



## IN THIS ISSUE

- Shearing Preparation
- Llama Walks
- What to look for in a Suri
- The Miracle of Birth
- Camelids & Coronavirus
- Fair Air Masks

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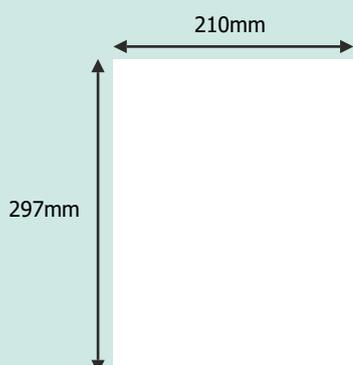
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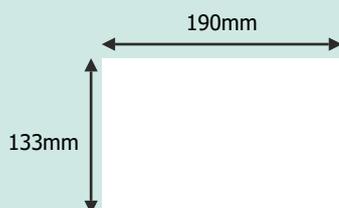
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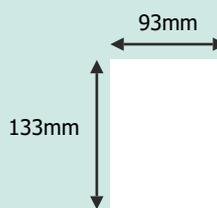
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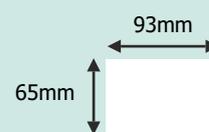
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# Welcome to Camelid Connections

This issue we thought we would show you the part that camelids are playing in the battle against Covid19 and also helping to protect our fire fighters. We have articles on how the research into alpaca/llama antibodies is helping to make an immune boosting therapy for the treatment of Covid 19 and Mike Taylor's fire fighters mask which uses alpaca fibre to filter a high percentage of particulates from the air, keeping our fires safer and would also protect our health workers from Covid infection.

Despite bush fires creating havoc and Covid 19 putting a temporary stop to alpaca shows this year the industry is still moving along, with two recent alpaca auctions going online with most lots sold on the day or soon after, and now for most of the country the drought has eased or broken it looks like a promising Spring ahead! Interest in alpacas doesn't wain in isolation or lock down it seems - and lets face it, many of us on farms are used to being a bit isolated anyway.

For those with Spring births imminent an interesting article titled "The Miracle of Birth" could help newer breeders feel more comfortable when their alpacas go into labour and give expereined breeders a quick refresh. For those of you shearing in the near future we include a list of all the measures you need to take into account before you start shearing. We also have an article from the UK – The Musings of a Fleece Grader – to hopefully ensure all the fleeces we send for processing are the "good" rather than "the bad and the ugly". As a reminder we include a list of fleece collection businesses to help you decide where to send your fleece.

Enjoy your reading!

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A big thankyou to our advertisers - without you we could not afford to keep Camelid Connections free to read!

## Meet The Team



**Esme Graham - Editor**

My husband and I have bred suri alpacas for over 20 years, I was heavily involved with both regional committees and the national board of the Australian Alpaca Association for a number of years and had the honour of being selected as a life member of the Association.

My major interest has been in marketing and education and to this end I was editor of Alpacas Australia magazine for six years and I hope that the experience I gained editing that publication can be extended to educate and inform a wider range of alpaca and llama breeders who are not necessarily association members but have a love of all things camelid.



**Julie McClen - Designer/Editor**

A breeder of ultrafine Huacaya alpacas for over 19 years, I have a passion for fine fibre and the genetic connection to the most diminutive and finest of the camelids - the wild Vicuna.

I strongly believe that education in any industry is the key to success, so with Camelid Connections we hope to provide interesting and informative articles to assist all camelid owners in getting the most out of their animals and businesses.

I also own Oak Grove Graphics a web and graphic design agency which is producing this magazine, and also allows me to connect with many different people in the camelid related world through my design and web work.

[www.oakgrovegraphics.com.au](http://www.oakgrovegraphics.com.au)

# SHEARING

Planning and preparation can make a difference

By Michelle Malt – Big Sky Alpacas



By now most of you will have made arrangements to have your alpacas shorn but, if you haven't already thought about it - now is the time to start your preparation.

Each year as shearing time has drawn closer, I have thought about what I needed to do to prepare, what had to be done on the day, and in the early years, almost every year there has been something I forgot about until either the last minute, or worse still, after shearing was over. Hopefully these tips will be useful to new and more experienced breeders alike.

Set your shearing date / book your shearer / organise your 'workforce'.

If you have a 'regular' shearer then contact them early to book your preferred shearing date. Many alpaca shearers complete a circuit and are only available for a limited period of time, so allow for some flexibility on the day and date you plan to shear (although you may not be given a choice!)

Rain and wet weather around shearing time will necessitate a change in schedules, so if possible, have an alternative shearing date pencilled in. Ask the shearer whether he shears on a table, or on the floor, and whether he provides his own table/shearing restraints. Some shearers also bring along a roustabout, and include payment for the roustabout in their charges – however confirm this with your shearer beforehand, to avoid any unexpected increase in your shearing costs, and also to establish whether you will need to organise additional helpers on the day to cover all jobs.

## Fleece testing

Fleece is the 'harvest' or 'crop' for an alpaca farmer, and if you want to get the best return then you should know what your market is going to be, and to do this you need to know the details of the product you are going to have to offer.

Having your fleeces tested will provide you with some valuable information about your fleece 'product', as well as your breeding program, and herd management. You can either collect samples for testing on shearing day, or two to three weeks beforehand. Having samples tested prior to shearing will help you make some decisions about the order you will shear your animals and how to handle and sort your fleeces in the shearing shed.

There are a number of providers across Australia who offer this service, and most will email the results as well as providing a hard copy report. A small sample approximately a finger width across is taken against the skin from the 'mid side' (it is important to collect samples from the same location to ensure consistency) and placed in a bag with the animal's identification details (name, IAR number). These are then sent to the testing authority.

## Supplies

- Check you have your shearing day supplies. On shearing day you will need:
- Large clear plastic fleece bags (for fleece saddles)
- Smaller clear plastic fleece bags (for necks, legs/bellies, hairy pieces).
- Garbage bags (for soiled fleece).
- Small bags for fleece samples (paper bags are preferred by most testing labs).
- Pre-printed name labels/marketing pen.
- Broom and/or dustpan set to clean the shearing table/floor.
- Old towels – these are useful for animals who pee during shearing.
- Old socks – these are useful for animals who spit during shearing.
- Comfortable shoes and a good sense of humour!

If you are also going to complete husbandry tasks such as toenail trimming and perhaps 5 in 1 or 7 in 1 vaccinations on shearing day, then prepare your equipment and supplies beforehand, and be sure to keep toenail clippings separate from fleeces, and dispose of used needles, syringes and vaccines correctly, otherwise these items may contaminate and de-value your fleeces.



## Logistics

Location of shearing.

Do you have a designated area where you will have your shearing done? If you don't have a designated "shearing shed" available, ideally this area should be undercover, protected from wind/sun/moisture, and capable of being swept between shearing each animal. Access to electricity is preferred by most shearers, however some may have equipment that is battery-operated or pre-charged. You will need to make sure the shearers equipment (table/restraints) will fit into this area and that there will be enough room for everyone to move around easily. If necessary, check that there are suitable points where restraints can be attached. Prior to shearing day, set up pens and laneways to assist in moving animals from the paddock/pre-shearing area into the shearing area and outwards to the paddock.

Decide the order in which you will shear the herd. This may vary depending on the size and make up of your herd. Generally, you would shear the youngest (ie finest micron) and lighter coloured animals first. If you have animals whose fleeces you are planning to show you may wish to shear these animals first. You will then need to work out how you will organise these animals on shearing day to bring them to the shearing area in the appropriate order.

There is a Shearing Shed and Pre-classing Code of Practice available to AAA members when you Login on the AAA website that can be located by looking under "ALPACA INFO > All about Alpacas > Fleece". This provides comprehensive guidelines for preparing the shearing shed, animals and fleeces, and is a useful reference for alpaca producers.

## Post-shearing

Wherever you are around the country there is always the possibility that the weather will be cold and/or wet following shearing. For animals that have recently been shorn, they may be at risk of hypothermia if these conditions persist. Have a contingency plan (shelter, additional feed, coats for young or at-risk animals) in place in case this occurs.

Do something with your fleece! Don't let your fleece sit in the garage/shed/spare bedroom, where it can become an attractive haven for moths or mice. There are buyers for most fleece types in Australia, or you may wish to have it processed for your own requirements. Buyer and processor contact details are listed in this magazine, however each have their own pricing, preparation and acceptance requirements, and it is up to individual growers to make their own enquiries and decisions as to the most appropriate destination for their product. If you don't have a lot of fleece, consider forming a cluster group with other breeders.



## QUICK CHECKLIST

- Shearer booked
- Fleece samples for testing
- Plastic bags for shorn fleeces
- Shopping bags for necks/pieces
- Garbage bags for soiled fleece
- Labels for fleece bags
- Shearing order
- Logistics – animal movement to/from shearing area
- Shearing area prepared
- Sorting of fleeces (show fleeces, fleece to sell, process, etc)



# ALPACA FLEECE BUYERS

(List as per AAA web site August 2020 - there may be other collection agencies)

## **Alpaca Fibre Network Australia**

Annette and Keate Woodgate PH 0419550826

AFN(Aust) has collection points established in Victoria, South Australia and Tasmania.

[www.afna.com.au](http://www.afna.com.au)

## **AlpacaFibre.com.au**

The operation is set up as a depot shed for the purpose of lot building targeting the wider commercial market. Unless by prior arrangement all fleece is to be delivered to depot by the grower. We expect mainline fibre to be supplied individually bagged. We only accept fleece bulk classed by prior agreement.

[www.alpacafibre.com.au](http://www.alpacafibre.com.au)

## **Alpaca Gear**

Alpaca Gear is a Fleece Collection and Classing Service. Fleeces may be delivered to our collection depots at Kin Kin (near Gympie), Lismore and at our classing facility at Dalveen (near Stanthorpe).

[alpacagear@activ8.net.au](mailto:alpacagear@activ8.net.au)

## **Australian Alpaca Fleece Ltd**

[fleece@aafl.com.au](mailto:fleece@aafl.com.au) PH Tel: 03 9311 0933

[www.aafl.com.au](http://www.aafl.com.au)

## **Australian Alpaca Yarn / Alpaca Ultimate**

130 Davis Lane, Yass, NSW, Australia, 2582

[www.australialpacayarn.com.au](http://www.australialpacayarn.com.au) PH 02 62273158

E-mail: [sales@australialpacayarn.com.au](mailto:sales@australialpacayarn.com.au)

Fleece purchased buyers of well skirted Huacaya up to 28 micron on a sliding price scale in 2 micron increments on a grid test. Fleece is processed into high quality yarn.

## **Boston Fine Fibres**

[www.bostonfinefibres.com.au](http://www.bostonfinefibres.com.au) PH 0417 497 940

E-mail: [info@bostonfinefibres.com.au](mailto:info@bostonfinefibres.com.au)

## **Cashmere Connections Pty Ltd**

[www.cashmereconnections.com.au](http://www.cashmereconnections.com.au)

Ph: 03 5367 4222

E-mail: [cashmere.connections@gmail.com](mailto:cashmere.connections@gmail.com)

## **Scotch Group**

Ian Preuss 0407 931 789 [ianpreuss1@bigpond.com](mailto:ianpreuss1@bigpond.com).

