Fleece Washing

Cath Snape, York & District and Online Guilds

Creating a finished item from a fleece is a rewarding experience. The start of this journey is washing the fleece but, with many approaches advocated, which is the best? This article is the result of two days of testing and describes a comparison of seven methods from various sources, referenced at the end of the article. A method of fleece washing based on these test results is proposed.

Process

A fleece was divided into seven 200g samples, each washed in a different way. The detergent used was washing-up liquid (WUL), approx. 30-40ml in a 5 litre container, added after the water to avoid too much froth. The 'tap hot' water was at 54°C, well above the temperature that melts lanolin, approximately 35-40°C. Care was taken not to agitate the fleece. Samples were squeezed gently to remove water at each stage. Once washed, the fleece was dried in a herb dryer. The methods and results are described below, with details and outcome.

1) Cold rinse only[1]

The fleece was placed in a bucket of cold water, left for twenty minutes then the water changed. This was repeated three times. No detergent was used.

Result: Although cleaner than expected, this sample was still too full of dirt and lanolin to be a pleasant spin. However, this would be a good pre-wash.

2) Washing machine

A caravan top loader was filled with tap hot water and WUL for a ten minute cycle, drained, then washed again. The sample was machine-rinsed in hand hot water.

Result: The fibre was clean, but had lost most of the lock structure; it was not felted.

Note: Using a UK front loading washing machine is not advised as it is more likely to felt a fleece, and to be damaged by the dirt and build-up of lanolin.

3) Yorkshire method[2]

A tub was filled with tap hot water and WUL. The fleece was placed in the water, tips down, in layers and left for 45 minutes. The water was siphoned off and the fleece scooped out into net bags, trying to maintain lock structure. It was allowed to become cold before being placed in the washing machine for a cold rinse and spin, using the lowest spin setting.

Result: The water was still hot after 45 minutes (too hot to remove the fleece without gloves). The fibre was moderately clean, some lanolin remained and the lock structure was maintained. It did not felt when placed COLD in the cold rinse and spin cycle.

Note: This method caused an alpaca fleece to felt, so is not suitable for more easily felted fleeces.

4) Eco method

Six buckets were filled with tap hot water, WUL was added to the first. The fleece was placed in the bucket and left for twenty minutes. It was then removed, gently squeezed and had five in/out rinses in the other buckets. For larger quantities of fleece, the buckets were used in rotation to reduce the water used.

Result: This produced a moderately clean fleece which retained some lanolin.

Raw fleece before washing
Photo: Cath Snape

Buckets for Eco Washing
Photo: Alison Daykin

Washing locks in hot water
Photo: Cath Snape

Washing on the hob
Photo: Alison Daykin

5) Hot wash[3]

The fleece was placed in net bags and had three washes with WUL at 75°C, 70°C and 65°C (checked by thermometer). Then three rinses at greater than 55°C; the fleece was left in each wash and rinse for just five minutes.

Result: This provided a clean, lanolin-free sample with the locks intact; however it took longer than methods three and four.

6) Heated on the hob[4]

A cloth was laid out in a large meat pan, and the locks laid out neatly in rows, tips to centre. The cloth was folded over to make a neat parcel, then rolled and removed before the pan was filled with room temperature water. The parcel was replaced, gently submerged and left for an hour. The parcel was then removed, gently squeezed out and clean water and WUL added. The parcel was replaced and the pan heated on the hob until steaming (do not boil!). After one hour of steaming it was left to cool before being drained. A second steam wash started with tap hot water. The process was repeated for two rinses, each steamed for one hour.

Result: This method was time-consuming, and heating the pan for such long periods used significant power. The fleece was lanolin-free but not as clean as method 5, possibly because the fibre was wrapped in its bundle and the water did not circulate.

