



## Notes on Sheep Shearing and Maintaining the Quality of Fleeces

### The key point: Garbage in means garbage out!

It is **ESSENTIAL** to ensure that the belly and crutch parts of the fleece are separated properly and stored separately at shearing. It is much harder to do this adequately by hand afterwards.

Wool is a high performance, sustainable fibre, which can fetch good prices in its final form – but the transport, processing, design, marketing, etc. are all expensive and take time – a really good handspinner will take an hour to spin 100 yards of yarn, which still has to be plied. Working by hand, from raw fleece to a hand-spun, hand-knitted pullover (without dyeing) will take an efficient and competent person around 100 hours. Machines are obviously quicker but need power, premises, employees and bureaucracy. None of this can begin without good fibre to start with and using these notes should help you to get the best value from your fleeces.

It is not essential to separate each animal's fleece into separate storage bags except for selective breeding and fleece analysis purposes. You could put all your white together, for instance, BUT if one fleece has coarse kempy hairs and another does not you are effectively contaminating them by storing them together. **IF IN DOUBT KEEP THEM SEPARATE.**

**Please read the notes below to help you select the best fibre and most appropriate end use.**

### About Fleece

1. For any breed, normally the best wool is **lamb's wool** (but most lambs will not be shorn in their first year unless you are prepared to have the shearer back in September or October). If lambs are shorn in the autumn, the fleece may be too short – it needs to be at least 2" long for processing.
2. Next come **shearlings/hoggets**, then young or barren ewes, then the rest, but quite old animals may have very good fleeces as much of the fleece quality is genetic.
3. **Wethers**, if they started with good wool, will maintain this quality for the whole of their lives, though the quantity will probably reduce once they reach over around 10-12 years.
4. **Longwool sheep** are best shorn twice a year if possible, and any fleece that is fine also risks matting and felting on the animal, which makes it impossible to process. Two shearings will result in a higher total weight of fleece each year and, with suitable care and shelter against rain in the winter, can actually produce better quality wool and higher welfare for the animal. This approach will also reduce the amount of caked mud on the ends of the fleece, which is hard to scour effectively.



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5. **Late autumn or winter shearing** of longwool sheep and also those with shorter wool – possibly before housing or lambing – is becoming more frequent and the quality of the fleeces is likely to be higher in ewes than the summer shearing as they will not have just had lambs and finished lactating. A sheep will put on an inch of fleece in the first month after shearing and hardier breeds can be shorn in December, fed a bit extra (likely if in lamb anyway), given access to shelter in poor weather and will be well covered again before the real cold in January and February.
6. **Wool from different breeds of sheep** varies widely from very fine to very coarse, and also from very crimp to quite smooth waves/ringlets. Some breeds have significant variation across each animal and generally wool nearer the head will be finer than that nearer the tail and particularly on the back legs.
7. One of the key attributes is **lustre**, which signifies the smoothness of the fibres, and thus, subject to diameter and crimp, also the smoothness and handle of a yarn made from it.
8. Wool has more crimp, elasticity and memory than alpaca or mohair and thus can usefully be blended with these fibres to improve their performance as yarn, or have them added to achieve smoother handle and add colour in a yarn.
9. The finest wools may also be shorter, which can cause pilling or shedding in some yarns while very smooth lustrous wools may also shed more easily, especially in a worsted spun format.
10. **Defects** in fleeces are as follows:
  - Although genetics provide the basic quality, which varies significantly for each breed, fleece quality also reflects the **health** of the animal. Thus stress like lambing, lactating, worms, foot-rot, etc. will also affect the wool quality – the worst cases can include the sheep simply shedding the whole fleece, but more normally there can be staple breaks, tender wool that just breaks if pulled, or general lower weight, lower crimp and lower quality.
  - **Contamination** with mud, faeces, dags, staining, maggots, moths, vegetation and seeds will in the worst cases prevent processing and generally reduces quality and yield.
  - Sometimes a fleece may be stained by yellowing or **yolk**, caused by sweat affecting the lanolin. This will usually scour out but fleeces to be stored for any length of time should be washed to reduce or remove it.
  - Sometimes there are fine skin flakes, or flakes of grease, which will scour out but should indicate taking a good look at the animal for skin irritants, whether infections or pests.
  - Very **matted or felted fleeces** are rubbish and should be composted or used to mulch trees.
  - It is vital not to include fleece which has received **pesticide** treatment – fleece from animals treated for flystrike or with other external poisons before shearing (unusual but occasionally done if very hot) should be excluded from the wool sacks. The normal rule is that fleece is not acceptable unless there is a minimum of three months between the date of treatment and the date of shearing. Thus using a dip or pour-on a couple of weeks after summer shearing will mean the ewes' fleeces will be fine for a winter shearing, if done, but any lambs' fleeces must be shorn off allowing for these dates.