The Scotch Group is a collection Company committed to collecting alpaca fleece, both Huacaya and Suri of all microns and colours.

## **Tailored Strands**

Showroom 120 Ewan Charlesons Rd Allendale Victoria 3364

[www.tailoredstrands.com.au](http://www.tailoredstrands.com.au)

Ph: 03 5345 6169

E-mail: [info@tailoredstrands.com.au](mailto:info@tailoredstrands.com.au)

## **The House of Alpaca**

6 Sowerby St, Goulburn, NSW, Australia, 2580

Ph: 0409 986 235

[www.thehouseofalpaca.com.au](http://www.thehouseofalpaca.com.au)

[thehouseofalpaca@bigpond.com](mailto:thehouseofalpaca@bigpond.com)

## Waratah Alpaca Fibre

[www.waratahalpacafibre.com.au](http://www.waratahalpacafibre.com.au)

Mick Williams at [waratahalpacafibre@gmail.com](mailto:waratahalpacafibre@gmail.com)

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Waratah Alpaca Fibre is a member-owned co-operative of Australian alpaca farmers supplying some of the world's finest alpaca fibre to both Australian domestic and international export markets.

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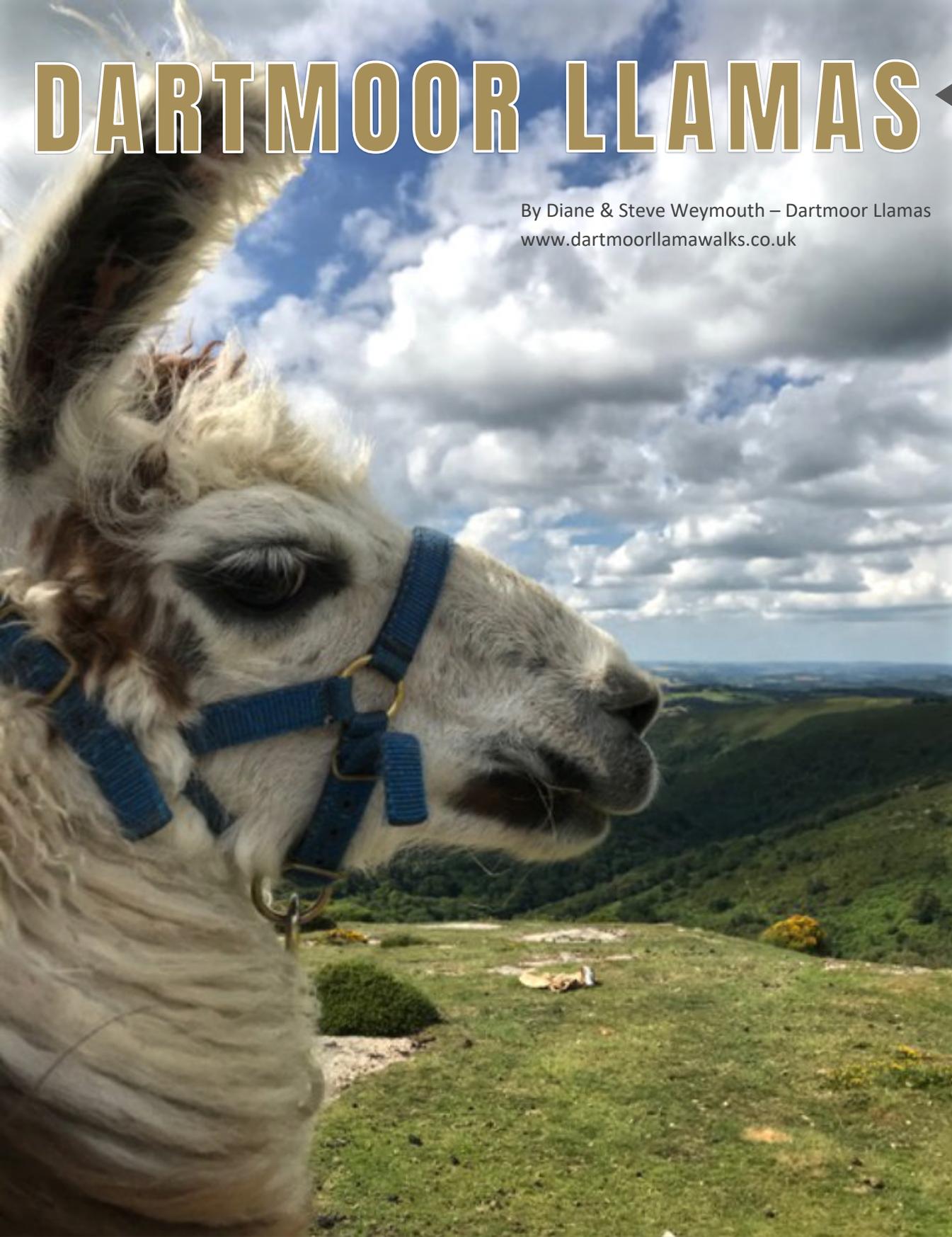
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# DARTMOOR LLAMAS

By Diane & Steve Weymouth – Dartmoor Llamas  
[www.dartmoorllamawalks.co.uk](http://www.dartmoorllamawalks.co.uk)

LLAMA WALKS



**DARTMOOR LLAMA WALKS IS SITUATED IN THE SOUTHWEST OF THE UK IN THE DARTMOOR NATIONAL PARK, IT IS A STUNNING LANDSCAPE TO BOTH LIVE AND WORK IN. WE ARE SURROUNDED BY MAJESTIC TORS (GRANITE OUTCROPS ON TOP OF A HILL), DEEP WOODED RIVER VALLEYS AND RUGGED MOORLAND WHICH IS REALLY SUITED TO LLAMA WALKING.**

Steve comes from a farming family whose history on the family farm on Dartmoor can be traced back to the 1600s. The farm is still in the family and is farmed by his brother farming beef. I have lived on or around Dartmoor for most of my life, there is nowhere we would rather live.

Dartmoor Llamas was started as an extension to our alpaca Breeding business.

In 2006, we purchased two pregnant alpaca females, in 2007 we added two llamas and Dartmoor Llama Walks was born. It was a complicated process getting all the permissions in place before we could actually start our walks. Dartmoor, although a National Park, is owned by many individuals. Permissions had to be obtained from any landowner whose land we may want to walk on as well as gaining permission from the National Park to operate a business. I think we wrote upwards of forty letters in the process and we didn't receive any refusals, although I think most of our farming neighbours thought we were a little mad!

The alpaca herd continued to grow and the llama walking business ticked alongside. After about ten years we had grown to about forty alpacas and llamas, we sold breeding stock and pet boys and the business was doing well. We attended many shows with our alpacas and we did quite well for a small breeder. Winning a championship with our one and only black female at one of the largest shows at the time was the highlight.

We use all our alpaca fleece, having the best fleeces made into knitting yarns, selling yarns and knitwear at local shows. After a few years and with llamas and alpacas becoming more popular, our llama walking business getting busier and busier, we decided to downsize the alpaca herd and concentrate on the llama walking side of the business. Over the years the llama trekking team had grown to nine animals, a mix of llamas and alpacas including our black champion female, who is still with us.

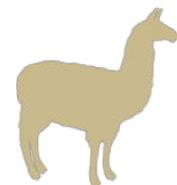
In the UK there are many choices for walking alpacas and llamas, most are lucky enough to have their own land and can walk around their own properties. Some have access to common land and can walk out into a National Park, Woodland or Nature Reserve direct from their properties. At Dartmoor Llamas we are right in the National Park but cannot access the open moor from our property, so we are probably pretty unique in the fact we start our walks from a car park.

The walks run for most of the year. Being on high ground, approximately 1000ft about sea level, the weather can be challenging, they say you can get all four seasons in a day on Dartmoor. We have to be prepared for the weather to change, it can be hot and sunny changing to dull and wet very quickly. The right clothing is essential and we do ask our customers to wear suitable clothing.





THEY LOVE TO GO FOR WALKS, MAINLY BECAUSE THEY LIKE TO EAT WHAT THEY CAN FIND OUT ON THE MOOR, GORSE, HAWTHORN AND BRAMBLE ARE FAVOURITES. WE DO HAVE ONE OR TWO LLAMAS WHO QUICKLY LEARN WHO THEY CAN TAKE ADVANTAGE OF AND WILL NEED TO BE PERSUADED TO LEAVE A JUICY GORSE BUSH AND CONTINUE TO WALK.



During your walk you will hear about the history of Dartmoor from the bronze age, tin mining through to the present day, living in a National Park and modern farming methods as well as learning about the alpacas and llamas.

We will give you a flavour of the different aspects of the moor whether it be craggy granite tors, heather moorland, patchwork farmland, deep wooded gorges or tumbling rivers. The Dartmoor National Park covers an area of over 365 square miles and is the largest and wildest area of open country in southern England. Dartmoor has lots of historic relics from bronze age hut circles to tin mining, we will give you lots of information about how it is to live and work on the moor past and present.

There are many alpaca and llama walking businesses in the UK now and it has become very popular, especially in the current climate with the Corona virus, I think people are looking for experiences in the open air, away from large crowds and Dartmoor Llama Walks really fits the bill in this respect. As soon as we leave the car park we cross the open common and some days we don't see anyone for the entire walk. Llamas make ideal walking companions as they are very calm and gentle animals as well as being alert and intelligent.



During our walk we stop for a picnic, carried by the llamas, we have specially designed pack systems which we brought from America. The picnic is packed into cool bags which hang on to the pack saddle. We stop on top of a tor, where we usually have fantastic views over the farmland, moor and down to the sea. The best thing about a tor is you can always find somewhere to shelter from the wind.

This year has been strange, closed down for nearly four months we reopened on the 4th July and have been very busy with all our walks being fully booked this Summer. The llamas, alpaca and ourselves were very pleased to be back out on Dartmoor and showing our customers this amazing landscape with our amazing animals.

Looking to the future we are hoping things return to normal and we will continue to live and work on Dartmoor.



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## Herd Dispersal May 2021



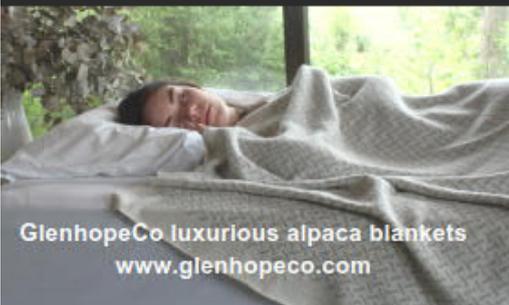
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# ALPACAS AND CORONAVIRUS

## The Fair Air Mask

by Mike Taylor



*A NSW RFS firefighter*

Many alpaca owners may remember the Fair Air fire mask which utilises alpaca fibre as a key component of the filters.

Short alpaca fibre, too short for spinning, is used to make this needed material specially manufactured by the CSIRO in Geelong. I, as the inventor and manufacturer of the mask, call this electrostatic alpaca material 'Pacastat'.

This has seen improved performance of the Fair Air filters: They now remove 99.94% of 0.3 micron particulates, about the size of Coronavirus (according to CSIRO tests). This compares with about 94% removed by P2 disposable masks. This means that one hundredth less gets through the Fair Air mask – incredible protection!

