ALPACAS AUSTRALIA

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est. 1990

25 YEARS

In this issue:

- Super Suri
- The Fur Trade
- Sydney Royal

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Cover: Lorena Laing Amano Collection
Photograph by Tony Owczarek Photography

Contents

Advertisers

President's Message

Well the cooler weather certainly arrived with an icy blast, sending us into the wardrobe for our alpaca garments, and looking for our alpaca bedding to keep us warm at night. For those still looking for alpaca product, or keen to work with alpaca yarn, why not check out the products in our Alpaca catalogue? This is a new initiative to promote alpaca merchandise from Australian retailers, and while not all merchandise is made from Australian Alpaca fleece, we are moving towards increasing the availability and identification of Australian product. This will generate further demand by processors and manufacturers for fleece from Australian growers.

Across Australia there have been a number of events showcasing the excellence in our breeding programmes and educating the broader community about alpacas and the alpaca industry. We invite and encourage you to take advantage of the opportunities available to share the alpaca passion, learn, compete and promote, and to network with fellow alpaca breeders. Around 100 farms participated in Australian Alpaca Week in May, and this year we saw alpacas and alpaca product in highly visible locations in a number of capital cities, as always capturing the attention of passers-by.

As always, I would like to take this opportunity to acknowledge the contribution of our volunteers, AAA office staff, and my fellow Directors in continuing the activities of the association. As a collective group working towards the same goal – to promote and advance the breed and husbandry of alpacas as an agricultural resource of Australia - over the past 25 years the Association has made significant progress. Let's celebrate those achievements and continue to support each other as we grow the industry to a formidable force locally and globally.

Michelle Malt
AAA President

News and Views

Coming Soon - New Alpaca Mill

Adagio Alpaca Mills is an exciting new alpaca fibre processing facility opening in Orange NSW by Andrew and Nadine Hulme. Andrew and Nadine are both engineers, who in previous careers, have been involved in large scale projects and reliability of processing facilities which makes them ideally suited to embark on this venture. They are passionate about alpacas and fleece quality and strongly believe in a sustainable alpaca market. Andrew and Nadine are also passionate about Australian manufacturing.

Adagio Alpaca Mills will be commissioning their equipment in May and anticipate processing first orders in June 2015. It will be a larger scale mill, able to process up to 20 tonnes annually, however is flexible enough to also be able to process relatively small lots of 5kg and greater.

For more information or to discuss your processing requirements, contact the Adagio Team at info@adagioalpacamills.com.au or visit their website www.adagioalpacamills.com.au.

Henty Natural Fibre Fashion Awards Entries

Fashion designers from across the country are invited to enter this years' Henty Natural Fibre Fashion Awards. The awards have been showcasing garments made from natural fibres for 11 years.

Country Lifestyle co-ordinator Lyn Jacobsen said the Natural Fibre Fashion Awards grew from the demise of Wagga Wagga's Golden Gown.

"Since the field days are located within a major wool and fibre producing region, it was important an event be carried on to encourage designers to showcase their creativity using the fibres allowed," Mrs Jacobsen said.

"This competition is free and open to all designers, but the fabric in the garment must be at least 70 per cent natural fibre, which can be wool, cotton, alpaca, silk, linen or combinations.

"With 2015 being the Year of the Sheep, the focus on wool will take on an international relevance."

Entires will be paraded in the Country Lifestyle marquee at the Henty Machinery Field Days on September 22 to 24 at 1 pm each day. Garments are modeled by year 10 students from Billabong High School located in Culcairn.

Winners will be announced on the final day of the field day with the best garment made from natural fibres receiving $2000 and $500 each to the winners of the best knitted or crocheted garment, millinery and accessory.

This year, Bernina and Julia's Fabric Boutique, Wodonga, are donating an Activa 215 sewing machine as an encouragement award for the best garment by a student designer.

To enter the awards contact Lyn Jacobsen on 0428 690 222, email naturalfibre@hmfd.com.au or phone the HMFD office on (02) 6929 3305.

Below - Vanessa Taylor, of Holbrook, models the overall winning garment in the 2014 Henty Natural Fashion Fibre Awards designed by Judy Bond, Mildura.

Alpaca 3 Ways - celebrity chef shows how it's done.

Celebrity chef Simon Bryant cooking up a storm at the Orange Region Farmers Market. As well as demonstrations, Simon cooked dinner for 80 guests using alpaca three different ways. Mr Bryant said "It's a great meat, very under rated and good for the land….I used alpaca back in 2004 when we started farming it in South Australia because it's a soft padded low impact grazer compared to cattle and sheep.
Courtesy of Central Western Daily. Photo by Jude Keogh.

New tool helps make biosecurity second nature

An innovative new planning tool that will help producers across all farming enterprises protect their property against diseases, pests and weeds is now available on the Farm Biosecurity website. Animal Health Australia's Executive Manager Biosecurity, Duncan Rowland, said the Farm Biosecurity Action Planner helps producers to identify risks based on the Farm Biosecurity Program's six biosecurity essentials: farm inputs, farm outputs, people, vehicles and equipment, production practices, ferals and weeds, train, plan and record.

"Just about everything that leaves, enters or happens on the property poses some sort of biosecurity risk. This planner provides producers with a guide on the biosecurity risks to look out for and the measures to address those risks," Mr Rowland said.

"Planning is a simple three step process. The first step is to identify what risks are associated with everyday happenings on the farm, such as receiving new feed, managing visitors or dealing with plant and animal waste. The second step is to look at the recommended actions to address those risks and the third step is to record your chosen biosecurity actions in a dedicated section on the planner.

"By following these steps, producers will generate structure around their intended biosecurity actions and with better structure and planning, biosecurity becomes more efficient and easier to implement," he said.

Plant Health Australia's Manager for Biosecurity Planning and Implementation, Alison Saunders, reiterated that when devising a biosecurity plan for the farm, the six biosecurity essentials are a good place to start.

"By looking at a property with the six biosecurity essentials in mind, a producer can be confident that they are identifying all the relevant biosecurity risks. They can then address the risks by undertaking simple and practical measures suggested in the planner's checklist," Alison said.

"If a producer builds a biosecurity plan around their daily, seasonal or yearly farm routines, after a while biosecurity should simply become habit," she said. The Farm Biosecurity Action Planner can be downloaded at farmbiosecurity.com.au. The Farm Biosecurity Program is a joint initiative of Animal Health Australia and Plant Health Australia managed on behalf of members.

Workshops for new breeders.

The Program.

Includes classroom and hands-on sessions in the barn, working with alpacas. Learn how to select quality alpacas - recognise good conformation and desirable fleece traits. Understand pedigrees, and fleece reports.

Learn how to trim toe-nails, give vaccinations, drench, body condition scoring, weigh and shear your alpaca. Matings, spit-offs, birthing, new cria care. Train alpacas to walk on a lead.

Discover how to breed to succeed. What animals should I start with? Do I need my own stud male? What facilities will be needed? Farm layout - fencing, laneways, catch pens.

Learn how to establish a successful alpaca business plan.

The Venue.

CountryPlace, in the Dandenongs, is an award-winning, residential, retreat. Stay in luxury accommodation. Enjoy fabulous food.

The individual price is $425 ($625 couple). The package includes en-suite accommodation for Saturday night, breakfast, morning teas, Saturday and Sunday lunch, Saturday night dinner, and workshop materials.

Bookings.

All details and booking forms are at www.flowerdalealpacas.net

Or phone Jen on 03 9728 7070.

FINE ALPACA
FLOWERDALE

Super Suri

By Robyn Betts - Jaegar Alpacas

Australia has a history of breeding quality suri alpacas and therefore of producing some of the best suri alpaca fleece in the world.

The architecture of suri fleece with flat well formed locks and the vibrant lustre and silky handle, are the factors which characterise the suri blend yarn currently being commercially manufactured in Victoria under the SuperSuri brand.

The myths and misinformation about suri fleece processing are gone.

SuperSuri yarn has been in full commercial production since 2013 and is proving to be stable and easy to use in all styles of knitting. The blend of suri alpaca with locally sourced merino provides the yarn with 'memory' to retain shape without losing the cool silkiness of the suri fleece.

The establishment of SuperSuri and the MeriSuri as high quality, unique yarns is a credit to the alpaca breeders who are investing in suri fibre production and the commercial fibre manufacturers in Victoria who have been willing to 'have a go' and process suri fleece. The process to establish a sustainable commercial suri yarn in Victoria has been, and continues to be a journey of commitment and passion. This journey commenced in 2009 when Barbara Linley and the late David Linley (Ambleside) and Robyn Betts (Jaegar), suri alpaca breeders, worked steadily with fibre manufacturers to trial the processing of a blend of suri and merino fleece into a practical and luxury yarn.

There is no one-stop shop for fibre manufacture in Victoria, but the companies who have been willing to be part of the MeriSuri and SuperSuri development process have embraced the Australian mantra to 'give it a go'. The unique characteristics of both MeriSuri and SuperSuri are its local fleece selection, local production (in Victoria) and its quality assurance at every stage of manufacture. Robyn Betts now believes she has identified the standards of suri fleece that is required for commercial yarn production. It is vital that suri fleece selected for commercial yarn production has lustre and silky coolness and has the appropriate style to suit the challenges of current manufacturing requirements – in particular the fibre has to suit the machinery used for commercial yarn production.

The development of SuperSuri as a chunky, 12ply, 200 gram ball of squishy yarn was the initiative of Robyn Betts who identified that the knitters market and the contemporary fashion industry needed a yarn which was easy and quick to use and felt soft and silky.

SuperSuri is a partnership between Robyn, Sue and Steve Pate (formerly of Hidden Lake Alpacas) and Jenny Hall (Tularosa Alpacas). The SuperSuri colour range of black, grey and red has now caught the eye of another partner and this has resulted in the SuperSuri winter collection for Amano Knitwear.

Lorena Laing is not a stranger to the alpaca industry as she created some of her first fashion designs from alpaca yarn (huacaya) in 2005 and was part of the L'Oreal Fashion week during that time. But now Lorena has a new direction in contemporary knitwear and she is finding her creative ideas and designs taking shape by using SuperSuri yarn. The SuperSuri chunky yarn and colour range combines well with the unique open style weave and knitting characteristic of Amano knitwear

In 2015 Lorena has launched her winter collection – stunning flowing and textured knitwear, with dramatic colours and wearability for an Australian winter.

Lorena has a commitment to accessing local people and local products in the design and creation of her Amano knitwear – and the SuperSuri group are extremely pleased to be the 'local product'. The future of SuperSuri yarn and the continuing development of other unique suri yarn blends will rely on quality – fleece selection, quality assurance of manufacturing and modern design. The market – the SuperSuri customers – are wanting quality, something different and natural fibre.

The SuperSuri journey is continuing slowly and steadily - 2015 will see the launch of two new chunky yarn lines, the continuation of a partnership with Amano Knitwear and the development of a global market.

For more information about SuperSuri check out – www.supersuri.com.au

Check out Amano Knitwear on Facebook or visit www.lorenalaing.com

Lorena Laing

Lorena Laing migrated to Australia from Chile with her parents as an eleven year old. As a restless teenager she wanted to go back to her roots and at sixteen returned to her homeland. Over the next few years she drifted between Chile, New York and Melbourne. She studied Siddha Yoga at the Siddha ashrams near New York and spent six months in the sewing rooms preparing monk's robes.

As a twenty three year old she returned to Melbourne and applied to RMIT to study fashion design. Three years later she graduated as the very confident "Student of the Year". During this time Lorena won a scholarship award to enter Mercedes Fashion week and the following year she opened the graduates show at RMIT. From these prestigious beginnings Lorena would go on to show at Fashion Week in Sydney and Melbourne from 2000 – 2006.

AMANO
BY LORENA LAING

In 2004/2005 Lorena participating in both Mercedes Australian Fashion Week and L'Oreal Melbourne Fashion Festival won great acclaim for her use of alpaca in the designs and won the prestigious Melbourne Cup Designer Award in 2005.

In 2007 Lorena wrapped up her label and went to work for bigger companies such as Pacific Brands in a product manager capacity. She continues to work for Pacific Brands in this capacity currently in men's underwear for Holeproof and Jockey. During this time Lorena has had two children who are now three years old and nearly one and is now ready to relaunch her own label again.

