

Progress is made using this system

By David Mason-Jones

One of the underlying fibre characteristics of alpaca fleece is that its micron rating seems to increase as the animal gets older. The commercial problem this creates is that the farmer may start off with an animal producing valuable low micron fibre but, after a period of years, has an animal which can produce only average quality.

In this situation both the value of the animal and the value of its fibre is rapidly declining over a period as short as five years.

For Julie and Peter McClen of Oak Grove Alpacas in the Bega Valley, NSW, the challenge is to identify alpacas which not only have a low micron rating at the start but also maintain their low micron rating for many years.

'Through our research we have concluded that an individual alpaca may have a low micron rating due to two different factors,' says Julie. 'The first of these is the factor of environment and the second is the factor of genetics.'

What is meant by environment is that if the food source is scarce and with a low protein content, the animals will naturally tend to produce a finer micron. If the same animal is then taken onto a different farm where the pasture is more lush and the protein content higher, it may well 'blow out' in its micron rating. Such an animal was low micron at the start only because of its environment.

An animal which only has an environmentally fine fibre is more likely to blow out quickly as the years go on.

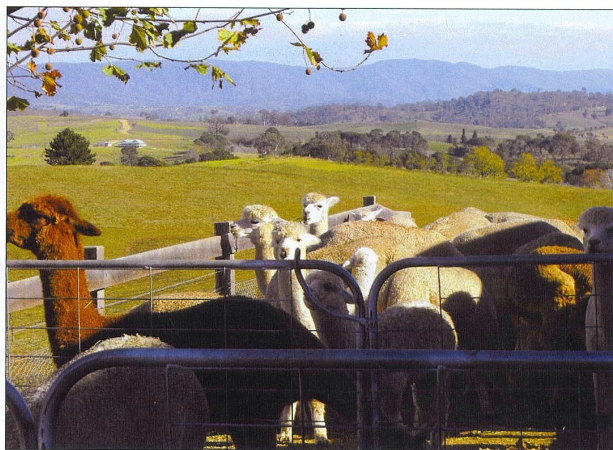
The better option is to find animals that are genetically fine. These animals are far less likely to blow out when put on a richer pasture. They are also less likely to blow out quickly as the years pass. Animals that are genetically fine are more likely to maintain their fineness for five years or more. This produces a huge economic boost for the owner of these commercial fleece producing alpacas.

Julie and Peter have found a way of testing their alpacas to find out which are only environmentally fine and which are genetically fine and once they have determined this they retain the genetically fine animals for breeding.

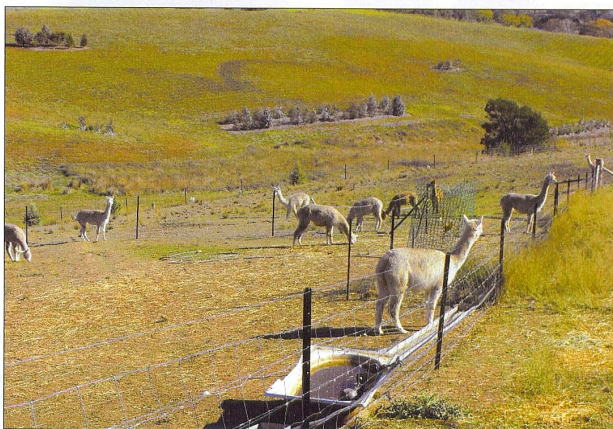
'In our opinion the best way to discover this is to bring low micron animals onto our farm and create an environment that will cause environmentally fine animals to blow out,' says Julie. 'In order to do this we use a blend of feed products with high protein as a supplement. If anything is going to cause them to blow out this supplement will and this has also been the result found in studies done in the USA.'

'If they do not blow out with the supplement over a period of about 12 months then our conclusion is that they are probably genetically fine and they are suitable for selective breeding with other animals we have found to be genetically fine using the same method,' she says.

Julie and Peter also look carefully at the genetic background of any animal they buy. The feature they are looking for is not only the fineness of the fleece but also the ability of the animal's parents and grandparents to maintain fine fleece over



The Oak Grove stud herd is located in gently rolling country in the Bega Valley. Julie and Peter McClen have been running the stud since 2001.



Conditions in that Bega Valley are currently dry but, with 860 millimetres annual average rainfall, the area is usually characterised by lush pasture.



Julie McClen says that the best commercial future lies in producing alpacas that produce ultra fine fleece and maintain this for many years.

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many years.

'We have a wonderful sire and his grand dam was producing 20 micron fleece on her eleventh fleece,' says Julie. 'This is a great track record and is clearly indicative of an animal that is not just environmentally fine.'

Julie and Peter are pleased with the progress they have made using this system. The micron rating of their fleeces has consistently come down and their immediate aim is to produce animals that have five fleeces of less than 20 micron. To be more specific they aim for animals that produce under 18 micron for their first three years. As well as producing fine micron like this they aim to produce fleeces which also have a very good standard deviation of ± 3.5 and also low guard hair.