This fantastic level of protection has been experienced by many, not just fire fighters for which the mask was developed. Nearly 1,000 bushfire/ rural fire brigades in every Australian state and territory plus many others in New Zealand, Canada, USA, Brunei and even Afghanistan use the Fair Air mask.

People in all sorts of circumstances have found the real respiratory protection provided solves their problems with various particulates: grain and wood dust, asbestos, silica, etc and various germs, bacteria and spores. The Asthma Foundation of Victoria selected the mask to sell online as they determined it to be the best protection for asthmatics.

Why are numerous health workers catching Coronavirus?

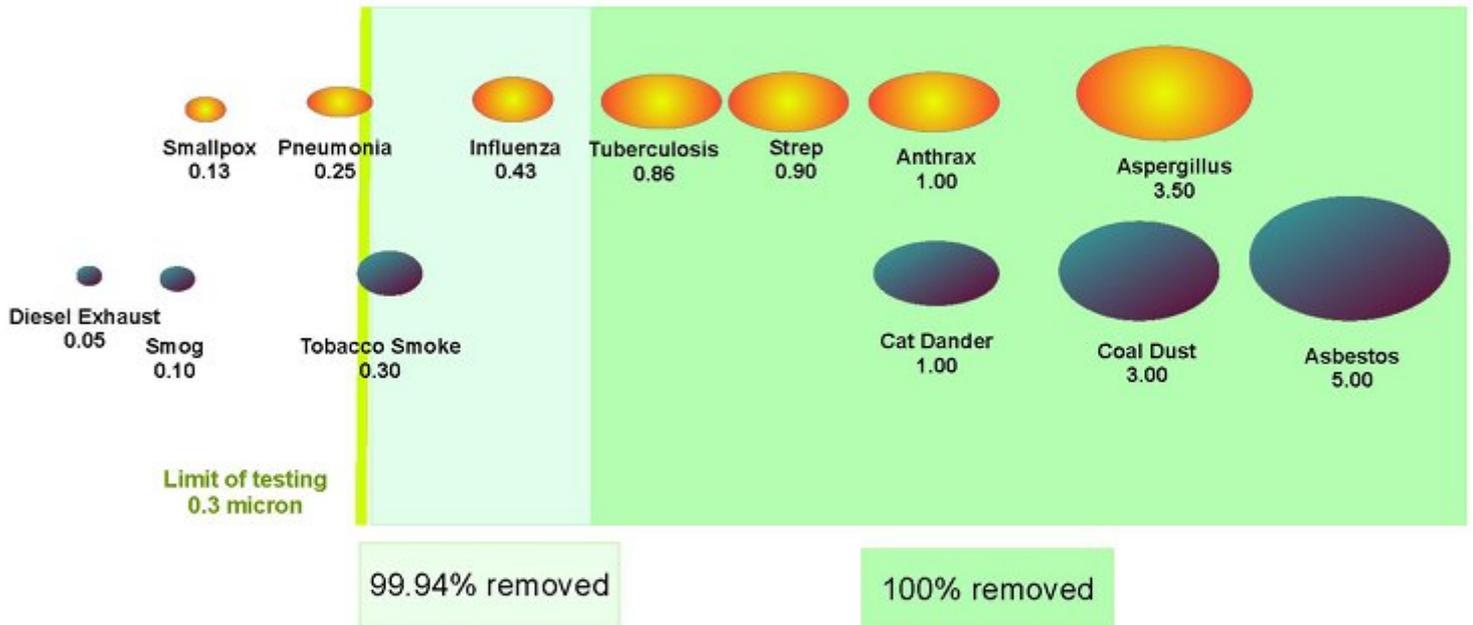
Probably because they are being told to follow the World Health Organisation (WHO) guidelines for respiratory protection for COVID-19.

One has to realise that WHO guidelines are written for the whole world and as such have to match the capabilities of the lowest common denominator: Third world countries.

These countries rarely have P2, or similar N95 masks, usually only surgical masks. As such the WHO guidelines say that surgical masks should be worn by health workers, while others, potentially at less risk of being infected, wear cloth masks. Surgical masks don't seal and therefore inhaled air, following the path of least resistance, isn't filtered. They are only designed to reduce the exhaled air spreading infections.

Are cloth masks useful? A comprehensive Canadian study into respirators that I read before I designed the Fair Air mask, when discussing dangerous smoke particles of 2.5 micron (about ten times the size of Coronavirus), said that cloth masks should be banned from the fireground because it was 'like trying to stop mosquitoes getting in your house and having the front door wide open'. That is because most particles simply pass through the weave.

## Test Results of Fair Air mask for some common Particulates



Note: This is only a mapping of test results to size of particles, the named particulates were not used in the tests.

Because the Chief Health Officer of Victoria, and other authorities, have blindly followed the WHO guidelines, the frontline workers in the Coronavirus battle aren't being properly protected. Many are catching this insidious virus when they shouldn't.

Months down the track and still no Government agency has bought a single Fair Air mask. The flawed CHO advice telling the frontline people to only wear surgical masks is putting them at risk and now over 1,000 healthcare workers in Victoria have the virus!

P2 type masks would be better for the wearer as they filter out more than surgical masks but aren't suitable for virus containment because they have valves to meet the exhalation resistance requirements of AS/NZS 1716. Of course, if the wearer was infectious then the virus would simply go out the valve.

The Fair Air filters don't have valves as the breathing resistance is so low due to the efficiency of the unique Pacastat. Inhalation effort is less than 20% required for P2 masks. Therefore both exhaled and inhaled air is filtered with 99.94% of all particulates removed!

Victoria's Department of Health and Human Services (DHHS) manager for purchasing COVID-19 supplies advised me that for the Fair Air mask to be considered for hospital use that it had to be approved by the Therapeutic Goods Administration. I dropped everything and achieved approval in less than a week. Immediately sent him the certificate showing that TGA approved it as a Class I Medical Device, only to eventually be told that they didn't need any masks as they had bought plenty (millions of Chinese surgical masks).



This Melbourne girl personalised her Fair Air mask - trying to scare the virus?

Another benefit of using a Fair Air mask is that they are washable and reusable many times. Washing the filters is a simple task, just a bit of wool wash in a basin of hot water sees the filters quickly release any particulates as the water breaks the electrostatic charge. Alpaca naturally repels moisture so water alone won't work.

Drying is pretty quick as rinsing the alpaca sees it again repelling moisture so overnight in an airy spot would normally see it ready to use in the morning. If still a little damp then a few minutes in a tumble dryer, or even using a hairdryer, would ensure complete dryness before storing. Drying re-establishes the electrostatic charge so they just keep going.

We are rarely asked for new filters except if they have been damaged by incorrect washing – we have also had four cases of 'the dog ate it'!

During the Coronavirus pandemic masks have to be worn a lot. While the washing instructions suggest washing after each day's wear, if the filters aren't soiled then to disinfect them application of heat would kill the virus as it is susceptible about 56 C. Tumble drying or heating with hairdryers would suffice.

Saunas are normally about 80C, hotter settings about 100C. Wouldn't it be great if instead of repeatedly shedding plastic PPE health workers and others on the frontline spent a minute or so in a sauna and away they go, ready for the next patient? Of course, it wouldn't have to be a full blown sauna, just a heated compartment could do the job. A problem on these cold days could be a reluctance to leave and resume work

The Fair Air mask manufacturing model has centralised management of manufacture and supply of the specialised materials in Benalla, Victoria with dispersed workgroups of up to about eight people manufacturing and packing the masks from the materials supplied cut to size. These workgroups can be anywhere and are currently in central and south Victoria, North East NSW, and South East QLD. The model was inspired by Bendigo Bank Community Banks which have kept numerous towns alive. Country towns have people skilled in many areas, so why not send the work to them?

The Coronavirus crisis has had a couple of significant benefits for the Fair Air mask in the supply chain:

- Alpaca is now supplied by the House of Alpaca in Goulburn. Bill Ham has developed a method to remove VM from alpaca. Now the filters don't need manual checking for VM. I would ask that any breeders who were planning to supply us, instead contact Bill;
- The elastic was made in USA but is now specially made in Melbourne; and
- CSIRO equipment for making Pacastat has undergone significant maintenance and tuning, making the material even better.

**A note for firefighters:** *The Fair Air mask will soon have an enhanced filter that will also remove carbon monoxide. Last summer's long running fires saw many firefighters hospitalised with CO poisoning.*



Fair Air fire mask in use at night on fireground outside Christchurch, New Zealand



*Mike Taylor and his Fair Air fire mask*

When I became a volunteer bushfire fighter in the ACT, I was surprised that among all the protective gear supplied there was no respiratory protection. Soon after fighting the devastating 2003 ACT fires, I started to develop what became the Fair Air fire mask.

I have a vast range of experience and knowledge in various areas, a very eclectic mix. When studying Law at Monash Uni I worked part time as an RACV serviceman and tow-truck driver and in spare time was a Surf Life Saving Instructor and surf boat rower. Later I did Science at La Trobe Uni majoring in computer science and geology.

I joined Melbourne University Regiment working up the ranks to be commissioned as an officer and went on fulltime service, spending over two years writing applications for the first Imaging and WorkFlo system in Australia, that was introduced for better managing soldiers' careers.

Afterwards I started consulting in this new technology even working in Saudi Arabia for the oil company and became an Open Water SCUBA Instructor which later saw me doing both in Singapore. Back in Australia I moved to Canberra to project manage an information management system for the Australian Taxation Office during which time I joined one of the ACT bushfire brigades, became Training Officer and a First Aid Instructor and later Compressed Air Foam Instructor.

All these experiences contributed in some way to development of the Fair Air fire mask.

