

# Identifying Lock Types

## IN THE Suri Llama

by Andy Tillman

There is a Chinese proverb, which states; "Wisdom begins by calling things by their proper name." According to native Aymara and Quechua speakers whom Cheryl and I worked with in Bolivia in the 1990's, suri is an adjective or noun from the Aymara language meaning straight. It does not mean lock or luster. Our native informants told us that a hard rain which fell straight down was suri. The Pan pipes of the Andean flute were suri. And the long straight feathers of the South American Rhea were suri. The Pan pipes certainly suggest the straight locks of a suri alpaca, while the cool silky feel of Rhea feathers are probably similar to the handle of a suri alpaca fleece.

As the origin of the word suggests, there is more to suri character than a twisted lock. At the Suri Network forum in Las Vegas, Nevada, in February of this year, 59 out of 60 suri alpaca breeders concurred, "That luster was the single most important characteristic of suri alpacas. It is the primary reason suri fiber is purchased by the textile industry and should take precedence over the natural variation in lock types."

There are five or six common lock types which naturally occur in the suri alpaca, and most of these are also expressed in suri llama fleeces.



A *twisted lock (aka pencil lock)* is what most breeders associate with the suri alpaca and is also seen in suri llamas. This narrow twisted lock may be as little as 1/16 to 1/8 of an inch in diameter, or as wide as 1/4 to 1/2 inch. A twisted lock will not necessarily have luster, but the best fleeces have both lock and luster. Even in well bred suri alpacas with many generations of pure suri breeding behind them, you may have to make a trade-off between lock and luster.



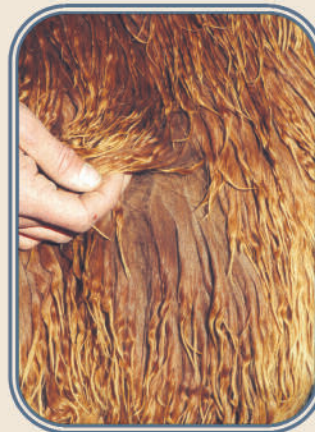
A *loosely twisted lock* would be fairly unusual in alpacas but is quite common in less developed llama fleeces like the one pictured. These are frequently wider than a narrow twisted lock with luster, and seldom have luster like a straight fleece, flat lock,

or narrow twisted lock. Even llamas that are not otherwise suri may have this loosely formed lock in their tail. In my experience, many of these fleeces can be quite coarse. They will usually have a warm rather than cool, slick handle.



A *flat lock* may be narrow or wide. A narrow flat lock may look like a pencil lock from a distance due to a similar width, however upon close examination you will see that it lacks any twist. Narrow flat locks in llamas will usually have good luster and may have an "under-over" wave superimposed on the lock. For some reason, in both llamas and alpacas, the narrow flat lock is also very fine.

An *under-over* wave may be superimposed over any other style of lock. This is most commonly seen on the neck like that on this black and white llama. It is frequently associated with a very narrow flat lock. This should not be confused with either crimp, crinkle or a pearly lock.



A *fan-shaped lock* is wider on the top than the bottom of the lock. It looks very much like a pointed paint brush. These fleeces often have a "warm" rather than "cool" handle and a chalky rather than bright appearance. They feel more like a double coat llama or huacaya than a suri fleece. Suri alpaca breeders would now consider this to be an intermediate fleece type between suri and huacaya.

A twisted lock which does not begin to twist immediately off the surface of the skin is a variation on this lock. Not all fan-shaped locks are bad. The fleece pictured has great luster and a narrow suri profile but is technically a fan-shaped lock.

A *corkscrew lock* is wider than a pencil lock and may stick straight out parallel to the neck and body of the suri, rather than drape, giving the suri a more rounded appearance. This lock style usually has both lock and luster and forms into locks soon after shearing. While this is one of the more common type of locks in suri alpacas, it is currently quite unusual in llamas. Since these suris do not exhibit the tall, narrow silhouette that is so attractive in the llama, it may have been selected against.

A *pearl lock* occurs when two or more individual locks twist together into a two or three ply lock. These locks are highly evolved and are just now becoming somewhat common in white suri alpacas. Very few llamas currently express this characteristic. They are called pearly locks because the little bump or wide spot in the lock that occurs when the locks twist over each other makes the lock look like a string of pearls.



