

# ALPACAS AUSTRALIA

The official publication of the Australian Alpaca Association Ltd



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2010 Mic 19.2 SD 4.1 CV 20.2 CF 98.2

www.millpaca.com

#### Alpacas Australia

### Contents

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#### Alpacas Australia

### Messages from our President & Secretary Manager

Being a member of the AAA means we are members of a Region located somewhere across this vast land of ours which continues to challenge us with drought, floods and interesting weather patterns.

I trust that those of you who have been affected by any unusual seasonal conditions have been able to effectively manage those conditions.

Breeding and managing alpacas in normal conditions can have its moments particularly if it is birthing season let alone when weather conditions impact on our enterprises.

Sharing information with other members about animal traumas and difficult situations has always been one of the strengths of this Association and the AAA magazine has always been an excellent medium for that. This edition of the AAA magazine is available to members in both hard copy and online. It is the first time the AAA has utilised the strategy of a hard copy together with an online version for its magazine and I hope that either way you will not only find it a great read yourself but also a useful resource to share with others.

I hope that your 2012 cria will provide you with continued enjoyment and a satisfaction that your genetic decisions have been verified. There is nothing more heartening than looking at a new fleece and seeing heritable improvement; whatever the time of year or wherever as an AAA member you are.

With best wishes and kind regards.

Lenny McDuliffe

AAA Ltd. President

I feel very privileged to have spent time at the Sydney Royal Show over the past few days. The work that goes into putting on the displays and presenting alpacas to the public is immense and I must congratulate all involved in producing a fabulous showcase. Being new to the world of alpacas it gave me some much needed handson experience and a new understanding of the passion involved in this industry as well as insight into how that's possible. (I may have already caught the alpaca bug...) The friendliness and generosity of the members present was wonderful and I was able to observe how that spread to the public. I overheard people talking about alpacas a number of times both at the show and in the hotel lobby, and all were really positive with stories to go home with about watching the alpaca shearing, the judging and the fashion show.



The children were particularly enthralled by the shearing which was really informative and entertaining. This was a great way to mark the first three months of working with the Australian Alpaca Association. It has certainly been eventful with a diverse range of activities!

When I've been talking to members there have been recurring themes to the issues raised. They have been around the magazine and marketing. You may be reading this with a magazine in your hand or sitting at your computer, you are certainly telling us that you'd like to be able to do both. You're also telling us that you want to see more marketing and I hope you have all had the opportunity to see the nine page spread in Small Farms magazine. National Alpaca Week provides an opportunity to really shout about alpacas and I look forward to seeing many open farms and visiting some myself. If you have a story to tell, don't keep it to yourself – share it with me and the National Office team or your Regional Marketing Representative to make sure we keep alpacas in the public eye.



### News & Views

#### What animal am I? - Book Review

What a delightful book! With its endearing front cover photograph and bright green cover with its background of pasture, this is going to be a real winner with children in the lower primary school grades. A variety of huacaya alpacas are compared with a range of familiar animals and children are asked to identify the animal step by step through their distinct features - the big long ears; long neck; soft curly wool; big eyes; four legs; grass diet and their habit of sunbaking. We are then treated to some additional facts about alpacas and some extremely cute photographs of them.

The cover and binding is extremely sturdy and is sure to last through the many times it will be borrowed. The font used throughout is easy on the eyes - it would make a fantastic read-aloud book or one for parents to read to their emerging readers. Alternatively, beginning independent readers would also be bound to find it entertaining and informative. Highly recommended for inclusion in all primary school libraries.

Graeme Smith - Samakien Alpacas Teacher Librarian & Head of Library Services Immanuel Lutheran College, QLD



What Animal Am I? A CHILD'S GUIDE TO ALPACAS by Barb Game

New laws for transporting livestock in Australia What you need to know before the journey

New national standards for the transport of livestock (by road, rail and ship) have been developed. Unlike previous Codes of Practice, these standards are the same across all States and Territories.

They apply to alpacas along with other livestock species, including poultry. The standards aim to ensure good welfare practices for all livestock journeys and cover:

- Planning and preparation for transport
- Maximum time off water
- Fit to load (ie healthy and free from disease)

Visit www.livestockwelfarestandards.net.au for more information and to check the applicable standards.

#### Fair Air Fire Mask Update

The 'Fair Air' fire mask is now undergoing an official trial by the Victorian Department of Sustainability and Environment.

Initial feedback is very positive. Some of the staff involved have even asked if they can invest in the company!

RAAF firefighters based at the Australian base in the UAE have also tried the mask and are pushing for Defence to purchase them - dust is a huge problem in Afghanistan as it was in Iraq.

Mike Taylor is undergoing further research with the CSIRO into a completely new alpaca material to replace one of the two internal layers of the filters which removes the finest particles. The material currently used for this is imported from the UK. Results are expected in the next couple of weeks. 80 - 90% chance of success. Production issues seem to have been resolved (without going offshore). A Victorian country manufacturer will shortly be undertaking a production run of the filter holders. The Melbourne company that manufactures the special alpaca material for the outside of the filters will be making the complete filters as well. Mike can be contacted by email at danetaylortech@bigpond.com. 5

Advancing animal health in Australia AHA Ralph Hood 2012 Award

Animal Health Australia is inviting one nomination from each of its member organisations for this award. Each year, the AHA Board awards one \$15,000 grant in honour of Mr Ralph Hood, who was the Chief Executive of AHA from 2003 to 2007.

See www.animalhealthaustralia.com.au for more information. Nominations for the Award close 31 July 2012. If you are interested in nominating, please contact Margaret Dorsch, Director, Animal Health, Husbandry and Welfare, AAA Ltd.



#### Fibre

Article by Dr Ian Davison With input from: Janie Hicks & Ian Frith

## Sydney Royal Alpaca Display

The Sydney Royal Agricultural Society (RAS) Show is a huge event. Held over Easter for the last 190 years, it has grown to become Sydney's biggest public event, and the largest agricultural show in the Southern Hemisphere. For 21 years, it has also been host to what is now Australia's penultimate alpaca marketing event.

The raison d'etre for the RAS is showcasing the very best of agriculture from NSW and beyond to the general public, educating and entertaining the nearly one million people who pass through the gates of the Sydney showground complex each year.

For the past two years, the Australian alpaca industry has been given the opportunity to showcase its wares in a dedicated standing display in the heart of the Showground for the duration of the 14 day event. Housed in a permanent marquee called the Hordern Sprung Pavilion, it is a central feature of the "Animal Walk", a path along which some 200,000 visitors, mostly parents and children, wend their way wondrously each showtime.

The Pavilion is placed critically between the sheep pavilions on one side, and the cattle, pig and goat pavilions on the other.

Its brief is to educate and entertain its audience, whether they be hardened and sceptical farmers, doting mothers, or doe-eyed children. To attract its audience and effectively market the alpaca industry to a broad community, the designers of the Alpaca Showcase have focused on just one message to compete with the veritable deluge of information descending on show visitors.

That message has to embrace the alpaca's qualities of easy management, gentle temperament, pleasing appearance, and environmental sensitivity with which existing breeders are already familiar, progressing to the range and quality of products which it supports, drawing the audience to conclude that alpacas are a viable and pleasing livestock alternative.

This concept has been captured in the byline 'Alpacas: the friendly fleece', promoted through large swing banners suspended from the ceiling bearing a green heart-shaped logo constructed notionally from yarn, and supported by a professionally produced photograph of a young girl with an alpaca, done in soft colours and natural light.

This theme then diverts to the showcase of alpacas and alpaca products, supported by information boards with brief, clear facts and messages that can be quickly read and absorbed by show-goers on the move, as they pass between pens of alpacas, especially chosen for their quiet and friendly disposition, some in full wool, some shorn, and some sparingly adorned with golden glitter as an allegory of "the golden fleece".



ALPACA



# THE FRIENDLY FLEECE



The information boards promote the friendliness of the alpaca to the environment, pointing out the soft padded foot, the lack of fly strike, the clean breech, the morning birthing pattern, the economic feed conversion rates, the use of dung piles, and their gentle grazing habits. They then pass on to the people-friendly traits, including the alpaca's easy handling and management, its trainability, and its exquisitely soft and luxurious fleece.

On initially entering the pavilion, the public are immediately greeted by the alpacas and the supporting information boards, and then pass on to the displays. By far the biggest attraction was the shearing display by veteran shearer and entertainer, Jim Murray, accompanied by his dog Bindy, and his own alpaca, Coolaroo Kerry Al Packer.

Jim entertained packed audiences of kids and parents for four 45 minutes sessions each day, demonstrating shearing and handling techniques, and engaging the public on matters pertaining to breeding, handling and raising alpacas. Coolaroo Alpaca Stud provided a steady stream of alpacas for the shearing demonstration throughout the 14 days of the show.

A comprehensive display of alpaca products was presented by a range of willing sponsors.

Millpaca Alpacas, as a major sponsor for the second consecutive year, alerted the public to The Golden Fleece with their glittered alpacas, and introduced them to the concept of alpaca meat as a healthy and delicious meat alternative with their promotion of Illawarra Prime Alpaca, increasingly appearing on the menus of selected high end restaurants. Peter and Lyn Hartford, of Dairy Road Alpacas, provided a tireless performance of spinning alpaca throughout the full 14 days, backed up by a display of yarn and knitted products, while Marion and Michael Jack, of The Australian Alpaca Barn, showcased a full range of alpaca fashion ware.

Bill Ham, representing House of Alpaca, had showgoers entranced as completed alpaca scarves fell from his working loom before their eyes.

The Australian Alpaca Centre contributed for the second year, this time with a static display, whilst Lesley Shea transported three glassed showcases of elite all-Australian fashion garments from Melbourne to Sydney to support the event.







### THE FRIENDLY FLEECE



The public response over the two weeks was huge, with around 15,000 people per day passing through the pavilion, and sponsors taking orders and fielding enquiries from a wide range of people.

The interactive displays engaged visitors ranging from fifth generation broadacre farmers diverted from the mainstream events in adjacent livestock pavilions, to curious children on school excursions.

The overarching theme has therefore to convey both the specific message that alpacas are a serious livestock alternative, an established and growing part of the Australian agricultural economy, as well as the more general message that the alpaca is an eco-friendly addition to the Australian landscape, delivering hitherto undiscovered luxury in fleece and meat products.

The emphasis is on the versatility and viability of the alpaca industry, whether the end product be fleece and textiles, meat, hides, pelts, herd protectors, or simply companion animals for small land holdings. The Alpaca Showcase delivers on all fronts as Alpacas: the friendly fleece, a theme which it, alone, is uniquely placed to deliver.

The Alpaca Showcase depends upon the generous sponsorship and support of the NSW RAS, driven by Councillor and alpaca representative, Janie Hicks, which makes the pavilion available to the industry without charge, and who subsidise it to the tune of over \$10,000. It also depends hugely on the enthusiasm and commitment of a small team of workers, led indefatigably by Sharon Dawson, Keryn Burns, Karen Tan and their families, and the generous sponsorship of Millpaca Alpacas, Dairy Road Alpacas, the Australian Alpaca Barn, House of Alpaca, The Australian Alpaca Centre and Coolaroo Alpaca Stud. Jennifer Worland and Pat Jones, both previously from the Royal Melbourne Institute of Textiles, gave hugely to the educational impetus of the display with their specialist knowledge of alpaca and its unique place in the world of textiles.

The Alpaca Showcase of the Sydney Royal Easter Show is a hugely effective marketing exercise for the alpaca industry and its sponsors, putting the alpaca story and its products in front of an estimated 200,000 pairs of eager eyes.