Lorena says, "My winter Amano collection is a body of work which is not derivative of 1 season as such but a constant evolution and always in motion. The pieces developed so far are a part of a body of work that will continue to exist in the collection in seasons to come. Some may go and new ones will surface. This collection is not driven by seasons but rather I see it as a continuous flow of work. The collection is not influenced by trends but more fulfils my need to create pieces or beauty with the best materials available- Alpaca."

"Amongst all the luxury materials I have worked with in the past, Alpaca left the biggest impression on me. Maybe because it gives me a connection back to my mother land - Chile, but also because it really is a magical material to design and create with.

Within the collection I am using both hand weaving and knitting. Both methods are most traditional in techniques but it's the fibre and the design which separate it from the rest of the products in the market.

The hand weaving is done on a traditional weaving frame native to Chile and I have women in Australia doing this artisan work. Its a slow process and meticulous with many restrictions but it creates an unusual finish unlike any other.

The hand knitting is an even longer process, also executed by hand knitting experts, but again creating a finished product no knitting machine could duplicate.

I have intentionally gone out sourcing local artisans to develop my work as its as important for me to use this fibre as it is to keep these wonderful old traditions alive".

BLOAT

Something to be aware of...

By Judi Bromage & David Bootten
Baringhup Alpacas

One evening we found Verity, a 10 month old female, kushed alone by the alpaca shed. She was gasping for breath, gurgling and frothing at the mouth and there was a small puddle of froth on the ground. Her stomach was very bloated.

When we stood her up, she kept her mouth open and continued to gasp and gurgle. On careful inspection of her mouth we couldn't see any obstruction and we couldn't feel anything down her throat. David tried a gentle Heimlich manoeuvre on her diaphragm to see if anything could be dislodged but with no result.

I rang the emergency number for our vet Kris Hardefelt and relayed the symptoms - bloated, frothing at the mouth, struggling to breath and his immediate reaction was get her to the surgery asap there was a very high chance that the bloat would kill her.

Being small we bundled Verity into the back of the car and drove the 30 km in record time. Kris arrived at the surgery at the same time. Verity was placed on the ground in the car park and urgent inspection commenced.

Kris explained that it was imperative to relieve the gas from her stomach before the pressure on her diaphragm totally restricted her breathing. Kris tried to pass an 8-mm tube down her neck into her stomach to release the pressure but at the base of her oesophagus the tube met an obstruction. The mass could now be felt from the outside and it was something hard and 3-4cm long. Kris removed the tube and inserted a 1½" 16-gauge needle straight into her stomach (about 6-7cm in front of her flank). Gas came out and he applied a small amount of pressure to her stomach until the gas stopped. He then pushed another needle in, this one lower than the first and closer to her flank. More gas came out and her stomach really went down. He then put the tube back down her oesophagus and, with the stomach pressure relieved, pushed the obstruction right down to her stomach.

All of this time Verity was kushed on the ground in the car park. As soon as the gas had escaped, and the obstruction pushed out of her oesophagus, her ears came up, her eyes brightened and

she wanted to stand. She was obviously sore and stressed but her breathing had returned to normal, her eyes focused and she was alert and calm. Kris gave her a 4 ml injection of Oxytect LA and told us to repeat the injection in three days. She was out of danger and already on the road to recovery. With the needle holes in her stomach there was a chance of peritonitis so we kept an eye on her temperature for the next 3 days.

Without this quick and timely intervention by Kris to relieve the bloat and remove the blockage, Verity would have died.

We have no idea what stuck in her oesophagus. There are no fruit trees nearby to generate stones. We have noticed small clumps of stalks with root in the hay we have been feeding out as well as dead capeweed roots in the paddock. Whatever it was by now has been passed out and there has been no sign of anything strange in the poo piles. Verity is healthy happy girl and her near death experience seems to have left no adverse sign, except she is just a little friendlier!

We have been very fortunate to have such an experienced, passionate and kind vet to call on and we wish Kris all the best in his retirement – he will be sorely missed.

Editors Note: *Unfortunately Baringhup Alpacas vet was unable to be contacted for comment on the above. My local veterinarian Dr Judy Law BvSc from Samford Vet Hospital provided the following to give more information on 'Bloat in Alpacas'*

The normal cow/ruminant continually produces much gas as a result of microbial digestion of vegetable material within the rumen or forestomach. A vast majority of this gas is usually belched up via the mouth or passes out in the faeces. Bloat is a condition whereby this gas cannot be released and a life threatening emergency is the result of severe abdominal pressure interfering with breathing and cardiovascular function. There are a number of causes but the most common are the obstruction (foreign body or very dry food) or the production of a stable foam from eating green legume crops.

Bloat in Camelids is not common. Camelids are functional ruminants but their stomach anatomy differs significantly from the true ruminants. In true ruminants the rumen contents are stratified – gas layer over the top of a solid layer of ingesta overlying in turn small particles of ingesta. In camelids the ingesta or stomach contents are relatively dry and homogenous or well mixed. Nevertheless, gas is still produced as a result of microbial digestion and must be belched or eructated.

An obstruction at the entrance to the stomach prevents the belching or removal of this gas. As a result gas builds up within the stomach resulting in life threatening bloat. In this case the animal was very advanced and close to death from cardiovascular collapse. The pressure of gas build up within the stomach prevented the passage of an orogastric tube into the stomach to release the gas. The only option available was to pass needles through the abdominal wall into the stomach allowing release of the gas, reducing the pressure within the abdomen and thus allowing the passage of an orogastric tube. An obstruction (possibly dry ingesta) was the most likely cause of the bloat and once the pressure was reduced, the obstruction could be pushed into the stomach. The needle holes within the stomach are very small but could still allow for the escape of bacteria from the stomach into the abdomen. Thus antibiotic cover was initiated to resolve any bacterial spill.

Richard Dixon Memorial Award

Next generation alpaca vet carries industry vision.

By Karen Davies - green, green, grass communications

Graduating veterinary student Jacqui Poldy smiled broadly after she learned that many of Australia's largest alpaca breeders started out in the industry when they fell in love with the curious camelids and simply had to have one.

"Yes, that just may be what's happened to me," Jacqui laughed. "You could easily call it love when you become completely entranced by the beauty and behaviours and, in my case, the veterinary fascinations of alpacas."

Jacqui is the very deserving 2014 recipient of the Australian Alpaca Association's Richard Dixon Memorial Scholarship and while she is not planning to start her own herd just yet she is excited by the opportunity the scholarship now gives to her to begin specialising in camelid surgery and medicine.

"I am extremely grateful to the Australian Alpaca Association for recognising my interest in camelid medicine and for helping to make it possible to study in the USA and work voluntarily in Peru, the very important home of the alpaca," says Jacqui.

"This is such an honour and a wonderful start to my veterinary career and my goal to be able to make a contribution to the Australian alpaca industry in my future as a vet."

The development scholarship honours the late Richard Dixon who is widely recognised for his vision and commitment to improving alpaca health and for establishing so many of the founding veterinary practices in Australian Alpaca industry including AlpacaMAP and Q-Alpaca.

AAA President Michelle Malt says the country's breeders remember Richard fondly for his assistance and the immense compassion he showed as they dealt with difficult or protracted health issues with their animals.

"In awarding the scholarship to Jacqui we recognised her outstanding enthusiasm, and her desire for greater knowledge is something that allows Richard's legacy to live on," Ms Malt said.

With the help of the scholarship, Jacqui will attend a weeklong intensive veterinary course in camelid practice offered by the North American Camelid Studies Program in Amherst, Massachusetts. The program, run by Dr Steve Purdy, instills veterinary students and practitioners with the practical skills required to investigate and support alpaca husbandry and healthcare. Jacqui will apply this training while she accompanies Dr Purdy and other volunteers in vital breeding work in Peru's Nuñoa Project (http://www.nunoaproject.org/).

"By volunteering for this work in South America, Jacqui is not only furthering her understanding of alpacas but she is also providing important support and respect for Peruvian farmers who have shared their best animals with our members," Ms Malt said.

The Nuñoa Project is focused on advancing reproductive management, which Jacqui says from her first encounters with alpacas, became her area of greatest interest.

"During my studies, I have been lucky to have some wonderful mentors in the Australian alpaca industry to inspire me but I must say it is the animal itself that had me in raptures," Jacqui is happy to say.

"My first Uni placement was at Flowerdale Alpacas with Jeffry Farman who guided me through all aspects of stud work with these adoring animals and their unique breeding practices - the mating, the ovulation and, of course, the spit-off! "Throughout my course work I have been fascinated by the veterinary care of the animals and have been particularly inspired by the world leading reproductive work of Dr. Jane Vaughan, and the practical training with another leading light Dr. Ewen McMillan."

Jacqui is now looking forward to her next alpaca learnings in the US and on the Nuñoa Project beginning in June this year. She says she is humbled to have scholarship assistance from the AAA to travel to the alpaca's native homeland.

"Through my experiences I hope to identify areas where my veterinary medical interest and enthusiasm for these exquisite creatures can be of value and I can do justice to the accolade I have been given," Jacqui said.

With eight years of university study behind her, Jacqui has now started work in a Wangaratta general veterinary practice," Ms Malt said. "And just a few weeks into the job she had her first call out to an alpaca patient. It was a day she had been waiting for and, as an industry, we are confident the national alpaca herd will see a lot more of Jacqui.

We hope to bring you Jacqui's experiences in the USA and Peru in future editions. The $5,000 Richard Dixon Memorial scholarship is offered every two years to final year veterinary students wishing to further their studies on camelid medicine.
Applications for the next scholarship open in 2016.

Sydney Royal 2015

By Keryn Burns - Convenor

Special Australian Alpaca Ambassador Coolaroo Ice Eden and friend welcome visitors the the Natural Fibre Showcase

Another very successful and enjoyable Sydney Royal was had by all. As I step into the role of Convener, I must admit it was a little (very) daunting. However, with the help of such a wonderful dedicated team of volunteers, plus Fran & Paul Haslin to guide me, we all survived and will definitely be back again next year.

We had the honour of having Lyn Dickson & Angela Preuss, judging the halter classes over the 3 days with over 330 animals in total (a little down but with Angela judging her show team was left at home). We did however see a few new exhibitors at Sydney, which is wonderful, new faces are always welcome.

Best Suri in Show (Supreme) was awarded to Bedrock Cryptic while Softfoot Rebellion RC ET was awarded Best Huacaya in Show. Softfoot was also awarded the Most Successful Huacaya Exhibitor in show, receiving the Harriet Davison Perpetual Trophy. Most Successful Suri Exhibitor went to Pacofino. Congratulations to all our winners.

The week prior to us all moving into the showground, saw Julie Bird judging fleeces for us. It was wonderful to have a few new exhibitors joining the fleece show as well and despite numbers being slightly down it was a very competitive display for Julie to select from. Supreme Champion Suri Fleece went to Baarrooka Durango's Foreign Affair while Supreme Champion Huacaya Fleece was awarded to Monga Atticus.

Our Monday evening exhibitors party saw a great night had by all. Paul and Fran Haslin were awarded Grand Champion Convenor and Co-Convenor 2007-2014, while the Paraders and younger generations once again attempted to teach the rest of us 'Nutbush City'.

The Intermediate Male class had an unexpected ribbon girl in the form of our Alpaca Mascot. He was a great hit with the public throughout show and I can't imagine how many followers he has on Instagram & Facebook, I think he needs his own page. Meet an alpaca was again a huge success with all the kids doing a wonderful job manning the ring and helping the public to walk the alpacas. Its great to see the kids jumping in and showing the general public just how wonderful our alpacas are. Numerous comments were made about the fact that "they are only kids and look how easy those animals are to handle". A huge thank you to Cranebrook High for lending us Brian the Llama. It was great benefit for people to actually be able to see the difference between the llama and alpaca.

Paraders kicked off our show on Friday & Saturday with a very well received and full program of competitors. The kids certainly love challenge and the competition was fierce.

Tuesday morning saw a team of nine young adults competing in the Judging competition, with our very own Ariana McCauley taking out 1st place. Arianna also picked up the mike for the entire judging as our trainee announcer, under the guidance of Graeme Dickson. She did a wonderful job and we hope she will return next year. Congratulations Arianna.

