



Wool Yarns: the basics – woollen spun yarns, worsted spun yarns and organic yarns

Why Wool?

Originally there was little else but pure wool, for all felting, weaving and knitting. But cotton and artificial fibres emerged as serious competition, with special fibres like silk, linen and cashmere providing the luxury end of the spectrum.

In recent years wool has begun to regain its position due to a growing recognition of the wonderful qualities of this fibre: it insulates against hot and cold, absorbs moisture, is hypoallergenic, fire retardant, elastic and has memory. It is also, unlike cotton, able to insulate against ultra violet light.

For more information on the benefits of wool, see the Campaign for Wool website (<http://www.campaignforwool.org/>).

There are over 60 recognised sheep breeds in the UK, which boasts the largest number in the world, and many breeds elsewhere are based on the genetics of these breeds. We have created a map of the UK to show where the main sheep breeds originated. Like this document, it can be downloaded from the advice and information page.

This is one of the greatest joys of wool: not only need there be no waste (even the nasty edges make great mulch and compost), but each breed produces an utterly individual yarn for which there is an ideal use, whether it be carpets or baby clothes.

You can find out more about individual sheep breeds and the yarns their fleece produce in Sue's book ('Pure Wool') or by going to our Meet the Animals pages.



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Woollen and Worsted spun yarns

There are two main ways of spinning yarns: woollen and worsted. The yarns can be considerably different, although there is less difference with lustre wools, mohair and alpaca than there are with some sheep breeds.

You can see more about processing wool from the original raw fibre to finished yarns by looking at the information on The Natural Fibre Company website.

Woollen spun yarns are made with the fibres smoothed out (carded), but left lying higgledy-piggledy in all directions. This means:

- they trap air, and are lofty, bulky and fluffy compared to worsted spun yarns
- they are also weaker and will break more easily under tension, so should only be used as weft yarns if you weave with them
- they are stretchy, may be less even over a given length, and make warm knitted fabrics
- when woven they can be used in tweeds, scarves and blankets
- the lower amount of processing leaves the wool with its own memory, so it will not crease easily (even if you want it too) and will hang out without pressing after washing
- these yarns will gradually soften and gently melt and felt together over time, filling in the gaps in a fabric and gently adjusting to the wearer.

Woollen spun yarns can be made with fibre as short as an average of two inches (5 cm) and we would expect to achieve a yield of in excess of 60% finished yarn from the greasy original fleeces.

Worsted spun yarns are made with the fibres smoothed out (carded), then aligned (gilled, drawn or pin drafted) and combed, which removes all the shorter and coarser bits and any remaining hay seeds.

The result, if combed, is a full worsted yarn; if only gilled and not combed, it becomes semi-worsted.

In both cases, these are:

- smoother, more even, more highly twisted stronger yarns, with the air removed, so more dense
- more suitable to withstand the tension of a loom to make finer woven cloth or, when knitted, to make a more drapery fabric
- if the fibres used have lustre, the worsted yarn will be shiny compared to a woollen yarn
- worsted spun yarns feel softer because they are made to be smoother, so for the same breed a worsted spun yarn will feel less 'scratchy' than a woollen spun yarn, but they will be less warm to wear.
- although the process makes worsted yarns harder wearing over time, they will not soften much more with use and can become a bit shiny and thin with longer wear
- worsted yarns also lose more of the original memory of the fibre, so they can be made to crease by steaming or pressing

To make a worsted spun yarn, because the process requires more refining, the fleece fibres need to be around four inches (10cm) on average and the yield from greasy fleeces will only be around 50% plus.



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Organic yarns

What is organic? This is a form of husbandry and agricultural product processing which starts from the very beginning of growing the raw material and follows it to the end product in a rigorously documented procedure to audit and prove that the minimum damage has been done to the environment while making it.

It does not mean that no damage has been done: we all do damage all the time, and this system is aiming to reduce it as far as practical to enable products still to be produced, but leave something of our earth intact for future generations.

Organic yarns are therefore made from fleece produced from organically husbanded sheep, goats or alpacas on organically accredited farms. Organic farming requires both high welfare and low impact management, which is challenging, but aims to produce strong immune systems and healthy animals producing good quality fibre.

The fleeces are processed to organic (Global Organic Textile Standard, GOTS) requirements by The Natural Fibre Company and then stored separately from non organic yarns. When managing to organic standards, all stages of the process are considered, including transport, packaging, staff management and care for the local community and environment.

Please note that The Natural Fibre Company is accredited to GOTS via The Soil Association with an annual inspection, unannounced inspections and detailed procedures and has licence number X9061. For more information, visit The Soil Association website: <http://www.soilassociation.org/>.

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