

"So what's the deal with this worsted vs. woolen thing?"
by THL Siobhan nic Dhuinnshleibhe

A lot of folks have asked me this through the years. For quite a while my answer was "Good question." After giving this answer an embarrassing number of times, sense finally prevailed and I decided to find out so I could reply "Ok, here's the deal" instead. Well, I finally got an answer. Rather than trying to explain things several times to different folks (and depending on how much sleep I haven't had, confusing people even more than usual!) I thought I'd write a brief explanation here so it can be referenced whenever you may need. But now that I have an answer for you, uh...well...instead of "Ok, here's the deal," let's try "Ok. Put on your thinking cap and bear with me for a few minutes."

"Woolen" and "Worsted" not only pertain to weight/size of yarn, but to how a yarn is spun, and how fiber is prepared before spinning. And just to make things more confusing, very few spinners spin fibers that are considered truly worsted or truly woolen. Told you it was going to take a few minutes - got that thinking cap on?

In a Nutshell:

"Woolen", basically means that the individual fibers of varying lengths are going in many different directions, overlapping each other at a variety of angles and leaving air spaces between the individual fibers. "Worsted" means that the individual fibers are roughly the same length and are running parallel to each other and only overlapping at the tips, leaving little to no space between the individual fibers.

To enhance the mental picture, let's try these over-simplified, poorly-drawn illustrations to see if this helps.

(picture of parallel fibers)
This is worsted

(pic of woolen fibers)
This is woolen

Now that we've got a slightly better grasp on these concepts, let's apply these concepts to fiber preparation and spinning of the fiber.

Fiber preparation:

When fibers are carded, be it on handcards, a drum carder or purchased from a vendor as roving, the fibers are brushed back and forth in order to remove any second cuts or vegetable matter and to break up the separate locks of wool. Shorter fibers and longer fibers are blended together. (For example, a fleece where the undercoat is blended with guard hairs) When drawn out into roving or rolled off a card into a rolag, the individual fibers themselves overlap at a variety of angles and all along the length of the individual fibers, leaving air spaces throughout the roving/rolag and having a very soft, lofty appearance. When these fibers are spun together, they will trap air spaces between the

jumbled-up fibers and make a yarn that is very warm with a soft feel. With frequent wear, these fibers or yarns will be prone to felting and/or pilling because they do not have the tight smooth finish of worsted fibers, but they will be infinitely warmer than worsted fibers because of the air spaces and softer finish.

When fiber is combed with wool combs or the ends of locks are flicked with a flicker, the fibers are arranged parallel to each other and only overlap each other at the tips instead of the widely varying angles that carded fibers do. This was traditionally done with the longer wools, so that any shorter fibers are removed, (think separating and undercoat or second cuts from longer fibers) leaving all the remaining fibers roughly the same length. As the fibers are parallel, there is very little air space between the fibers so that when the fibers are spun as is or pulled out into top, the fiber will have a smooth, often dense appearance. When these fibers are spun together there will be little to no air spaces between these fibers and make a yarn that is very strong and smooth with a silky or harder feel than carded yarns. These yarns are not prone to felting and pilling with frequent wear, but they will not feel as soft against the skin nor be as warm as carded yarns.

Fiber Spinning:

When observing spinners, you will notice that some will take a length of fiber and fold it over their fingers, forming a V-shape so that the fibers catch the twist in the center and are thus spun into yarn. This is called "spinning from the fold." Folding the fibers thus helps them to overlap each other more, trapping air in the yarn and making it soft - making it a woolen-spun yarn. You can also spin fibers by drafting out a portion of fiber and then adding twist as the fiber is pulled out further. This is called an English long draw, and was traditionally done with wools where the fibers were no longer than the shorter edges of a handcard.

Others will spin from the end of the length of the fibers only so that the fibers stay close together and have little chance to overlap. Preventing these fibers from overlapping as they are spun will make the yarn denser and smoother. In addition they are spun on a short point of twist draw to make a denser thread - making it a worsted-spun yarn.

Now here's where confusion tends to rear it's ugly head - if you spin a woolen fiber worsted, what is it? If you spin a worsted fiber woolen, what is it? How do the fiber preparation and fiber spinning impact the finished yarn? There are two ways of answering such questions, which we'll refer to as the "Yarn Police" answer and the "Practical" answer. One is very black and white, cut and dried, that's it, period. The other deals in shades of gray, is much more laid back, and easier for most spinners to live with.

To the "Yarn Police," the only way to get a worsted yarn is to spin fiber that has been prepared worsted with the worsted spinning technique - meaning that fibers must either be combed or flicked to remove any shorter hairs and then spun from the tips only. Every fiber must be parallel in every respect, and not a hair out of place (pardon the pun). Everything else, no matter how prepared or spun, is woolen. Either in preparation or

spinning, chaotic disorder has interrupted the perfect parallel symmetry of the fibers, thus allowing airspaces and non-parallel overlap to occur.

To the more practical-minded, there are degrees of worsted-ness and woolen-ness. A worsted fiber spun worsted is a "true-worsted" yarn. A worsted fiber spun woolen is a "semi-?????" yarn. A woolen fiber spun woolen is a "true-woolen" yarn, and woolen fiber spun worsted is a "semi-worsted" yarn. Confused? Ok, let's put it this way:

- If you spin combed or flicked fibers where the shorter fibers have been removed with a long worsted with a short draw, you'll get a true-worsted yarn.
- If you spin top or pin-carded roving worsted with either a long or a short draw (regardless of if the shorter fibers were removed or not), you get a semi-worsted yarn.
- If you spin combed or flicked fibers (regardless of if the shorter fibers were removed or not) woolen, you get a semi-woolen yarn.
- If you spin roving or rolags woolen, you get a woolen yarn.
- If you spin roving or rolags worsted, you get a semi-worsted yarn.

To sum up :

True worsted yarn is spun only from combed or flicked fibers where the short fibers have been removed from the long fibers, and they are all parallel to each other and you spin them from one end. Spinning worsted method on other fiber preparations are semi worsted, and combed top that is spun woolen method is considered semi-woolen.

Spin roving and rolags however you want - you'll get a soft, warm yarn. You can spin top or pin-carded roving woolen for a softer, warmer yarn, or spin it worsted for a smoother, harder-wearing yarn. If you're spinning combed or flicked fibers, spin them woolen for a warmer softer yarn or spin them worsted for smooth, hard-wearing yarns - but don't expect them to be as soft against the skin as any of your other options.

If this is still as clear as mud, try an experiment: Take a fiber and spin some worsted and some woolen, and see/feel the difference. If you're preparing a fiber from raw form, process a little bit woolen and a little worsted. Then split each in half, so that you're spinning half of the woolen preparation woolen and half worsted, and half of the worsted spun woolen and half spun worsted. Notice the differences in the 4 yarns you get. If you're feeling particularly adventurous, knit/crochet/weave up a sample of each and wash them vigorously a few times and see how the fiber feels after some wear - you may change your mind on how you want to process that particular fiber.

It is combining of the spinning method with the fiber preparation that produces the rare true woolen or true worsted thread - any fibers can be combed to produce a "top" that can be spun either worsted or semi-worsted. Most spinners fall somewhere in-between in the semi-worsted to semi-woolen categories, depending on how their fiber is prepared and how they spin it. So there, as far as I'm capable of explaining it in words, is "the deal" on the woolen vs. worsted thing - hope this helps!