*EDITORS NOTE: The views expressed in this article are those of the author based on his experiences and research. Camelid Connections has not independently verified any claims regards the motives of the WHO, any Australia health authorities or regards Covid 19 in general.*



# THE GOOD THE BAD AND THE UGLY



## MUSINGS OF A FLEECE GRADER

BY Rachel Hebditch, UK

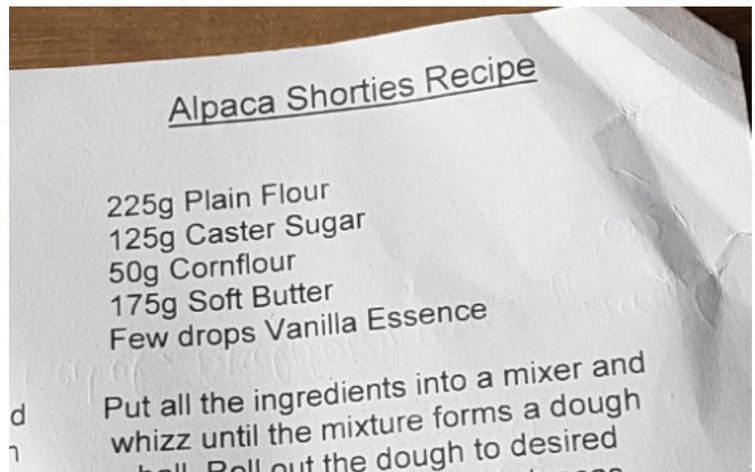
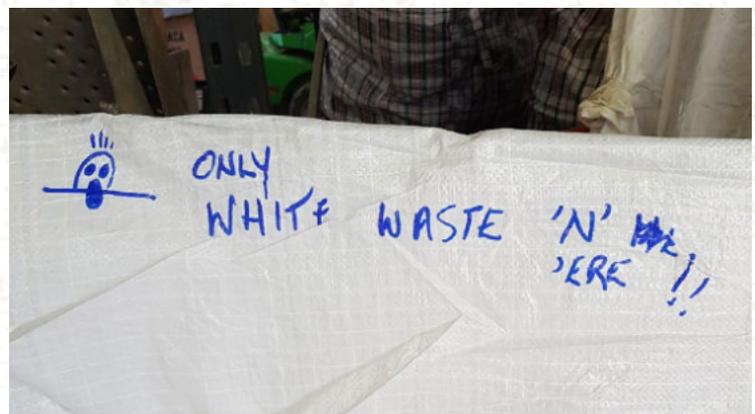
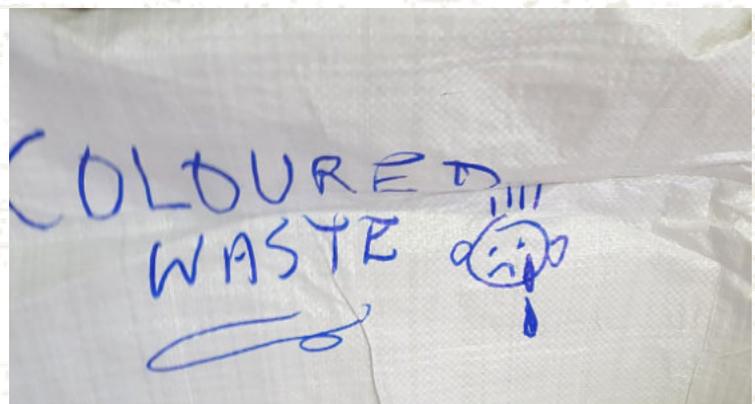
Every year around ten thousand kilos of fleece comes into the grading barn at UK Alpaca. The quality is wildly variable from absolutely gorgeous to horrid - the good, the bad and the ugly.

I grade it with The Girl, Tania Smith. Everything that goes wrong is blamed on The Girl as in: 'It must have been The Girl'. We would like to blame The Bloke as well, that is Chas Brooke, but he does no grading so is blameless, sadly.

About half of the fleece that comes in ends up in the duvet department and is sold to duvet makers in the UK and Poland. Some breeders manage to follow instructions and bag all the outsorts in big bags by colour. Others have a severe case of barn blindness as in my alpaca is ten but still has marvellous fleece. I don't think so. They optimistically label fleeces as usable blankets that should have gone straight from the shearing floor into outsorts.

There are days when the outsorts bags fill up way too fast and we resort to silliness.

Sometimes there is treasure in those bags, we will always have the memory of the fleece covered in dead bluebottles and the mummified mouse decently disposed of, a recipe and these things.



## LIKES AND DISLIKES

We love fleeces that are clean, a good three inches long and gorgeously soft. Alpaca knitting yarns need to have a beautiful handle and that is what we are looking for.



We are not happy with excessive amounts of vegetable matter. This year seems to have been worse for first fleeces that are heavily contaminated looking as though these little ones have sat under a hay manger for months.



Not too keen on big fat primary fibres either. Always depressing to look at a lovely fleece cut side up, turn it over and see a forest of primaries that you could floss your teeth with.



And shearing - cleaning the shearing mat between animals is still a problem with dark fleeces turning up full of bits from white animals not to mention the snow showers of second cuts we can encounter. Sometimes the fleeces are so full of dust that we have to change masks more than twice a day, a shake of that fleece after shearing would be much appreciated.



## “ EVERY FLEECE GOES ON THE TABLE AND WE DO OUR DAMNDEST TO GET SOMETHING OUT OF IT ”

### FUN AND GAMES WHILE GRADING

We normally spend two days a week grading, regaling each other with tales of the bizarre behaviour of families and the men in our lives, rants about one thing or another, tales from Tania's creative writing class, there always seems to be something to rattle on about.

We also indulge in some running jokes on Facebook just to see how many likes are possible with a picture of an empty plate. Childish? Probably.

Mostly we whizz through loads of fleece from the good breeding herds feeling very cheerful about the lovely fleeces until we hit a dumpy bag of awfulness that leads to very slow progress, lots of groans and desperate pleas for a tea break.

Every fleece goes on the table and we do our damndest to get something out of it.



### PLEASE HANDLE WITH CARE

High on our list of hates are potato sacks and feed bags that people store their fleece in. Frankly it is a giveaway, these breeders don't care about their fleeces and thus shove them into any old bag that comes along. The people who do care store them in clear plastic bags as requested and treat them with respect.

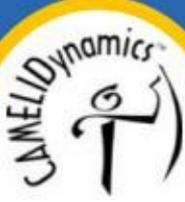
This year there are eight builder's bags of moth infested fleece in the yard as far away from the grading barn as possible. This drives us completely bonkers as the breeders could have disposed of this themselves but instead dumped it on us. It contains live moths, dead moths, grubs and as some of the fleece has turned to dust that means it has been stored for years.

Sometimes when we emerge from the grading barn covered in dust looking like coal miners, we do ask ourselves, why? We are fleece nerds and every time a stunning fleece or just a very nice commercially usable fleece come through, we are happy. The end product is great and there are lots of happy customers.

And grading should be finished by Christmas. Hurrah!

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# WHAT TO LOOK FOR IN A SURI

By Julie Wilkinson, Baarrooka Alpacas

Although a suri looks very different from the more common huacaya, the conformational traits to look out for are generally the same. The animal should be well proportioned, have straight legs and back, a rounded rump and correct bite. The key fleece characteristics desirable in both huacaya and suri are consistency of micron (absence of high micron primary fibres), lustre, fineness, density and staple alignment

## Conformation

As outlined in the AAA Breed Standard:

well grown (doesn't affect the genetics but will increase fertility, reproduction, health);

straight back;

straight tail;

animal in proportion - back, legs, neck in proportion;

correct bite; and

size and conformity of testicles in male.

## Fleece

The characteristics of the fleece are what distinguish the suri from huacaya alpacas. When assessing a suri, you should look for the following:

Handle;

Lustre;

Fineness;

Density;

Uniformity;

Length (staple growth for age);

Locking;

Colour; and

Coverage.

**Handle:** the suri fleece should have a soft, silky, buttery handle. The handle is what holds suri apart from other fibres and gives a finished article made from suri fibre a luxurious feel. The handle is a factor of fineness, lustre, uniformity of

micron and nourishment of the fleece and can only be felt, not measured. By putting your hands into many suri fleeces, you will begin to feel the difference. Remember that dust, wind and UV light can all damage the fibre and affect its handle. Make sure you feel inside the fleece, preferably on the clean fibre next to the skin. Or assess a sample of fleece washed in a very gentle shampoo. Any suri with fleece that feels dry and harsh should be avoided.

**Lustre:** lustre is the shine or glow inherent to the most exquisite fleeces—open up a fleece to assess the lustre next to the skin. Lustre is influenced by consistency of colour and micron of the fleece, as well as the structure of the fibre (i.e. the more round, rather than oval, the fibre is, the more it will reflect light). It can also be influenced by dirt and dust.

Although there are a lot of variables, including genetic influences, because white (and often black) animals are a consistent colour, they usually display greater lustre than coloured animals. Use a subjective score of 5 (no lustre) to 1 (extreme lustre) to assess animals against each other or against a control, like mulberry silk. The more animals you assess, the better you will get at making this subjective measurement. Remember though, that environmental impacts, such as nutrition, dust in the fleece and illness or stress can impact on lustre. Also, do not mistake the brightness of a clean white fleece for lustre. It is best to assess a washed sample to determine the real lustre of a fleece.

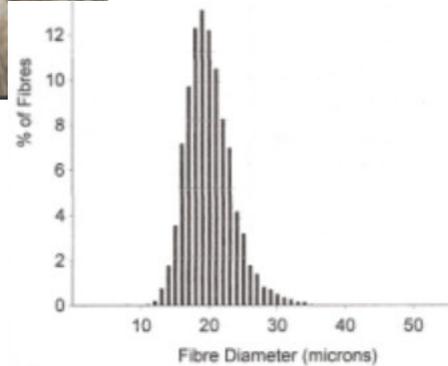
**Fineness:** the finer the fleece, the softer and generally more lustrous it is and the higher its price. As breeding improves, we are seeing more and more superfine, ultrafine and sheer ultra suri fleece. However, Australia produces relatively small amounts of suri fibre generally and in the very fine category specifically. Most Australian processors will not process fibre finer than 18 micron. In Peru, fibre of different classes are mixed together for processing. Some believe this gives Australia an opportunity to develop a world market in superfine suri, with European processors and buyers being a lucrative market.

Classes for suri and huacaya from the current AAA Alpaca Fleece Classing Code of Practice are:

<b>Sheer Ultra</b>	<b>&lt;16.0</b>
<b>Ultrafine</b>	<b>16.1-18.5</b>
<b>Superfine</b>	<b>18.6-20.5</b>
<b>Fine</b>	<b>20.6-24.5</b>
<b>Medium</b>	<b>24.6-28.5</b>
<b>Strong</b>	<b>28.6-36.5</b>
<b>X-Strong</b>	<b>36.6+</b>



**Extreme Lustre**

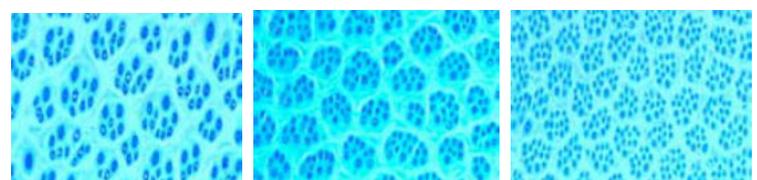


**Histogram showing distribution of micron within the sample**

Micron should be uniform over the body of the animal from the neck through the body to the rump.

Assessment of micron can be done visually (this takes some practice) or using a fibre testing laboratory (the output of which is a detailed report and histogram showing distribution of fibre diameter in the sample). To assess micron visually, take a sample of fleece (it is often a good idea to do this on a number of different sites on the animal - shoulder, midside and rump), spread the fibres into a spiderweb and lay against a dark background for light fibres or light background for dark fibres. You should be able to see the fineness of the fibres, as well as any coarser fibres or guard hairs in the sample. Because guard hair is straighter than finer fibres, pulling fibres from the tip of a lock will expose the guard hair so they can be assessed for micron and number.

Laboratory analysis will provide a significant amount of information on the sample analysed (either a midside sample or an all-over fleece grid sample). The histogram will indicate the uniformity of the micron. A coefficient of variation (CV) should be less than 20% to indicate consistency of micron. Remember there will be some variation of results between different labs, different measurement machines used, inconsistencies in sampling, etc., so beware of using histogram results as absolutes.