It is intended that it become a permanent part of the Sydney Royal Easter Show, and the RAS of NSW will be looking again for sponsors in 2013 who are prepared to put in the time, money, and energy to promote their enterprises and the alpaca industry to the people of NSW in an entertaining and educational context, embracing innovation and excellence.

Should that opportunity appeal to any reader of this article, they are encouraged to contact Janie Hicks at coolaroo@hinet.net.au





Combining the best of Old World Genetics with New World Technology

# Underwritten by 25 years of unwavering commitment to a long term, fleece-based industry...

*coolaina* combines the best of Old World genetics with New World technology. Its breeding programme is based on the trilogy of advanced SRS® breeding principles, embryo transfer, and scientifically derived estimated breeding values. This partnership consolidates the long and strong relationship that exists between these two highly respected and successful alpaca studs, combining herds run in the NSW regions of New England, South Coast, and Southern Highlands, and extending to the Pilbara region of Western Australia, exploring new frontiers in the commercialisation of the industry.

### New Breeder & Introduction to Alpaca Workshops / Sales: Enquiries: Janie 041 999 555 3 email: ian@illawarraalpacas.com

#### Fleece Marketing

Article by Jenny Cornwall Rhiwderyn Alpacas & Paco Molino Mill

## From Paddock to Product



I have always believed that alpaca felt was a product that was under valued. Gradually with increasing knowledge and experience it became evident that there was the potential to retail these products.

Initially it was in markets - from rural tourist venues to busy city farmer markets. This on reflection provided valuable marketing, public feedback and product ideas that have allowed me to now feel comfortable moving into a static retail outlet in my local town of Toodyay. A group of local business from organic producers of honey and olive oil through to local artists and potters have leased a fabulous heritage building in the main street which we run using a co-op structure.

Foundation members man the shop 7 days a week. Being only forty minutes from Perth we cater for tourists as well as the local community. It is now six months down the track and everyone involved is very positive about the future.

What do I produce? The range now encompasses highly sellable nuno felted alpaca on silk scarves, designer nuno felted tabards and solid felted waist coats through to alpaca felted organic soap. I started off with friends learning to felt and got hooked. These days hand felting is not the hard work it used to be. Electric sanders, driers, imagination and a little bit of elbow grease is what it takes. How can I value add to my small alpaca business? - that was the question I have asked myself several times over the past 10 years. Initially I entered the industry with the single view of breeding up my suri girls to produce high quality offspring which could be on sold.

However drought, expensive feed and limited acreage have encouraged me to seek new directions. Three years ago I imported a partial mini mill to provide some on farm income.

However this was not fulfilling my urge to really highlight alpaca products in the public arena. So yet another twist in my alpaca journey unfolded.

How can I sell alpaca felted products in our hot climate all year round when it is known for its brilliant insulation properties? That was a challenge, but you can!

Whilst sales may not be quite as active when it is over 40 degrees it does give you time to start developing product for those busy Winter months ahead. Keep up to date with fashion trends locally and overseas including styles and colour.



Yes I do have an advantage being able to process my own fleeces but it is doable by hand. I have an area in the shed that is always set up ready to go, why not mix alpaca with silk and other fibres to enhance and provide that uniqueness we are so proud of?

What if it does not work out? – "No worries" as it can always be laminated in some shape or form to another piece. Some of my most exciting items have come from mistakes! Add to that over-dying using your own dye colours and it can stand out as your artistic creation.

What factors do I use to promote Paca Molino?

- Change display monthly to maintain local and tourist interest and promote return visits. I use photos which can allow a critical overview on reflection at home.
- Clearly label items as "locally grown & processed" "hand felted, etc.
- Target product to specific groups e.g. overseas visitors or gifts.
- Cater for all age groups and financial abilities.
- Maintain stock levels.
- Listen to feedback and not be limited to self preferences.
- Network with local groups of like minded people to feed one's creative juices.
- Ensure variety and growth of product e.g. spinning and felting groups .
- Attend ongoing workshops to increase abilities and ideas.
- Showcase your garments at fashion shows.
- Keep up to date with fashion trends locally and overseas including styles and colour.

Market product utilising various mediums such as web page, rack fliers and local newspapers.

Hand made items will always be limited by your own drive and capacity to produce the end product. This is why it is so important to mix with like minded friends and colleagues who can help feed and stimulate your creative juices and keep you fresh in ideas.

Yes it is time consuming and discipline does come into it. After all whenever you sell an item - oops, have to make another!



Is a premium fibre orientated animal breeding program structured towards the development of supplying a commercial quantity of natural premium fibre, by increasing the number of prestige fleece animals able to meet the high standard of the premium fibre markets.

- Access outside bloodlines.
- Increase your herds fibre producing pedigree without the monetary limitations generally experienced.
- Become a premium fleece breeder.

www.triplegalpacas.com.au



After 20 years in the industry, we are offering our breeding stock for sale.

#### On Offer:



2

#### Genuine Sale

We will not be going to auction so speak to us today. Inspections are welcome.

e: <u>nicolas@camelotalpacas.com.au</u> ph: 03 5427 0165 mob: 0414 367 911



www.camelotalpacas.com.au Andrew & Julien Nicolas

#### Commercial

Article by Romano Favari

### Alpaca: What the processors really want

I arrived in this Country in 1961 and vividly remember my migrant brother telling me, "You will never be hungry in Australia, because we can feed on 220 million sheep".

In 1989, Australia had 173.80 million sheep and a wool clip of 960,000 tons. In 2010 the figures were 75 million sheep and 360,000 tons of fibre respectively, 95% of which contributed AUD 2.3 billion to our exports.

How important is wool today as a world fibre?

Of 62 billion kg of fibre produced, 38 billion are manmade and 24 billion kg are natural fibres of which cotton makes up by far the largest proportion.

Even so in 2009, in terms of world fibre production, wool contributed 1.1 billion kg. World wool production is 1.8 % of world fibre usage. By comparison alpaca represents 0.01% of world fibre consumption. There is a long way to go and plenty of room for development for shrewd investors.

Who was and is making money on the "sheep's back"?

"The way I see it, the farmers are getting (paid) crap for their wool. Knitters and spinners are driving around in Porsches and farmers in old Holden utes. But I don't know how to change it. In the history of wool, we have never started with the customer and worked back....

"If there's one thing I would say to woolgrowers, and it's just my opinion, it is that we have singularly failed as an industry, ever, to start with a clear view of the needs of the customer and the properties of the product and worked back and produced that. We have always been a production-oriented business. And that's served us well for many years, but that's simply not the way of the world these days." In other words, this wool grower is saying that you have to understand as much about marketing as you understand about your fleece if you want to improve your lot as a fibre producer.

Today the spinners, knitters and weavers are also poorly paid whereas the marketers, producers and retailers of internationally recognised branded products are the ones travelling in private jets.

#### The Australian cashmere success story

Australian cashmere is a more recent fibre success story. The source of the "Fibre of the Kings" is the Cashmere (Kashmir) goat.

As is the case for alpaca, the goats produce a soft under down of hair commingled with a straighter and much coarser outer coating of guard hair. >



Join us for our very popular residential weekend for new alpaca breeders at Flowerdale Estate . These winning, retreat for up to 60 people. "Introduction to Alpacas" workshops attract participants from all over Australia and New Zealand.

#### The Program.

Workshops include classroom learning and hands-on sessions in the barn working with the alpacas. Participants learn the basics: halter training, chuckering, weighing, bodycondition-scoring, nutrition, mating, spit-offs, birthing, cria care, weaning, shearing, fibre classing, vaccinations, drenching, toenail trimming, business plans and record keeping.

#### The Venue.

Flowerdale Estate is an award-Stay in luxury accommodation and let the chefs tempt you with their delicious menus. These workshops have provided a wonderful opportunity for new breeders to network, socialize and have fun. Many lasting friendships have started at these weekends.

#### The Weekend Package.

Make it a special weekend of learning and leisure. Play some tennis. Workout in the gym. Enjoy a sauna or challenge someone to a game of pool. At the end of the day, relax with a pre-dinner drink and a savoury or two.





There are sessions on goal setting, genetic advancements (SRS and AGE data usage), selecting quality alpacas, farm plans, pasture improvement, herd development strategies, succeeding in the show ring and marketing alpacas.

### WORKSHOPS FOR NEW BREEDERS.

The complete weekend price per couple is \$625. Singles are \$425. The package includes accommodation for Saturday night, Saturday and Sunday lunch, morning teas, Saturday night dinner, use of recreational facilities, workshop tuition and course materials.

#### Bookings.

Attendance numbers are limited and fill quickly. Complete details including the weekend program, directions and booking forms are on the website now at www.flowerdalealpacas.net

Or phone Jen on 03 9728 7070.





Details on website www.flowerdalealpacas.net Sign up today.

### FLOWERDALE ESTATE ALPACAS

In order for the fine under down to be sold and processed further, it must first be de-haired. De-hairing is a mechanical process that separates the coarse hairs from the fine hair and after de-hairing the resulting "cashmere" is ready to be converted into yarns, fabrics and garments.

In the United States, the U.S. Wool Products Labelling Act of 1939, as amended, (15 U.S.C. Section 68 (a)(6), states that a wool or textile product may not be labelled as containing cashmere if:

a) Such wool product is not de-haired undercoat fibres produced by a cashmere goat.

b) The average diameter of the fibre of such wool exceeds 19 microns.

c) Such wool product contains more than 3% (by weight) of cashmere fibres with an average diameter that exceed 30 microns.

d) The average fibre diameter may be subject to a coefficient of variation around the mean that shall not exceed 24%.

These criteria are food for thought when compared to the present characteristics of Australian alpaca.

#### Australian cashmere

"For years cashmere has been cultivated by just a few enthusiasts, trying to secure their piece of a competitive market dominated by the Chinese and till recently, they have been forced to send their fleece off-shore for processing. Well now the industry is in a good position to expand, thanks to our first commercial de-hairing machine."



Cashmere's world estimated raw clip is 20 million kg per year.

This is reduced to just 6 million kg after de-hairing and scouring. China and Mongolia contribute 50% and 30% respectively.

Comparing Australian alpaca and Australian cashmere, some salient points to note are:

- Peru dictates the price for alpaca.
- China dictates the price for cashmere.
- Cashmere growers in Australia de-hair their fleece and can value add locally.
- Alpaca growers in Australia do not de-hair their fleece, but we know that de-hairing processing is available in Australia.
- Quantities of alpaca and cashmere are almost negligible in the world fibre market.

#### The "not so successful" cashmere story.

Cashmere goats live predominantly in the high plateaus of Asia with the largest populations being found in the north-western provinces of China (Inner Mongolia, Xinjiang, Gansu, Shanxi, Shaanxi, Qinghai and Tibet), Mongolia and Iran.

As mentioned previously, the world estimated clip is 6 million kg after de-hairing and scouring. The down fineness is 7 to 14 microns (with an average of 14 microns) and the best fibres come from China.

#### Compare Australian and Peruvian alpaca and Mongolian and Chinese cashmere in supply terms.

The cashmere industry in Mongolia, a country of 2.5 million people half of whom are pastoral nomads with small herds, is facing many challenges, including external factors such as globalization of the market and trade and internal factors for example the environment, the coarsening of Mongolian cashmere fibre and Government policies that affect the cashmere industry in Mongolia.