Wednesday morning saw the inaugural Alpaca Schools Competition with 5 school teams, consisting of 3 Junior and 3 Senior students competing together. It was wonderful to see that the 5 teams were basically made up of kids who had very little to do with alpacas in the past all trying their hand at Junior Handling. The aim of this competition is to have the kids working as a team rather than for themselves and hopefully introducing new student to the wonderful world of alpacas. It also gives schools that do not have alpacas a chance to compete at Sydney Royal. Look out Paraders I think you will have a few more entries for next year. The winning school for 2015 was Picton High.

A huge thank you to my whole team for all their help, advice and support, as well as all the exhibitors who were patient and understanding with me as we make the transitions. See you all next year. We start bumping in on Thursday 24 March 2016 - Wednesday 30 March 2016, so add it to the calendar now and we look forward to seeing you all at Sydney.

Best in Show Huacaya - Softfoot Rebellion RC ET

Best in Show Suri - Bedrock Cryptic

Above - Supreme Suri Fleece - Baarrookka Durango's Foreign Affair

Left - Supreme Huacaya Fleece - Monga Atticus

Below - Judges helper brings a smile to all.

ALPACA TEAM HOPS IN FOR EASTER SHOW

A dedicated and energetic team came together this March/April to make the second annual Sydney Royal Easter Show appearance of the Australian Alpaca Showcase a well-earned success.

AAA member volunteers served as industry information officers, and a team of volunteering Australian Alpaca Youth kept the exhibit's most important volunteers - the alpacas, of course - well fed, watered and exercised.

This year, the Australian Alpaca industry was again invited by the Royal Agricultural Society of NSW to participate in the Society's high profile new public education initiative, the Natural Fibre Showcase (NFS).

The large display space located in the NFS at "The Stables" was donated to the AAA by the RAS NSW, for the full two weeks of the Show as an addition to the familiar showing & exhibiting events hosted at the Munro Pavilion over the Easter weekend. This provides Australian Alpaca with both 14 day and 6 day promotional opportunities, each concurrently presenting complementary messages at the same event.

The NFS educates the public about the merits and origins of natural fibres, with other invited participating fibres including the cotton and mohair industries. AAA President Michelle Malt said Sydney's NFS was "a tremendous opportunity for the Australian Alpaca industry to put its best foot forward before the country's largest single event audience of some 800,000+ Show visitors in 2015. We thank the RASNSW, and all the AAA volunteers involved, for making this initiative possible at such an important annual event."

Dinah Fisher, AAA's Board member directing Marketing, said that the Australian Alpaca Showcase has been carefully designed to deliver its messages to audiences of all ages as a stand-alone installation, and it became even more effective when brought to life by current industry participants.

"The Showcase creates exciting opportunities to make a strong & memorable impression upon people about Australian Alpaca, in fun and involving ways", she said.

"Having breeders on hand to share their passion as well adds immeasurably to the worth of the experience for a visitor."

Social Media Buzzz..

Come down and see the alpacas we have on display at the natural fibre showcase https://www.facebook.com/rhiannon.lindley/.../1128410767184518

Sydney Royal Easter Show

Handsome, aloof and a continual feature at the Show since 1992. These two fuzzy, fleeced up Alpacas are ready for a photo op in our Natural Fibre Showcase, located in The Stables. #eastershow

Coolaroo Driving Force and Coolaroo Darvenezia take their turn working the crowd.

Images by permission green, green grass communications

RAS reported that Show visitation exceeded 800,000 people this year, and NFS frequently received top billing in Easter Show marketing & media, bringing Australian Alpaca into the fold with many of NSW's most respected agricultural brands. This year, the NFS also collaborated with acclaimed fashion identity Charlotte Smith to stage glamorous and well-promoted fashion shows, presenting natural fibre garments including Alpaca at their stylish best, and inspiring visitors to shop consciously in future to seek out quality fibre clothing.

After this second exciting year of the NFS, we can be very certain that there are many members of the public with new awareness & understanding of the Australian Alpaca industry and its products.

The Australian Alpaca Showcase exhibit is a comprehensive marketing asset fully owned by the membership of the Australian Alpaca Association. Do you have an event that would benefit from education about the Australian Alpaca industry? Create marketing opportunities in your district - email hello@gggrass.com.au to enquire about bringing the Showcase to your event, including subsidised shipping.

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And the many wonderful students and helpers from NSW schools & TAFEs who made this event possible.

Alpaca Colour Genetics:
Mendel meets Molecular

By Dr Kylie Munyard B.Sc (hons), PHD

Over the past 7 years the team at the Alpaca Molecular Research group at Curtin University has been researching the inheritance patterns and molecular causes of colour in alpacas.

Using a combination of Mendelian genetics principles, molecular genetics techniques, objective chemical analysis of the fibre and observation of skin and nail colour we have been able to arrive at a model that, we think, describes most of the colour variation in alpacas. The current nomenclature for alpaca colours contributes to the confusion. One person's fawn is another's light brown, and one person's mid-brown is another's red-brown. We therefore also propose a new set of names for base colour varieties that reflects the genetic basis of the colour.

Alpaca colour genetics can be broken down into two parts, base colour and pattern. There are only two genes that control the base colour of the animal, MC1R and agouti. However, there are several genes that control the many patterns that are possible (e.g. classic grey, roan, greying, tuxedo, piebald, appaloosa, vicuna, dilution). Any base colour can co-exist with any pattern, more than one pattern, or none of the patterns.

Does brown really exist in alpacas?

Base Colour

The base colour in alpacas ranges from white to black, through fawn and brown, with or without black on the extremities. The base colour arises because the genes MC1R and agouti work together in the pigment producing cells to tell the cells what colour pigment to produce. Mammals can only produce two types of pigment, yellow and black, and all the variety of colour is produced by differing amounts and locations of these two pigments.

Agouti variants are probably responsible for most colours in alpacas. Our data suggests that agouti has four variants in alpacas, each of which leads to a different colour outcome. The difficulty in assigning an accurate colour classification (that is, determining which agouti variant is present) is that there is a range of colour intensity for each variant. The most dominant agouti variant, 'A' produces white through to fawn fibre. The next most dominant variant, 'Ab' which we propose to call 'bay' is characterised by a tan/brown body with black on the extremities (the same as bay in horses). Next in the hierarchy is 'at', which we propose to call 'black & tan'. This one produces a black body with tan on the undersides, similar to a Doberman dog, and could be considered to be a reverse of bay. Finally, the most recessive agouti variant is 'a'. An alpaca with only 'a' present will be black, and should more correctly, from a scientific point of view, be called recessive black. All animals with an Agouti base colour have black skin regardless of the colour of their fibre. Because each individual has two copies of its genome, each gene can have up to two variants in a single animal. Therefore, these four variants can occur in 10 different combinations, leading to the huge range of different shades of base colour. The use of the term 'brown' to describe any alpaca colour is very misleading. From a scientific/genetic point of view, 'brown' describes a colour that is caused by a defect in black pigment, which makes the black pigment look brown. Our research has shown that the vast majority of alpacas described as brown are actually different shades of yellow. In fact we have not found ANY true brown alpacas, but we haven't tested them all, so we are being in cautious in saying 'most'. The darker 'brown' alpacas are actually yellow with differing amounts of black mixed in. We have shown that:

- White and fawn alpacas have only small amounts of the yellow pigment, and negligible amounts of black pigment;
- Brown, dark brown and black brown alpacas have mixed yellow and black pigment in different proportions, and
- Black alpacas have about the same amount of yellow pigment as fawns, but have much more black pigment, so that the black pigment masks the presence of the yellow pigment.

MC1R is a relatively simple gene, it either allows (via the dominant wild-type variant 'E') or prevents (via the recessive variant 'e') the production of black pigment. So, agouti sets the base colour, then MC1R variants determine if the black part of the agouti colour will be allowed to occur or not. With white (AA) and fawn (AAb), the fibre contains only negligible traces of black, so the only visible effect of the preventative MC1R variant is on the skin, this is how you get a pink-skinned white alpacas. Preventative MC1R variants have a greater effect on bay (AbAb), black-bay (Aba or Abat), black & tan (atat or Ata) and black (aa) alpacas. Bay coloured alpacas become chestnut (AbAb ee), just like in horses. Black-bay (Aba ee or Abat ee) could be anything from chestnut to fawn in colour.

Black, when accompanied by preventative MC1R variants (aa ee), becomes chestnut through to white, depending on how much yellow pigment was hidden by the black pigment. All of these dark base outcomes are determined by how much of the yellow pigment is present, the more yellow pigment, the darker the fibre colour. These darker 'ee' alpacas will have dark skin, but it will be only as dark as the fibre, and will not be black.

Nature has added a twist to this story. Some animals with pink skin (genetically) will develop black pigment as they age, in response to sun exposure. So, it can be hard to tell if an older animal has a) skin the same colour as its fibre, b) pink skin, or c) black skin.

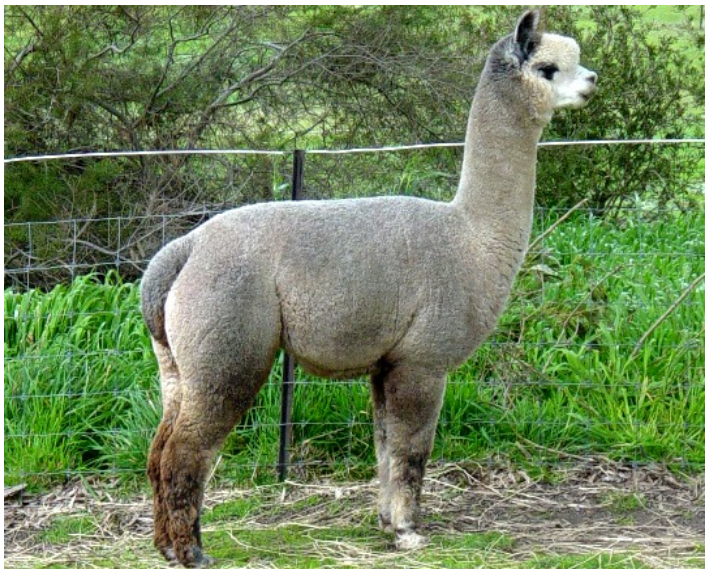
If we add the two MC1R variants, which can occur in three different combinations, to the 10 agouti variant combinations, we now get 30 different colour outcomes possible from just these two genes. That is more than enough to explain all of the normal base colours in alpacas. Our research has identified the DNA signatures of the two different MC1R variants, and two of the four agouti variants.

Bay

Chestnut

Patterns

All of the patterns in alpacas are caused by genes creating a variation to the base colour. All of the pattern genes have a wild-type variant that does nothing, plus one or more variants that cause the pattern. Each alpaca will have two copies of every pattern gene, this could be two wild-type (do nothing) variants, or one each of wild-type and pattern-causing, or two pattern-causing copies. The patterns are classic grey, roan, greying, appaloosa, vicuna, tuxedo, piebald, blue-eyed white and dilution.



Classic Grey

Silvergrey at rear, rosegrey at front

Classic Grey (M)

Silvergrey and rosegrey are the result of a single pattern variant acting on different base colours. In our lab we call this pattern classic grey and the gene symbol is 'M' (named after the pattern 'merle' that it resembles) until the gene identity is confirmed. Classic grey is used as a term as opposed to simply 'grey' to differentiate it from the well-known greying characteristic found in many other species (and possibly in alpacas too). Silvergrey (aa E- Mm) is a classic grey variant on a black base colour. Rosegrey is a classic grey variant on any other base colour. This explains the huge variety of different rosegreys that are seen. The typical signs of a classic grey are that the neck and legs are paler than the body, the body is a diluted version of the base colour, and that the overall depth of colour of the animal often increases with age. They also commonly have a pale face, and a non-diluted bonnet of colour on the head. When you examine the fibres under a microscope they are not a mixture of white and black fibres, instead the fibres are diluted to different degrees from white to the fully intense base colour. Some classic greys have spots or patches of undiluted fibre in random places. The classic grey variant is easy to see on a dark background, but can be very hard to see on a pale background, and impossible to see on a white. Genetically one copy of the classic grey variant is required to be present to cause the classic grey pattern (Mm). In genetic terms it is an incomplete dominant. Pedigree analysis by Elizabeth Paul has shown that the presence of two copies of classic grey (MM) is lethal at the embryo stage of development. Hence, you don't get any 'true breeding' classic greys. Our analysis of pedigrees, combined with work done by Dr Belinda Appleton suggest that there may be at least three different classic grey variants, each of which produces a different version of the pattern.