**Left to right: Micrographs showing low, medium and high density alpacas**

**Density:** density is an important trait to look for in regard to return for fleeces and to help keep out dust and vegetable matter. Density is the number of fibres in a given area on an animal. Density is difficult to determine on an animal, although you will often see people (including judges) grabbing and lifting the fibre to determine density. However, this method cannot be used to compare animals of different micron or with different fleece growth. A coarser animal will usually feel denser than a finer one, an animal with 18 months of fleece will have much more weight than one with 8, and so this method should be used with caution.

A visual method to assess density is to focus on the number of fibres in a given area – when an animal is very dense, the staples are forced into many fine layers, forming what look like pages of a book when viewed from the side.

A simple way a breeder can identify dense animals within the herd is by recording fleece weights at each shearing (and then annualising) and have a midside sample tested for micron. To compare animals of different microns, the AAA Fleece Miron/Annualised Weight Matrix can be used to standardise the weights according to micron. This will give a basic idea of which animals have the higher density. Another method is to use the formula  $W/D^3$  (weight divided by fibre diameter (micron) cubed).

The scientific method of determining density is to take a skin biopsy and determine the secondary to primary hair follicle ratios and number of hair follicles in a square millimetre of skin.

Holt & Watts (2005) found in their study that finer animals have a higher secondary to primary follicle ratio and greater follicle density.



**Guard hair**

**Uniformity:** the locking, fineness and lustre of a suri should ideally be uniform over the body of the animal from the neck through the body to the rump and even extending down on the legs. Some animals are more uniform than others. When assessing an animal, open up and sample fibre from the shoulder, midside and rump and down into the belly and the brisket. Also look at the forelock for guard hair. It is common for there to be differences in locking style or quality across the body or from one side of the animal to another,

more often visible in previously shorn animals as the first fleece hides a lot of variation. Inconsistent locking can be (but is not always) a sign of variation in micron, so assess micron if you see this type of lock variation. Remember to check the brisket for coarse fibres, locking and density. This is generally the poorest part of an animal and can give a lot of information about the rest of the fleece.

Some animals may have a spectacular first fleece but fail to relock as well on their second and subsequent fleeces. A well locked older animal maintaining fineness and handle will give you much more information on quality than a young animal on its first fleece. Inconsistencies in locking are much more apparent on an animal with regrown fleece, but a first fleece can hide many faults. Alpacas need to be producing high quality, useable fibre for at least 6 years, so it is important to concentrate on breeding animals that maintain their desirable fleece characteristics (lustre, fineness, uniformity) into older age.

**Length:** Suris generally grow 10-20 cm per year (more in the first year and less as they age). The acceptable lengths for processing suri are generally 90 - 140 mm, although shorter lengths (60-90 mm) can also be processed.

Greater than 150 mm is overgrown and cannot be processed by commercial or mini mill processors. It can be used by spinners and felters after hand carding, or as locks in wet, nuno and needle felting and for doll wigs, but these are small markets.

Length, in addition to micron and density, contributes to total fleece weight (and hence, value of the fleece) and so must be considered in breeding decisions. Shearing twice a year, as in the angora industry, may become commonplace as fleece lengths continue to increase.



**Length and growth rate**

**Lock 'architecture':** according to the AAA Suri Breed Standard, defined as well-defined pencil locks which persist throughout the fleece (not just on the surface) and are evident right to the skin. These can be curled, twisted or waves, but must hang down in individual locks. While there are a variety of different lock styles, current research has identified four locking styles. These are:

Twist ringlet - the staple twists around to form a ringlet which hangs straight down from the animal.

Wave & Twist ringlet - the twist ringlet also has a wave so that it does not hang perfectly straightly.

Corkscrew - the staple forms a tight corkscrew-type wave (a more pronounced version of the wave & twist).

Flat wave - the staple forms a broad wave with less evidence of twist, usually only at the ends.

Note that the twist ringlet and corkscrew lock styles are indicative of lower density. The favoured lock style globally, associated with greater density and lustre is the flat lock style. This can be in thin or broad ribbons. Often finely fleeced animals 'cross-fibre' as the fleece grows longer and lose their lock architecture. However, these animals generally lock up again after shearing.

In Australia, the show ring has been rewarding animals with highly independent locks. It should be noted, however, that tightly locked fleeces (especially tight twisted locks) are more difficult to process and result in greater breakage and lower yields. Once processed, all fibres are aligned and the type of locking is no longer relevant. Hence it is recommended that

lustre, fineness, handle and density are not sacrificed for type or independence of lock. Judges are beginning to change their focus from locking to the range of traits that indicate quality fibre.

**Colour:** colour is personal choice; the whites and light fawns are more common and are generally of higher quality than the rarer coloured suris. For commercial processing, colour should be consistent across the body, however variations of light and dark are seen by some potential users of the fibre as desirable in adding depth and complexity to the finished garment. In the show ring, colour variation is penalised. In particular, dark fibres in white fleeces is a serious fault. White fibres in black or dark animals is less of a problem (can be overdyed) but should still be avoided in breeding.

**Coverage:** current convention is that the suri should be well covered, with a long forelock, and fleece on cheeks and from the chin, the front and rear legs should be well covered with consistent locking to the toes. However, in a commercial environment, there is no benefit (and possible detriment) in having coverage on lower legs and face.



*“The handle is what holds suri apart from other fibres”*

Clockwise from top left: Twist ringlet; wave & twist, flat wave and corkscrew lock styles

## Genetics

There are two things that are important to understand when looking at suri genetics: The purity of the suri; and The quality and prepotence of the pedigree.

**Purity:** because the suri type is dominant to the huacaya in terms of crossbreeding, an animal that presents as suri may have little suri ancestry. For this reason, it is important to look at the pedigree of a suri to determine if there are huacayas in the background, how many and how far back. With animals imported from countries without a register, this is not available, so looking at the parents/grandparents to see if they have produced any huacayas will give you an idea of whether there is huacaya in the background. A suri that has one suri gene and one huacaya gene is called a heterozygous suri. It has the potential to pass on either the suri or the huacaya gene each time it produces offspring (50:50 chance every time). A suri that has two suri genes is called a homozygous suri and can only pass on a suri gene to its offspring. It is important to recognize that breeding a heterozygous suri to a homozygous suri will reduce the likelihood that the huacaya gene is present over multiple generations, but does not exclude it from being passed on every time. Therefore a BC3 or BC4 suri (has been bred back to homozygous suri 3 or 4 times) can still be a heterozygous suri. Despite often looking like a quality suri on first fleece, a heterozygous suri does not have the qualities desirable in a suri and, most importantly, will not be reliable in producing offspring with quality suri characteristics.

For this reason, it is important to be aware of the pedigree of animals you are looking at, including mating partners for your females.

**Genetics:** In all livestock, there are genetic lines that perform better and more consistently for desired traits. In most livestock breeding, line breeding is used to cement those traits into a breed or herd so that the outcomes are reliable generation to generation. Due to the small genetic base of alpacas, and the fact that improvement in fleece quality is still on-going, it is probably too early to be linebreeding to cement in traits. However, this means that the results of matings can be unpredictable in terms of quality and colour. So relying on show results and the presence of high quality animals within a pedigree should not be undertaken without taking into account the phenotype of the animal and assessing its fleece and conformational traits.

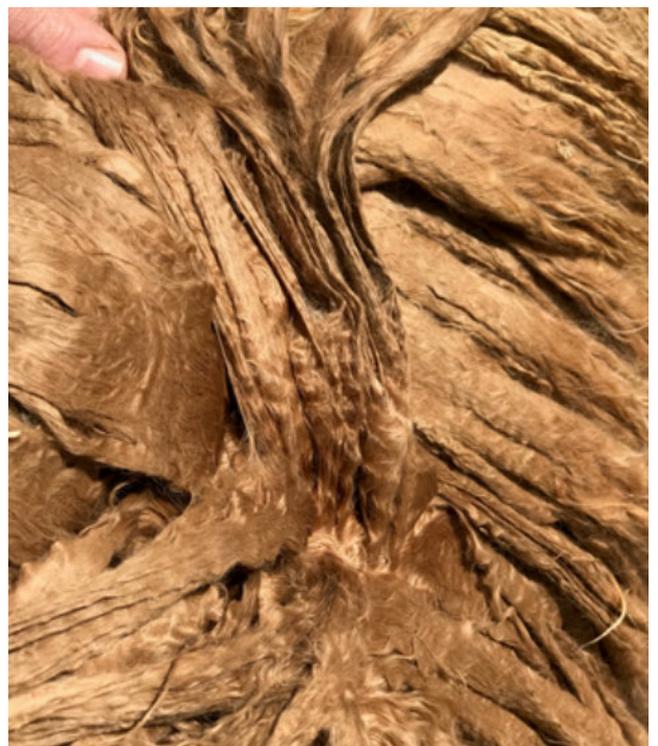
While there are some highly prepotent animals that can improve on whichever animal they are bred to, these are rare and even the most highly sought out males have produced substandard progeny. This is the nature of genetics. But again, researching and assessing all the ancestors in a pedigree will increase the likelihood that you can determine the likely quality of progeny. And it is an enjoyable rabbit hole to go down if you are interested in understanding suris.



*Consistency of fleece quality. Same animal above as a two year old and below as an eight year old*



*Below: Presence of microstaples indicating density*





*Quality suris in first fleece (left) and third fleece (right)*

### Conclusion

Regardless of your budget or the size of your farm, by assessing both the characteristics of the animal and the pedigree, you can ensure that you are getting what you pay for. Buying fewer, higher quality females and investing in quality matings will be a better use of a budget than buying more females that need improvement. Ask the seller for fleece analyses, health records and mothering abilities, obtain fleece samples of the animal in question and sire and dam. Ideally, you should inspect the animal but if this is not practical, make sure you ask for and receive sufficient information to make an informed decision. Regardless, the suri breeding journey is a challenging and exciting one, with demand for quality fleece increasing from year to year and breeders throughout the country and overseas always looking for quality genetics to add to their breeding programs.



# THE MIRACLE OF BIRTH

Captured in pictures by Steve Marshall – Stansbury Alpacas SA

Narrative by Carolyn Jinks – Co- Author – Alpaca Breeders Reproduction Handbook

## STEVE'S COMMENTS

*"I have been breeding alpacas since 1997 and it wasn't until 2001 that I finally saw an alpaca being born. I found it interesting that everything seemed to stop when the head and neck are out while the lungs drain. The dam even started eating hay at one stage. If I hadn't been told this was normal, I think my nervous wait would have turned to panic as this stage lasted 18 minutes. However, the shoulders were pushed clear and it was all over in another minute."*

## CAROLYN'S COMMENTS

*"Congratulations Steve, you have provided a classic sequence of photographs of a normal birthing. These pictures will enable breeders to become familiar with "normal" and to be more alert should problems arise"*

**2.** The vulva appears at bursting point prior to the nose appearing



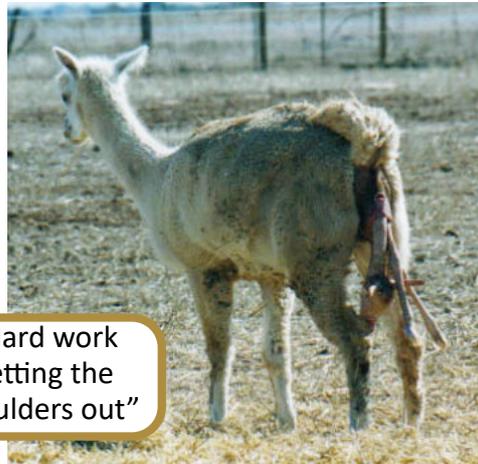
"Is this a hunger pain?"