Mongolia's cleaned and de-haired cashmere production is 3 million kg per year, from which it would be possible to manufacture 16 million single ply women's sweaters or 2.5 million quilts. Herders can sell their cashmere to the Chinese, to Mongolian traders, or directly to Mongolian processing plants. > Mongolian herders would rather sell to Mongolians than to China, but many cannot afford to do so because the Chinese pay more for raw cashmere than Mongolian traders and processors do and they pay in cash. The processing plants in Mongolia are going under because they do not have enough goods to run at capacity due to Mongolian herders selling their cashmere to China. Also the Mongolian cashmere price is dropping due to the coarsening of the fibre from a former average of 14.5 microns up to 17.9 microns now.

This micron increase has alarmed the Ulaan Baatur cashmere processors because they have predicated their business plans on the availability of quantities of very fine fibre. Mongolia's five major cashmere processors (as well as the ten minor ones) have turned to the international aid community seeking help to reverse this trend.

This drift to coarser fibre diameters has meant that a larger percentage of Mongolian cashmere cannot be used for high-priced garment manufacture. This is the single most important factor impeding the development of the industry.

Quality cashmere commands a 30 to 40% price premium in international markets, and the coarsening of Mongolian cashmere cost herders about US\$16 million in 2001, equivalent to a 20 % drop in income for the average household with livestock.

Alpaca is not as important to Australia's economy as cashmere is to the Mongolian economy but it could become important. It is up to the alpaca growers to achieve prominence and to persuade the politicians and local processors of the potential.

- 100% cashmere is priced at \$(US)180kg for a worsted spun yarn of for example: 2/45Nm count, and \$(US)130Kg for woollen spun yarn of 2/26Nm.
- By comparison Peru exports alpaca tops of 22 microns at \$(US) 22.50kg.
- Peru does not export tops below 22 microns.
- Australian alpaca growers need to supply commercial quantities and get a good story together in order to achieve cashmere's dizzy heights.
- Australian alpaca growers need to choose the micron parameters as a matter of urgency.

This is what processors really want

- We want quantity
- We want the right fibre type
- We want quality
- We want the lowest and and steadiest price
- We want traceability
- We want to value add in Australia
- We want investors lining up to become Alpaca growers and processors

#### We want quantity

There are "minimum batch" limitations imposed by textile machines. For example: Velieris can scour 180 kg per hour in their scouring plant. In order to help the industry Velieris is prepared to do one bale of same fibres characteristics. They charge a reasonable price for the service.

De-hairing in Australia is \$(AUD)10.00/kg.

In Italy to de-hair less than 100 kg is 50 euro/kg.

In China for less than 100 kg it is \$(US)10.00/kg.

There appears to be no problem with fibre being available from 26 microns up, but there are major problems below that micron.

We have no Australian worsted spinner willing to produce tops/yarn in alpaca. A worsted spinner, to invest in plant purchase or commissioning, would need enough business to justify the investment. >





Velieris may have a figure in mind of how many tons they would need to justify the commissioning of their plant.

At present more than 50% of annual fleece production is locally processed, carded only and goes into quilts. A further large percentage goes into blankets, rugs and scarves. The balance is sold to Peru, is hoarded or is bought by locals for overseas manufacturing.

Processors can and do stretch the quantities of alpaca available by blending with other fibres.

#### We want the right fibre type

Colour, micron and length should match the needs of your processors. Micron dictates the Nm or Tex that can be spun. A finer yarn for example a worsted 2/48 Nm yarn is impossible to spin effectively with a 22 micron top.

#### Length

Short fibres are unsuitable for worsted spinning. A length of 40 -100mm is best. Length should be within the spinners' variation limits. There is no room for overgrown fibre. In the carding process, as you move from 57 to 109 mm fibre length, the fibre breakage increases from 19 - 43%.

The baling process leads to further fibre breakages. If you use wool presses at 300 - 500 tons pressure to fill a 150kg bale the alpaca fleece will get just as entangled as wool and suffer accordingly, resulting in an estimated 20% fibre breakage.

To compound the problem vegetable matter (VM) also adds to fibre breakage during carding, 0.5% - 2.0% VM contributes 10 - 20% fibre breakage.

#### Colour

If your white/light fawn fleeces have medullation issues, processors get a "melange" look in the yarn spun from them due to uneven dye absorption. If you have a fibre with all the guard hair and medullated fibre removed then aim for white or light fawn. White or light fawn fleeces give manufacturers colour flexibility, larger batches per colour and depths of shade which are far superior to the narrow palette of natural colours available from coloured alpacas. Natural, undyed alpaca colours miss out on colour fashion trends, for example purple has been the fashion industry forward colour trend for the last 2 years.

#### We want quality.

#### Impurities

Processors need a fibre supply and a scouring process that yields more than 90%. Alpaca contains small quantities of impurities such as dust, sweat, dirt, ash (sand and soil) and some VM. Remove as much of this impurity as possible. Processors do not want to pay for it and do not want the scouring people to tell them that they had only 75% yield because your fibre was excessively dirty. Avoid high and tenacious VM content.

Velieris do not carbonise your alpaca and in China the carding section must remove the VM with hand-held steel pinned brushes.

For your benefit, my experience on three continents is that dirty alpaca attracts a 25 - 30% loss in scouring. The scourers apply percentage loss as they would usually apply it for wool scouring. So it costs processors more money, they never know how many kg will have to be scoured to make 100 kg of clean alpaca and, even worse, alpaca competitors are created in other countries with our "invisible alpaca" loss. >





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#### **Clean Yield**

Processors want to pay for a yield based on bone-dry, extractives free alpaca fibre. Commercial yields are used in national and international import/export transactions. Scoured alpaca fibre, or more likely tops purchased from Peru is sold by weight. The price charged is for "ovendry +18.25 % moisture regain" eg: "100kg oven-dry +18.25kg regain".

#### Crimp

Alpaca fibre has low crimp and its surface is smooth, thus both carded and combed slivers lack fibre cohesion and are hard to process. If processors want to do a good job and aim for higher profit margins they need to blend alpaca with other fibres, for example with wool, silk, cotton or man-made fibres such as bamboo and particularly nylon etc. The lower the crimp the higher the percentage of added fibre will be. Wool has a much higher crimp and a denser and higher scale structure than alpaca, thus the wool features assist fibre cohesion and it is deemed to be the ideal alpaca partner.

#### Fibre testing and certified reporting

This is a must if alpaca production is to grow as a viable industry. The Australian Alpaca Association (AAA) is moving very rapidly in this area.

#### Classing

In accordance with the CSIRO recommendations for the Rural Industries and Development Corporation 2003, AAA is moving towards tighter specifications regarding micron ranges, crimp, length and colour.

#### Guard hair

Eliminate guard hair! Learn from the cashmere people. Guard hair fibres are coarse, medullated and prickly. To remove guard hair, fleeces have to be de-haired which is a costly and skilful process.

"If an Alpaca has fine micron primary fibres as well as high levels of fibre density and fibre length it will have less guard hair."

So de-hair now and fix this problem genetically over time!



#### Medullation

Medullation occurs when an animal fibre has a hollow or partially-hollow core. A fibre is classified as *medullated* when it has a medulla diameter of 60% or more of the diameter of the fibre.

In this state it often takes up dye in a different manner, thereby accentuating its presence. In many uses, particularly in apparel, medullation is undesirable. When alpaca yarn is dyed, the higher the percentage of medullated fibres the more accentuated the 'melange' result will be. Eliminate medullation!

#### Softness

Alpaca is described as a soft and luxurious fibre. It is no more so however than cashmere, vicuna or mercerised soft wool, rabbit, possum or superfine manmade fibres. However, for alpaca we have created a vision of "prestige softness" as the number one characteristic. Softness derives from finer microns, lower bending modulus and relatively smooth surface which are the features of alpaca.

A good marketer knows that you push only one feature or benefit, otherwise you dilute the message. Don't look for other benefits.

#### Pilling

Knitted alpaca yields fabrics which have less propensity to pill than wool or cashmere, but their surface is fuzzier than wool fabric. This fuzziness is not a problem in woollen products but may be a negative in fine worsted suits and upholstery fabrics. Marketers should not be apologetic about this feature. Here is a quote from a care instruction label which shows that cashmere does not apologise for its poor pilling resistance:

"In order to avoid pilling caused by friction, the lining of the outerwear rubbing on the cashmere should be slippery. Never load pen, booklets, wallet or other hard materials in pockets.

When the cashmere is worn you should minimise the friction between the outside of the cashmere garment and hard/rough surfaces....

Avoid fibre fatigue and allow for recovery of fibre elasticity, since the garment is not suitable for long term wearing and about a 10 day interval is needed." >

#### Prickle

As I mentioned before comfort factor is the percentage of fibres greater than 30 microns subtracted from 100%. The word comfort is a marketer's positive "spin" on the original term "prickle factor". This feature is progressively more disturbing as you move from carpets to high fashion items. Carpet people like the bulk which fibre diameters greater than 30 microns provide but prickle is a disaster to a high fashion producer, a scarf producer or in fact for the producer of any product where the 30 micron "prickle" comes in contact with the skin. Prickle is mostly a result of fibre micron. Any fibre that you supply above 22 microns will tend to prickle and to be a threat to fine alpaca fibre processors because it becomes the weakest link in the manufacturing chain.

#### We want the lowest and steadiest price

If you want to maximise returns and want us to pay more money for your fleece, grow an alpaca that has:

- Thousands of other alpacas in the same paddock.
- Very low micron.
- No prickle.
- Increased crimp so that you can spin it with ease .
- Low SD.
- White or light fawn colours.
- Length is not a major issue, the spinning systems available will dictate length.
- More fleece per animal, perhaps the alpaca should end up like merino, fibre up to the nose.
- No guard hair.
- No lingering blow out.
- No medullation.
- Supply biased in favour of local processors.
- A recognisable and eagerly sought "Australian Alpaca" brand.

#### We want traceability

If we want to export to "brand conscious" countries then traceability is an absolute necessity. If we want to brand a product with an "Australian Alpaca" logo there be must absolute transparency and control throughout the value adding process.

#### We want to value add in Australia

No support from the local industry? This is untrue! There are numerous businesses and some more frustrated than mine in trying to obtain a steady supply of alpaca fleece in both quantity and quality. Velieris, Creswick, Waverley, Kelly & Windsor, Zenger, The House of Alpaca, Alpaca Ultimate and AAFL to name just a few and many others with whom I have no contact and beg forgiveness for not naming them. Many of us want tops, if we have tops we can value add.

### We want investors lining up to become Alpaca growers and processors

For the last 2 years the world economy has been dreadful. Many countries in the world have no money, but rather a tsunami of debt. The Chinese have estimated that in derivatives alone there are \$(US)600 trillion floating around, equivalent to 10 years of the World's total GDP, backed by overvalued collateral assets.

There is no cash around and thus economies suffer, the middle and lower classes suffer and to survive, these classes cut back on food, clothing and entertainment. Yet Mercedes and BMW are relatively unaffected. Nor are cashmere and alpaca, nothing stops prestige fibres, only poor marketing and shoddy products!

If we want to have an alpaca industry we have to create a "sunrise industry".

We need a politician who has the vision, determination and commitment to champion our industry and channel investments into it. The Government is already supporting the exporters, TFC and Wool authorities, alpaca must be the next challenge.

Romano Favari BSc, Dip ED, MBA commenced his career as a weaving apprentice and retired as CEO. His career has encompassed many aspects of the textile industry including production and quality control, marketing, textile manufacturing for fashion, furnishing, automotive and other industries.

In retirement as the Principal of Lang and Duggan, he travels the world manufacturing and marketing high quality fashion garments from Australian Alpaca.