'We are achieving great success with this system,' says Julie. 'We have females producing as fine as 17 micron on their third fleece. Our average three-year-old micron rating is around 19 micron and the worst performing animal that is part of our breeding program is a female which produced 25 micron on her fourth fleece.'

Another precaution is to avoid buying young alpacas with no background of stay fine genetics. Julie and Peter usually do not buy animals without fleece tests and not usually under three years old, unless they feel sure it has substantial stay fine genetics.

Their ultimate dream is to produce an alpaca with ultra fine fleece that would rival the vicuna camelid found in South America. The vicuna fleece is the most valuable fleece in the world at an average fineness of 12.5 micron.

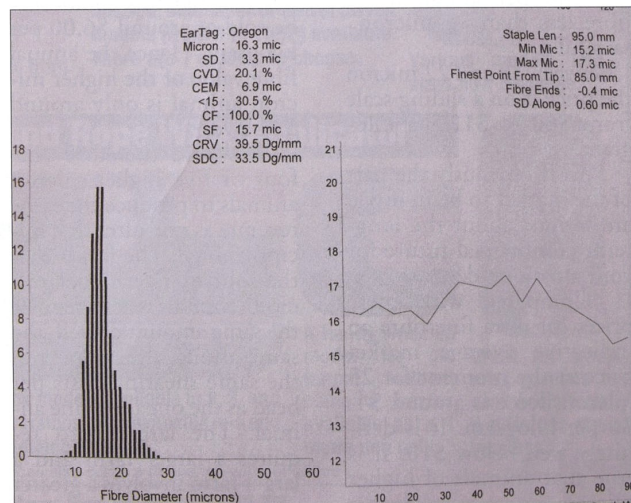
A major tool in the Oak Grove genetic program is to have all fleeces scientifically micron tested at least once a year. This testing enables Julie and Peter to make decisions about genetic selection



based on measurable fact rather than eye-ball observation. The other benefit of micron testing is that, when they make a sale, they can back all their claims about the quality of the animal with scientifically verifiable measurements.

The micron tests provide a wealth of information about the fleece. This includes a measurement of the standard deviation of micron in a fleece sample. Although the micron rating of an animal may be tested at 18 micron, it is a fact that there will be individual fibres within that fleece that are greater than 18 micron and some individual fibres that are less. The standard deviation of the spread of these individual fibres from the norm is an important characteristic of the fleece. The smaller the standard deviation the more of the fibre is closer to the

Extensive fleece micron testing is a feature of Julie and Peter's stud management. This bases decisions about fleece quality on scientific measurement not subjective opinion.



These two graphs show information on the same animal. The one on the left shows micron and standard deviation. The other shows micron variation along the length of an individual fibre sample.

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18 micron average. The larger the standard deviation, the less of the fleece is truly, say, 18 micron.

A fleece profile can show the variation in micron along the length of a fibre sample. A fleece with low variation is more valuable than fleece where there is a large variation along the length of individual fibres and will be less likely to be tender.

They also use the practice of grid testing which requires several fleece samples to be tested from different areas of the same alpaca. This process helps to identify those animals that have even micron measurement throughout the fleece.

'We believe the ability to produce fine fleece in this way simply means that owners will get more money from their fibre for longer,' says Julie.

The fibre market is paying a premium for low micron fleece. At the moment one private buyer, Alpaca Ultimate, is using alpaca fibre sourced in Australia to make 100 percent alpaca fabric in New Zealand. The fineness this buyer is looking for is between 14 and 22 micron. 'The buyer is currently paying \$60 per kilogram for fibre less than 18 micron,' says Julie.

'Between 18 and 22 micron the price is on a sliding scale from \$60 to \$12 per kilogram.'

'This is obviously the part of the market to be in if you are serious about the long-term commercial future for your alpaca herd.'

'Compared with these prices for ultra fine fibre an indicative average market price at the moment for 25 micron fleece is around \$4-\$6 per kilogram. It is definitely well below \$10. It is true that animals of higher micron generally produce a heavier fleece weight, but the strategy of producing more fleece at a lower price does not stack up financially.'

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'One ultra fine animal (18 micron or less) may produce around 2 kilogram of fleece and this would give annual revenue of around \$120 for this animal.'

'An animal producing 25 micron fibre may produce around 4 kilograms of fleece per year but this could only be sold at around \$6.00 per kilogram. Hence the annual fibre value of the higher micron animal is only around \$24 a year.'

'It would therefore take four or five higher micron animals to produce the same revenue as one ultra fine micron animal. The fact is that the four or five higher micron animals each require the same amount of feed, the same annual injections and the same shearing costs per head as the one ultra fine animal. The larger herd requires a larger farm and a larger farm involves a greater purchase price.'

'Our conclusion is that the return on investment will always be superior if the focus is on genetically fine animals

The results of the selection method used by Julie and Peter are superior ultra fine crias on the ground. These are three examples.



The use of scientific measurement is still backed up by the practical look and feel of the animal's fleece. Here is an ultra fine micron fleece with a low standard deviation.

which can keep their production for longer. Our slogan is 'Ultra Fine - Stay Fine Genetics', says Julie. ■

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