

# **How to process and scour a raw fleece and Some considerations of other spinning fibers**

**Elena Dent, printed Jan. 12, 2019**

This is what I've learned about how to scour wool and by extension how to deal with some other fibers. At the end there are some notes on what to do with some exotics - rabbit, cat and dog as well as camelids and some considerations for silk both spin-able and as fabric.

This article is NOT, in any way, a dissertation on period fiber treatment. It uses modern detergents because the breeds we have are also modern and quite different from their ancestors. Many people do not get their wool scour water as hot as I do. I learned, the hard way, that if you are working with merino you had better bring the water to a full boil before turning off and adding your Orvus or detergent or you WILL wreck the fleece. Period.

If someone is working with an old breed - Black Welsh Mountain or Lincoln or Romney - they still should use a modern method of processing their fleece unless they are actually trying to work out historic methods. The average spinner will be much more happy with modern methods and they are safer because the spinner will not be inhaling and handling barnyard muck. Sheep are not housebroken; there is manure and urine on the raw fleece. Not much, but it is there in measurable quantities. Some people spin in grease. Have at, if you don't have any health concerns and are not around people with compromised immune systems.

Orvus paste, available at a good horse supply place. Orvus is rather expensive, but it has a long shelf life, you only need a little at a time, and it's also good for washing your fine hand washable stuff. It is 7.8 pH, slightly alkali on the scale from 0-14, making it ideal for both protein and cellulosic fibers. When using it on anything other than raw fleece, from your fine silk blouse to your dog, use very sparingly. It is a common sudsing agent, found in many personal care products from toothpaste to hand soap. The active ingredient is sodium laurel sulthate. There are no perfumes or dyes added, but a small amount is plenty.

If you don't want to use Orvus use some Dawn or other dish washing detergent and use a healthy dollup of vinegar in the last rinse to restore the wool to its preferred slightly acid state. Do not use hair conditioner - human hair is far more coarse than wool and many conditioners have wax and other additives you don't want in your wool.

You will need:

A large metal pot that is NOT non-stick. The Teflon will break down and it does stick entirely too well to mesh bags.

A large mesh bag, usually for delicates or sweaters, you can find these at Target or a similar store

A wash basin that will fit in your sink, ideally 2, unless your scour pot fits in your sink.

Two large, clean towels

A place to put your drying wool, indoors away from thieving vermin and wind. If you can make a wire tray, great. If you have a ceiling fan, superb!

If you have a garden you can use the rinse water under your outdoor plants once it's cooled – at least four buckets, water is heavy – and I've used it for flushing my toilet; the pipes have not complained, but I also don't do this more often than every couple of weeks.

A doffer: You want the Louet brand – it has a thick handle like a broomstick and teeth like packing staples not the one with delicate wire teeth like a cat brush.

You can use a metal pocket comb or a dog rake if you like. The teeth must be very strong and so will be coarse.

## **First you will flick out your fleece.**

This will open up the raw wool and remove the short cuts, dung tags, a large amount of vegetable trash and the short or damaged fibers. You will also be inspecting your entire fleece with this process. You should turn the fleece around frequently, trying to strike a balance between tearing up the lock structure (which you do not want to do) and mixing the texture and length of your fleece in your processed fiber. The fleece usually varies in texture, length and quality over the animal's body and if it is colored you will probably want to blend completely.

**Special considerations:** If this is a karakul or an obviously double coated fleece such as Churro or Icelandic do not flick the fleece out. Roan karakul is especially lovely and you will remove the colored fibers if you flick. If it's a double coated fleece you will make it impossible to separate the fine undercoat from the coarse outer coat. If this is angora kid or goat, don't flick, it's not worth the trouble. If you find Gotland you should test it; I have found the last inch or so of the root end will felt no matter how careful I am, so I cut that off. Again, test; it could be a quirk of the fleeces I got... or not. If there is an obvious color bar, a change of some sort, test your fleece with a small batch. That could be a weak spot where the animal was stressed and risky. Or it could just be an interesting feature of the fleece. I have

processed a beautiful, sound lamb fleece that was chocolate at the tip, ash grey for a bit, then charcoal brown at the roots.

If you are considering all that waste wool for quilt batting understand that a fine wool will compact solid and thin. If this is ok with you, go ahead and save the 'trash' wool. But a coarser, hairy fleece will retain more loft. And remember, this wool is the garbage that you really don't want to spin – short, kempy, filthy, sun burnt. Short fibers and second cuts are what cause pilling, the bane of good yarn and the cause of all your hard work looking shabby and unkempt. Trash wool may be useable as mulch. It will hold water and the lanolin and dirt are nutritious for plants but it takes a long time for the fibers to break down and it looks pretty messy.