A straight fleece without any twist. The llama's profile is very narrow when viewed from the front or rear aspect. This fleece type is highly correlated to luster and handle. It often has a low frequency "wave" superimposed over the fleece, and a "drip line" near the bottom of the barrel. A straight fleece will have an independence of lock that allows it to move freely as the llama walks. A straight fleece may have less hair follicles per square inch than a similar single coat fleece but will have similar or

greater fleece weight even though it does not appear to be as "dense." This is due to the architecture of the individual suri fibers. Suri fiber is characterized by flat, smooth scales. When viewed under an electron microscope at 1,250 - 1,550 X magnification you can actually measure the length of the individual scales on a single hair. These long, smooth scales do not interrupt the light path like a shorter or taller scale and are probably responsible for the slick cool handle of the fleece.

A straight fleece should not be confused with a single coat, silky, or premium plus fleece. The distinction is subtle but you know it when you see it. Dividing classes into suri rather than single coat should not be any more difficult than the distinction between a long wool and a medium wool division. If you are in doubt whether your llama is suri or single coat, a simple test is to ask yourself if your llama would need to be groomed to qualify for a suri class. If it does not need water, shampoo, conditioner, show sheen, or a wide-tooth grooming rake to qualify for the class, then it's probably suri. When you shear the llama you will also know if you have a suri fleece by the lack of volume the fleece takes up in the fleece bag. Double coat llama and huacaya alpaca have much more loft and will fill up an entire 55-gallon clear plastic garbage bag. Suri fiber will sit like a lump in the bottom of the bag. A single coat llama is still much more lofty than suri fiber even though it may have terrific vibrancy of color and luster.



A cotted fleece has lost its lock formation and is almost felted in appearance. The locks are intermingled in a spider web rather than aligned into a uniform direction. A fine fleece may felt or intermingle more easily than a stronger fleece. Cotting is often seen in

an over-mature (18-24 month old) fleece and underneath the locks of most llamas. It is a fairly serious fault in suri alpaca fleeces but very common in suri llamas.



A uniform fleece will have the same style of lock in the neck, barrel, hip, and underneath the surface of the fleece. This fleece has poor uniformity. Here you see a corkscrew, straight and pencil lock all intermingled in the same fleece.



A spiral lock is not a term which we use to describe alpaca fleeces but may be useful in llamas. This fleece has a spiral lock on the neck that is a progressive step toward a twisted lock. It is often seen on the surface of a fleece and may be intermingled with a twisted lock. The spiral lock is quite common on suri llama fleeces, especially those that have been bred in the United States from registered (single coat) llamas, rather than imported hybrids.



Intermediate fleece- Is this suri? Here we see an intermediate fleece that has a defined lock but lacks the narrow profile we associate with suri llamas. The greatest difference in vocabulary between llama and alpaca breeders will probably be what we

mean by an "intermediate" fleece. With alpacas this means a warm, chalky fleece which lacks suri character and is closer to the open fleece of a circa 1984-87 era Chilean huacaya alpaca. This term is also useful to llama breeders in describing a fleece which is intermediate between a high luster single coat or premium-plus fleece and a suri fleece.

*Independence of lock:* Well formed locks, of any type, that keep their independence and are free from cotting.

As a breeder of national champion suri alpacas in both North and South America, I have strongly urged both ALSA and the Suri Llama Association to not rush toward a narrow description of a suri llama. Like the origin of the name itself, there is a continuum of characteristics which when combined, make an animal suri.

#### ABOUT THE AUTHOR

Andy and Dr. Cheryl Tillman have been raising llamas since 1975. Andy was a co-founder of ALSA in 1986, and qualified the first ALSA judges. He is currently chairman of the ALSA Suri Llama Committee. Andy and Cheryl have been raising suri alpacas since 1991. They own about 90 alpacas and 60 llamas. The Tillmans bred the first, second and third place white suri alpaca in Bolivia in 1995, grand champion black huacaya, and champion and reserve champion woolly llama. The Tillmans have bred numerous Top Ten World Futurity llamas. They recently bred AOBA color champions in 2001 and 2003. Andy is the co-editor of The Suri Network's Purely Suri magazine.