- **Avoid graffiti “art”:** crayon from raddles will wash out in processing but most of the other markers, and particularly those associated with pesticides, will not. Spraying a large number on the flank ruins 50% of the best fibre on the animal: consider marking the heads or the haunches instead.

## At Shearing

1. These notes are aimed at working within the normal constraints of shearing a medium or large flock. Please remember to observe bio-security.
2. Unless and until you have plenty of experience, do not be tempted to shear your own flock alone: a good shearer will ensure the best welfare and the least poor quality with second cuts, etc. If you plan to shear yourself, go on a course provided by the British Wool Marketing Board (BWMB) before you attempt it, and unless you are doing just one at a time or a few, allow plenty of time and get plenty of helpers!
3. Make sure you provide enough support and facilities for shearing, whether you do it yourself or have shearers in.
4. **Give your shearer clear instructions:** if you do not mind mixing fleece qualities and colours, then you can say so! However, if you want the fleeces to be useful, tell the shearer to be careful to leave out ALL belly and crutch wool, very coarse contaminated and matted fleece. It is better to have less, good quality fleece and a lot of poor quality.
5. Ask the shearer’s opinion about fleece quality – they see more animals than you do!
6. At shearing, ensure that the minimum of straw, hay, stubble or vegetation is present, either on the animals or in the shearing area.
7. **Sort the flock as it goes into shearing** – keep all rams, ewes, shearlings, etc. and all colours separated and this will make life easier. Work from white to black.
8. **Sweep the shearing board between shearing each animal.**
9. **Keep 4 or 5 wooolsacks on the go:** one for rubbish, one for coarse wool, one for really good fleeces and one or two for average fleeces. Rams will normally be below average, as will older ewes, so the ideal is to have 2 average bags, one for better and one for less good. Always keep coloured wools separate from white, which will require additional sacks. If there are one or two really special fleeces (which is usual), keep them aside individually, to sell to hand-spinners.
10. Do not include contaminated, belly or crutch wool with the fleeces – either throw it away, compost it or put in the rubbish fleece sack.
11. If possible, when there is coarse wool on the back end of the sheep, pull the fleece in two and put the coarse stuff in the coarse sack and the rest in the appropriate sack.
12. BWMB does not sort fleece, only grades it on the average for the whole fleece or the whole sack. Other buyers may sort each fleece to get the best quality. One ram fleece amongst shearlings could risk ruining a batch of yarn or the price you get for your clip. So it is well worth doing this initial grading when shearing.





13. Shake out fleeces to reduce the amount of second cuts (which are useless as too short) – shearers tend to think they are making a good-looking sheep, and will go over longer bits again, but this actually reduces fleece quality: a sheep with an uneven hairdo is unlikely to complain but your fleece customer will!
14. Once filled, remember to label the sacks with the different qualities: hand spinners, The Natural Fibre Company and BWMB will pay more for better quality.
15. Wool should be stored in paper or fabric sacks which are breathable. It must not be stored in plastic bags, as any dirt or damp combined with sweat and the grease content of 5-25% is sufficient to start sweating, mildew and bio-degradation. If you are storing wool for any length of time, keep it in light (to deter moths), dry, cool conditions and inspect regularly. Avoid direct sunlight which will bleach any fibre. Moths are the worst problem usually and if you get them it is probably best to destroy all the fleece likely to be at risk and start again. Washing fleeces significantly reduces their attractiveness to moths, so this is a good idea and once clean and dry you can also safely store in air-tight plastic bags to prevent moth infestation.
16. Clean, sorted fleeces can be stored in good conditions for up to 3-4 years if necessary.
17. Although BWMB likes fleeces rolled (to take up less space), other local buyers may prefer fleeces which have NOT been rolled and any hand spinner who understands quality will wish to unroll and see the whole fleece.
18. **Remember: do not include** dags, brambles, branches, stones, bricks or the children as they are no use for making yarns and simply reduce the value of your clip. Baler twine bits should be avoided at all costs as they are almost impossible to remove and totally ruin the value of your fleece. You can use clean new baler twine to sew up bags, but this is risky too as they may be cut open in several places, which risks contamination with bits. Cable ties are cheap and simple and no worse for the environment than baler twine!
19. Keep notes of the tag numbers of sheep with particularly good or particularly bad fleeces and include this information when selecting for future breeding and flock management.

## After shearing: skirting, grading and sorting a fleece

### *Start with SKIRTING to reduce the work, then move on to grading and sorting*

1. It is much easier and quicker, and maintains quality better, to do this at the time of shearing rather than later, so well worth getting helpers to make this possible.
2. Shake fleece to remove dust, short bits, second cuts, and loose vegetation.
3. Lay out flat on a table. Shearers use slatted tables, and The Natural Fibre Company uses one with fine netting – a worthwhile investment if you plan to do a lot of this! If not, a plastic sheet over the table will enable the fleece to be moved around easily and should be swept or shaken after each fleece. It is best to start with pale fleeces and move through to darker ones if you have a mixture, to reduce colour contamination.
4. Let the rejected bits just fall on the floor and collect them afterwards for use as mulch in the garden.



