

## WOOL HISTORY & PRODUCTION

Wool has been an important fiber for humans since the beginning of time. Between the 15th and 18th centuries, sheep and wool was such an important economic factor that laws were passed to prevent the export of sheep and wool on penalty of death (whoa!). Sheep were first brought to America on the second voyage of Columbus in 1493. By the 1940s, America was the fifth biggest wool producing country in the world.

Today, the USA is not even among the top 10 wool producing countries according to the [American Sheep Industry](#). Australia, China, and New Zealand produce the most wool. The top wool producing states include: Texas, California, Wyoming, Colorado and Utah ([NASS, 2017](#)). The weight of a fleece is often dependent on the state it is from. For example, fleeces from sheep raised in NC or Iowa weighs about 5 pounds. In contrast, fleeces from Nevada weigh on average 9.8 pounds (ASI, 2017).

As time has gone on, humans have refined wool through selective breeding. Today, there are many types of wool with various purposes. What has not changed is the properties of wool and what makes it so special.

## WOOL PROPERTIES

Although wool production has decreased due to the rise in synthetic fibers, no man-made fiber has been able to encompass all of wool's unique properties. Here are just a few that make me love wool!

- **Wool is flame retardant.** A cool science experiment is to take some 100% wool fabric and set it on fire. It will quickly extinguish itself. It does this because wool contains a naturally high nitrogen and water content. It is one reason why wool is popular to use in military and fireman uniforms as well as carpets and upholstery.
- **Wool can be worn during any time of the year.** I know, you think of it as that warm wool coat for winter time, but if there is anything I've learned from working with wool, it's that it has some serious variety. Wool can be thin or thick. I've seen it made into a ballgown, swimsuit, dress, and structured suit. Not only can the fabric be made into various weights, but the properties of wool can keep you both warm and cool. Because it is an absorbent fiber, it keeps you dry and warm when the air is cool and damp. It also keeps you cool by collecting perspiration, allowing your natural cooling system to work its best.
- **Wool is a natural deodorant.** Because wool is a natural antimicrobial, it is much more resistant to retaining odor. I don't know about you, but I have a tendency to sweat easily. If that's going to happen, my deodorant needs all the help it can get!
- **Wool is comparatively stronger than steel.** This fiber will last you for years. It won't tear as easily as other fibers. If you are concerned with the expense of wool, know that it is well worth the investment.

- **Wool is stain resistant**—wool fiber has a protective layer that helps it not to absorb stains. Not only that, but it is also anti-static. Living somewhere that has cold winters (hello Nebraska), static has a whole new meaning. The static is real, and I can totally appreciate a fiber that is anti-static.

Are you a fan yet? I know I'm a life-long fan to the point where I'm forever checking labels to see what it is made of. Often, my purchasing decision is based on if it is indeed wool.

## WOOL TERMS

There are some basic wool terms you should know, especially if you are dealing with wool right off the sheep.

- **Staple Length**—this is the length of the lock of wool. You can learn more about when staple length matters down below.
- **Crimp**—these are the waves in the wool. Sometimes they look like you've taken a crimping iron to them and others look more like curls. The tighter the crimp (more waves) the finer and softer the wool will be. The looser the crimp is coarser but has a lot of strength to it.
- **Fleece vs Pelt**— to be completely clear, shearing wool off a sheep does not harm the sheep. It is a haircut. That being said, when you shear a sheep, you get the fleece. A pelt, however, is when the sheep is harvested, skinned, and tanned. There's no real way to sugar coat that one, but it is important to distinguish between fleece and pelt.
- **Raw/grease Wool**—this is wool straight off the sheep. It hasn't been washed and is still filled with the grease, called lanolin, from the sheep.
- **Skirted**—After the wool is sheared off of the sheep, it is skirted. This is the process of sorting out the bad pieces of wool that are of lower quality or covered in manure.



## TYPES OF WOOL

There are many different types and colors of sheep. Various breeds are known for certain types of wool. However, you can narrow wool down into 3 main types—longwool, medium/fine, and down wool. Each has their special purpose.

- **Longwool**—known by its long staple length, it is often used for upholstery, carpet, and outerwear because it is coarse and strong. Longwool breeds include Border Leicesters, Coopworth, and Cotswold.
- **Medium/fine**—this is the wool you want to wear next to your skin. It is soft and fine. A few breed examples are Merino, Cormo, and Corriedale.
- **Down**—breeds like the Southdown offer a down wool that has more elasticity than other types of wool. It creates a great stretch. Think hosiery or socks.

You can often mix different types of wool together when spinning to bring the best of different worlds together. Wool can also come in a variety of colors. Naturally, wool can be silver, black, white, red, brown and shades in between. Wool can also be dyed to any shade you can imagine. It takes dye really well.