Silvergrey Suri

Roan (Rn)

Roan is in many ways the reverse of classic grey pattern. Roan animals have a diluted body with undiluted neck and legs. Microscopic examination of the fibre shows that the roan pattern is caused by a mixture of fully pigmented and white fibres. In contrast to classic grey, a roan will get paler with age, and the body may end up almost completely white.

Roan animals are rarely born with the pattern showing, that is, a black roan will be born black, and will develop the typical dilution effect over time. The roan pattern can occur on top of any base colour. Similar to classic grey, the roan pattern is most easily seen on a dark background, and in our experience, white and fawn roans may not even be recognised as such. Roan is not the same as progressive greying, although it can be hard to tell these two patterns apart.

Roan is also an incomplete dominant. Only one roan variant is needed to cause the pattern (Rnrn). However, preliminary data suggests that when two roan variants are present the pattern progresses more quickly, and is not lethal (in some species homozygous roan is embryonic lethal). Breeders wishing to get 'whiter than white' fibre could introduce the roan pattern into their herd to remove any traces of pigment from the fibre.

Black Roan

Greying (G)

Age-related greying occurs in most species, and is caused by the premature death of stem-cells in hair follicles. It is not clear whether this kind of grey occurs in alpacas as a distinct separate pattern, or if the milder forms of greying are a third variant of the roan pattern. The physical attributes are similar to roan, except for the differentiation of effect between the body and legs. The inheritance pattern is unknown.

Appaloosa (Lp)

Appaloosa is not, as most people think, a pale background with coloured spots. It's a dark background (what is perceived as the spots) with pale spots (what is perceived as the background). Appaloosa can also occur on top of any base colour, and you can clearly see the bay base colour distribution of black and yellow pigment in some appaloosas. The pattern of inheritance has not been proven, but it is probably dominant or incomplete dominant. That is, one copy of the appaloosa variant is enough to cause the pattern (Lplp), and two copies will cause the same pattern (LpLp). Similar to all of the other patterns, appaloosa can't be seen on a white alpaca.

Appaloosa

Vicuna

Vicuna is an intriguing pattern. This is the pattern where a fawn alpaca has white undersides with white extending onto the body behind the front legs. We have not completed a thorough analysis of this colour, and are hoping to do so as soon as possible. Two hypotheses to explain this pattern are currently under consideration. The first is that vicuna is a separate pattern in its own right, and the second is that it is simply a manifestation of the black & tan agouti base colour with non-permissive MC1R variants.

Vicuna Colouring

Tuxedo/Piebald

Animals with white patches are tuxedo or piebald. This is the only pattern that is localised to specific regions of the body. In effect the presence of a tuxedo or piebald variant leads to white spots of varying number, size and shape. It is not definitively known if tuxedo and piebald are caused by different genes, or by different variants of the same gene.

It is also assumed that these two are distinct patterns. However, the evidence suggests that the tuxedo pattern is restricted to the head, neck and legs, while the piebald pattern occurs on the body as well, and tends to cross the dorsal mid-line. Both tuxedo and piebald are dominant, that is, only one copy of the pattern variant needs to be present to cause the white pattern. Therefore, in any mating where one parent is white and the other is a solid colour and the cria is tuxedo or piebald, it is probably the white parent that has contributed the white spotting pattern. However, even a tiny amount of white on a solid animal is an indication that it is actually tuxedo or piebald.

Tuxedo Piebald Examples

Blue-eyed white

Blue-eyed white (BEW) is the most controversial of all alpaca patterns. The evidence indicates that classic grey is strongly implicated in this pattern.

If a BEW is mated to a solid dark colour, the most common outcomes are classic grey or tuxedo, which suggests that BEW is a combination of two pattern variants that leeches all of the colour from the animal.

BEW or Blue Eyed White

Dilution

The final pattern being discussed is not really a pattern at all, but it does affect the base colour of the animal, so it fits in this section. Our research has shown that animals with the exact same gene variants present at A and E can be different colours. For example, fawn versus dark fawn. Therefore, there must be other genes acting to dilute out the colour in a uniform way. These genes are known to occur in other species, 'D' in dogs causes black to appear steel grey, and brown (real genetic brown) to appear milk chocolate coloured, and red to appear champagne. In horses you see the very striking palomino and silver dilutions. Each of these dog and horse dilutions is caused by a variant of a single gene. We are currently analysing gigabases (i.e. billions of bases) of alpaca RNA sequence to try to find a gene or genes that have a similar effect in alpacas.

Summary

The colour of an alpaca is controlled by its genes.

If you evaluate colour in an objective way, you can usually work out which genes, and which variants of those genes, are creating the colour you see. If you also include information about an animal's parents and offspring, the success in predicting colour will increase markedly. DNA tests for these genes can be used to determine the genetic potential (in terms of colour) of an animal, and therefore allow a breeder to plan matings to produce (or not produce) a particular colour.

We suggest that the names used to describe alpaca colours should reflect the genetics of those colours, so that there is more effective communication and more precise records, leading to higher predictability in breeding outcomes.

Acknowledgements

This research was funded by RIRDC, and is presented in full in the 2011 RIRDC Report 'Inheritance of White Colour in Alpacas - Identifying the genes involved' by Kylie Munyard.

In addition, two PhD students, Natasha Feeley and Rhys Cransberg, significantly contributed to this work as part of their PhD studies.

The necessity of Science & Statistics for a successful alpaca industry

By Dr Stephen Mulholland, Ph.D.

Running a business means making decisions every day. Buying, selling, money and marketing; these are the common threads that link all businesses.

When you're breeding alpacas, you need to start making other more complicated decisions involving nutrition, genetics, parasite control and a host of other quite technical issues. Since many alpaca owners don't have a strong science background, they must make do with the information available from web sites, books, other breeders, and conferences. This leads to the old joke in the industry-ask five breeders a question, and you'll get at least six different answers. How can you make an informed decision in such a confusing environment? Think in a more scientific manner.

> " I'm going to show you a few methodological techniques that can improve your decision making, and then I'm going to give you some examples to hopefully make you think."

Firstly, a disclaimer. It is highly probable that at least one thing I am about to tell you is wrong. Furthermore, it is also highly probably that every other speaker at conferences has told you something that is wrong.

Welcome to science and specifically the science of camelids. We still have a lot to learn. Best knowledge and best practice keeps evolving and improving. What the speakers (myself included) are telling you is our best understanding of the situation based on the current evidence available. Each year we learn more, and sometimes what we learn makes us have to change our previously held assumptions.

This is why 'answers' are dangerous. When people have an answer they happily turn off their brain, and never think about the issue again. We should always be asking questions, and challenging the answers we've been given. Channel your inner sever-year-old. Why? How does that work? Does that make sense? Can you prove it?

Answering these questions will take you in the right direction. (Of course, to do so with 'scientific rigor' requires a heap of knowledge about experiment design, statistics and the other drudgery you slog through on your way to a doctorate.)

A common mistake many people make when trying to find the answer to a question is confirmation bias. This is where you look for (or only see) the facts that support your pre-conceived notion, while ignoring everything that disagrees. The Internet makes this easy. No matter how crazy a notion, you are sure to find at least a few people out on the web who agree with you. "Someone agrees with me" is not a valid defence of a thesis. You need to back-up your assertion with either facts (evidence collected in a systematic and unbiased fashion) or logic (making reasonable comparisons to systems or evidence sets for which we have a good understanding- this is how we work out drench dosing by comparing alpacas to other farmed species for which there is testing data).

An example of confirmation bias can be found in the way some people collect fleece samples for testing. While ideally you should take a representative sample from a fixed location (commonly mid-side), some people search out a "nice, clean looking staple" to send to the lab. In doing so they confirm their pre-existing bias about that animal's "good quality" fleece by carefully eliminating results that might contradict that notion.

Another concept you need to keep in mind is that 'facts' may actually be beliefs can be disproven. The strength of the scientific method arises because every theory is open to continual challenge. New evidence, if it is sufficiently compelling, can make us reconsider. In areas where the depth of knowledge is not very great, there is rapid turnover as new evidence accumulates, and old theories either stand or fall in response to them. So if I said "alpaca don't have live triplets" I think most people would agree this is correct. However, if an alpaca did ever give birth then it would falsify my statement, and I'd have to amend it to "it's extremely rare for alpacas to have live triplets."

You must be willing to change your mind, if new facts come to light. Feel free to questions those facts. As I said above, you always need to ask questions. But don't cling to old beliefs just because they are more convenient or more comfortable.

Science is testable, observable and repeatable. In science, "We don't know yet" is a perfectly acceptable answer.

Taking an analytical, systematic mindset can help you distinguish the Snake Oil from the Science. Be swayed by evidence, not simple proclamations. That includes what I'm saying here.

Where do statistics fit into all of this? (I should really deal with both science and statistics, since both were mentioned in the title.) Wikipedia tells us that statistics is "The study of the

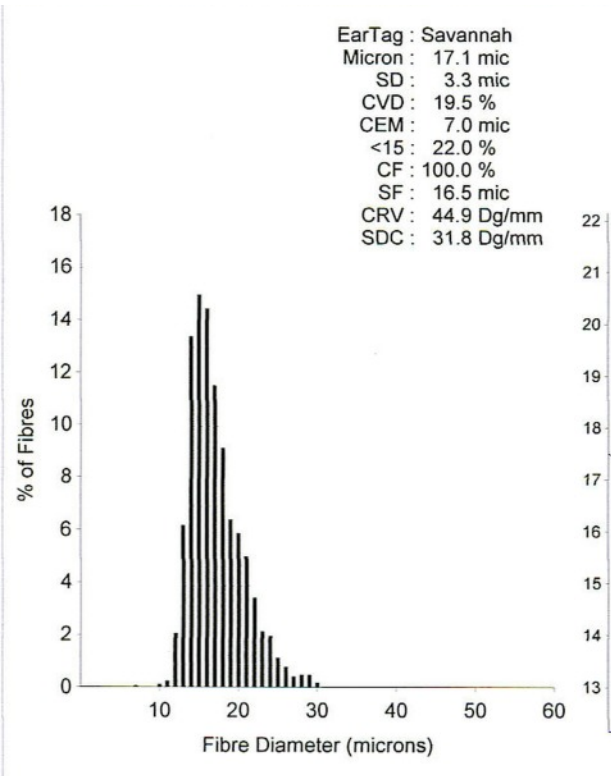
collection, organization, analysis, interpretation, and presentation of data. It deals with all aspects of data including the planning of data collection in terms of design of surveys and experiments." If you think it's complicated and boring, you're right, it is, but what you need to take away from this is the habit of thinking numerically.

Numbers are good. You should use them more often.

If I say "my alpaca is big" it tells you very little. If I say "my alpaca weighs 95kg, is body condition score 3, and stands 88 centimetres at the withers" it tells you a great deal. The alpaca industry is full of superlative adjectives, too often with no factual measures to support them. These sorts of adjectives make it nearly impossible to fairly compare the actual virtues of any given alpaca.

Fleece statistics (mean micron, SD, staple, fleece weight) are the most commonly collected numbers when it comes to alpaca breeding, but there is much more we can measure and improve.

Remember, you can only successfully breed for something if you measure it! Conversely, you can only avoid bad outcomes if you are measuring and monitoring. Recording a wide set of traits in all your animals can let you spot surprises, both good and bad, that otherwise might have slipped by.



This of course leads to a discussion of the Spanish Habsburgs. Why? They are an interesting test case which we can use to understand the role of increasing inbreeding on the health and fitness of a population. (See: "The role of Inbreeding in the Extinction of a European Royal Dynasty" by Alvarez *et al*. 2009) This paper provides not only a warning of what can go wrong, it provides some insights on how we can use numerical tools to look for potential problems in our own breeding populations.

Too many people think that inbreeding means you start getting cria with two heads. The negative effects of inbreeding can be very subtle, yet simultaneously very damaging.

There are three take away lessons we can apply to our alpaca breeding.

