

Breeding alpaca fiber for the market

Breeders and growers of alpaca fiber have been encouraged to breed and grow fine fiber for many years and, indeed, the show system rewards it handsomely even though the show standards do not place any one trait above another

The reality is that fineness is the first and foremost trait that occupies discussion and commentary in the industry followed closely by density, in my experience.

I well remember being told at the AOBA judging clinics I attended to become a certified judge that judges could not single trait judge animals or fleeces yet fineness seems certainly to be the national goal.

Of interest is the decision of AOA to judge alpacas on a 50:50 conformation:fleece basis when the production of fiber to meet market demand surely is the dominant breeding and growing goal, is it not?

In chasing this often elusive goal we have lost sight of the processing industry needs and most certainly the profitability of alpaca fiber at the farm gate.

Of course it could be argued that we do not have anything approaching industry status but it is a fact that we produce hundreds of tons of fiber each and every year and that production has a monetary value. What we do have is an industry focus on a fleece trait that is not in high demand that promoters of fineness suggest.

The reality is that fiber in the 21 – 24 micron range of adequate processing length is what processing mills and spinners want as it is the yarn that consumers demand. Commercial spinners are ultra efficient at processing fiber and manufacturing product that sells in both the wholesale and retail markets in quantity. This is particularly so in blended yarns including wool, bamboo, and silk in both knitwear, suiting and fabrics.

In essence, the finer the fiber the more difficult it is to process and, in some cases at least, the higher the wastage due to the inherently weaker tensile strength of fine hairs compared to those of higher microns.

Why is this? Because a lot of fine fleeces are created under nutritional and/or environmental stress and not necessarily better genetics

In my testing experience the majority of fine (under 19 micron) fiber is shorter in length than those fleeces over 20 micron. Given that fleece weight is determined by three factors – length, micron and density – that shorter length is an economic loss when compared to longer-stapled fleeces.

When talking of length we are talking about the fibers stretched when measured – wool buyers always have the stretched length determined by the wool tester as those individual fibers in their stretched state determines strength and fineness of yarn. For me the major factor against measuring length by simply taking the relaxed staple number (being more widely recommended in some breeding circles recently) penalises those fleeces that have fewer crimp per unit length but greater depth (amplitude) while promoting the more highly fancied zipper-style high frequency fleeces, those with more crimp per unit length.

Shorter length fibers create weaker strength yarn than the same weight yarn coming from longer-fibered fleeces – the weakest points in any yarn are the fiber ends so it follows that shorter length fibers create more weak spots along the length of the yarn than do longer-stapled fibers because there are more of them in any unit of length.....

Breeders who strive to produce longer-stapled fleeces of fine micron appear to be few and far between unlike the merino wool industry which is adding length as an economic necessity. Those that are, in my opinion, are doing both themselves and the industry a big favor though I rarely hear the words fineness and length mentioned in the same sentence.

With rising costs of production and the already high cost of harvest, the economic return on fleeces (especially for growers who do not have a breeding-based production focus) will become more and more of a focus if not a necessity.

While length (and density) influence fleece weight, the often overlooked value of micron can be the real determinater of economic return for many growers and breeders.

Why? Simply because fleece production is paid on weight and micron can influence weight to a greater degree than any other single factor.

Put simply, if micron increases by 10% weight increases by 20%!*

Put another way, if micron is increased from 19 to 22, fleece weight will increase by close to 30% given all other contributors remain constant.

Put even yet another way, if the 19 micron fleece weighed 6 pounds, the 22 micron fleece would weigh close to 7.8 pounds on increased micron alone. Add an increase of 10% in staple length and the weight climbs a further 10% to near 8.5 pounds!

To get the same increase in weight by growing longer fibers, there would need to be a 20 – 25% increase in length.

It could well be argued then that increasing micron is an easier way to increase fleece weight than breeding for longer length.

For me it is more a suggestion that concentrating selection pressure on length and relying on nutritional management for micron might well be the better way to improve profitability.

What does this mean in monetary terms? If the grower is not getting a 30 – 35% premium for the 19 micron fleece, they are leaving money on the table!

- This may help explain the sometimes made claim that density has increased in the second year of life because the fleece weight has risen considerably at the second shearing when it was a small increase in micron that caused then increase in fleece weight. The reality is that density does not increase after birth though some additional follicle bulbs may be late activating but that happens during the first year of life, not the second.