**3.** The head appears and should be quickly followed by –



"Nose first, head and....."

**6.** Labour recommences with strong contractions to push shoulders of the cria through



"Hard work getting the shoulders out"

**8.** A proud moment



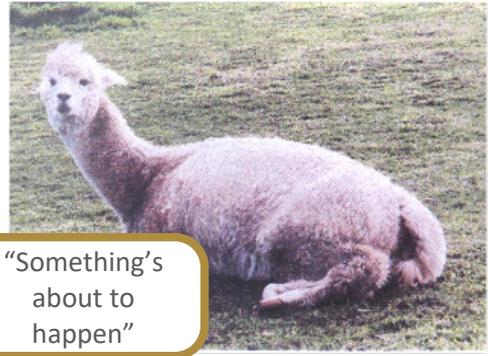
"Wow look what I've done"

**9.** The third stage of labour is a vital part of the birthing process and it is important to be aware that the afterbirth has been expelled and is then disposed of (the mothers don't eat it).



"More contractions? Glad that part of the job is done"

1. Body language can give signs of birthing imminence – ears back, restlessness, rolling, murmuring and sitting on one hip may be evident



“Something’s about to happen”

4. Two front feet which arrive above the head



“...toes”

5. Fluid can be seen draining from the cria’s mouth and cria are usually shaking their heads at this time. When head and legs are presented, mother may be into a rest phase, sometimes sitting or grazing. This phase averages 10 minutes.



“.....now legs just like the book said”

7. From then on gravity assists.



“Phew! Worst bit is over”

“Nearly there”

“Just one more push”

“Happy landing”

**NOTE :** At this stage it’s a good idea to perform a quick check of the cria. See that there is no membrane over the nose or mouth, no umbilical haemorrhage, teeth are erupted (run thumb over lower gums) and of course see what sex, then MOVE AWAY!

10. Many cria alarm their owners by almost commencing to suckle then popping out under the Mum. Don’t interfere, no matter how tempting this may seem.



“Lift your head you’re almost there!”

11. A beautiful miracle! 5 days old and looking great”



**Average birth weight is 7-7.5 kg and gain should average 1-1.5kg per week for the first four months. Some cria may lose weight on day 2/3 just as some human babies do, but if they are active be happy!**

# AUSTRALIAN MADE LABEL

If you are making your own alpaca products have you looked into using the Australia Made label?



**If you are making and selling under \$300,000 worth of product annually, for as little as \$300 per annum, you may be entitled to use the label, and their website to promote your products and take advantage of their considerable marketing and social media initiatives.**

With a renewed focus on buying Australian Made and supporting local manufacturers, Australians are seeking to do their bit to fast-track the country's recovery from COVID-19.

While this renewed pro-Australian sentiment presents an opportunity for Aussie manufacturers to expand their markets, it also presents consumers with a challenge—how can they be sure the products they are buying are genuine Australian products?

Australian Made Chief Executive, Ben Lazzaro, explained, "The 'made in Australia' claim has never been more powerful than right now. It tells consumers that the products that carry the claim are made to some of the highest manufacturing and safety standards in the world, with inputs often sourced from Australia's clean green environment. It also makes a compelling statement about generating local jobs and economic activity."

It's no surprise that products that carry 'made in Australia' branding are viewed in a positive light, even more so in the current COVID-19 and bushfire-affected retail environment. As a result, 'buy local' campaigns have gained momentum along with the emergence of new brands, retailers, social media groups and e-commerce platforms that seek to celebrate and promote all things connected with Australia.

So, what should consumers look for to be sure the products they are buying are genuinely Australian? Mr Ben Lazzaro, Chief Executive of Australian Made explains -

"Here, the famous Australian Made logo provides a solution for both consumers and businesses. As Australia's only registered country of origin certification trademark, the Australian Made Made logo is the true mark of Aussie authenticity,"

*Photos from Great Ocean Road Woollen Mill | Website: [gorwm.com.au](http://gorwm.com.au) | Ph: 458 717 260*





The Australian Made logo is Australia's most trusted, recognised and widely used country of origin symbol, and is underpinned by a third-party accreditation system administered by the not-for-profit Australian Made Campaign Ltd (AMCL). The logo can only be used on products which meet the criteria set out in the Australian Consumer Law and the Australian Made Logo Code of Practice.

For more than 30 years, the Australian Made logo has helped thousands of brands communicate their Australian credentials to consumers, businesses and all levels of government. It does this instantly and clearly, making it a powerful sales and marketing asset for authentic Aussie brands, and a helpful shopping aid for consumers around the globe.

To find out how you can register your products visit the Australian Made website at [www.australianmade.com.au](http://www.australianmade.com.au)

Photo from:  
Kelly & Windsor

Website:  
[kellyandwindsor.com](http://kellyandwindsor.com)  
Ph: +61 3 9357 0116



Photos from Los Andes Alpaca Shop | Website: [www.losandesconnection.com.au](http://www.losandesconnection.com.au) | Ph: 0401 661 112

## Recognition

99%

Almost all (99%)  
Australians  
recognise the logo

## Trust

88%

Australians (88%)  
are confident that  
products carrying the  
logo are genuinely  
Australian

## Preference

90%

Most (90%)  
Australians have a  
preference for  
Aussie products



# “Mums The Word”

By Linda Blake & Nic Cooper - Southern Alpacas Stud NZ

So, your alpaca has birthed, and all the focus is on the new cria. In all the excitement of heralding a new alpaca life, do remember the mum! Much has been written about cria progress, but not as much about mum.

Here are some crucial things to watch for in the mum once she has birthed - good observation is needed, and most of these will require your vet assistance. And as I always stress at the neonatal courses, do remember that 95% of births are normal!



***“Take as much interest in, and notice of, your dam after birth as you do before birth. Here Linda checks a mum immediately after a birth. All dams should be checked regularly in the days after birthing.*”**

## **Placenta Passing - within 6-8 hours of birth**

Watch for the placenta to appear, then check it for wholeness - smooth edges, no obvious broken bits. A torn placenta may mean that placental tags have been left behind attached inside mum and these can lead to infection, as can a retained placenta. The placenta should have passed within six to eight hours after birth, or for a late in the day birth, by early the next morning.

If mum has a placenta still attached and hanging out, let it come naturally. Do not pull it. If the mum has it attached several hours later, or has not passed the placenta at all, or you think not all of the placenta is out, get the vet. The vet may give an injection of oxytocin to help the uterus contract and expel the placenta, and may have to manually remove any bits of placenta and detach any tags.

Milk will flow much better once the placenta is passed. (photo - cria feeding with placenta out)

## **Too much fresh blood - on birthing**

"There's an awful lot of blood" - words that bring fear into my heart. Birthing involves blood, and you'll notice more on a white or light-coloured mum than a darker one. There will be some bleeding immediately after birth, but it should soon be just a dribble that stops within the hour. But a gush of fresh, bright red, blood can mean a tear or rupture inside. A mum can die in 10 minutes from blood loss and shock. Call the vet.

It can also be the placental cord breaking and not sealing off - which can affect both mum and cria. In the last stages of birthing the placental cord stretches, and this seals it off before breaking. If it is not stretched enough, as in an assisted or hurried birth, it may not seal, resulting in blood loss from both cria and mum. Act quickly.

For the cria, attach a clamp to its umbilical cord. Improvise with a clothes peg, bull dog clip, cotton tied tightly, or folding the cord and holding tight in your fingers, stretching it to seal.

For mum, if you can find the end of the cord inside her, stretch it between your thumb and fingers to create the sealing to stop the blood flow.

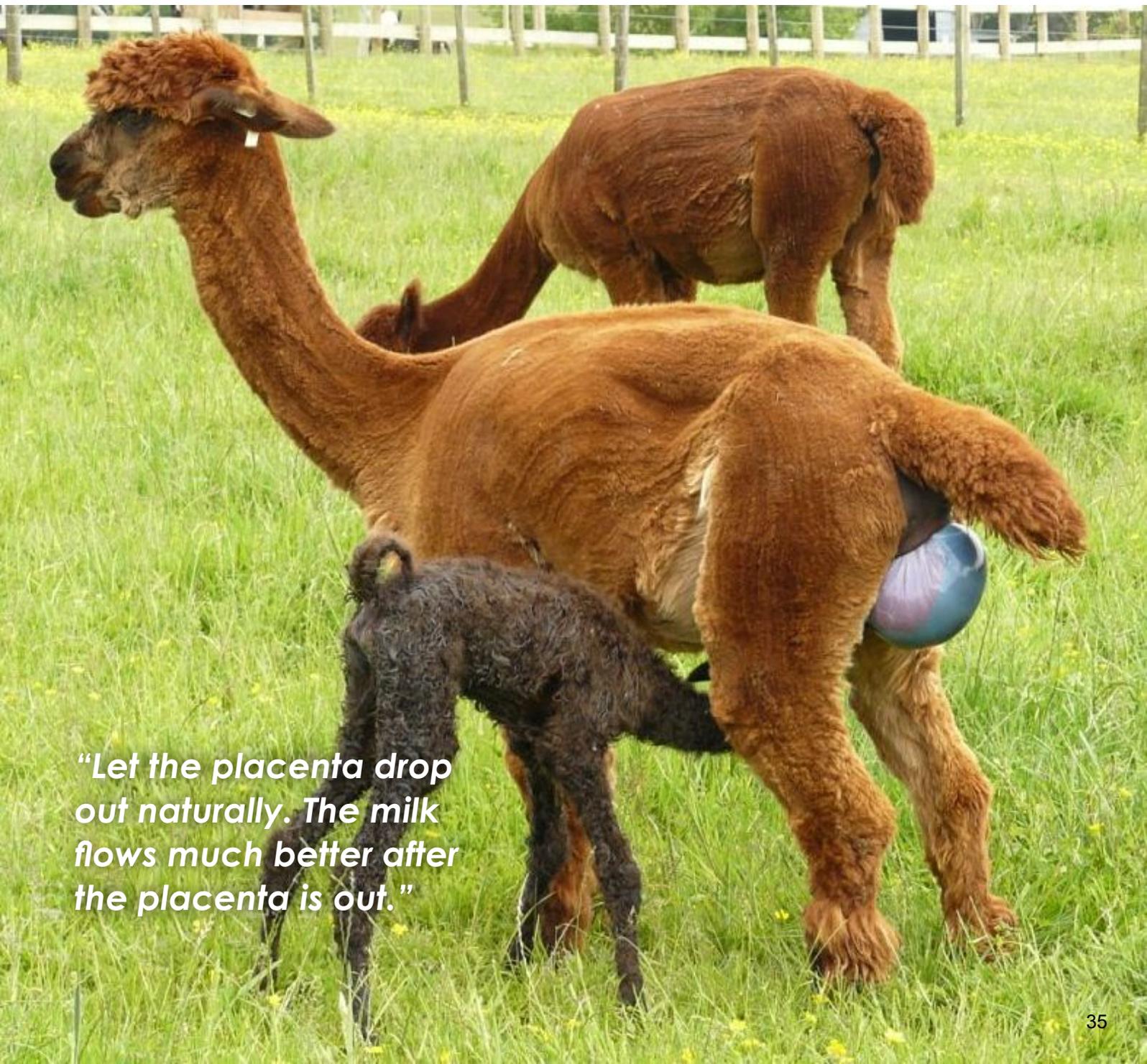
Or for continuing bleeding, apply pressure internally to stop the bleeding. Roll up a tea towel and put it inside a long birthing glove, tying the end, creating a long cylindrical tampon-like shape. Then lubricate this and gently put it inside mum. The purpose of this is not to absorb blood, but to put pressure on the wound or tear to reduce the bleeding. This object will eventually slide out, or your vet can remove it when they arrive to check and attend to the bleeding.