1. To properly calculate the cumulative increase in inbreeding coefficients you have to look back at least 5 generations. Lots of distant-relationships can add up to a very high level of inbreeding. In the case of Charles II, the last King of the line, his inbreeding coefficient was .254, greater than what you would get from a brother-sister pairing. Charles II also had two genetic diseases (combined pituitary hormone deficiency and distal renal tubular acidosis), and was insane and impotent. And the last of his line. How many generations back does the inbreeding tool on the AAA site go back? You need to go back 4 generations to see the true extent of Charles II inbreeding.

2. Inbreeding is not just about gross defects. A broad weakness in the population is expressed by declining survival rates. The survival rate of Habsburg royal children reaching 10 years of age with high inbreeding coefficients was significantly lower than the general population at the time. You might expect royal children to have had better survival rates, not worse, as they had the best nutrition, housing and health care. What is the overall survival rate to weaning for cria? How is it affected by inbreeding coefficient? We don't know, because we haven't measured.

3. Decreases in overall fertility is another common affect of inbreeding. How many matings does it take your 'highly bred' stud male on average to get a female pregnant, 1.3, 1.5, 2.5? How has this changed over the years as your breeding system progressed? You can do the same calculations for females, but it is more error prone (statistically uncertain) because females have few pregnancies individually, where a stud male can generate hundreds.

4. Due to a lack of systematic data collection, it's impossible to tell if inbreeding is causing problems in the alpaca industry. We don't know if we're speeding towards a cliff or not.

Now for a specific example of trait you may not be measuring, but should be. Milk production.

No, I'm not expecting some weird camelid-dairy industry to develop. Milking alpacas is no fun at all. But milk production is absolutely vital to cria survival rates. Marginal milkers, i.e. those dams whose cria need supplementary feeding in order to put on weight, is a drag on herd productivity and your time. Milk production is quite heritable (0.3 to 0.35 in dairy cattle). Which means you can quickly change the average milk production levels in your herd, up or down.

From the data we've collected over the last decade, we know we have dams that can put more than 300 grams a day onto their cria for the first month, and 200 grams a day for the months that follow. Such cria are big, strong, vigorous. When the dams produce such prodigious quantities of milk, get pregnant again, and maintain body scores of 4+ through the lactation period, without supplementation, you have winners that need to be identified and bred from.

100grams per day is 'enough' and dams that provide a 100grams a day weight gain in their cria are common. By three months of age there can be a seven (or more) kilo difference between cria from strong-milking mothers and weak milkers. Weak milkers get culled from our herd.

Fat, fast-growing cria are what we want. If an alpaca is to grow to its full genetic potential, it must have good nutrition. If we had paddocks full of 350g/day mothers, more cria would survive, and we would see those cria fully express their potential. They are also better suited to survive harsh winters, something we have to consider in Wellington where the rain tends to fall sideways.

There are lots of males who advertise their ability to improve a fleece. Who can point me to a stud male with a proven ability to improve milk production? Because we need some of them. There are plenty of 'fine fleeced' dams out there with mediocre to marginal milk production.

Measuring traits and keeping accurate numerical records can help you spot all sorts of things. It also helped us spot a stud that was throwing 50% miniature offspring. What weirdness is lurking in your herd, ready to be discovered?

To make informed decisions you need facts. You need to be measuring many traits. Large farms here in Australia have the advantage of scale, just their own herd provides a large enough data set for meaningful analysis. They wouldn't know how well (or poorly) they are doing compared to the national average. There needs to be continuous collection of data on key

performance (health, management, fertility) traits so the future of the alpaca industry can be planned and not stumbled into. In New Zealand I've been running a Health Survey for the last 8 years, trying to form the basis of such an analysis for both llamas and alpacas. I'd be happy to help you set one up in Australia. The Australian and NZ surveys could even be fused to provide more potential insights into how climate and management affect outcomes.

Health and productivity are fundamental to any animal breeding. With selective breeding it is possible to improve a vast array of traits, from fleece quality to milk production. There are two things breeding can't fix, infertility and death. You don't have to look long to find alpaca with fantastic fleeces that can't get pregnant. At that point the fleece is irrelevant, as that animal is a failure and the end of its line.

Remember the simple equation of profits = outputs – inputs. One of the greatest potential advantages to alpaca is that they can be very low maintenance, especially compared to sheep. No need to crutch, dag or dock. Easy handling, strong constitution, and the ability to develop a natural resistance to parasites. If they are highly-fertile, good-milkers that birth easily and maintain a healthy body score whilst lactating, then they need only minimal handling. Since time is money, the less you have to do, the more profitable they are. Sickly, finicky, high maintenance animals will be worth less, and if we're not careful they will be worthless.

A single vet call can cost the lifetime-fleece-value of an animal. Every time you administer a drug, or feed a supplement, the cost comes straight off the bottom line.

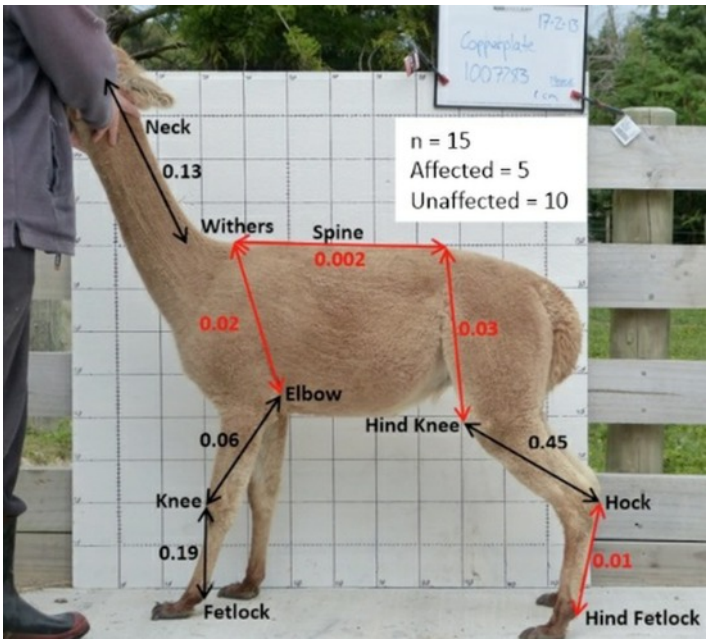
Controversy can make you think (hopefully)

Now to say some controversial things, in the hope that it will make you think. I may well be wrong. If I'm wrong, I invite each of you to try and prove it. Factually falsify my assertions. That is how science works and that is how we progress the body of knowledge about camelids.

Example 1 - How we often talk about breeding and alpaca genetics is wrong.

I'll start with the problem of conflation of breeding traits; that is where two separate traits are treated like they are linked. For example, if I told you "For the last 20 years we've been breeding for tall, brown alpacas. So now we have a herd of tall, brown alpacas. Therefore colour and height are genetically linked", what would you think? I hope you would simply laugh at the above statement. If you breed for both A (colour) and B (height), why should we be surprised when you get both? That doesn't mean they're related, or linked. If on the other hand, I was breeding only for colour, independent of all other traits and every animal with that colour was taller than average, then there might be something interesting going on.

Why do I mention this? Because this sort of conflation goes on all the time. If I said "For the last 20 years we've been breeding for fine, crimpy fleeces. Now we have a herd of animals with fine, crimpy fleeces. Therefore fineness and crimp are genetically linked", what would you think? That comparison is as much a fallacy as height and colour. I find many people apply the same false association to density and coverage.



Example of keeping statistics - a study of dwafism in conjunction with Curtin University.

Example 2 - Being too clever for our own good.

Did you know that many leading farms in Australia and New Zealand have a systematic program to identify their best alpaca-mothers? They find the dams with a proven ability to carry pregnancies to term, that birth easily, have a strong mothering instinct, and that produce large quantities of milk. And then those dams are labelled "ET recipients" and culled from the herd. Their genetics will not be passed on.

I know ET donors must be at least adequate mothers. Consider the milk production example above, if we start propagating lots of 100g/day mothers at the expense of the 350 g/day mothers, we will see an inexorable decline in the average dam milk production in the national herd.

What happens after generation upon generation of this practice? If our selection criteria is overly focused on fleece, are we going to breed a line of animals that can no longer reproduce on their own? That would be a catastrophic failure.

Example 3 - When "desirable" traits harm health and profitability.

What is good fleece coverage? Some breeders talking glowingly of their animals with massive "hair helmets" and thick leg fleece that goes right down to the toes. But those traits actually lower the value of the animal.

Face fleece has no economic value. It takes time to shear and time equals money (fewer alpacas shorn per hour). A shearing mishap around the eyes, lips or ears can be nasty and expensive. Furthermore, thick face fleece can result in wool-blindness, which would be a big management/welfare issue in an extensive farming situation.

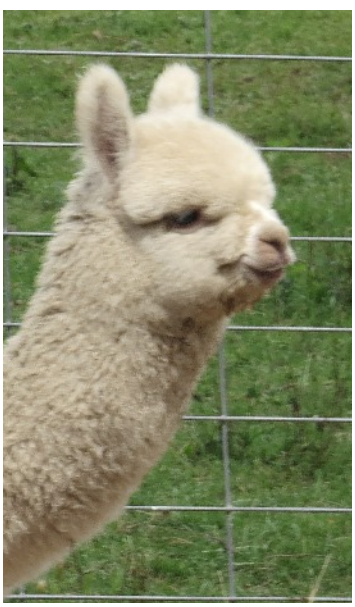
Animals where the fleece stops behind the ears are derided as looking llama-like, but they're more economical. Is this preference economic, or just fashion?

Likewise with leg fleece. After damp Wellington winters we see animals with fungal skin conditions on thickly fleeced legs. It clears up after shearing, but that means by definition the legs require shearing for health reasons. Which takes time, can be fiddly work, and produces very little fibre of value. Again 'llama like' clean legs can solve the problem.

I have yet to see good evidence that 'coverage' is linked to follicle density (and thus the weight of high-value fleece per animal). See the conflation example above.

An extreme case of where breeding for coverage and density can lead to came onto our farm a few years ago. The animal was not ours, but he was in our care for 6 months. He had an incredibly thick fleece, he had fleece everywhere (amazing coverage!), and as you would guess he was a certified stud. He also had soft skin that lay in rolls down his neck and because of this he suffered from persistent, extensive fungal infections. We spent upwards of half an hour a day just trying to manage his condition. Eventually he had to be destroyed for humane reasons. Yet too many people would consider him to have held very advanced and desirable fleece traits.

The most amazing fleece is of little value on a dead animal.



Example 4 - Road to ruination.

It is important to remember that with an aggressive breeding program focused on a small number of heritable traits, it is very easy, in only a few generations, to completely ruin a herd/breed. One of the tools that best speeds this process of ruination is the show ring.

Don't believe me? Look at what we have done to too many dog breeds over the last century. Once healthy, productive dogs are now unhealthy, infertile, sickly beasts incapable of the tasks for which the breed was originally created. These breeding choices were made with "breed standards" firmly in mind, which further accelerated the damage.

The German Shepard is a commonly cited example. One hundred years ago the German Shepard was a 25 kg dog that could leap a 2.5 m high wall. Those days are long gone. German Shepard in today's conformation ring are 38 kg angulated, barrel-chested, sloping backed, ataxic beasts famous for their hip dysplasia issues. Too many dog (and an increasing number of cat) breeds have been reduced to sad, sickly parodies of once productive and distinctive breeds after a hundred years of showing.

This process of selecting for vanity traits amplifies generation on generation, as to achieve a "win" in the show ring you have to be a more extreme expression of the "standard" than your competitors.

Show judges can't know if the competing animals are fertile. They can't spot studs that throw large numbers of deformed cria. The notoriously stoic alpaca can walk proudly around the show ring merrily concealing a host of metabolic and chromosomal abnormalities.

At the end of the day we need to remember the three main traits we are looking for. Is the animal healthy, is it fertile and once those two criteria are met, does it have a nice fleece?

If an animal fulfils these three criteria, why do we get upset if its snout is 'too long'? That's vanity, pure and simple and vanity driven breeding decisions can rapidly ruin a breed.

Example 5 - AGE, or pretty graphs does not make it science.

I was excited when the Across Herd Genetic Evaluation scheme was first launched. The sort of quantitative genetics it promised can quickly result in significant genetic advancement. AGE also inspired people to start measuring and recording more traits about their animals and that's also wonderful.

Unfortunately the way AGE was set up means that it generated meaningless results. Because those results come in the

form of very official-looking graphs and tables, they are mistaken for being scientifically valid. Sadly, they're not.