### **To flick:**

This depends on your hand and wrist strength and the fleece itself. Every fleece is different and even within the fleece the length and texture will vary. You should hold the doffer with your wrist straight, and teeth up. Take approximately the thickness of your thumb's worth of wool, trying to keep a lock structure. Starting at the very root and with your other wrist also straight drop the roots onto the teeth, comb through. Do this again and again, working your way up the lock. When you've passed half way, turn it around, starting from the tip, finish opening the lock up.

Vary the amount with what you feel comfortable with. You should never be tearing the wool and never stressing your wrists and forearms. Don't even think of processing an entire fleece in one sitting! This is not hard work, if you are pulling hard you are damaging yourself and your fiber. More and gentler passes are better than fewer and harder, both for you and for your wool. There is some pressure, you will develop a callus on that leading forefinger that holds the wool, but you should never be straining.

Think of combing out long, wet hair, you start at the tips and work your way up or you just ram the tangles down and make things worse. Same with the wool, the point of this is to open the wool up and get it to let go of dirt, short cuts and trash.

Toss the flicked bit of wool into your mesh bag. After a few chunks of good wool your doffer will start getting full. Pull this off or use a kitchen fork and lever the trash off.

How much you fill that bag depends on the wool. Your first bag shouldn't be more than half full as you evaluate how to proceed with this fleece. A merino is tremendously greasy so you should scour in smaller batches than a coarse wool such as Lincoln or Romney. The coarser wools can be stuffed quite a lot, they have less grease and the thicker fibers will support themselves more easily than fine Merino, Rambouillet or other finewool.

### **Special Considerations:**

A low grease, fine wool such as Shetland, Churro with its combination of fine and coarse, or some crossbreeds present special considerations. The fine wool is more prone to felting than a coarse, and the low grease makes that wool even more prone to felting than usual.

Merino, being very high in grease and very fine should never fill more than half the bag – it is vital to get ALL the grease out in the first scour and this will be easier with smaller batches. Never buy a fine wool fleece from someone who washed their animal to show it – the wool will feel like someone melted a candle into the wool, stiff and sticky. And you will be forced to over scour the wool to get rid of this. That said, I have seen Karakul who appear to have been not merely shampooed but conditioned and brushed. Try such a fleece, being coarser it is not likely to be a problem but your indicator is that if it is stiff and sticky, reject it even if it's a blue ribbon fleece – it is not a hand spinner's fleece.

I bought a sticky merino once, a ribbon winner. I tried to flick it and it tore the wool. I saw clots of wool stuck to the flicker. So took some of that mess and scoured it. It dried, apparently clean. A week later the scoured wool was sticky again. Not as bad as the first time, but clearly not clean. So I scoured with the very hot water a second time. The wool came clean and it took dye beautifully but never was as soft as merino should be – the wool was damaged by the heat required to get rid of the grease. I have scoured raw merino before and since, but never a stiff, sticky fleece. That wool was gorgeous, soft and beautiful. And it took dye very well. Wool can take this heat when it has the grease to protect it, you will never need water as hot as scour water again.

## **To Scour:**

Fill the pot with enough water to easily hold the bag o' wool. Bring it to a full, galloping boil. This temperature is critical for getting merino and other fine wools clean. I cannot stress this enough. It may or may not be critical for other wools but it certainly is for merino. If you fail to get all the grease gunk out of that wool in this first scour what is left will harden and ruin the fleece.

Turn off the burner. Put in your Orvus or Dawn. Either one will be about 1/8 of a cup for a normal bag o' wool. Drop in the bag of wool, poke only enough to submerge the bag completely and Step Away. Do not fiddle with it. Leave it for about a half hour or so. If your water heater doesn't deliver viciously hot water, put another pot of clean water on to boil.

At the end of that half hour fill your wash basin with purely hot tap water for your first rinse. If your hot tap water isn't terribly hot (as in hurt you hot) add some of that boiled clean water to get it up there. You want your first rinse to be pretty close in temperature to the sitting scour water.

Have your pot of scour water and your rinse water side by side. You're dealing with hot water and it's unpleasant to burn yourself.

Lift the bag o' wool out of the scour pot and let it drain somewhat. Not completely, there should be about two fingers' thickness of water still draining when you move it to the first rinse basin and drop it in.

If you are working with one of the special fleeces, a fine wool with low grease, do not drain much at all, just lift out of the scour and immediately place in the rinse.

This seems silly, but it is not. The water in that bag of wool is supporting the wool and keeping it from felting. A high risk fleece needs all the support it can get, but even normal fleeces benefit from the water not draining completely for those first rinses, they will drop far more easily into their rinse water if they are not fully drained. And the less handling the wool gets when it is very hot and soapy the better.