Blood can attract flies, so wash off what you can, and consider trimming back fibre that is blood caked.

## Tears - on birthing, and monitor after birthing

It is always a wonder to me how that small opening in mum expands to allow a cria to pass out. At times the sizes do not match - too small a mum or not enough softening of the tissues, or too large a cria - and then there may be tears. If you have any doubts at all, do physically check - lift the tail and check the vulva area. You can see any tears on the outside, but there may well be tears just inside as well.

If mum's uterus, vagina or vulva are torn or damaged in birthing, any repairs need to be attended to within 24 hours of the birth. Tears can also lead to internal scarring, which is counter-productive to a breeding female. It makes her difficult to get pregnant, especially if mating re-opens the scars and they bleed - blood is a spermicide. Or worse, it may make birthing difficult.



***“Let the placenta drop out naturally. The milk flows much better after the placenta is out.”***

Most superficial tears will minimise in size as mum contracts down. If flies are bothering mum, wash off blood and trim away bloody fibre. Clean the tears and apply a sticky antibiotic ointment like Betadine that will cover the tear. Antibiotic cover is advised for tears, preferably by injection.

Look under mum's tail daily for the first few days after birth. Watch for discharges and act quickly. Tears can infect really easily in the warm moist inside of a female. Do not delay - infections from birthing can kill the mum within days.

### Uterine Prolapse - during or soon after birth

"The placenta has passed, and now something else like it is coming out as well" said a client on the phone to me. What she was seeing was the uterus prolapsing - turning inside out and coming out. It does look a bit like a placenta, but it is fleshy and meaty in appearance and dark red, compared to the lighter red placenta which is translucent and usually full of liquid.

Uterine prolapses may be partial or complete, and they may have the placenta still attached. Act immediately - call the vet. Prolapses are rare - I've only ever been involved in a handful of cases.

The uterus remains connected to mum's backside, and hangs out, and it will start to swell. To stop it drying out and getting dirty, keep it clean and moist. Wrap a clean damp towel around it. This is far easier said than done, but mum may well sit down. Put a clean towel or ground sheet on the ground for the uterus to rest on, and lay a damp towel on top to keep it moist until the vet arrives to re-insert it. (photo – vet and uterine prolapse)

Have buckets of water and lots of people on hand to assist with restraint of the mum and help the vet clean and re-position the uterus. Usually an epidural is involved to stop mum straining, and help get this large object re-inverted and back in through a very small hole. Sutures may be used to keep the prolapse in.

### Vaginal Prolapse - before and/or after birth

"There's a big pinky bit of flesh protruding from one of the females", I said anxiously to the vet. I couldn't even tell which orifice it was coming out of. By the time he arrived, the female looked perfectly normal. Could she have pulled it back in again? Whilst we scratched our heads and watched, she kinda burped and then her vagina poked back out again! (photo – vaginal prolapse)

Vaginal prolapses can occur both before and after birth. Usually these are poked back inside and the opening sutured up to stop them coming back out. If this is before birth, it is important that you keep close watch so the stitches can be cut before the baby is born.



***A vagina partially prolapsing – this may go in then come out again.***



***A prolapsed uterus, after birthing. Keep it clean and moist for re-insertion by the vet.***

### Rectal Tear – prior to/during birthing

"It looks like the cria is going to come out the anus – you can see the head pushing in that area" say owners in fright. My reassurance falls on deaf ears as it does look ominous. Generally this is just the positioning for birthing and can start a fortnight before birthing. And the mum will birth vaginally.

I've only once seen the horrid results of a rectal wall tearing, where the entire uterus with cria inside it comes out the anal area. It is a quick death for mum and cria, from bloody haemorrhaging. I found mum dead on the dawn birthing round, but even if it had happened during the daytime watch, it would probably, with the bleeding, have still been death that resulted for both. (photo – rectal wall prolapse)



***A rarely seen sight, a cria in the uterus which has come out through a tear in the rectal wall.***

### **Other Discharges - within days of birth**

Now mum has birthed, take almost as much interest in her rear end as you did before birthing! Look under her tail when she is at the dung pile, and hold her for a closer look if she remains swollen in the rear.

Do check any discharges - a sniff will soon tell you if it indicates any infection in mum. Any yellow discharge, or pus, or a lot of blood, requires immediate vet attention.

Rarely seen, but usually passed a few days after birthing, is a thick pinky mucus or glob of tissue. To me, it looks and feels like the fatty bit I cut off the chicken meat before cooking it. This is normal and is of no concern. There may also be a small amount of fluid discharged, and it may be blood tinged, within the first 5-7 days of birthing. Again normal.

### **Assisted birth**

Any assisted birth, whether a dystocia or not, puts a mum at risk of infection. Antibiotic cover by way of an injection and/or insertion of a foaming pessary is essential - call your vet to do this as arm length gloves are needed to get the pessary in through the cervix, and it needs to be done before the cervix starts contracting down again.

### **Milky Concerns**

After a normal birth we like to hold mum and check her teats, stripping out any wax, and expressing the first few drops of milk, to make it easier for the cria to feed. We like to keep close watch and ensure that the cria is feeding within 3 hours or so of birth.

The milk often does not come down until the placenta has passed, so if the placenta is slow to come, then the milk may be as well. Mums seem to know this, and may not let their cria feed until they have milk.

If there is a lack of milk, it can be due to a nervous or first time mum, a poor milker, mastitis or udder edema, or refusal to let milk down.

You can get a mum to let her milk down quite quickly with an oxytocin injection, or you can painstakingly use a cut-off syringe to manually express the milk and collect it for feeding the cria.

Mastitis is an infection in the mammary glands. Indications are enlargement, tenderness, excessive warmth, or blood in the milk, and hence the mum may refuse to let the cria feed. Mastitis is rare and treatable. Udder edema is an accumulation of fluid in the tissue around the mammary glands, which may feel swollen and firm. The swelling may make the normal size teats appear small, and make it difficult for the cria to latch on. Call the vet in both instances.

Occasionally a mum will get one enlarged teat, which is usually an infection. Sniff the milk from the teat - do NOT taste it, as some of the teat infections are real nasty. Ask your vet for advice on whether to milk the teat out or let it stay engorged and dry that teat off.

If your cria is not getting enough milk, for whatever reason, you need to be on to it asap. Otherwise three days is about as long as the cria will last before it starves.

### **Weight and feeding - before and after birthing**

Feeding a cria can take a lot from a mum. If the mum is underweight or loses a lot of weight early in lactation, supplementation is desirable for the dam's health. We feed a high protein muesli mix to our dams in late pregnancy and early in lactation. Mums that have special needs are kept in a close paddock and supplemented individually.

### **Summary**

Take as much interest in, and notice of, your dam after birth as you do before birth. It will make all the difference to picking up any unusual signs that indicate she needs some health help. (photo – Linda checking mum after birth)

Re-assurance - all of the dreadful things described above can occur, and after a period of rest and healing, mum can be re-mated and will birth again. In all the cases I've been involved with - from prolapsed uterus to caesarean – the mums have gone on to have perfectly normal births next time around.

*Contributed article from Linda Blake, who along with Nic Cooper, had Southern Alpacas Stud in New Zealand for 25 years, until their retirement from farming last year.*

## Coronavirus: Alpacas could offer solution to COVID-19

By Samantha Robin - Media and Communications Manager  
The Walter and Eliza Hall Institute of Medical Research

In a global search for treatments against COVID-19, the humble alpaca may hold the answer.

Researchers at Melbourne’s Walter and Eliza Hall Institute are studying alpacas for the unique, extremely small, antibodies they produce – called nanobodies – in an effort to understand which of these antibodies are most effective in blocking SARS-CoV-2, the virus that causes COVID-19.

As part of the research, a group of alpacas in regional Victoria are being immunised with a synthetic, non-infectious part of SARS-CoV-2, the ‘spike’ protein, which sticks out from the surface of the virus.

Although this is not infectious, and does not cause the alpacas to develop disease, it allows the alpacas to develop an antibody response. Researchers then extract these antibody gene sequences to enable production of nanobodies in the laboratory, and examine them in the lab to see which are the most effective at blocking the virus. These antibodies could enable the development of new treatments against COVID-19.

Antibody therapies are already in clinical use for diseases such as cancer, inflammatory and autoimmune conditions.

The project’s lead researcher, Associate Professor Wai-Hong Tham, said her research program was searching for new antibodies that could prevent the COVID-19 coronavirus, SARS-CoV-2, from binding to human lung cells – the first step in the virus infection cycle.





“Our consortium is searching for antibodies that block the interaction between the ‘spike’ protein on the surface of the SARS-CoV-2 virus and the ACE2 receptor on human lung cells. These two proteins form the ‘lock and key’ system, through which SARS-CoV-2 invades cells. If we can block these proteins’ interactions, we can stop the virus infecting a cell,” she said.

Associate Professor Tham said her team were using the nanobodies to evaluate which ones were the most potent.

“We are able to extract the nanobody gene sequences from the immunised alpacas to enable the production of millions of nanobodies in our laboratories,” she said.

“We can then select the nanobodies that bind to the ‘spike’ protein, and test which nanobodies are the most effective in blocking the virus from entering cells.”

Associate Professor Tham said the nanobodies from alpacas were particularly useful in combating COVID-19 due to their small size and might be able to block the virus in different ways compared to conventional antibodies.

“Nanobodies from alpacas are ideal for the development of novel viral therapies, as they are highly specific and robust,” she said.

“Once we know which nanobodies are the most potent in blocking the virus, we can use this information to develop antibody-based therapies that could be safely and effectively used in humans.”

Antibody-based therapies can be used both to prevent and treat disease and are particularly useful in older people or those who are immunocompromised, who may not be able to mount a robust immune response to a vaccine.

Vaccines elicit an immune response in humans to produce antibodies, whereas antibody-based therapies deliver the effective antibodies directly.

However, antibody-based therapies would only be effective while a person was receiving the therapy and would not provide long-term protection, as something like a vaccine could.

“We are in the early stages of this research and there are a number of steps that need to take place in developing the therapies, as well as clinical trials, before this antibody-based therapy could be used in humans but we are hopeful antibody-based therapies could offer one potential solution to COVID-19 and could be used alongside other treatment methods to combat this global pandemic,” Associate Professor Tham said.