The principle behind AGE (and other breed value systems) is to measure productive traits in offspring (cria), and then use statistical tools to determine the genetic contribution of the sire and dam to those traits. In this way you can rate the strengths and weaknesses for such factors as mean micron, fibre variability, milk production, and any other measurable, heritable trait. Measuring only the traits of the parent (sire) only tells you the phenotype. It is through the offspring that you get a window onto a given animal's genotype.

The AGE system has two fatal flaws, unfortunately. First, most of the fleece data entered is for first fleeces. The first (cria) fleece is quite variable, many cria coarsen significantly in their first year or two of life, so age of sampling can introduce considerable variability. (Was the cria 6 or 16 months old at time of sampling? That can result in many microns difference on the same animal.)

Secondly, and perhaps more importantly, the contribution of the dam is not entered. How can you know what the sire contributed, if you have no idea if the dam was 18 micron or 35 micron? You can't. Sadly, the AGE system is rendered meaningless. We could fix it, fairly easily, I don't know why we haven't. (Though I suspect it is a combination of ignorance not many people understand quantitative genetics, combined with a conflict of interest of those who use the current broken system for marketing purposes, and would not like the actual worth of their stud males revealed). Also, if you only send in a subset of cria samples, your AGE results can be skewed by confirmation bias. It's too easy for a breeder to self-justify dropping the 'not so good' cria to make sure his or her super-stud gets a 'fair' analysis in AGE. All this does in reality is make the entire AGE system meaningless.

Example 6 - Do we know what we're doing? Do we know where we're going?

As I said previously - if you don't measure it, you can't breed for it. If you're driving in the dark, you never know when a cliff might be ahead. The same logic applies to an industry-wide standard.

A question I've asked a few times in New Zealand, but never received an answer to, is "What is the mean micron of a 3 year old white male?" Meaning, what is the national herd average of the sort of alpaca that would form the backbone of a large scale fleece industry? What was that average 5 years ago, 10, 20? We know that the 'top end' alpacas have really improved over the last two decades, but the industry is built from the average, not the top end.

There are many questions that I can't answer right now and that makes me nervous.

How have the following changed over the last 20 years as a national average?

- Incidence of wry face?
- Milk production/Live-weight gain?
- Male fertility (matings per pregnancy)?
- Dam fertility (quickly pregnant and carries to term)?
- Cria mortality to 6 months?
- Rate of choanal atresia?

I could easily add another dozen important heritable traits to that list. We're in the dark as to many fundamental aspects of health and productivity. How many people have the policy of shoot, shovel and shut up, when something goes wrong? The merciless hand of probability indicates that the larger alpaca farms probably get multiple deformed cria each year, yet it can be very hard to get them to talk about it. Such secrecy may be good for their businesses individually in the short term, but it can be very bad for the industry overall (and themselves) in the long run.

I've been trying to remedy this situation in New Zealand by running anonymous, privacy-protected annual health surveys of the national camelid population. In the last 8 years we've accumulated about 17,000 animal-years' worth of data. I've helped owners understand the rarity (or not) of conditions affecting their animals, and helped them (and their vet) make more informed decisions about breeding, culling, and animal management.

Australia should be collecting the same sort of data. I'd be happy to help.

Dr Stephen Mulholland originally trained as a laboratory scientist, and holds a Ph.D. in Biochemistry and Molecular Biophysics. In 2003 he moved to NZ, purchased a small farm, and started raising alpaca.

When the first of those animals died in 2004, Stephen began investigating the available information on camelid morbidity and mortality, and was disappointed with the results. In 2005 he began, with the assistance of the AANZ and the NZLA, to run health surveys of the llama and alpaca populations of NZ. To date he has collected more than 15,000 animal-years of data on their morbidity, mortality and management.

Stephen also works closely with the Animal Welfare Directorate of the Ministry for Primary Industries. He led the team which produced the final draft of the Code of Welfare: Llamas and Alpacas, presented that draft code to the National Animal Welfare Advisory Committee, and consulted with the ministry throughout the further development of the Code up to its launch in April 2013.

As an offshoot of his work with MPI, Stephen joined the Johne's Management Limited consultant network in 2012 and now acts as a contact point for discussions involving the disease in camelids in NZ.

In 2013 he started a collaboration with Dr Kylie Munyard of Curtin University to study the genetic underpinnings of dwarfism in alpacas, and he is in talks with Massey University to launch an in-depth epidemiological analysis of the eight years of accumulated health survey data.

Stephen has written dozens of articles for the trade magazines of the llama and alpaca associations. Keen to increase the general literacy of owners as to what they can do to improve animal welfare, improve management practices, and make better-informed breeding decisions, in June 2013 he founded a camelid health and welfare charitable trust with other interested llama and alpaca owners: www.camelidhealth.org. He also works with, and helps do fund-raising for, local SPCA chapters.

The Canberra Royal 2015

By Jess Sachs

The 2015 Canberra Royal Show was held this year with great success. Exhibitors travelled from all over NSW, Vic and SA with a larger number of new breeders exhibiting.

A new youth paraders competition was held with judge Taryan Kotsiakos and apprentice youth parader judge Samantha Tanner, overseeing a lineup of eight participants over two classes each. The competition was enjoyed by all who participated and it was great to see a good turn out of the next generation. The alpaca section also had a team entered into the Youth Farmers Challenge which pitted youth teams from each breed standard around an obstacle course. Our representatives did a fantastic job winning their heat.

The halter classes were well attended with 231 huacayas and 47 suri being shown on the day. Judges Peter Kennedy and Joanne Ham awarded Supreme Champion Suri to Chakana Blue Hot Tamale (exhibited by Chankana Blue) and Supreme Champion Huacaya to Coolaroo Magic Ice (exhibited by Coolaroo).

Rick Hodgson, together with apprentice judge Bronwyn Munn, judged the fleece competition which was held the previous weekend. The quality of the entries was very high with scores being within half a point in most of the classes. Supreme Suri fleece was won by Alabaster Kid Klu (exhibited by Birrong) with Supreme Huacaya fleece being won by Monga Atticus (exhibited by Monga).

Supreme Suri fleece - Alabaster Kid Klu (exhibited by Birrong)

Most valuable commercial fleece was won by Monga Khan (exhibited by Monga) with most successful fleece region being won by Southern Region NSW.

I would like to thank all the judges and apprentice judges who made the show very enjoyable and gave their time to the Show. A massive thanks to all the stewards, volunteers and sponsors. Your dedication and continued support is invaluable and without it, the show would not be the success it is. I look forward to working with you all next year in what I hope to be another great Canberra Royal Show.

Supreme Huacaya fleece - Monga Atticus (exhibited by Monga) with Judge Rick Hodgson & apprentice judge Bronwyn Munn.

Supreme Champion Huacaya - Coolaroo Magic Ice (exhibited by Coolaroo) with judges Peter Kennedy & Joanne Ham.

Supreme Champion Suri - Chakana Blue Hot Tamale (exhibited by Chankana Blue)

The Fur Trade

By Francis E.B. Rainsford

Moves afoot to convert Peru's alpaca fur trade into a sustainable and environmentally-friendly concern.

Background

The Incas believed that the alpaca was a gift from the gods to provide them with their basic needs: fibre to convert into clothing, meat to sustain them and leather for their sandals and adornments.

In modern times, the fibre and meat have continued to supply man's requirements but the use of the animal's leather seems to have fallen by the wayside.

The farmers that raise the alpacas in Peru's highland altiplano region tend to let the animals live the full course of their lifespan (which averages twelve years). There is generally, for instance, no culling of the herds, even when conditions of pasture or water scarcity might merit such action.

Thus, the animals die naturally and in greater numbers when severe winters take their toll in the months of July to September.

The carcass of a dead alpaca is viewed as something of a by-product where the meat is dried and shipped, mainly to the markets in Lima where it is sold as "charqui" (jerky).

The skins are almost treated as some sort of scrap material where any price obtained is a bonus and no control as to what type of chemical might be applied when removing hides from the animals nor how said chemicals are disposed of.

This attitude on the part of farmers makes it difficult for leather processors to receive this raw material in anything like the state needed for them to be able to process it as a viable commercial item.

As a result, alpaca skin and pelt products have never really commanded a top spot in the marketplace, confining themselves to handcrafted cuddly toys and simple home textiles as a rule.

Operative in Peru Leder Export brushing a fleece pelt.

A project is born

One of Arequipa's leading leather processing companies has been at the vanguard of trying to raise the quality of alpaca skins and pelts for the past thirty years.

The company, Peru Leder Export S.A.C., recently teamed up with a local textile consultancy firm, Cororacion Nativa, to see if a new approach to this perennial problem might persuade the farmer suppliers to improve the quality of their hides.

Peru Leder Export's Managing Director, Jorge Bravo, outlined the company's activities, "We specialise in processing the skins and pelts that come from medium-sized animals in the main such as sheep, goats, alpacas and llamas.

After processing, we manufacture finished textile products such as jackets, gloves, sleeveless vests, hats, bedspreads, cushions etc. Our alpaca furs and dyed skins are currently very much in fashion as adornments to be sewn on to items such as sweaters and ladies accessories."

"We firmly believe that Peru's alpaca and llama farmers have a product that can be an extra source of income for them aside from the fibre that they produce. However, managing the skins from their animals is a skilled business and today, care must be taken to protect the environment in which they operate."

Roberto Lopez, Corporacion Nativa's main consulant expounded on the matter, "The leather industry in Arequipa has become accustomed to the poor condition of the skins and pelts received from the farmers in the Altiplano region. Unsuitable storage facilities there result, in many cases, in still frozen skins that crack easily or micro-biological infestations that spring to life once in warmer temperatures down in Arequipa. Cuts and nicks from the skinning process also denigrate the overall quality of finished leather that could be produced."

"We decided to approach the Peruvian government with a proposal to set-up norms by which the country's leather industry should operate in order to improve overall quality and protect the environment.

Our idea was accepted and we were awarded funds by the Fondo de Investigacion y Desarrollo para la Competitividad (FIDECOM)."

Skins being dried after tanning in Peru Leder Export.

Jorge Bravo inspecting treated skins in Peru Leder Export.

Establishing norms

Bravo and Lopez decided to focus their efforts on setting standards by addressing skin quality versus the processes of its skinning and preservation in the altiplano region.

They listed the key quality norms when evaluating skins as:

- Elasticity
- Strength
- Resilience
- Porosity
- Level of putrefaction
- Presence of salt
- Area of skin
- Softness
- Maleability
- Density
- Moisture content
- Length of fur
- Animal age

Then they determined the main causes of damage that can occur during the skinning process as:

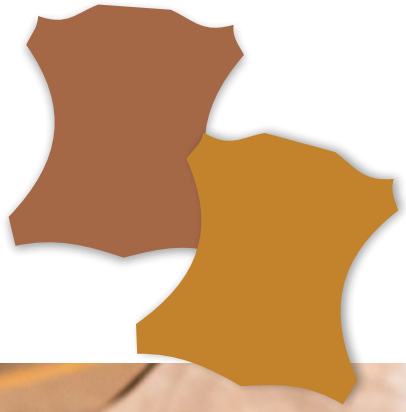
- Cuts to the skin
- Scratches
- Mutilations
- Contamination at the moment of skinning

Finally, they identified the main points pertaining to the overall preservation of skins as:

- Putrefaction
- Burns caused by excess of salt
- Stains caused by excess of salt
- Presence of insects in the skin during preservation

The work currently being carried out under the project is setting standards, subjectively and via laboratory testing where appropriate, so that the industry can grade skins into first, second and third quality categories.

After a period of trial and evaluation with the farmers and industry, Bravo and Lopez will present their proposals to Peru's Consumer Rights body, the Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (Indecopi), for their registration as new quality norms for the country's leather industry.



Dyed skins in Peru Leder Export.

The Future

Bravo believes that Peru's alpaca farmers can add a sustainable income to their businesses aside from fibre and meat.

"Providing the ecological and quality issues at the point of origin up in the Altiplano can be surmounted, there is no reason why the processing industry cannot develop a regular skin and pelt business with the farming communities," he said. "Once it can convince them that they have a viable and commercial product that needs to be presented in conformance with new levels of quality standards, savings and efficiencies in processing plants will generate better prices for all parties concerned."