#### Showing

Article by Paul Haslin

### Sydney Royal



Supreme Champion Suri - Surilana Macusani Hero ET lan Preuss



Supreme Champion Huacaya - Ambersun Fortune Seeker L-R Janie Hicks, Adrienne Clark, Neil Parker, Ian Frith



As I write this the Sydney Royal Alpaca and Fleece Show is drawing to a close. Whilst numbers have been down a little, because the alpaca section of the show did not fall over Easter this year, the quality of the alpacas on show has been excellent. Our two judges, Lyn Dickson and Kylie Martin, have worked very hard judging all sections of the show between them. Lyn handled the fleeces, assisted by a very capable team, prior to the show. Then they worked together through the line-up of alpacas to reach two very deserving Supreme Champions.

For the second year in a row the Harriet Davison Memorial Trophy for the Best overall Huacaya exhibitor was won by Alpha Centauri, proving the importance of showing fleeces and animals to demonstrate their overall achievements.

Of course, this takes nothing away from the Supreme Champion exhibits, a magnificent adult white male shown by Surilana in the Suri section and an outstanding senior light fawn male co-owned by Ambersun and Millpaca taking the honours among the Huacayas.

The Sydney Royal continues to be one of the most popular and enjoyed shows on the annual calendar with many breeders from across the country considering it a "not to be missed" event. The showing was very competitive but this in no way detracted from the great social atmosphere. One unique aspect of this show is the live-in quarters, a feature that is enjoyed by many of the exhibitors, giving a wonderful opportunity for networking and socialising. We look forward to welcoming everyone in 2013!

2012 Sydney Royal Alpaca & Fleece Show Roll of Honour				
Supreme Champion Huacaya	Ambersun Fortune Seeker	Ambersun/Millpaca		
Most Successful Huacaya Halter Exhibitor	Millpaca			
Most Successful Huacaya Exhibitor in Show	Alpha Centauri			
Supreme Champion Suri	Surilana Macusani Hero ET	Surilana		
Most Successful Suri Halter Exhibitor	Surilana			
Most Successful Suri Exhibitor in Show	Surilana			
Supreme Champion Huacaya Fleece	Forestglen Marakesh	Forestglen		
Most Successful Huacaya Fleece Exhibitor	Alpha Centauri			
Supreme Champion Suri Fleece	Elysion Leilani Elysion			
Most Successful Suri Fleece Exhibitor	Elysion			



Supreme Champion Huacaya Fleece - Forestglen Marakesh L-R Jennie & Alex Carey and Chris Carter RAS



Supreme Champion Suri Fleece - Elysion Leilani L-R Judge Lyn Dickson, Fran & Paul Haslin,

#### Management prior to birthing

The birth of a cria is an exciting time and preparation for birthing is an essential part of the procedure. Forward planning involves antenatal care of the pregnant female and assembling a first aid 'Cria Kit'.

#### Animal Husbandry for the best Antenatal Care

• Vaccinations, and toenail trimming of the pregnant female should be performed 4-6 weeks prior to birthing, and shearing should not occur in the 4-6 weeks prior to due date to avoid the risk of inducing labour.

• Previous cria should be weaned at least 4 months prior to anticipated birth of the new cria. This is important, as the mother may allow the older sibling to suckle, taking the precious colostrum (first milk), which is necessary for the newborn's immunity.

• Diet may need consideration, depending on the time of year a pregnant female should ideally be moved to location where constant vigilance is available without intrusion. The pregnant female will benefit from exercise, so do not keep her in an enclosed area as the due date arrives.

• Males over 7 months should not be in the paddock with the pregnant female in the last 6 weeks of gestation.

Knowing the last mating date gives some idea as to when birthing may occur, however, females mated on the same day seldom birth at the same time and up to 5 weeks variation in gestation has been recorded from matings performed on the one day.

The average gestation is 11.5 months, but live births have been recorded from 315 - 370 days post mating. The gestation period does not necessarily reflect on the weight and size of the cria at birth.

#### Cria Care Kit

The minimum recommended items are a digital thermometer, glucose, teats, bottles, mosquito forceps (used as a clamp for umbilical haemorrhage) and a cria coat. Scales, milk replacer, petroleum jelly and knowing where the nearest source of colostrum replacer or plasma, are ideal additions.

Keep the Veterinarian's phone number and mobile ready for rapid assistance.

#### Birthing

The birthing of a cria is an exciting time and in most cases is trouble free. Most births occur in daylight hours, and fewer problems are noted when cria are born before 2pm. It has been said: "Never let the sun set on an alpaca birthing" – this emphasizes the point that an alpaca in labour at sunset is probably in trouble and should not be left until morning. By understanding what is 'normal' at birthing, breeders can make calculated decisions should circumstances differ.

Birthing is a natural event, but it can be slowed by the intrusion and interference of an eager owner wanting to witness the event at close range. Get some binoculars!

#### 1st stage of labour

Normal duration 1-4 hours Some females show few signs of discomfort, whereas others display more obvious signs which may include: Frequent visits to the dung pile Restlessness – repeatedly lying down then standing up Rolling or murmuring Sitting on one hip Tail extended when not near a dung pile

Know your alpaca and you should recognise when her behaviour is different! LEARN TO RECOGNISE BODY LANGUAGE

#### 2nd stage of labour

Most alpacas deliver the cria in the standing position with the head and legs first. The legs should rupture the membranes but if the head is visible and the membrane has not ruptured, use your fingers to tear the membrane and allow fluid to escape, then MOVE AWAY.

Once the head, neck and legs are extended, draining of fluid from the mouth is often obvious. Labour may slow down at this point with little progress for 5-10 minutes.

Do not be over eager to assist at this time by pulling the cria as this causes a risk of umbilical haemorrhage or tearing of the female.Once the chest is delivered, it is common for the cria to hang for several minutes which aids in the draining of the mucous from the airways.

Some females deliver in the recumbent position (lying down) and these cria are usually slower to get up than those born from the standing position.



3rd stage of labour

The placenta is expelled at this time and this generally occurs around 45 minutes after birthing. Never attempt to pull the placenta.

When to call for help:

Stage one goes beyond 6 hours Stage two goes beyond 30 minutes

Placenta is retained beyond 6 hours Uterine prolapse. (This is a medical emergency)

#### Normal progress of the cria:

Sitting in 'cush' position in 10 minutes Standing by 2 hours old Suckling effectively by 4 hours

#### 30 second check list after the cria is born:

Check there is no membrane covering the nose or mouth.

Check there is no umbilical haemorrhage.

Check teeth are erupted (bottom teeth only) (if no teeth cria is premature).

Check there is no haemorrhage from the mother.

Check sex and then MOVE AWAY.

There is no need to weigh cria at this time!

Leave immediately after the 30 second check up, to allow for initial bonding between the newborn and the mother. This is vital for the wellbeing of the cria. These notes are a basic introduction to antenatal and neonatal care.

A complete detailed booklet with coloured pictures covering all aspects of antenatal, birthing cria care and problem issues, written by Dr Ewen McMillan and Carolyn Jinks, titled 'ABC for Alpaca Owners' is available from Grandeverge Alpaca Supplies. www.grandeverge.com



Afterbirth





Cria Kit

Membrane



Cria in cush

#### Showing

Article by Brett Winterbine & Marg Hassall Co-Convenors

### Toowoomba Royal

The 2012 Queensland show season opened with the Toowoomba Royal Show on 30th and 31st March, with over 200 animal and over 80 fleece entries. This is a significant increase on previous numbers and proved to be an excellent competition.

The weekend was presided over by Karen Caldwell who was extremely thorough yet entertaining throughout the show, providing excellent feedback for breeders.

Supreme Champion Huacaya was taken out by Sunline Alpacas and Supreme Champion Suri was taken out by Beavona Lodge Suri Alpacas.

The Toowoomba Royal Show continues to grow in popularity with breeders in both Queensland and New South Wales. We look forward to seeing old and new friends in 2013.



L-R Jill & Jeff Willis, Karen Caldwell, Fiona Laughton



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#### Commercial

Article by Cameron Holt

### **Basic Fibre Testing for Alpaca Breeders**

The development of the Alpaca Industry is dependent upon the use of various forms of measurement applied to almost all characteristics of production (e.g. animal and fibre).

To increase production of clean fibre per head, alpaca growers need to use measurement so as to select the animals with the desired characteristics, which will give them increases in that particular area. The most accurate method is by using scientific equipment at a testing laboratory.

Most Australian sheeps' wool offered for sale today is tested before sale. Processors demand accuracy and precision in the testing of fibre so that they can correctly batch (match) and blend the fibre to produce a yarn of a given specification.

The technique previously used by the wool industry is the airflow method (*Laserscan & OFDA now used*), whereby a given weight of fibre (2.5 gms) is subjected to a stream of air under carefully controlled conditions, and the fineness calculated as a function of the resistance of the sample to airflow.

This process, whilst economical, measures only mean fibre diameter. It does not measure variation within the fibre. It is less suited to use with alpaca because of the presence of some guard hair fibre in alpaca fleece, also because the lower scale height of alpaca fibres may offer less resistance to airflow than sheep fibres of similar diameter.

As well, lightness of alpaca due to the medulla means more fibre is placed in the chamber (2.5gms) creating a greater surface area therefore changing the reading of the micron. Machines used for wool need to be recalibrated for alpaca.

A number of processors are now paying a premium for wool that has a low CV. These wools have to be measured on testing machines that can calculate SD and CV *(Laserscan & OFDA)*.

Wools, which have a CV of lower than 24%, produce a yarn that performs like a finer yarn due to their evenness of fibre diameter through out, (spinning fineness). >

Almost all alpaca fibre tests currently performed are called "Guidance Tests", because the results are not certified. Only those tests performed by a certifying authority (eg. Australian Wool Testing Authority) can be called Certified Tests, and ONLY when the certifying authority itself samples, measures and weighs the fleece or bale.

They guarantee the results, but where a third party, unknown to the test house does the sampling, there is no guarantee of the origin or correctness of the sample.

This type of test is used in the wool industry, as well as for the sale of other commercial fibres (including alpaca), when offering baled fibre for sale. The vast majority of alpaca fibre tests that are performed are done on samples taken by the breeder and then submitted for testing, and are hence uncertified "guidance tests." The testing procedure is, however, essentially the same as that used for certified tests, and the standards by which those machines operate are also the same.



Airflow Machine

About the author - Cameron Holt Pambula Beach, NSW Australia

Cameron has had some 49 years in the fibre industry, namely as a wool broker, sheep classer, judge, and educator.

Cameron, a leading alpaca fibre expert, continues to travel globally, judging for various alpaca groups. He also, along with judging, is currently training judges for a number of International Alpaca Associations.

Cameron still continues his educational clinics and lectures throughout the world. In his semi retirement of grand children, golf, fishing and community support, still manages to find time to continue with publications and research into alpaca fibre characteristics and allied areas.

#### Before looking at sampling and measurement it is important to understand 3 basic concepts which could have a large effect on the outcome of your test results.

#### 1. Precision

The ability to provide a test result that is repeatable (using the same sampling technique and testing machine would help achieve this).

#### 2. Accuracy

(a) The ability of the sample to correctly represent the true (correct) value of the fibre to be measured. A grid sample of the fleece or a coring of the whole fleece would enable the correct value to be assessed from the "Breeders" sample point of view. An in shed sampling, scouring and laser machine is currently being used in Australia. It cores the whole fleece, washes and calculates micron etc.



(b) The ability of the testing machines to correctly interpret and calculate the true values of fibre being measured.