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5. If it is a loose fleece in locks, you cannot shake it out and a finely slatted or netted table (see 2. above) makes things easier. However, you should be able just to pick up the bits you want and sweep up the rest.
6. Pull off all dags, and any larger pieces of vegetation and straw, etc.
7. Pull off any felted, tangled or cotted areas (if you can pull apart the fibres, a machine will only chop them, which will reduce the quality of yarn)
8. Pull off any very short, coarse or dirty fleece – this is less important when making felt.
9. Pull off any areas contaminated with paint, dye or other colourants – again this is less important when making felt, depending on what effect you require. Raddle will wash out but many of the dyes used to colour pesticides or for marking will not fully wash away.
10. You will probably now have reduced the total fleece by around 10%, and have removed most of the fibre around the edges.

## **Grading and sorting**

1. At this stage you can assess the fleece to decide whether it is all of one type or whether there is significant variation, and you can separate finer and coarser areas or sort by colour. Usually, for example with Jacob, it is fairly easy to sort the main dark and light and the merged boundary areas form the third colour – it is not practical to sort by individual hairs!
2. Consider whether the fleece is kempy or not and whether the kemp hairs are present everywhere or just on the chest, spin and back legs. Kemp reduces the quality, handle and softness of a fleece but it is also characteristic of some breeds and a certain amount may make the yarn more distinctive to the breed.
3. Grading is relatively straightforward at the simple level: you should be able to see what is coarser or finer and then check by feeling it – rub a few hairs from visibly different parts of the fleece between your fingers and you will begin to appreciate the variations. You can also lay them on a dark or pale surface, depending on the fleece colour, and spread them out to compare. To get a truly scientific result you need to go on a course or send the fibre away for analysis.
4. As you do more, you will begin to appreciate the variety in colour, texture, crimp, lustre, staple length, lock formation, etc. of the many different sheep in each flock, even of the same breed! However, you should also be pragmatic and decisive and not waste time choosing between individual shades of grey, or locks or hairs – that way lies madness!
5. At this stage it is possible to decide which fleeces will work to build a batch for processing or whether to keep them all separate to process or sell individually, and they can be stored accordingly. It helps to write notes of what is in each bag on a luggage label as it's easy to forget by the time you get around to acting on your plan ...

## **Prices**

1. If you think fleece is a nuisance and only a welfare issue, it will always be a problem for you, as you will get less quality by taking less care. At the least, you should aim for the value of the fleece to cover the shearing costs, which means you will have one welfare activity which costs nothing.



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2. It generally costs around £1 per animal to shear sheep (more for smaller flocks, goats and alpacas) and the weight of fleece varies from 1-7kg, depending on the breed. A long matted heavy fleece may weigh plenty but it will not get as good a price as a clean, shorter one.
3. BWMB prices set the norms, so you should never get less than this. BWMB pays in two payments, so if you can get all the money up front, and are working for the longer term you can afford to accept the same price from another buyer (especially if they collect).
4. BWMB accepts that they are not the best market for all fleece, allowing a range of exemptions, but does like to keep statistics. Therefore it is worth informing them if you keep fleece aside to sell elsewhere – they support local value adding initiatives and everyone would rather the wool was used than wasted.
5. A really good fleece can be sold for up to £5-10 per kilogram, depending on the weight, for hand-spinning and rare breeds can fetch even more. This will pay for 4-6 other animals to be shorn.
6. Shearers will know about local buyers, spinners, etc. and a great deal of other information besides – it's worth asking and listening.
7. BWMB prices range between 16p and 413p per kilogram at present. Poor quality fleece fetches less than 40p and the average for good clean fleeces is around £1.10 per kilogram. By sorting the fleeces at shearing, you may be able to get at least one sack at a higher price break, which is quite helpful in recovering costs.
8. Coloured fleeces are generally not wanted by BWMB (although they have prices for Shetland, Black Welsh, black Blue-faced Leicester, and have shown more interest in Jacob recently). The rest of the market is much more interested, particularly if the fleece quality is good – so it is worth asking The Natural Fibre Company, other processors, or local hand spinners before sending to BWMB.
9. Even mulch has a value! Dirty wool contains good nutrition for plants and composts quite slowly, so arguably is better than bark as a mulch. It also works well at the bottom of runner bean trenches or in hanging baskets to hold the water.
10. Processing will add value, once you take the plunge and plan your marketing campaign as well – The Natural Fibre Company can provide help and advice on this and the best quality wool yarns will sell at around £6-8 per 50g ball or skein in the UK, which is £120-160 per kilogram, including VAT, compared to a processing cost of around £60, depending on the finish and style of yarn. Small batches will cost considerably more than larger batches.

**Issued September 2016**