It is important to note that, aside from alpaca and llama farming, there is very little else that is produced at altitudes of 3 to 4,000 metres above sea level meaning that the Altiplano region's terrains are put to good use rather than being left unproductive.

Providing good practices are employed by the farmers with respect to animals and land alike, the activities carried out there are on the right side of being 'green'.

He summed up his hopes over the past thirty years as, "If Indecopi adopts our norms and the leather production chain conforms to them, we should really see benefits all round - the farmers with better prices, the processors with a better raw material to work with, the final consumer with top quality products and a sustainable and protected environment."

Reprinted courtesy of the author and Alpaca World Magazine.

Peru Leder Export's raw material warehouse receiving skins delivered from the Altiplano region

Kelly & Windsor

Australia's Premium Alpaca Bedding Company

Trevor Beuth started Kelly & Windsor Australia on an industrial estate outside Melbourne in 2001 with the vision to design, manufacture and distribute a uniquely Australian made premium quality range of luxury bedding accessories, drawing on his experience as the Australian agent for a number of leading European fibre manufacturers.

While still experimenting with different materials, Beuth ran into an old friend who was consulting to the Australian alpaca industry. As he recounted the unique properties of the animal's fleece - soft, warm, lightweight, absorbent, hypoallergenic - Beuth realized its potential for bedding so began sourcing fleece to turn into quilts and pillows.

"Processing alpaca is quite a difficult process, it's a very tricky fibre," says Beuth. "The softness and smoothness that make it so prized also make it very difficult to consistently card and comb using traditional textile processing techniques. Separating the desirable inner fleece from the animal's coarse outer guard hairs also proved a challenge.

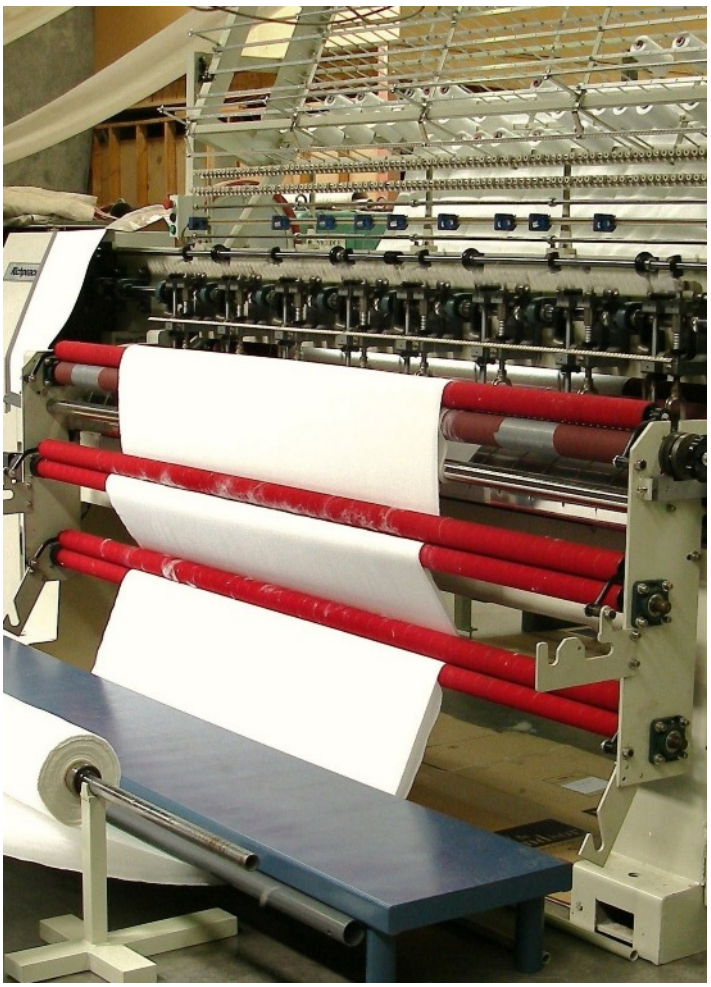
We were doing things with alpaca that nobody had ever done before. So there was no experience base, nobody to ring up and ask. It was really trial and error."

EXPORT FOCUS

After two years hard labour, Kelly & Windsor began selling alpaca quilts through Australia's leading department stores, following up with pillows and underblankets. Beuth supplemented the 100% alpaca products and various blends with other natural fibre blends, but knew from the outset it wasn't only Australia's warm climate that would limit sales.

"Making bedding in Australia and selling it in such a vast continent to such a small customer base is an absolute nightmare," Beuth says. "Exports are very, very important to my business because the local economy at the very high end is a limited market."

"We're a very small, ultra-niche business with limited resources. I'm running the whole thing pretty much on my own," says Beuth, who now employs 10 staff but has at one time or another performed every task on the factory floor.



"How does a company like us go global and market itself? Several year's ago Beuth discovered Alibaba, the giant China based e-commerce platform which provided an opportunity to expand its export marketing program at a very low cost, so he decided to just put it out there and see what happened."

The response was encouraging enough for Beuth to register as a Gold Supplier, paying a relatively small annual fee to access premium membership features and—most importantly—have his business verified by a third party.

"That gave Kelly & Windsor more credibility. They're very thorough, they do investigate and check that you are who you say, not just a trader operating out of the back of a telephone box in Hong Kong," says Beuth. "Since then the quality of the responses has improved considerably. I've had enquiries from America, Norway, South America and Korea and even picked up Australian customers." He's also discussing a potential expansion into B2C sales with his Chinese distributors - targeting the PRC's growing middle class, which is embracing Australian-made goods through Tmall.com, an Alibaba Group online shopping website. "That's a tremendous opportunity for us," says Beuth, who can envisage high demand for new products such as an alpaca-bamboo blend quilt that already sells out in Hong Kong. "We just can't make them fast enough."

AUSTRALIAN MADE

Several Chinese bedding manufacturers have offered to help Beuth solve that problem and reduce costs by shifting production to China. That's a compromise on the brand's core, Made-in-Australia values he's unwilling to make. "Price is not my driving issue. I want to remain Australian manufactured, using Australian fleece," he says. Manufacturing in Melbourne also enables Beuth to stay nimble enough to win new business. "If I got an order from France today for 30 pieces that had to be air freighted into Paris in a week—special sizes, French labelling we could do it. People ask me what's your minimum order for a special export size and I say 'One.' "

Kelly & Windsor's existing factory has enough upside capacity to allow the business to double or triple in size, Beuth says. The bigger barrier to increasing production is actually the supply of alpaca fleece. Australia's headcount of 160,000 alpacas is less than 5 percent of the global population of 3 million. "That's enough for me to be able to source raw material, but the production of Australian alpaca on a global scale and certainly compared to wool is tiny," says Beuth, noting there are 250 million sheep in Australia and New Zealand alone. "Alpaca is a very rare, exotic fibre, much rarer than cashmere."

Supplies are further limited because alpaca herds are often small, some with as few as 10 animals, and scattered across the continent. Beuth also has specific demands. "Alpaca comes in 22 colours and we only want the white., and we don't want fine alpaca because it's too soft and too expensive," says Beuth. "So we only want certain colours, qualities and grades, and to try and collect that is very difficult."

View of the Kelly & Windsor factory where the fibre processing, product manufacturing, packaging and distribution take place.

The limited supply of alpaca fleece is ironically one of Kelly & Windsor's greatest strengths. The industrial estates of Campbellfield that Kelly & Windsor calls home are also the manufacturing base of bedding behemoth Tontine, Australia's leading pillow maker and owner of the brand name Doona, an Aussie synonym for quilt. "In three days they could do my annual production," says Beuth. "But with the limited quantity of Australian grown alpaca available, makes it such a niche business they're just not interested."

The inbound tourist market is another important sales channel for Kelly & Windsor where trying to buy something "Made in Australia" to take home as gifts is extremely difficult. Would you believe that Chinese tourists who flock to the Gold Coast duty free shops regularly take home the most expensive warmest quilts that Kelly & Windsor make?

Since the launch of its first alpaca quilt, Kelly & Windsor have expanded the product range to include alpaca pillows and underblankets, and have released a diversified range of innovative alpaca quilt collections including:

- Pure alpaca (Alpaca Gold)
- Alpaca/wool (Alpaca Classic and the Australian Alpaca Bedding Company collections)
- Alpaca/cotton (Alpaca Light)
- Alpaca/bamboo quilts (Alpaca Bamboo) launched in 2014.

How exciting is it to see what one mans vision, enthusiasm and hard work can achieve in a country where manufacturing has been declining over many years.

10 Tips

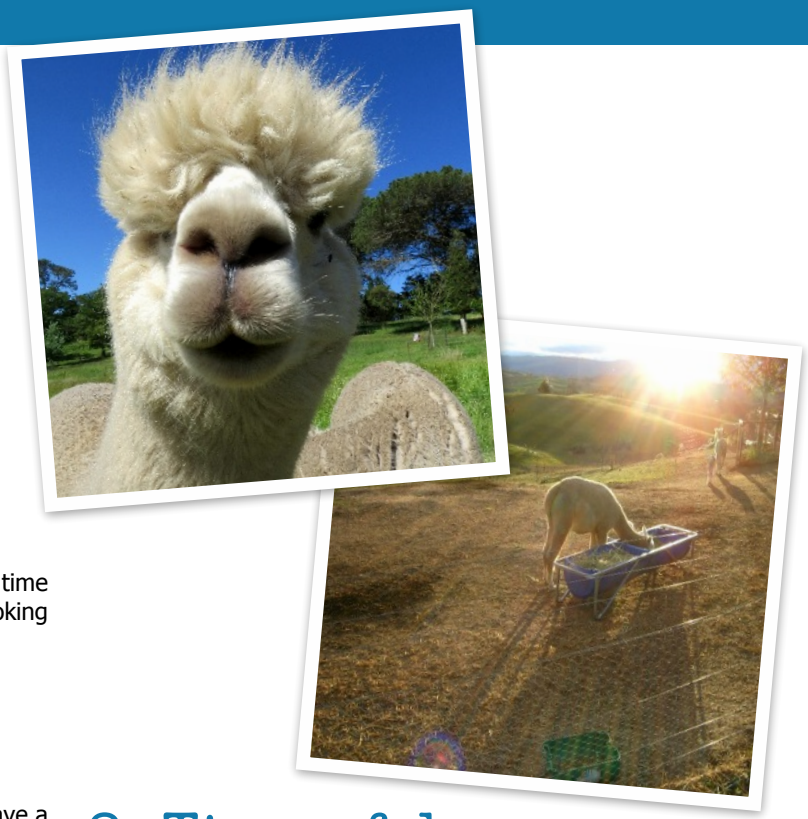
For Taking the Perfect Paca Pic

By Chris Leach

"A Picture paints a thousand words"

Whether you want to sell an animal, stud services, make Christmas cards or feature on the cover of the Alpaca magazine the ability to take a reasonably good photo of an alpaca is essential.

By following some simple guidelines you can improve your adverts, enhance your websites and even add $$$$'s to the value of your animals.



1. Tidy Animal

Would you try to sell your car when it is covered with dirt, has a flat tyre and the bumper hanging off?

Present the alpaca in it's best possible condition. Spend some time before you start to photograph, ensuring that your animal is looking it's best.

Things to consider:

Fleece length
- Not too short. Avoid freshly shorn animals
- Not too long. Over fleeced animals look as though they have a short neck and stumpy legs.

Dirt
- People like to see clean animals and a dirt patch may be mistaken as a multi coloured animal
- Vegetation/contamination
- Straw, shavings, hay leaves and dried dock seeds are not a good look!

Wet animals
- Unless you want to try and sell your Huacayas as suri, make sure that the animal is dry. Even heavy dew will darken a fleece colour and flatten a top knot.

Shearing
- There are a variety of shearing styles out there, legs on, legs off, fluffy tail and bouffant topknots. The choice is yours but regardless of the style ensure that it is tidy.

Tip – imagine you are taking the animal into the show ring and prepare accordingly

2. Time of day

When photographing alpacas (and many other things) in natural surroundings without access to artificial lighting. Early morning or evening when the sun is lower in the sky is the best time to take photographs and get the professional look. The light is softer at these times of the day and the sun will illuminate the side of the animal.

Beware, in the evening the sun sets quite quickly and you don't have long to get the perfect shot.