(This would include controlled standard laboratory conditions, 20 degrees C [+ -2 degrees] and 65% humidity [+ - 2%], as well as correctly controlled subsampling of the "Breeders sample" according to IWTO testing procedures).

#### 3. Bias

Most samples taken for alpaca (animal/fleece) evaluation are biased as per the definitions ( see, sampling methods and techniques).

FOR A RESULT TO BE ACCURATE IT SHOULD BE PRECISE AND FREE FROM BIAS. Remember, for practical purposes of comparisons within your alpaca herd it is important to (as mentioned earlier) use the same sampling technique and the same testing machine, so as to cut down the variance that can occur between testing results.

#### Sampling

Whenever any testing is carried out, whether for fibre fineness or yield, or perhaps vegetable matter content, the item requiring measuring (e.g. bale or fleece) cannot be tested completely.

In other words, EVERY fibre in a fleece or a bale cannot be measured, nor can EVERY piece of vegetable matter in the bale be collected. Complete testing of all fibre cannot be carried out because either the test is destructive, the expense is prohibitive if every fibre is measured and/or the remaining fibre would be damaged. For this reason a sample is taken from the population and this representative sample is tested.

#### Sampling Methods & Techniques

Whether we wish to sample a fleece, a bag, a bale or herd of alpacas or any population at all, the sample taken must fulfil 2 basic requirements.

1. Every fibre has a chance of being selected.

2. The method should not be intentionally or unintentionally manipulated in order to obtain a biased sample.

Bias occurs in the following ways:

1. If the property of the lot varies from place to place and the sample drawn from only one or two places, the sample is likely to be biased (technically this applies to "site" sampling).

2. Nearly all methods depending on personal selection of fibres lead to biased samples.

Bias, which contributes to "sampling error", may give a lower/higher result. Therefore to acquire an accurate result the sample should be free of bias. Site samples are by definition a "Biased sample". >



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#### Sampling Individual Animals

The Alpaca does vary for fibre diameter from neck to the britch.

Within each breed of Alpacas there is a variation between sites on the individual breed, but there was no significant variability between the Suri and Huacaya in variability between sites. (Holt/Scott 1998)

This would suggest that the most accurate form of fibre measurement would be by gridding the fleece area. Research (Holt/Stapleton 1993) done on variation of huacaya fleece has shown that animals vary in evenness, that is, some display a more even fleece (fineness) to that of others. Studies on suri fleece (Holt/Scott 1998) have shown similar results. This variation may cause problems when comparing one animal with another.

When testing with site measurements for micron and/or yield they should be used only as a guide and/or ranking for that animal within your herd. It also can be used to monitor the fibre change in micron from year to year. The full fleece test takes into account micron variation over the fleece (CV) and should be read in conjunction with the Histogram print out.

#### **Midside Sample**

A sample is drawn from the mid side as shown at right. Such a sample (although scientifically biased) as mentioned earlier may be a reasonable representative of the total fleece (Holt/Stapleton 1993). Care must be taken on site selection as sampling too high or too low may give a finer or stronger result.

Site sampling can also be carried out using the shoulder pin and hind pin in conjunction with the midside. These will give an indication of variance over the animal. A more accurate measurement would be to send the whole fleece for assessment or grid the fleece. This may only be practical for the top animals.



NOTE A word of caution. When taking a midside or site sample from an animal, you must cut the sample at skin level. If you vary the level of the plain of the cut between your samples then the cut would represent different growth patterns (nutritional and health as well as possibly age). This would make comparisons amongst animals unreliable.

The sample must be:

(a) Carefully and Accurately Identified

(b) Securely packaged for dispatch to a Testing House.

Mid side sampling can also take place during shearing. Sampling taken at this stage can complement fleece weighing, which is done at this point of time.

The same procedures for testing would apply.



Studies into site variation (Holt/Stapleton 1993) gave impressions that the shoulder pinbone and mid were more reliable than those of the hind pinbone for fibre diameter measurements. >

A reliable method for obtaining a representative sample from an Alpaca fleece is the **grid sampling technique**.



This occurs as follows:

(a) Spread the alpaca fleece evenly on a table.

(b) A grid made of a mesh approximately 4" 4" (100 x 100) is placed over the whole fleece.

(c) A sample (eg 1 staple) is taken from each square filled with fibre.

(d) All squares more than half-filled with fibre are sampled, those with less rejected.

(e) The small sample taken is in turn put together with the others taken from the same fleece to form a composite sample.

(f) The sample is carefully and accurately identified.

(g) The sample is securely packaged for dispatch to a testing house.



For "grid samples", advise the Testing Laboratory that they are "grids" as they need to be sub-sampled using the "mini – core machine or similar. The whole sample is cored to avoid bias in the result. All testing must be put into context. Research by Holt and Stapleton 1993 showed that fleece on a huacaya alpaca indicated an average difference of .77 microns between the grid sample (unskirted fleece) and the midside sample (on animal). The mean magnitude of difference was .92 microns. These indicated a correlation between the two sites of .93.

Later research in 2004 by Davison and Holt on a huacaya fleece, where comparisons were made between a grid sample (skirted fleece) and a midside sample (on animal), showed an average difference of .4 microns with a mean magnitude of difference of .87. This was the equivalent of a correlation of .94. Breeders must remember that on some alpacas, the fleece does vary considerably.

Test results (based on research from Holt/Stapleton 1993) indicated an average variance (over the research huacaya fleece) of 4.8 microns excluding apron and 11 microns including apron. Research in 1997 by Holt/Scott on suri fleece indicated an average range of 3.2 microns (excluding apron ) and 10.1 microns (including apron) over the tested suri herd.

The following photos demonstrate the need for care when sampling your animal.

The alpaca in photo 1 has a reasonably even fleece all over. Here sampling on the midside may be adequate for your needs.

The animal in photo 2 shows extreme guard hair. This is seen in the hairy appearance. Midside sampling on an animal like this may give you an inaccurate result.

NOTE "The midside is likely to be more accurate on this alpaca than any result sampled from other single sites". The alpaca should be grid sampled.

As mentioned earlier grid sampling is a more accurate form of measurement than any form of site measurement. >





Photo 2

#### Fibre Measurement

#### Fleece Weighing

The selection of animals by your eye assessment for clean fleece weight or yield is not accurate.

The process of fleece weighing is a way to overcome these problems and give a more accurate measurement of fleece weight and in turn yield.

The weighing takes place in conjunction with mid side sampling or grid sampling during the shearing process, or a similar time each year.

Make sure your scales are accurate and weigh in 1.75 oz (50 grams) increments.

The procedure is as follows:

(A) As the mid side is shorn a small sample (50x50mm) is taken, a tag with the animals number is put with the sample.

(B) The fleece is laid on a table and if a grid sample is required, then the sample is taken as previously mentioned.

(C) The total fleece plus sample is weighed together, and weight recorded against the animal's number in your record book or card.

NOTE: Information re fleece colour/type can also be noted at this stage.

(D) The sample is carefully and accurately identified and placed to one side.

(E) The fleece is then placed in the appropriate fleece type.

(F) When all sampling is complete the individual samples are packaged and sent to a testing house.

An important point is that all alpacas should be tagged for identification and that the scales used are calibrated.

### It is advisable to test when the animal has a full year's production.

Yield from alpacas contains various impurities, that is, natural and acquired impurities like grease, vegetable matter, dust. The sample taken for micron testing, is used by the testing lab to calculate yield.

Alpaca fibre also contains an undesirable medullated fibre (GUARD HAIR).

Heavy guard hair in Alpaca fibre is not desirable and therefore should be considered in calculating yield.

Yield is expressed as a percentage of the greasy (raw) sample or fleece.

#### Testing for fibre characteristics

We can measure for many alpaca characteristics such as: Micron, C of V, SD, fleece weight, yield, length, strength, crimp, fibre curvature, follicle structure, medullation and bulk.

Micron is considered to be the most important characteristic for measurement. Fibre diameter is the single most important characteristic/property for all fibre. It accounts for 75 - 80% of value in the processed 'top'.( Ainsworth 1984).

Some areas that can be objectively assessed by breeders and testing labs are:

Fleece Sample Taken by BreederResponsible for testTotal Fleece WeightBreederKgYield (Washing)Test LabX%Diameter of FibreTest LabMicronLength of FibreBreeder/Test LabCMSFibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabX%MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest LabX%			
Total Fleece WeightBreederKgYield (Washing)Test LabX%Diameter of FibreTest LabMicronLength of FibreBreeder/Test LabCMSFibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Fleece Sample Taken by Breeder	Responsible for test	
Yield (Washing)Test LabX%Diameter of FibreTest LabMicronLength of FibreBreeder/Test LabCMSFibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKg X%SDTest Lab1st St Dev	Total Fleece Weight	Breeder	Kg
Diameter of FibreTest LabMicronLength of FibreBreeder/Test LabCMSFibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKg X%C of VTest LabX%SDTest Lab1st St Dev	Yield (Washing)	Test Lab	X%
Length of FibreBreeder/Test LabCMSFibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Diameter of Fibre	Test Lab	Micron
Fibre CurvatureTest LabDeg mmPrickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Length of Fibre	Breeder/Test Lab	CMS
Prickle Factor (comfort factor)Test LabNum over 5% Num under 95%MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Fibre Curvature	Test Lab	Deg mm
MedullationTest LabX%Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Prickle Factor (comfort factor)	Test Lab	Num over 5% Num under 95%
Live WeightBreederKgC of VTest LabX%SDTest Lab1st St Dev	Medullation	Test Lab	X%
C of VTest LabX%SDTest Lab1st St Dev	Live Weight	Breeder	Kg
SD Test Lab 1st St Dev	C of V	Test Lab	X%
	SD	Test Lab	1st St Dev

The above measurements or samples can be taken easily by the breeder, and where necessary tests carried out by a testing house.

Measurements are generally carried out on two machines. The Optical Fibre Diameter Analyser (OFDA) and the Laser scan. Regardless of what method is used, an understanding of some statistical terms is necessary.



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#### TERMS

MODE: The most commonly occurring value. (The highest peak or the micron with the greatest number of fibres recorded against it).

MEAN: The average of those values (mean micron). When the mean (average) and mode are similar then the shape of the histogram is said to have a bell shaped curve, which indicates an even spread of the population around the mean, however the height and base can vary.

#### MEAN FIBRE DIAMETER:

This is a measure of central tendency and gives mean (average) of the fibre diameter in the sample expressed in microns. One micron is one millionth of a metre.

#### STANDARD DEVIATION (SD):

This indicates how the fibre diameters in the sample vary around the mean. The smaller the standard deviation the less the variation around the mean. One standard deviation (+1, -1 either side of the mean), will represent 68% of the fibres measured. Eg: Given Mean 26 microns and SD 6.0 microns. Then 68% of the fibres will occur between 20 & 32. 2 SD will represent 95% of the fibres measured (95% of the fibres will occur between 14 and 38).

#### "The concept of SD assumes that the fibre diameter is normal (bell shaped)"



#### **COEFFICIENT OF VARIATION (COV):**

Is the percentage of variation in the measurements and is related to the mean and standard deviation. The COV enables populations to be compared to each other. Both SD and CV measure the degree of variation of micron in the tested sample.

THE FORMULA FOR CV% IS: SD divided by micron x 100 = CV% The following table represents 25% CV for each micron. The equivalent SD is next to the listed microns.

