

Fiber Sorting - It's More Than Just the Microns!

By Robyn Kuhl and Carrie Hull

While planning for a family hiking trip into a Northern Idaho wilderness area that we had not yet visited, I discovered how sorting data helps me to achieve my alpaca farm goals, make better breeding decisions, and sell more animals! My husband and sons understood instantly what I was talking about when I used their terminology to explain my discovery.

A compass, a basic necessity when hiking in unknown areas, gives direction. In other words, it tells me what direction I am facing. A histogram is the alpaca fiber producer's compass. When samples and results for a histogram are correctly taken and used, we get a general idea of what direction our fiber is heading.

Having hiked using only my compass, I have come to truly appreciate and rely on the additional information provided by a topographic map. A topographic map has saved my butt on more than one occasion by giving me a much more accurate scope and picture of the world than I get from the compass alone.

The individual record created when your fleece is sorted by a certified sorter is like a topographic map of each alpaca's fiber, allowing you to see an expanded and accurate picture of the entire fleece. Every handful of fleece is evaluated to capture the variability of fiber across the alpaca, not just a micron average of samples pulled from a few areas of the fleece.

This "topographic" knowledge gives you, the fiber producer, the ability to assess the strengths and weaknesses of your fleeces, aiding you in making good breeding and herd management decisions. This data also assists you in selling and buying alpacas because it represents a much more accurate picture of the fiber itself, allowing buyers to select animals that meet their individual criteria and needs.

ADVANCED SORTING RULES = HIGHER QUALITY

The international grading scale used by all sorting systems consists of a 3-micron grouping which comprises a grade. The grade is determined by averaging the micron of the fibers within the sample or fleece. The Certified Sorted[®] system takes this a step further, recognizing that the relationship of the secondary and primary fibers is just as important, and ultimately has a very significant effect on the end product. Uniformity (of length, micron and character between the primary and secondary fibers) is the most important attribute in textile applications, far more important than fineness or average micron.

While the diameter of the secondary and primary fibers forms the basis of our sorting evaluation and is the beginning of determining the grade, sound textile principles are then applied by the highly trained sorter, taking into account the uniformity of the fiber and the ultimate end use.

Other factors, such as the amount of vegetable matter or strength of the fleece, are also important in determining whether or not the fiber can actually be used in textile applications.

LEARNING TO ASSESS UNIFORMITY

It is fairly easy to tell whether fiber is uniform. Uniformity of both length and micron needs to be considered. Look at a 1-inch fleece sample and see if any of the fibers are longer than the rest (typically these will be primary fibers). Now take that sample and pull it out to a single layer of fibers between your hands, viewing it under good lighting. Spread the fleece out far enough to ensure you are looking at individual fibers, both the primary and secondary fibers. Fibers can stick together, especially in a dense or greasy fleece. Spread the fibers to the left and to the right, watching how they move. Now look at the overall sample in your hand, and consider its uniformity, or lack thereof.

Next, look at the open fibers over a black background, then over a white one. Try using a fawn or brown background. Each time the background color changes you will see something different. In a fawn fleece, you may detect darker fibers that you hadn't been able to see before, while in a brown fleece you might see white fibers that you didn't see when you had the sample over the white background. These different colored fibers affect uniformity -- different colors often have different microns. How similar in diameter are the fibers in your sample?

It is not uncommon to see primary fibers that measure two or three grades higher than the secondaries (a difference of six or more microns), or primary fibers extending well past the secondaries in length. When fibers are so different in length and micron, they are not uniform and do not “play well together” in the textile arena. Shedding, pilling, decreased wearability or durability, thick and thin spots, as well as increased prickly factor occur in end products made with non-uniform fiber. Averaging the micron of the fibers together doesn't do away with these fatal side-effects. Creating uniformity through the act of standardized sorting increases the overall yield and consistency of the end product.

THE TRAGIC TRANSFORMATION FROM YARN TO YUCK

When we first bought alpacas, I learned how to knit. For my fourth project I bought skeins of yarn from breeders in all the many colors of alpaca. They were beautiful skeins -- soft, silky, and light weight. What more could I have asked for? I used the skeins to knit a throw.

When my youngest son was home, he always had at least two friends along. We're talking teenagers here—boy teenagers! There was always a fight to see who got to use this throw to sleep with, so it got a lot of use. It didn't take long for it to start to shed and pill badly, until it became the throw that was hidden away when we had adult company. Then sections of it literally just fell apart, creating the holes you see in the photo.



The difference
that sorting
makes

I had to retire the throw to a bag on a shelf. Then came the clean-up! I had to get the "sheddings" off the couch.

So here's the thing -- I started with beautiful but "unsorted" skeins of yarn. They knitted up well and felt really great for a while. However, the durability wasn't what it should be. If I was a typical knitting consumer, I wouldn't want to purchase alpaca yarn ever again. A disintegrating throw that I worked long and hard to create would have turned me off completely. One of the biggest advantages of sorted alpaca fiber is the increased durability.