The first couple of rinses are the most risky for felting and matting. With each rinse you drop the temperature somewhat and every rinse takes out dirt, grease and detergent, also reducing the felting risk. When the water is fairly clean, and not so hot as to be painful (usually the third or fourth rinse) leave the bag in the water, fully submerged, and unzip the bag. Stick your hand in and gently move the wool around, to encourage the hotter, dirtier water in the middle to leave. Be very careful with a risky fleece, this is why you should use smaller amounts which leaves you more room to move the wool around. Never crush the wool at this stage.

With the bag o' wool in its first rinse, if you are saving your rinse water carefully pour some of that scour water into each of your waiting buckets. It's pretty filthy and you'll do this with each subsequent volume of water, resulting in reasonably less filthy water in the buckets. Don't forget to let them cool before pouring out! And don't pour it on your plants, pour under them. Don't pour it on your garden hose either – it makes the hose sticky and nasty. This is experience talking. The buckets will remain a bit sticky after this use, which isn't really a problem as long as you know this ahead of time.

Lanolin was once the main ingredient in masking tape glue, it's a water soluble fat. This is why you really don't want to buy fleece on a rainy day, you'll be paying for the water the grease absorbed. And since a merino or other finewool fleece's weight is usually about 50% dirt and grease you'll be paying even more.

Your rinse water is now clean and about room temperature. If you used dish washing detergent (not laundry detergent!!!) throw a generous half cup of vinegar into the last rinse before adding the bag o' wool.

## **Finishing up:**

Remove the bag o' wool from its last rinse. NOW you get to squeeze it if you like, though draining it is wiser.

Lay out one towel on the floor (chase the pets off the towel, they love them) Open the bag o' wool and toss out the clean wool onto half the towel, lay the bag above it. Take the second towel; arrange it so that when you roll the results the second towel will roll a few turns first before rolling the wool, this helps with the water in the middle of all this. Roll it up, walk on it.

Take the wool out, lay it on the drying surface and gently fluff the fiber. You will see lock-like structure, they were not destroyed by flicking. You should be gentle, wet protein, whether wool or hair, is much weaker than dry fiber. Turn on the fan. On a hot day it may be done in an hour or three.

### **For Angora Kid (not rabbit!)**

Use Dawn, not Orvus. Use about twice as much detergent as you'd use on wool. Understand that soaking protein fiber in alkali, such as detergent or even worse, washing soda, will result in damaging or even destroying the fiber. Don't bother to flick kid, it won't work. But do get rid of as many second cuts and dung tags as possible. I tested several fleeces and found that about 8oz of raw kid will give me five ounces of clean kid. Filthy stuff, but a good fleece is worth it.

Treat it as a special fleece, it can felt so support the fiber in the water and accept the extra rinsing it will need. Don't forget to add the vinegar in the final rinse. The smell will vanish when the fiber is dry and this will help if you wish to dye it later. A breeder told me that colored angora is usually a bit coarser than white, even kid fiber.

### **Angora rabbit, or other exotic such as cat or dog.**

Do not scour, it doesn't need it and you will damage the fiber with that much heat. It may smell, wait until the fiber is at least spun into singles before washing, in warmish water, with Orvus.

### **Camel, llama or alpaca.**

Bag the fiber. Do not flick. Wash in warm water with Orvus, rinse as described for a special fleece, it is fine and can felt if you are not careful. It will be dirty, they love dust baths, but not greasy the way wool is.

Note: I have found that raw suri has a weird almost greasy quality to it; unlike the fluffy, more common hyuaca it hangs onto dirt even more enthusiastically than

merino does – this may be a feature of this one fleece I got, or it may be normal for them, I'm not sure. But I found about a half inch of mud (or clay? Not sure) in the bottom of the rinse bucket and I've never seen that before. Also needed a second and third wash before I gave up and spun it. It'll get washed again before I try to dye it. Beautiful stuff but exasperating.

## **Silk, brick, roving and such.**

Sometimes silk smells like fish. It will not take dye well, that stink is sericin, worm spit. Silk does not appreciate heat, so warm is a good idea. Being very fine and nearly clean when you buy it you really should use Orvus. If you must use detergent you are safer using small amounts and washing twice; at least you cannot felt silk. ALWAYS use the vinegar rinse on silk.

Treat your good hand washable garments this way too – hand wash them and add vinegar to the rinse. It's better for the fabric. Wash silk before sewing it and you will have no trouble with water spotting. Room temperature to cool water is fine and don't worry about some dye coming off in the wash water, this is normal and shouldn't change the color much.

For a garment, roll in a towel to get it nearly dry, then iron with no steam on a lower setting and iron it dry. The garment will feel lovely and look beautiful. Do not ever use anti-perspirant when wearing silk – it will rot and destroy the fabric.