MICRON	SD	MICRON	SD
17	4.25	24	6
18	4.5	25	6.25
19	4.75	26	6.5
20	5	27	6.75
21	5.25	28	7
22	5.5	29	7.25
23	5.75	30	7.5

There are three basic shapes. All these have an even spread around the mean but No. 1 is very even and would have a low COV e.g. 20%.

No. 2 is a normal distribution and would have a COV around 25% and No. 3 would be considered to be a mixed histogram with a COV around 30+%.



There are other histogram shapes we may see when testing Alpaca fibre.



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TWO POPULATIONS (Found in Llama/Alpaca cross)

The fineness of fibre you are breeding in your herd must be considered if you reflect on the end product that the fibre is to be used for. Breeders should be aware of the average micron of each animal in their herd not only to identify those finer or superior types, but those that are undesirable for the owners breeding goals. The fineness of the micron will determine the final use of the fibre and in some cases how the fibre is to be processed, that is, whether the alpaca is to be blended with another fibre e.g. wool, or processed by its own.

The normal measurement for micron is usually measured on 12 months fleece or thereabouts. I would advise that testing for micron is done at yearly intervals up to 5 years of age (animal's micron goes out for 3 to 4 years on average).

Before deciding on what type of measurement or sampling procedure ask yourself, what do I want to know and why?

In some cases where breeders wish to get an idea of their animals follicle structure they will have carried out what is called a "single plain cut (butt cut)" usually 1-2 cm from the butt. This method gives a good indication of a staple make-up but only measures at one point in time of growth and gives lower CV and SD (does not have any environmental influence).

#### CANNOT BE COMPARED WITH MEASUREMENTS MENTIONED ABOVE.

Those animals that test well may then have skin histology tests taken depending on the histograms from the "single plain cut."

#### **Testing Machines**

Projection Microscope & General Microscope Method.

These methods involve the measuring of 400-600 images of fibres magnified 500 times on to a screen (projection microscope) or an eye piece (general microscope) where they are individually measured by an observer. These methods are labour intensive and subject to a number of operator errors. However, if the standard methods are followed correctly, the results obtained are accurate, and are capable of giving the user a measure of the distribution of diameters within the sample. Strict rules are prescribed about the preparation of slides, and the scanning of those slides to avoid measuring the same fibre twice, or selecting points within the field of view, which may not be random.

The test results can be expressed in the form of a Histogram, or a mathematical expression of the distribution such as Mean Fibre Diameter (MFD), the Standard Deviation (SD), and its derivative, the Coefficient of Variation (CV).

#### Laser Scan Method

The Laser Scan is an instrument used for the rapid measurement of fibre diameter that also gives a full diameter distribution. This is the main testing machine used to test the Australian wool (sheep) clip. Prepared snippets of fibre (less than 2mm) in length are dropped into either an isoprepenol/water mixture or water based (AWTA), where they are dispersed.



The dispersed snippets, still in the solution, are then carried past a light beam, and as the fibres intercept the beam, the amount of light scattered is measured.

This light scatter is directly related to the diameter of the fibre, and so the machine can calculate the fibre diameter in microns.

Mean fibre diameter, standard deviation, co-efficient of variation, fibre curvature etc are calculated and a histogram of the variation is printed. >

Optical Fibre Diameter Analyser 100 (OFDA) Method



This optical measuring device was developed in Australia and is widely used in guidance testing wool, Alpaca, Cashmere and Mohair.

The OFDA 100 is an automatic microscope above a moving set of fibres. The analyser captures the magnified images of the individual fibres with a video camera. The diameter of each fibre identified is measured and recorded by means of computer aided image analysis. On completion of a pre-determined number of fibres, a histogram print out is produced similar to the Laser Scan.



OFDA 100 histogram - The OFDA 100 can identify medullated fibres (white only). Fibre curvature can also be calculated on the OFDA.

#### OFDA 2000

OFDA 2000 gives a report based on the entire staple, sampling it along its entire length.

This article may not be reproduced either in part or full without the written permission of the authors. Copyright ownership of this article is retained by the authors Cameron & Joy Holt Australia © JAN 2011 The OFDA 2000 produces a graph, which records the average fibre diameter of the staple measured at different distances along the staple from the skin. Variations in the fibre diameter along the staple may be interpreted as representing variations in the health, pregnancy, nutrition or climate enjoyed by the animal at the time the fleece was grown. The 2000 also prints the standard histogram.

For the 2000 to test for Medullation it needs to have an OFDA 100 attachment to the machine.

This "100 mode" would allow for measurements of the 2mm snippets' which come from the 'mini-core' that is used in laboratory sub-sampling. This then also enables the measuring of the grid samples taken by the breeder.

The Laser machine and both OFDA's produce a histogram, indicating the number of fibre measurements recorded in a sample for every possible fibre diameter value in a range from zero to 60 or more microns.



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#### Husbandry

Article by Dr Alison Lee (DPI, VIC) Dr Margaret Dorsch Director Animal Health & Welfare AAA Ltd

### Q-Alpaca - Is it for you?

#### Q-Alpaca: What's in it for you and the industry?

Established more than seven years ago, our industry biosecurity program, Q-Alpaca, remains as relevant and as important as ever. Why you might ask? There are several strands to the response.

For a start, Q-Alpaca provides AAA members with a biosecurity program endorsed by Australian animal health authorities and other livestock industries. Q-Alpaca is a voluntary quality assurance program developed for the Australian Alpaca Association in 2005, under the leadership of the late Dr Richard Dixon. Its primary goal was to complement the Alpaca Market Assurance Program (Alpaca MAP) and to assist in the detection of Johne's disease in the Australian alpaca population 1. (See footnote 1 on Johne's disease.)

However, Q-Alpaca is not just about Johne's disease. Participation in the program has benefits that extend far more broadly than control of Johne's disease. Among other things, participation in Q-Alpaca:

- Encourages thinking and action about managing all animal health biosecurity risks on-farm.
- Actively facilitates on-farm disease surveillance and management, through veterinary investigation of alpaca deaths.
- Provides valuable herd health information for the owner.
- Reduces the chances of introducing and spreading preventable infections (other than Johne's disease) into your herd (eg liver fluke, worms, coccidiosis).
- Increases awareness and understanding of Johne's disease risk.
- Promotes low risk herds as sources of stock replacement.
- Enables collation of health information from across participating herds to facilitate national herd health monitoring for a range of commonly occurring disease.
- Assists with meeting interstate livestock movement requirements.
- Acts as a source of early detection for emerging animal diseases.

Whilst continuing to meet the objective of demonstrating the ongoing absence of clinical Johne's disease in Australian alpaca herds, Q-Alpaca may also assist in the early identification and detection of new and emerging diseases and help to minimise the impacts of such diseases on the Australian alpaca industry. The Q-Alpaca program continues beyond doubt to provide many biosecurity benefits to the industry. There have been no cases of Johne's disease detected in Australian alpaca since 2008 and, at this time, there are no known infected alpaca herds in Australia. However, this should not give rise to complacency. The incidence and prevalence of Johne's disease among other ruminants varies across the country, with the majority of infected herds located in south-eastern Australia. Previously diagnosed cases of Johne's disease in alpacas were confirmed as Cattle strain and many alpaca farms have been established on land previously used for dairy cattle. (Johne's disease is far more common in dairy than beef cattle herds.)

Regions of Australia where the disease is unknown or rare have imposed cross-border movement requirements to reduce the risk of stock from infected herds and flocks entering the region and also eradicate incursions in cattle, sheep and goat herds and flocks as they occur. Risk-based trading (using Animal Health Statements or declarations) and Johne's disease Market Assurance Programs (JDMAP) have also been developed to assist animal movements and trade in areas where Johne's disease is already established.

Information about the Q-Alpaca program and its operational requirements can be found on the Australian Alpaca Association Limited's website (see <u>www.alpaca.asn.au/pub/AAA/qa/intro.shtml</u>). Forms for enrolment and ongoing participation in the program can also be downloaded from this site. Participation in the program requires the ongoing active cooperation of an appropriately accredited (AlpacaMAP) vet. Each year, a report on the Q-Alpaca program, prepared with the assistance of the Q-Alpaca Registrar, is also published on the Association's website.

Health information in the Q-Alpaca program is derived from autopsies (post mortems). These must be performed on any animal over 12 months of age that dies or is euthanased (eg due to dog attack), or on any cria under 12 months of age that shows signs of emaciation or diarrhoea which dies or is euthanased. (By contrast, the AlpacaMAP (and MAPs for other species) rely on regular prescribed testing of live animals which can be more costly and/or time consuming to perform.)

Results of post mortems are recorded by your accredited vet on a form known as the Q4 Form. The Q4 also requests information from the dead alpaca's owner/manager.

The Q-Alpaca Annual Report is compiled following collation and checking of annual stock returns and post mortem information submitted by owners and their vets. For the 2010-2011 reporting period, 270 alpaca herds were enrolled in Q-Alpaca, representing 19,516 alpacas. There were 262 deaths reported with post mortem information collected for most of them. Information about the age and sex distribution and location of deceased animals, plus the causes of death grouped under categories such as trauma, parasitism (helminths/worms), toxicities, neoplasias, cardiac failure, provides useful 'baseline' animal health information for the alpaca industry and highlights particular aspects of animal husbandry that alpaca owners should monitor.

The program can also provide valuable information on vaccination and animal health treatments used on-farm and across the industry.

Trend data over time in the proportion of deaths attributable to different causes, vaccination rates in Q-Alpaca herds, etc provide valuable information for owners, the industry, veterinarians, and other stakeholders.

These data also allow for identification of areas where research, education and extension may be required and provide information to support decision-making in relation to movement and export of animals. At a time of significant change and rationalisation in the industry, the costs of participation in Q-Alpaca and the AlpacaMAP program are under close scrutiny by herd owners and the Board of the Australian Alpaca Association.

While a number of herds are regularly entering the program, other studs have left or are leaving Q-Alpaca. The cost of post mortem examination is cited frequently as the reason for leaving the Q-Alpaca program. The Board of the Association, working through its Animal Health and Welfare Reference Panel, and in liaison with Animal Health Australia (AHA), is looking at ways of reducing the cost burden of Q-Alpaca participation.

The Association will put forward proposals to the Animal Health Committee (comprising the Chief Veterinary Officers of all jurisdictions) seeking endorsement for exemptions to the post mortem requirement in certain circumstances (eg, dog attack, culling of healthy animals for herd management and reduction purposes). In every case, the decision to proceed or not proceed with a post mortem will rest with the attending vet.

The Association, Animal Health Australia, and other stakeholders (eg primary industry departments, vets, animal health advisors) are keen to ensure the ongoing viability and benefits of the Q-Alpaca program - for individual alpaca breeders and for the industry as a whole. National biosecurity is everyone's responsibility and our industry's Q-Alpaca program is a significant contributor to this important goal.

**Footnote**<sup>1</sup>: Johne's Disease (pronounced 'yo-nees') is a fatal wasting disease of cattle, goats, sheep, alpaca and deer. It is caused by the bacterium, Mycobacterium paratuberculosis. There is no treatment for the disease. Infected animals eventually die.

*Images from ILO Workshop - see article page 38 >* 



Discussions underway at ILO workshop Feb 2012



ILO workshop participants

#### **Animal Health**

## **ILO** Training

#### Industry Liaison Officer Training for Emergency Animal Disease Outbreaks

As part of Australia's national biosecurity arrangements, Animal Health Australia (AHA) provides training for Industry Liaison Officers (ILOs) who will assist in the response to any emergency animal disease (EAD) outbreaks that pose a risk to livestock industry production.