## Wool vocabulary

Fleece – the entire wool coat shorn off the sheep

Staple length – length of the wool 3, 5 or 10 inches

Fineness – fiber diameter: fine = 20 u, course = 50u

Crimp – waves in the fiber (more per inch = finer)

Scouring – washing with hot water and soap to remove...

Grease – lanolin and dirt – up to 40% of raw wool wt.

Fiber preparation for spinning

1a. Picking – fluffs up and opens the staple, remove VM

1b. Carding – for shorter staple lengths – woolen spinning

Hand carders makes rolag or puni

Drum carder makes batt or roving

2a. Flicking – opens up the locks with brush

2b. Combing – for longer staple length – worsted spinning

Diz – round “button” with holes used to pull fibers thru

Spinning – adding twist to a small amount of thinned out fiber (drafting)

Short draw w/ combed top - worsted yarn (denser, less air)

Long draw w/ carded roving - woolen yarn (bulkier, more air)

Drop spindle

Kick spindle

Mayan spindle

Great / walking wheel (spindle)

Treadle wheel with flyer and bobbin

Electric spinning wheel

## Glossary

THE FOLLOWING ARE TERMS USED IN DESCRIBING WOOL AND ITS PROPERTIES.

We Hope They Are Helpful In Understanding The Qualities And Characteristics Of Our Product Line.

### Raw Wool Terms

- **FLEECE:** Describes wool straight off of the sheep's back. It has been sheared and sorted but no further processing has occurred.
- **BREED:** Commercially raised sheep are described as purebred or crossbred. We describe our wool by pure breed since each breed has staple, yarn count, yield, handle and color characteristics that combine in a unique way to describe the sheep's breed.
- **COLOR:** Used to describe the appearance of wool. The technical descriptions include white, demi-luster, lustrous, super-luster, dull and black.
- **HANDLE:** A subjective description of the "feel" of the wool. Terms used are soft, crisp and harsh. Soft is generally reserved for only the finest wool with very high spinning count.
- **YIELD:** Describes the amount of wool fiber in the original fleece. Greasy fleece contains items including lanolin, dirt and vegetable matter. While processing wool, there is the scouring yield, the top yield and even the yarn yield as in each process there is some loss in weight and volume, with the most loss in the scouring stage.
- **STAPLE:** The configuration in which wool grows on the sheep. Fleece comes in staples.
- **STAPLE LENGTH:** Describes the average fiber length in fleece or processed wool.
- **SPINNING COUNT:** A description of the number of hanks of yarn that can be spun from a pound of wool. The more hanks that can be spun, the finer the wool. Spinning count is also known as yarn count.
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- **MICRON:** A unit of measure (one millionth of a meter) that describes the average fiber diameter of a staple or lot of wool. During the late 1970s it evolved to be the dominant term used commercially, replacing the yarn or spinning count as a description of wool's fineness. Micron is determined by objective measurement when wool lots are tested for sale or upon processing. Most wool ranges in the 18-40 micron range. The human eye can discern only 3 microns.
  - The 18-24 micron range describes what is commercially recognized as Merino wool.
  - The 25-32 micron range describes medium wool used in blankets and knitwear apparel as represented by the "Shetland" description. The sheep breed most identified with 25-32 micron wool would be Corriedale; however, most crossbred-style sheep breeds produce wool in this micron range.

- 33-40 micron wool is most often used in the carpet industry. New Zealand Romney dominates this market commercially, but almost any country's meat-style sheep breed produces wool in this micron range. The coarser end of this area is generally represented by what is recognized as more primitive sheep breeds or those that are grown primarily for meat.
- Wool micron is a selective breeding trait, and leading Australian producers are making wool clips as fine as 11.5 micron. Semi-processed luxury fibers such as cashmere and camel hair range in the 14-20 micron range.

#### Processing Terms

- **SCOURED:** Wool that has been washed commercially so that grease and vegetable matter are removed.
- **CARDED:** Wool is put through a carding machine composed of drums covered with metal pins. The pins grab the wool and place the wool fibers in a parallel configuration. Commercial carding machines are very large. Smaller carding machines are available for smaller-scale use. Hand cards, which are flat, paddle-shaped instruments dotted with metal pins, are popular with handspinners.
- **ROVING:** A form into which carded wool is processed. Wool is drawn through a tube that rolls the wool together and pulls it out. This helps the fibers become parallel to one another. Roving is also known as sliver.
- **SLIVER:** A form into which carded wool is processed. Wool is drawn through a tube that rolls the wool together and pulls it out. This helps the fibers become parallel to one another. Sliver is also known as roving.
- **COMBED:** A process whereby shorter fibers are pulled out and remaining fibers are "combed" into an even position. The staple length of top is usually very even.
- **TOP :** Wool that has been scoured, carded and combed.