature as the clear soak at the end of the 15 minute period.

**CLEANSING BATH:** For every 10 litres of water use approximately 3 tablespoons of Orvus, or 6 tablespoons of Eucolan. The water should feel slick and slippery. With the cleansing agent thoroughly dissolved and the wire rack in place, add fibre, put lid on and soak for 15 – 30 minutes. When the time is up, remove the wool from the bath. Squeeze out excess water.

**RINSING:** Rinse wool in a larger volume of clear water, 6-8 gal. Let soak approximately 15 – 30 minutes. Do not allow the fibre remain in water until it has cooled completely but rather remove it while the water is still a bit warm. Repeat process 2 – 3 times, until all the suds have been rinsed out. Remember to use a lid to keep the heat in.

**DRYING:** After the final rinse, remove the fibre from the water and place in a strainer. Once the excess water has drained away, squeeze gently to remove last traces of liquid. Spread the fleece out on a double layer of thick cotton towels. Place another thick cotton towel on top and leave for 1 – 2 hours. After the water has been well wicked from the fibre, remove from between the towels, straighten the staples and lay out to dry on mesh or screen. If you plan to comb the fibre it is easiest to strip the staples from the fleece, straighten them and lay them out to dry. Otherwise, leave the fleece intact and simply tug on the individual staples to straighten them out a bit. Where I live the sun is not very hot, even on the sunniest of days. I have not experienced any adverse effects drying fleece in direct sunlight for the first few hours. If you live a hot climate, however, fleece should be dried in the shade. Turn fleece over periodically to ensure it dries thoroughly before storage. Dry fleece may be stored after it has been allowed to air dry for approximately two weeks.

A SLOTTED BASKET IS USED TO  
SCOUR THE WOOL



## OTHER FACTORS TO CONSIDER

- Depending upon the fleece, scouring in water temperatures above 120°F can compromise the hand, lustre and brilliance of a fleece. I scour most of my fleeces at lower water temperatures if a nice clean fleece that is not too tacky for spinning can be achieved.
- If the fleece is quite greasy, will be stored for a long period of time before spinning (and you do not wish to scour a second time) or is not a particularly lustrous fibre, warmer scouring temperatures are preferable.
- If you will be spinning the fibre up in relatively short order or if the fleece has minimal grease or a lustre you wish to preserve, a lower water temperature scour is preferable.
- If the entire staple from your sample scour is extremely dirty at all water temperatures, two cleansing baths or a longer (overnight) cleansing bath may be in order. After the first 15-30 minute cleansing bath remove the fleece while gently squeezing out the excess liquid and place in a second cleansing scour.
- Should the tips be dirty and/or crusty, but dirt is readily removed with flick carding, proceed with scouring and flick card before processing.
- Consider cutting tips off either before scouring or before carding/combing if dirty and/or crusty tips are not readily removed with flick carding. But if you are planning to dye the fleece it is better to cut the tips off after you have finished dyeing.
- After the sample scour if the fibre is tacky and you do not plan to process it in the near future and do not mind re-scouring before use, proceed with scouring.
- If the fibre is tacky even after a 140°F cleansing bath and a second scour, consider using more cleansing agent. As a last resort some people add a short ammonia or washing soda bath to their scouring process. I don't recommend this as wool is too easily damaged in hot alkaline water. Instead, before I card or comb the tacky fleece, I rub a very small amount of Neatsfoot Oil<sup>10</sup> on my hands and gently work it into the fleece. This usually helps me to overcome any problems a tacky fleece might present during fibre preparation and spinning. Wash the plied yarn to remove traces of the Neatsfoot Oil.
- If you wish to maintain some grease to lend the finished garment a bit of waterproofing, consider a scour with less or no cleansing agent in cool or tepid water (whichever sample provides the best results).

---

<sup>10</sup> Ensure you use 100% neatsfoot oil and not a blend of neatsfoot and mineral oil.

## SCOURED STAPLES

THESE STAPLES WERE STRIPPED FROM THE FLEECE AND SCOURED USING NETTING. AS CAN BE SEEN ON PAGE 2, THEY WERE LATER DYED.



- Netting: Use netting during scouring if the fibre is very fine or if the maintenance of staple formation is important to planned fibre processing methods such as combing. Strip out the staples and place on netting with the tips facing the same direction. Fold the netting over the fleece and secure with rust proof safety pins (available through quilting supply shops). When removing netted fibre from the scour or rinse baths, roll up the netted fibre package “jelly-roll” style under water and then remove from the water while gently squeezing to remove any excess water. An alternative to netting are slotted plastic baskets.
- A few tablespoons of vinegar added to the second to last rinse can help to remove the last traces of the cleansing agent.
- A drop of fabric softener or hair conditioner, which does not contain bluing or other colorants, in the final rinse can lend poorer quality fibre a slightly better hand.
- If you plan to use your handspun yarn for weaving, consider scouring with lower water temperatures. Leaving some grease in the fleece will help the handspun yarn to better withstand the rigors of weaving. The remaining grease will be removed when the fabric is full.
- If you know your water source has a high mineral or iron content it is usually best to use filtered, distilled or bottled water. Minerals can leave the fibre feeling harsh and iron can stain and/or weaken fibre.

## CONCLUSION

Scouring your own fleece teaches you how to handle and work *with* fibre. A mindful response to the fibre at hand will always reward you with a beautiful handspun yarn which still possesses the qualities you found attractive in the fleece.

## SUGGESTED READING

Field, Anne. *Spinning Wool, Beyond the Basics*. Christchurch, N.Z.: Shoal Bay Press Ltd., 1997.

Fournier, Nola and Jane Fournier. *In Sheep's Clothing, a handspinner's guide to wool*. Loveland, Colorado: Interweave Press, 1995.

Raven, Lee. *Another Look at Wool Scouring - Ingredients, Problems, Techniques*. Spin Off Magazine. December, 1985.

Stove, Margaret. *Handspinning, Dyeing and Working with Merino and Superfine Wools*. Loveland, Colorado; Interweave Press, 1992.