Following recognition by the AAAL Board in 2011 of the need for more ILOs to support our industry in the event of an EAD outbreak, 15 members from across Australia undertook ILO training in February 2012. (This followed a request for expressions of interest from members which resulted in an overwhelming and gratifying response. Further training opportunities will be sought for those interested respondents who could not attend in February.)

The training program consisted of pre-workshop activity, (involving 4-6 hours online to complete a foundation module), followed by a 2-day mid-week workshop presented by AHA. Participants completed individual and group activities, and were assessed by completion of written work, online tests and observation. AAA President Jenny McAuliffe and Secretary/Manager Joy Walker spent some time with the group during their training. All participants met the required competencies, and are now accredited as ILOs, bringing to 20 the number of trained AAA Ltd ILOs.

Those trained have all subsequently indicated a willingness to commit to a minimum 2 year term as an ILO and to be available at short notice for deployment for up to two weeks at a time anywhere in Australia.

In the event of an EAD outbreak, ILOs for all relevant industries are deployed in Local Disease Control Centres. They are required to assist with outbreak risk assessment by preparing comprehensive advice on the affected local industry, including size, distribution, sources of supply, marketing practices, industry organisations, and other factors that might affect eradication or control programs. They must also advise on plans for handling potentially contaminated material, and on the practicality and economic or social consequences of proposed control activities. While they are required to report to the Planning Manager in the local control centre and to liaise with state industry liaison coordinators and other local disease control centre personnel, the ILOs are responsible to the industry they represent. They need to have strong communication and negotiation skills, a good knowledge of the industry (particularly at a local level), and an understanding of the biosecurity issues relating to the outbreak.

ILOs need to stay up to date by referring to the AHA website and reading the AHA newsletters (available online and distributed via email), as well as maintaining an awareness of local animal health issues. The Animal Health and Welfare Reference Panel and the AAA Director responsible are working with AHA to develop materials and mechanisms to support our ILOs (and others interested in the role) to be confident and effective in the role.

Recently, one of those trained in February, Lee Sadler from South Australia, has agreed to participate in an upcoming four-day EAD simulation exercise - Exercise Phantom Fox - to be run in South Australia. Phantom Fox is a joint initiative of AHA and Primary Industries and Regions SA (PIRSA). It has been designed to evaluate the ability of the national EAD Rapid Response Team in assisting PIRSA in meeting its EAD management and response arrangements, using an example involving a Bluetongue outbreak in sheep. This 'peacetime' exercise will help test personnel skills, procedures and systems and provide information to help improve future responses to a real EAD incursion.

As can be seen from the above, to be an ILO is a significant undertaking. Our pool of trained ILOs are extremely important in equipping AAA to play its part in responding to EADs in the future. The AAA would like to thank each member who has given their time to complete the substantial requirements of ILO training and made a commitment to the ongoing requirements of the role.



AAA President Jenny McAuliffe at ILO workshop

#### Husbandry

Article by Jane Vaughan BCSc PhD MACVSc MRCVS

### Barber's Pole worm in alpacas

The gastrointestinal parasite Haemonchus spp. is better known as the barber's pole worm (BPW) because the adult female worm has a white tubular uterus that winds around the blood-filled tubular gut, giving the look of a barber's pole (Figure 1). Yes, this parasite is a blood sucker of domestic livestock, causing anaemia and ill-thrift and can kill alpacas (and sheep, cattle and goats) quickly and in high numbers.

Figure 1. Adult female barber's pole worms (photo: CSIRO Australia)



BPW is usually associated with prolonged warm, moist conditions so is rarely seen in winter unless it is mild and is traditionally seen in wet summers. Bear in mind that BPW is widespread across farms, and waits for ideal conditions to rear its ugly head. Just because you have never had it diagnosed on your farm before, do not assume it does not exist on your farm. Alpacas are bought and sold and agisted all over the countryside and take their parasites with them too.

#### Lifecycle

Adult BPW are located in the third stomach compartment of the alpaca. They attach to the lining of the stomach and suck blood. Female BPW lay massive numbers of eggs every day (up to 10,000), which pass out in the alpaca's faeces (Figure 2). In mild-warm, moist conditions, the eggs hatch out in the faeces and live on bacteria in the faeces as they moult from the first larval stage, L1, to the second, L2. Larvae develop to the infective stage (L3) over 7 days under ideal condition (but may take up to 5 weeks) and migrate out of the faecal pellets after heavy dew or rain. Infective larvae move up leaf blades in films of moisture in warm weather and are ingested during grazing. The larvae continue development as they pass through the first two compartments of the stomach, and arrive at C3 as an immature worm. They attach to the lining of C3, and suck blood. When they reach sexual maturity they mate and begin laying eggs. It takes 21-28 days from the time an alpaca eats infective larvae until those BPW begin laying eggs.

Figure 2. Lifecycle of barber's pole worm is similar in alpacas, cattle, sheep and goats.



#### **Clinical signs**

Because BPW are such prolific egg layers, livestock can ingest massive numbers of larvae from the pasture and be found suddenly dead in the paddock. Other alpacas in the group will be ill-thrifty and exhibit sudden weight loss (what has your regular body condition scoring told you about the herd?) and severe anaemia (have a look at mucus membranes in mouth, vulva, and around the eyes for pale colour).

Some alpacas have been described as having "bottle jaw" where the skin under the jaw becomes oedematous and swollen because the animal is hypoproteinaemic (low blood proteins, so plasma oozes out of the blood vessels into the skin).

Note that if drench resistance exists on your farm, you will see these clinical signs despite having drenched recently. >

To get an idea of how voracious these worms are, BPW suck approximately 0.05 mL blood per day in sheep. So an animal carrying 2000 worms loses 100 mL blood per day. A 50 kg sheep has around 4 litres of blood so it will only take 10 days for the BPW to consume a litre of blood. A sheep this heavily infected would have a worm egg count of 10,000 eggs per gram.

#### Diagnosis

1. Dead alpacas. It is important to look for BPW in the correct place! Adult and larval forms of BPW are found in the third compartment of the stomach not the small intestine. Adult female worms are 20-30 mm long, quite fine and have the characteristic red and white stripes, males are about 15 mm long and larvae are smaller. They are all attached to the lining of C3 in large numbers (because they have killed the alpaca).

2. Faeces. Fresh samples of faeces should be collected directly from the rectum of approximately 10 alpacas in each mob using a gloved finger. 10-15 faecal pellets should be collected from each animal and placed into separate freezer bags. Air should be excluded from the bag and bags placed into the refrigerator and kept cool during shipment to the laboratory. Collect samples early in the week so they do not get lost in transit over the weekend. Do not freeze faeces. Alternatively, move alpacas to a communal dung pile and hold them there for 10-15 minutes then collect warm samples from the dung pile in a similar fashion. Most strongyle worms, such as Ostertagia spp. and Trichostrongylus spp. lay 10's to 100's of eggs per gram of faeces.

BPW eggs look similar to other strongyle eggs found in alpacas (Figure 3). If egg counts are very high, it is a fair assumption BPW is involved. If counts are in their 100's, then the only definitive method of diagnosis is to ask the laboratory to perform worm egg incubation, larval culture and identification.

Figure 3. Strongyle egg



Sometimes alpacas will pick up massive numbers of larvae from the pasture and die before larval forms of BPW have had time to mature and begin egg laying in C3. Worm egg counts may be zero or low, but diagnosis will be made at autopsy by the presence of larvae in C3.

If worm egg counts are low, and larval BPW is suspected, it is possible to test faeces for occult blood in the faeces using tests such as Occultest ® or Hematest ® as larvae are 'messy feeders' and spill blood into the gut of the host.

#### Treatment

Been 'saving that drench for an important event'? Been avoiding overuse of drenches to reduce the risk of causing drench resistance? I hope so. This is the time to use your effective drench! Do not delay once a diagnosis has been confirmed or you will lose more animals.

There are many different drenches available to use against BPW. There are (a) narrow spectrum drenches that target BPW, (b) broad spectrum drenches that kill BPW and other worms in the gastrointestinal system, (c) short-acting drenches and (d) long-acting drenches. It is essential that you select a drench in consultation with your veterinarian that is effective and will perform the job you require.

That is, the selected drench will kill the worms you are targeting and that the parasites are not resistant to the active ingredient from over-use of the drench.

Effective short-acting drenches basically eliminate the worm burden in the alpaca on the day of drenching. Animals continue to pick up more infective larva with every mouthful, but they do not start re-infecting the pasture with worm eggs for another 21-28 days (the period it takes for the ingested larvae to mature, mate and start laying eggs) so become reinfected quickly if you are unable to drench and move onto a 'clean' paddock.

The definition of a clean paddock is one that has been rested completely for more than 3 months or has had a crop/hay recently harvested. Most alpaca farms do not have 'clean' paddocks once BPW infection is established – assume there is BPW in every mob on the property. >

With the advent of long acting drenches in the ivermectin family (macrocyclic lactones, MLs) you are able to use injectable drench in this family that will kill the current burden of worms and keep killing ingested larvae for approximately 2-4 weeks, depending on the actual drench used. You are therefore able to protect the herd for 4-8 weeks (as it takes worms another 21-28 days to start laying eggs), which allows you to sort out paddocks, perform worm egg counts to monitor, and also, move into the cooler weather of autumn.

Cooler environmental temperatures will kill larvae on the pasture. It is standard practice in camelids to administer drenches in the ivermectin family at 1.5 times the cattle dose stated on the packet. I recommend injectable drenches over pour-on or oral drenches in alpacas to make sure they are receiving the active ingredient.

Before you treat your animals, carefully read the directions for use of the selected drench. Shake the container so the drench is mixed evenly. Make sure you weigh some of the largest animals in the group and treat to the heaviest in the mob so that no animal is underdosed. If the group has a wide range of weights, divide into lighter and heavier mobs so the smaller animals are not overdosed. Calculate the correct dose.

Ensure drenching equipment, delivered via both injectable and oral routes, is calibrated to deliver the correct dose (and check throughout the day). Ensure drench is not spilled during drenching. If you are using an oral drench, place the drench gun over the back of the tongue and allow time for the alpaca to swallow. If injecting, place the needle subcutaneously. Do not hold drenched animals off water for too long after treatment.

Remember that no drugs are registered for use in alpacas and you should work in close consultation with your local veterinarian to obtain appropriate information about off-label use of drenches.

#### Prevention

Monitor worm burdens regularly in your herd by collecting fresh faeces and testing for worm egg output in the herd. Worm egg counts are given as a measure of numbers of parasite eggs per gram of faeces. The animals most at risk with gastrointestinal parasitism are the late pregnant females, lactating females with crias at foot, and recently weaned stock. Parasites in C3 are able to detect when livestock are about to give birth through hormonal changes in the pregnant female, and start producing many more eggs per gram than in non-pregnant females.

The pasture then becomes heavily contaminated and newly born cria are then exposed to the worms on the pasture as they start grazing. Beware of BPW though as it may strike males and non-lactating females as well.

There is only one routine drench that should be performed on any farm and that is to crias at the time of weaning. You should not routinely drench the herd "twice a year" or "at shearing" just because someone told you to!

Never wean crias onto a pasture that has had heavily pregnant and/or lactating females with crias at foot grazing on it in the last year (yes, year!) otherwise you will put them on a contaminated pasture at high risk of parasitism. Plan your weaning paddock a year in advance so that after they have been drenched, they can be placed onto a 'clean' paddock.

You should also monitor for drench resistance (where a drench is no longer effective at killing more than 95 % of worms in the gastrointestinal tract) by collecting faeces from alpacas 10-12 days after drenching.