7) Lock washing

a) In hot water with WUL

The lock was held by the butt and the tip swished in tap hot water with WUL. This was repeated for the butt end. The washing was repeated twice, then rinsed twice.

b) On a soap block

The lock was dipped in hot water, then one end rubbed on the soap block, to raise a lather. Although counterintuitive, provided a good lather is produced, the fibres are held apart and the soap prevents the fleece felting. The lock was turned around and the other end cleaned, before rinsing in hand hot water. Reference 5 advises this method for fine wools, such as Merino.

Result: Both of these methods provided a clean, lanolin-free sample with the lock structure preserved but they took more time than other methods, especially the soap block technique.

Discussion

These results raised further questions, particularly about whether the differences between methods were because of the higher temperature or the number of washes. Experience from further fleece washing suggested that it was the latter. It would be interesting to test if the higher temperature options produce better results for the waxy high lanolin fleeces such as Merino, but they seem unnecessary for the majority of British breeds. To give more definitive advice would require further tests with other fleeces, techniques and detergents.

Unwashed locks (L) and washed locks (R)
Photo: Cath Snape

Fleece in the herb dryer
Photo: Cath Snape

Conclusions

- Tap hot water is hot enough to remove lanolin.
- A longer soak (up to 45 minutes) is effective and the water did not cool to the point that the lanolin would reattach to the fibre.
- For a low felting fleece, a cold rinse and spin in a machine is easy and effective.
- Those methods using two or more washes resulted in cleaner samples.
- Placing fibre in net bags helped maintain the lock structure, however if the bag is overfilled the fibre was not as clean.
- The extra hot washing methods (five and six) did not appear to offer any additional benefits and are less eco-friendly.

These conclusions have been used to create the following washing method, which is time and energy efficient and gives a good result.

Method for washing fleece

- Loosely fill net bags with fleece
- Place in tub of tap hot water with WUL (30-40ml per 5 litres)
- Leave for 30-45 minutes
- Drain and squeeze the bag gently
- Second wash as above (third wash if needed)
- Two or more hand hot rinses, until the water runs clear
- Spin at lowest speed on machine or use a salad spinner (not used for food)
- Spread out fibre to dry

For a low felting fleece, for example down breeds, once washed and cold, a cold rinse and low speed spin in the machine is an alternative option.

For a very fine fleece, or a longwool, lock washing may be more suitable.

Health and safety

Fleeces are dirty and carry a risk of infection[6]. It is therefore prudent to:

- Wash fleeces outdoors if possible
- Cover all skin lesions
- Wear an apron, gloves and a mask
- Clean all equipment thoroughly after use

References

1 The Wool Clip. *Washing fleece for handspinning* [Internet]. [cited 2020 Feb 19]. Available from: *https://www.yarnmaker.co.uk/fleece/FleeceWashweb.pdf*

2 Smedley, E. *Washing/preparing from a raw fleece.* 2018. Personal communication

3 Creative Fibre Study Notes - *Handspinning 1 wool.* 2017. [cited 2020 April 28]. *https://tinyurl.com/creativefibre-nz-courses*

4 Pearl-McPhee, S. Yarn Harlot: *This is the way we wash our fleece* [Internet]. Yarnharlot. [cited 2020 April 28]. Available from: *http://www.yarnharlot.ca/2007/08/*

5 Stove, M. *Handspinning, dyeing and working with Merino and superfine wools.* Robert Hale; 1991.

6 AGWSD. *AGWSD Unwashed Fleeces – Guidance 2018* [Internet]. AGWSD website. 2018 [cited 2020 April 28]. *https://tinyurl.com/agwsd-fleece-users-guidance*

About the author: *Cath is a Yorkshire based spinner, providing craft courses from her smallholding: http://beechwoodcrafts.com. Since completing her Certificate of Achievement (CoA) with distinction, Cath has been collaborating with her mentor, Alison Daykin (https://spinningandweaving.weebly.com) to write the book that she wished had been available whilst studying for the CoA.*

Fleece samples after testing
Photo: Cath Snape