The antibody-based therapies research program against COVID-19 brings together the expertise of Victorian and Australian academic and industry leaders in infectious diseases and antibody therapeutics at the Walter and Eliza Hall Institute, the Doherty Institute, CSL, Affinity Bio, CSIRO, Burnet Institute and Kirby Institute. The research has been funded by the Medical Research Future Fund and the Victorian Government.

# Coronavirus: Llamas provide key to immune therapy

By Victoria Gill Science correspondent, BBC News



As Fifi the llama munches on grass on a pasture in Reading, her immune system has provided the template for a coronavirus treatment breakthrough.

Scientists from the UK's Rosalind Franklin Institute have used Fifi's specially evolved antibodies to make an immune-boosting therapy.

The resulting llama-based, Covid-specific "antibody cocktail" could enter clinical trials within months.

The development is published in Nature Structural and Molecular Biology.

It involves "engineering" llama antibodies, which are relatively small, and much more simply structured than the antibodies in our own blood. That size and structure means they can be "redesigned" in the lab.

### Unlocking coronavirus

Professor James Naismith, director of the Rosalind Franklin Institute - and the lead researcher - described the technique as akin to cutting a key that fits the coronavirus lock.

"With the llama's antibodies, we have keys that don't quite fit - they'll go into the lock but won't turn all the way round," he said.

"So we take that key and use molecular biology to polish bits of it, until we've cut a key that fits."

Antibodies are part of what is known as the adaptive immune system; they are molecules that essentially morph in response to an invading virus or bacteria.

"Then if you get re-infected," explained Prof Naismith, "your body looks for any [virus particles] with antibodies stuck around them and destroys them."

This type of immune therapy essentially boosts a sick person's immune system with antibodies which have already adapted to the virus.

There is already evidence that antibody-rich blood, taken from people who have recently recovered from the coronavirus, could be used as a treatment. But the key trick with this llama-derived antibody therapy is that the scientists can produce coronavirus-specific antibodies to order.

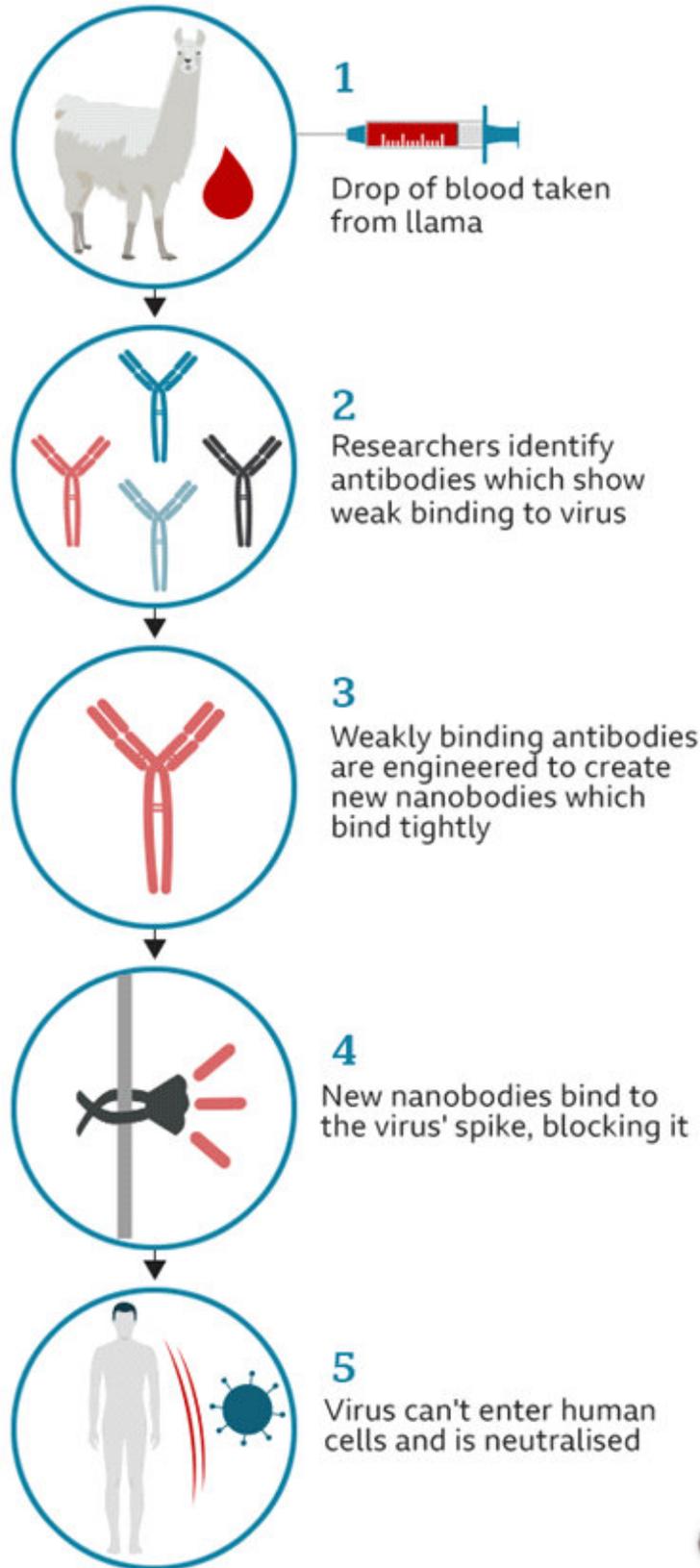
The small re-engineered part of the llama antibody is also known as a nanobody, said Prof Naismith.

"In the lab, we can make nanobodies that kill the live virus extremely well - better than almost anything we've seen," he added. "They're incredibly good at killing the virus in culture."

The nanobodies do that by binding - or locking onto - what is known as the "spike protein" on the outside of the virus capsule; disabling that spike prevents it from gaining access to human cells.



## How llama blood could help fight coronavirus

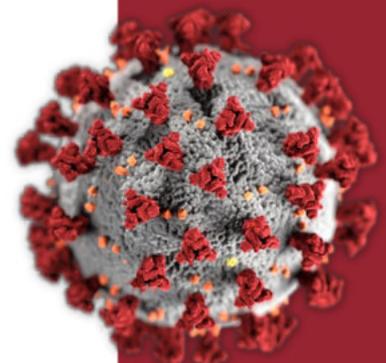


**Llama pharma**

"Essentially, we're doing in the lab what all immune systems do in the body," Prof Naismith explained.

"And we can do this very quickly, so if the virus changes suddenly, or we get a new virus, we can engineer new nanobodies in the lab."

The team is aiming to test its prospective therapy in animal trials this summer, with a view to starting clinical trials later in the year.





# Youth Event

Calvary Schools Livestock Challenge – 22 to 23 February

By Emma Haupt, 14

In February each year Calvary Christian College hosts the Calvary Schools Livestock Challenge which is endorsed by the Beenleigh Show Society. This event is designed to give students who are new to showing and judging livestock, or returning for another year, the opportunity to learn about the various breeds on show before putting their skills into action. Across the weekend students judged and handled alpaca, angora goats and sheep.

This year was our biggest yet with 140 students attending on the Saturday for the sheep events and 60 staying onsite/returning the next day for the alpaca and angora goat events. Eight schools from across greater southeast Queensland and up to Rockhampton were represented.

For the first time this year, we were lucky to have two alpaca judges fly up to Carbrook in Qld for the weekend event. Louise Charman facilitated our Parader events and Jillian Elwers-Holmes our Young Judges competitions. To say that things were a little crazy at times was an understatement, however, the professionalism of these two ladies ensured that every student had their time to learn and then practice their newfound skills. Over 80% of the students attending the alpaca events had never judged or shown an alpaca before.

Our parader events were held across both the Saturday and Sunday. Louise along with Courtney Gordon and Makayla Holznagel (apprentice) gave the students the knowledge they needed to take their animal into the parader ring. For many participants, this was the first time they had held an alpaca and they all took to the challenge with vigour. There were smiles all round as participants exited the ring acknowledging their sense of achievement. Thanks to Majeska Alpacas, Hawima Alpacas and Calvary Christian College for providing animals for the students to use.

On Sunday Jillian was front and centre, teaching the students the skills they needed in order to judge the alpacas and fleeces on show. Many of the characteristics that participants learned to look at in judging alpacas cross over to the other livestock they judge and vice versa. This helped them to really engage with what Jillian was teaching. There were lots of laughs had by all, which made the event very enjoyable for all. Harbak Alpaca Stud kindly provided the animals used for young judges.

The Calvary Schools Livestock Challenge was an amazing experience for all of the students, staff and parents who attended. It not only taught people how to judge and handle but also how to be respectful of others and work as a team. I recommend to anyone to get engaged with alpaca competitions and to have a go. You will not be disappointed.





# 2020 – The Year of Challenges

## AAA National Fleece Challenge 2020

By Paul Haslin & Lyn Dickson - Convenors

Well, what a year it's been so far. The challenge of fire, the challenge of drought, the challenge of flood and the continuing challenge of Covid-19. Our thoughts are with those who have been affected and are still affected by these disasters.

But what about a fresh challenge? This time a positive one.

We are all missing the challenges and rewards of the show ring for our alpacas. The opportunity to measure progress in our breeding programs, to market our genetics and simply to catch up with friends with common interests. Even those who don't attend shows miss the genetic improvement that flows from the competition.

Well, we can't return to the show ring for a while yet so let's take the time and opportunity to look closely at our alpaca fleece. As is often espoused – this is what our industry is all about. So here is a challenge to all alpaca breeders to look carefully at your fleeces and put them forward for the AAA National Fleece Challenge. If you are a regular fleece exhibitor you know the worth of evaluation by an independent, skilled judge. If you don't regularly enter fleece in shows here is the chance to make up for the lack of halter shows, where you might normally demonstrate your breeding achievements.

To give you the chance to show all of your best we have bent the rule restricting entry to one fleece per alpaca. For this

special show only, you may enter fleeces shorn in 2019 and 2020. To enable us to sneak this through the controls of the eAlpaca system, entries will be in two shows. One show to enter fleeces shorn before 30 June 2020 and another for fleeces shorn since that date. These two shows will then be merged into one for judging purposes.

Of course, you don't have to enter more than one fleece per animal but there will be a special prize for the two fleeces from one alpaca achieving the highest aggregate score.

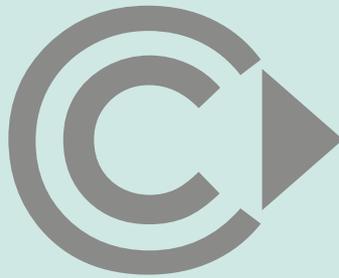
To make sure we can include as many fleeces as possible from the 2020 clip, judging will take place on 5th and 6th December 2020, with fleece delivery required by 20th November. Judging will be in age group format with cash prizes for age and colour champions.

Champions will be awarded and announced on a live stream event at the close of judging on Sunday 6th December.

Entries will open in mid-October, so now is the time to look over your clip from last year (we know many of you have kept those special fleeces aside) and plan the shearing of your show team for this year.

Let's rise to the challenge and prove that the Australian Alpaca industry is still very much alive and looking forward to a bright future!





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