There should be greater than 95 % reduction in worm egg count between pre- and post-drench worm egg counts if the drench is effective. You will need to perform a Worm Egg Count Reduction Test if drench resistance is suspected.

It is possible to perform your own worm egg counts. You will need a microscope, egg counting chamber, graduated beakers, pipettes and saturated salt solution. Training courses are run intermittently by your local department of agriculture or local veterinarian. >



Selection of animals with innate resistance to parasites (known as 'host resistance') has been undertaken in sheep for many years.

It is possible to perform worm egg counts at weaning (and therefore before they have been drenched for worms) and select sires with the lowest worm egg counts at weaning. These animals will pass on the trait of having lower worm egg counts in their offspring.

There is now available an Haemonchus Dipstick Test, developed by the Australian Sheep Industry Cooperative Research Centre (Sheep CRC).

This Dipstick Test was developed to monitor sheep worm burdens at the mob level. The test detects blood in faeces, thus identifying if BPW is present and uses colour changes to indicate different levels of infection. It is not a "stand-alone" test but rather just one tool to help decide when it may be appropriate to drench for BPW. For more information on the Dipstick Test see the following link:

http://au.merial.com/PDF/haemonchus\_dipstick\_te st.pdf

Readers should also visit the Sheep CRC and Australian Wool Innovation WormBoss website at www.wool.com/wormboss for comprehensive information on other worms of interest (eg liver fluke, black scour worm), and for regional worm updates.

Remember that testing and drenching should be undertaken as part of an integrated worm management program, and to consult your local veterinarian for advice and support.



#### Award at World Alpaca Conference

During the recent World Alpaca Conference, at a glittering Gala Dinner held in the Great Hall at Keble College, Oxford, Cameron Holt was awarded a life membership in the British Alpaca Society.

His citation, as read by Rob Bettinson who presented the award states - "Cameron's work has laid the foundations by which alpaca fleece is judged across the world. He wrote the fleece judging rules for alpaca associations on three continents and continues to work closely with alpaca judges the world over to refine the fleece judging protocols and manuals.

Cameron has had over 40 years experience in the wool and speciality fibre industries. He was a Senior Wool Technical Officer with a leading Australian wool broking company for twenty years.

He has been a competition judge for the wool, cashmere, mohair and alpaca industries and was head of the Wool and Fibre Studies Department of RMIT University School of Textiles (formerly the Melbourne Institute of Textiles). He has travelled extensively to Britain, Canada, New Zealand and the USA where he has delivered training programmes in judging and fibre production.

Over the past twenty years, Cameron Holt has been an international ambassador for the alpaca industry devoting much unpaid expertise, time, talent and energy to the development of the industry worldwide."

#### CONGRATULATIONS ON THE AWARD!



#### Showing

Article by Susan Nielson *Convenor* 

### **Royal Canberra Show 2012**

Royal Canberra Show - 'The Big Country Show'

The Royal Canberra Show 2012 was another great time. The exhibitors were smiling, animals well behaved and the sun was shining (a few degrees cooler and it would have been close to perfect).

Along with the regular exhibitors there were many new exhibitors who are all talking about coming back next year.

The number of entries both in animals and fleeces was high, with a record number of Suris entered. Whether you breed Suris or not a line up of Grey Suris as was in the ring on Saturday is impressive to all.

The judges Natasha Clarke and Stephen Ridout worked quickly through the large number of entries, the standard was high and a few classes had them taking many 'relooks'. Once again the professionalism the judges display speaks highly of the AAA.

#### **Supreme Champion Suri**

Surilana Islander - Surilana



L-R Judge Natasha Clarke, Ian Preuss, Judge Steve Ridout

#### **Supreme Champion Huacaya:**

Ambersun Fortune Seeker - Ambersun & Millpaca



L-R Judge Steve Ridout, Neil Parker, Judge Natasha Clarke

The break-up of the Suri Colour classes to match the Huacaya appeared to be a huge success with a record number of Suris entered this year, it would be great to continue this on in future years.

Most Successful Suri Exhibitor award went to Surilana Alpacas

Best in colour-Suri ran for the first time at Canberra and the turnout of Coloured Suri's was well worth seeing.

Best in White - Surilana Surpass - Surilana

Best in Light Fawn - Surilana Jetstream -Alabaster & Surilana

Best in Med/Dark Fawn - Surilana Islander - Surilana

Best in Brown- Surilana Magazine Madonna -Surilana

Best in Grey - Surilana Tattersal - Surilana

Best in Black - Hidden Lake Avenger - Hidden Lake

Most Successful Huacaya Exhibitor award went to Millpaca

Best in colour - Huacaya was once again a success, with the following awards

Best in White - Flowerdale Hss Sunsong ET Flowerdale

Best in Light Fawn - Ambersun Fortune Seeker Ambersun & Millpaca

Best in Med/Dark Fawn - Warralinga Celtic Sundown Warralinga

Best in Brown - Wyona Mr McGregor Wyona

Best in Grey - Cedar House Altitude Elsendale

Best in Black - Wyona Cassock Wyona

Angela Preuss was the fleece judge this year and did a wonderful job. The team worked together like they had done it a hundred times before, the coloured Suri fleeces looked fantastic spread out on the tables while the Supreme Huacaya fleece for an over 60months old was an exceptional fleece.

**Supreme Champion Suri Fleece** - Elysion Leilani Elysion

**Supreme Champion Huacaya Fleece** - Currumbong Flash Currumbong

Most Valuable Commercial Huacaya Fleece -Elitealpaca Dannijaye Elitealpaca The 2012 RNCAS Alpaca Fleece Region of the year competition was well supported with fleeces coming from as far as Western Australia and Tasmania. Fleece entries hit 274, still hoping for that elusive 300 but there is always next year for that.

The Regional winner who received \$500.00 and an annual trophy was the 'Southern Region NSW'.

There are so many words needed to convey thanks to the volunteers, behind the scenes the workload is huge and these people give up time from their lives with little to no recognition. As exhibitors we all need to remember that without these volunteers there would not be shows to go to. A simple Thank-you is not enough but is a start so - Thank You.

Exhibitors are the reason all the above effort is required, without you there simply would not be a show, some travel long hours, we all spend time halter training preparing our animals.

While the ribbons we win are lovely the opportunity to see other animals, see what other studs are producing, pine over the animal we would love to have bred, catch up with friends old and new from other shows adds to the draw of attending. So thank-you exhibitors for making the effort, making the show what it is, and I hope to see you all again next year in 2013.



#### NATIONAL FARM BIOSECURITY Reference Manual - Grazing Livestock Production

This new biosecurity reference manual has recently been finalised by Animal Health Australia (AHA) following consultation with, and endorsement by, all extensive grazing industries including AAA Ltd. It is an important tool for meeting our shared responsibility for biosecurity, and has been developed to help reduce the risk to farming operations of disease entering a property, spreading through the livestock population, and/or being passed to surrounding livestock operations.

Recommended practices are suggested as examples of what can be done to assist operators in implementing biosecurity practices in their own enterprises. While the principles set out in the manual can apply to any grazing enterprise, biosecurity measures may need to be stricter for operations with high economic importance and/or breeding/genetic importance.

This manual will supersede the Alpaca Industry Farm Biosecurity Plan published as an interim measure specifically for our industry in 2009. The new manual is to be made available online, as well as in a simple summary fold out form. Visit www.farmbiosecurity.com.au for more information.

Clarinda Alpacas

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Fine White & Coloured Huacaya

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Open by appointment

#### Leanne Tunny

McLaren Vale Alpacas 1931 Beaudesert-Beenleigh Rd Tamborine QLD 4270 (PO Box 6104, Yatala DC QLD 4207) Phone: 0407 748 477

#### Showing

Article by Perry Wheeler

### National Show & Sale

Adelaide will be the place to be and to be seen this October when the Australian Alpaca Association 19th National Show & Sale hits town.

The National is, of course, one of the most important shows in the world; the standard that we all aspire to, where a ribbon, of any colour, is the highest stamp of approval there is on our animals and our breeding programs.

As well as being our most prestigious show, the National is also one of our best opportunities to network, to meet breeders from across the country as well as our very welcome international visitors. It's hard work, it's high pressure, but it should also be fun. It's this last element that the convening team is determined to deliver as part of this year's package.

We all know the work that goes into bringing a team of any size to an event like the National, particularly for those that travel the longest distances; the least we can do is to work hard to make the show as enjoyable as possible by doing all we can to ease the stress and by adding a few extra tweaks to make the show a memorable and enjoyable one.

On the practical side, we've made sure that you have ample free daily parking close to the pavilion with a longterm drop site for trailers close by. We've also taken an idea from Victorian Colourbration and are working with a South Australian agricultural college to provide students to help exhibitors on arrival and throughout the show.

The exciting news on the entertainment side of things is that we have booked the Adelaide Oval for the Saturday night gala dinner. It's about time that the industry had a black-tie event and this is a great opportunity to dust off the tux and posh frock for something a little bit special. On arrival, you will be greeted at the North Gate, and will cross the oval on a red carpet (weather permitting) to predinner drinks at the terrace bar.



Free delivery & free returns. Click on us today! You then go to the new Members' Dining Room where the executive chef will be offering something like six main-course choices that show off fresh, local ingredients. This year, all AAA members and their guests are welcome to join us for the dinner – so if you are thinking about coming over for the Annual General Meeting on the Sunday, or you'd just like to be part of the event too we'd be more than happy to see you there.

If you are considering a longer stay, then Adelaide offers so much for the visitor. Unlike other cities where events may get lost; in Adelaide they shine, taking over the city streets (we'll have alpacas in Rundle Mall in the week before the show). With world class facilities, easy access, a commitment to sustainability, safe surrounds and value for money, it's easy to see why Adelaide has been voted the best city in Australia for business travellers. We'd be delighted to help with information about tours to Kangaroo Island, the Barossa or other destinations during your stay here.

To keep up with the news, to find out about the venue or accommodation options (make sure you book early!), trade stands or sponsorship opportunities, check the event website at www.nationalshow.com.au regularly.



Sire of Gunnamatta Laelia 'Best Grey Huacaya - 2011 National Show'

Small number of show quality progeny available for sale



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www.gunnamattastud.com.au



## The Australian Alpaca Association

Presents the

# 19th National Show and Sale

Adelaide, South Australia, 25th - 28th October 2012

Yes, it's the Nationals...

Whether you are a frequent exhibitor, or are contemplating entering for the first time this year; we look forward to welcoming you to Adelaide for the 19<sup>th</sup> National Show and Sale. Plans for this illustrious event are well underway to assure you a wonderful time. Over three days, the very best of Australian alpacas will be judged, and we hope to see you with your animals in the show ring too...

The fun of showing seems to be found when others – both judges and other breeders – vindicate your breeding and purchasing choices. There is nothing quite like the "nod of approval" from our peers to provide assurance that our alpacas are as good as we believe them to be ...

Surrounded by parklands, Adelaide, the city of churches, the festival city, has an amazing array of restaurants, nightlife and shops and offers its visitors so many reasons to linger after the show and sale. The 16 wine regions, the magnificent Flinders Ranges and Outback, Kangaroo Island (recently voted most unspoilt wilderness in the Asia Pacific region by National Geographic) and the miles of sandy beaches together promise the perfect contrast to the anticipation of the show ring.

We hope that you will be in Adelaide for the 19th National Show and Sale, assured of a warm welcome and a wonderful show.

For more information visit www.nationalshow.com.au or email convenors@nationalshow.com.au



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