Moral of the story: A beautiful skein of yarn is only as beautiful as it is durable. How well our yarn 'wears' is important.

FIBER SORTING = QUALITY CONTROL
FIBER SORTING TO EXACTING STANDARDS = PREDICTABLE RESULTS

It is now widely accepted that alpaca fiber must be sorted before entering the commercial supply chain in order to produce top-quality products. The question is: To what standard of excellence?

There are several methods of fiber sorting being used in the U.S. The international grades used by all methods of fiber sorting imply that there should be some basic similarity in sorted fiber of a particular grade. However, differences in how the sorter performs the act of sorting can dramatically alter the reliability of the grade, and, most importantly, the end product.

The best fiber sorters perform the act of fiber collecting, sorting and classing to advanced standards of excellence that are repeated exactly the same way each time, in order to produce predictable and superior results. Sorters need to be accurate, efficient, and standardized in the process of sorting, thus creating a dependable and predictable product - the key to our fiber success! Consistent and predictable results are achievable, even by 100 different fiber sorters working in all parts of the country. The way to achieve this is by holding sorters accountable to a standard of excellence.

Consistently producing end products of the highest possible quality is key to the longevity of the North American alpaca industry. It all begins with a standardized method of sorting. Standardized sorting makes the industry healthier, both by helping fiber producers understand what they need to do to improve their fleeces, and because the excellent products that result from well-sorted fiber provide an important income for breeders. Adding a second income stream from fiber takes the farm's income dependence off breed stock sales. Diversity adds strength.

THE DE-HAIRING DILEMMA

Much of the U.S. fiber, either in storage or currently being grown, has large discrepancies of micron between the primary and secondary fibers. In the past, this type of fiber might have been mechanically de-haired to produce acceptable end results. While breeding for uniformity of micron, length and character between the secondary and primary fibers is the ultimate answer to the de-hairing dilemma, in the meantime is there anything we do with this type of fiber?

Let's look at de-hairing versus sorting:

- De-hairing is exclusive, and creates a large loss, or waste, component. While it reduces some of the coarser or longer fibers, it does not eliminate them and can also weaken or break the fine fibers. The wastage often includes many of the finer fibers.
- Sorting is inclusive, with a goal of utilizing all fiber in appropriate products. Primary and secondary fiber relationships, as well as micron range, determine the grade and ultimately what product will best serve the fiber producer and consumer.
- De-hairing is very costly, approximately \$10 to \$20 per pound, depending on processor and the number of times the fiber must be sent through the machine. It dramatically reduces the amount of fiber you have left, increasing the cost to produce your end product.
- Sorting averages about \$2.14 per pound, depending on weight of the individual fleece. It increases the amount of fiber available for processing by appropriately

using of all fiber produced by the alpaca and reduces loss during processing. Based on a seven-pound harvest, alpaca de-hairing would cost \$105.00 per alpaca and sorting would cost \$15.00 per alpaca.



So why haven't you had your fiber sorted? If expense has been the reason, maybe you should think again. For \$15 per alpaca*, you get:

- Your fiber harvest divided into uniform grades/lengths, facilitating the opportunity to make the most profit from your fiber.
- If using NAAFP, a report showing total harvest as well as profit potential if products are sold at wholesale through the NAAFP.
- Suggestions for appropriate products for each grade.
- A "snap shot" of each alpaca's fiber in its entirety (topographical map) - not just a 2 or 4 inch square from mid-side.
- Increased information about each alpaca to use in marketing and management.
- A description of the strengths and weakness of each alpaca's fleece, to assist in breeding decisions.
- Information about the relationship of each alpaca's primary and secondary fibers - very important information for fiber use, as well as for breeding improvement.

By contrast, for \$105 per alpaca with de-hairing you get:

- Your fiber de-haired.

YOUR ALPACA FIBER – ASSET OR LIABILITY?

Fiber in your closet, barn, or lake house = Liability.

More than one year's worth of fiber sitting around = A lot more liability.

Throwing away neck, leg and belly = Liability with no hope of turning it into an asset.

For the continued success of the alpaca industry, both in producing the best end products and in creating the most income for producers, fiber must become an asset. It must become something more than a bag full of pretty fleece in your closet. The most basic step toward this end goal, next to the fiber production itself, is employing and utilizing a standardized sorting system.

Having your fiber sorted reduces your "fiber liability," presents your farm in its best light, and adds diversity and stability to your agricultural business operation. Sorting enables you to not just survive, but to enjoy that "alpaca lifestyle" journey that we are all embarked on!

*Figures and results based on the Certified Sorted® system fee for sorting at time of shearing.

Author's Biography

Robyn Kuhl and Carrie Hull raise alpacas in Idaho. Together they founded Coarse Broads, Inc., with a goal of promoting and developing a fiber-based industry creating products using all grades of alpaca, thereby maximizing North American fiber for alpaca producers, through educational seminars and fiber training. Certified Sorted® Systems, LLC is responsible for certified sorter training. Contact Robyn or Carrie at www.fibersorting.com.