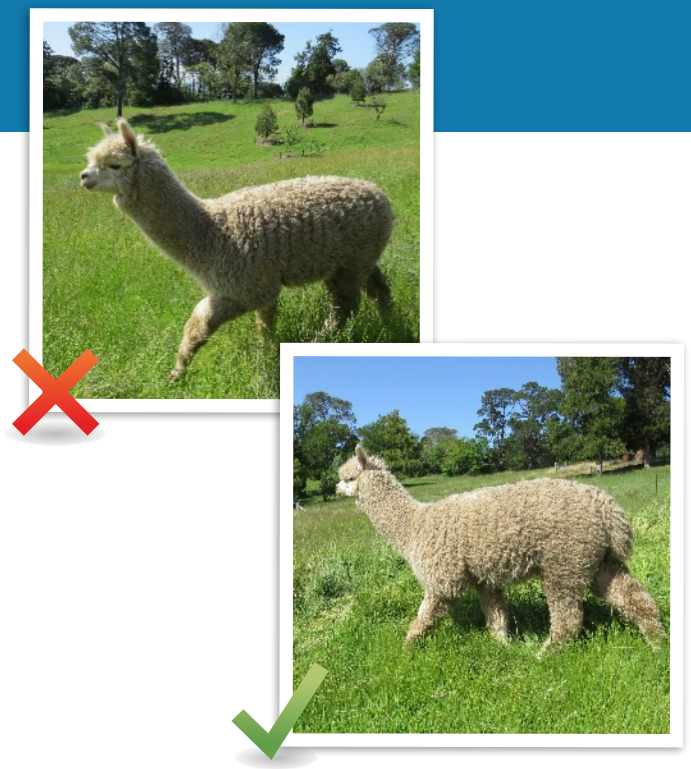
- Be prepared
- Have the alpaca clean and tidy beforehand
- Know when you are going to take the shot, move any other animals/troughs etc
- Make sure your camera batteries are charged and that you have sufficient storage/film

Tip – if unable to take photos in the evening light, a bright but cloudy day can reduce harsh sunlight and shadowing.

3. Shadow

Stand with the sun or light source behind and slightly to one side of you. By doing this the side of the animal facing the camera is illuminated and the shadow cast by the animal is behind the subject.

Tip – Be aware of your own shadows being thrown in the foreground or shadow from other animals or object falling on the subject.



4. Background

When selecting where you are going to take your photos, think carefully about what is in the background. Having a cluttered or distracting background will draw the viewer's eye away from the subject and can lead to some comical illusions.

Things to avoid:
Other alpacas, fence posts, rails, pylons, people and sloping horizons.

Tip - Shrubs and foliage are often the best back drop

5. Height of camera

Adjusting the height of the camera in relation to the alpaca can dramatically affect the final shot.

Camera too high: will give the impression of an animal with a short neck and legs

Camera at alpaca eye level: Gives an accurate portrayal of the animal's conformation

Camera slightly below alpaca eye level: can give an impression of majesty. A useful technique when taking promotional stud shots

Camera well below alpaca: Make the animal's neck appear overly long and can make the animal look threatening

Tip - kneeling or standing slightly down hill from the alpaca is often best

6. Fill the Frame

For most applications your subject is the alpaca, surroundings are immaterial and if you are not careful, are distracting and can detract from the animal. Filling the frame means that the photo is filled by the image of the animal. Don't overfill the frame, don't cut off the ears, feet or tails by being too close!

Filling the frame can be achieved either by:

- Moving your position in relation to the alpaca
- Using the zoom function on the camera
- Cropping the photo in post production

Tip - alpacas generally fit a portrait frame better than a landscape. So hold your camera sideways to take the photos.

7. Position the animal

How the animal is positioned will depend on what you want the photo for.

For information:
Side, head, rear, front and possibly fibre. A purchaser will want to know how the animal is conformed, that the legs are straight and the animal is correctly proportioned.

For promotion:
Such as sales shots, stud services shots etc. Quarter the animal to the camera, that is, stand with the animal at an angle to you.

For decoration:
Natural positions kushed, browsing

Photograph the animal at rest in a natural or alert pose; ears up, standing squarely on all four legs NOT mid stride, pooping, peeing, mid chew or mid scratch!

Tip - be patient and use something visually or audibly, mildly threatening or unusual to cause the alpaca to prick up its ears and stand alert. That is a dog, coloured flag or mobile phone.

8. Resolution

Resolution is a term widely used when using digital photography and tells us how detailed the image is.

A picture is made up of coloured dots called pixels and a camera resolution is a measure of how many pixels there are in a given linear length – normally an inch, stated in pixels per inch or ppi. (Not to be mistaken with dpi or dots per inch which relates to print quality).

The quality of the photo you take can limit what to do with the final photograph. A low resolution show will very quickly start to look grainy if you want to enlarge the photo or use the shot for print media.

Tip - get the highest resolution photo your camera will take. You can always reduce the size of the photo in post production if necessary.

9. Multiple Photos

The only difference between a poor photographer and a good photographer is the number of photos it takes to get the perfect shot.

Try different angles, different backgrounds, move the animal; sometimes only a subtle change in the angle at which the animal is holding it's head can make the difference between an okay shot and a good shot.

Tip – Take lots and lots of photos, then choose the best… if necessary go and take some more.

10. Depth of Field

Depth of field is a term used by photographers to explain what is in focus and what is out of focus in a photograph. For the professional look your aim should be to have the alpaca in focus and the background blurred.

To achieve this narrow depth of field, you will need to use either a tripod, a bean bag or (if you have lots of money) a stabilized lens to avoid camera shake and a blurry alpaca.

Tip - position the animal away from any immediate background such as a fence or hedge; move yourself away from the subject. Use the zoom lens on your camera to enlarge the image and fill the frame. Focus the camera on the alpaca's eye and take the shot.

Congratulations! It's a...Boy?

By Maree Churchill - El dos Cadena Alpacas - NZ

After the 2011 birthing season that produced 90% males compared to 10% female cria, the initial response to each male born was....“oh not another one!”.

Yet when I compared overall our births from 2006-2011 the ratio male to female was in fact roughly 50/50. I had used different male studs over these years with different genetic backgrounds, the majority of our females had birthed a female before, and soil tests revealed nothing unusual happening. They had not been exposed to any undue chemicals or a different pasture management programme, it simply appears that the sex lottery swung more towards male offspring that season.

Which got me to thinking later that year that why do alpaca breeders in general get disheartened when males are born, unless they are obviously absolutely top stunners, with “look at me I'm a future stud” attributes. Should we as alpaca breeders in fact be looking more seriously at all our males born (majority of which will end up as wethers) with another view point.

Again in 2012 I had 90% males and 10% females, but by then I had a different way of thinking about the boys.

Which is: Their *potential quality* as producers of fibre, with an increased value based on their individual qualities of fleece.

So consider the following points:

Are we in fact generally 'giving away' as pets a valuable future fibre market?

In recent times the tougher economic market, the luxury of owning a pet alpaca has been harder to promote, there seemed to be a current trend to sell these animals for very little return or at a loss. However a selling point to encourage purchases, and to make a gain on sale, is to promote the *possibility* of a small income stream from the selling of their fleeces. This turns the selling of pets into the selling of a 'fibre animal'. In the last couple of years, I have noticed that a few breeders are already starting to do just that, however the majority still do not appear to be.

To do this on a larger commercial basis, a well defined and economic fibre market still needs to be firmly established. One that is easily assessable to all, with the education to increase knowledge of harvesting the fibre. There is, I feel, a huge potential for wether herds solely for purposes of fibre producing in the future.

In the meantime, if your wethered males produce quality fibre good enough for the fibre market, think what will happen to their fleeces if you sell them. Consider buying back their fleeces from the new owner, using your knowledge to harvest the fibre or even better to educate the new owner so this is done for you, record fleece statistics and to store or sell the skirted fleeces yourself. As a seller this could give you the opportunity to offer to a buyer the reason why this fibre alpaca you are selling is worth more than the pet alpaca, as he has the better usable commercial fleece.

Why do we not tend to consider the advantage of a wether's fleece compared to a female or an intact male - the possibility of this being a better commercial fibre?

A wether should be easier to handle (perhaps halter trained for ease at shearing, avoiding excessive struggling etc). They tend on average to be smaller overall once fully grown, but I have noticed particularly in suris, that the wethers have good consistent regrowth and can produce larger quantities of usable fleece from the blanket area as well as the neck. The brisket area does not appear to become as coarse as in older stud males or breeding females. I presume that this may also follow with huacaya, however, as I only have a small huacaya herd, I have not detected an overall pattern as in the suri, but I have found a definite consistency overall all in the non-intact males micron from one shearing to the next.

A castrated (non-intact) male is not trying to grow into a large framed hormone driven stud male. They are not a pregnant female with a cria at foot. They are only growing their fleeces, year in and year out, which *should* give a steadier annual clip, should be a better shear weight average over their lifetime,

and have potential for a better nourished fleece. As stated I personally have found that the regrowth overall of wether fleece appears to be better and that micron, on average more consistent from one shearing to the next.

Do most of us take regular fleece statistics for our wethered males?

I would argue that the majority of breeders do not, and once a wether is sold, their fleece statistics tend to disappear. Why would we need to make sure this is done? If your breeding goals are fibre orientated, you should:

Firstly, ensure that your fibre breeding goals have been achieved, in that the mating of female A to stud male A has produced the desired offspring in line with your fibre goals. Just because a male offspring has been produced does not mean that your fibre breeding goals have not been achieved. On the other hand, if they have not, so then perhaps female A should not be remated to stud male A, perhaps to stud male B instead? However I have noticed each fleece's characteristics can take a while to develop and form, and that each cria's fleece is worth checking periodically to see how it is developing, especially nearing their first shear.

Secondly, since the second shearing tends to produce the better overall truer fleece statistics compared to the first cria fleece. If you no longer own this wethered male, how can you correctly ascertain if your fibre breeding goals have been achieved, without follow up and testing the second shear or even perhaps the third?

So if only the female and any potential stud males fleece statistics are kept, without the wethers fleece statistics, this would not be a true and accurate reflection of your herd's overall fleece statistics. If you only record each male's fleece statistics for their first shear as you have sold them after this, their second and ongoing statistics therefore are probably not being recorded. So how could you know if you are progressing in your fibre breeding goals?

Wether herds?

I would like to think in the near future that there will be buyers purchasing numbers of quality wethers from large herds solely for the harvesting of their fibre. Until then I feel we as a breeders have an obligation not to simply discard the males that do not quite make the stud grade, as we are throwing away an opportunity to utilise their fleeces. How many kilos of quality fibre are on the backs of pets grazing in twos and threes, all around NZ in lifestyle paddocks, and the same could be said for Australia.

Pet alpacas should be just that, a pet, one that does not have the desirable processing qualities of fleece and the genetic/breed desirability. There will always be a pet market, but perhaps we should not try to sell under the pet banner those males who just didn't quite have what it takes to be a stud, yet have a superb fleece. If processors demand more alpaca fibre for them to process our products, then surely the retaining of high quality wether fleece is beneficial?

My consideration and reflection

After considering these points, I looked at all my 2011 male cria differently; I looked at their fleeces and considered this:

Did the mating that produced the male cria, give me an improvement of fleece in line with my overall breeding goals, including the fibre breeding goals?

If the answer was yes, then I know that this offspring produced a desired fleece, and therefore my fibre goal was achieved, and I would consider the same mating again. If the answer was no, then I would consider using a different stud male to produce a better outcome.

Has the male cria potential to be a stud male?

If for whatever reason the answer was no, then I next had to ask.

Is the fleece still of a usable commercially quality that I would buy it back from any buyers of this male cria?

If the answer was yes, then I could potentially sell this male as a fibre animal not as a pet. Therefore his value should be more than if sold only as a pet. Plus I could have a steady annual clip from this alpaca, know the fleece, perhaps can combine the colour/micron with similar in my herd to increase the kilo weight of this colour.

For the 2012 and following seasons, I have followed these same considerations for each male born. Again in 2012 I had 90% of cria born male, however this time I could work out which were to be marketed as Pets, and which as Fibre Producers. The fibre producers that were sold, the majority of new owners sold me back their fleeces to add to my overall herd fleece pool, helping to increase colour and micron ranges that were going to be commercially processed, and the bonus was I could see what kind of fibre these sold males were producing over this time.

Since 2011 to today, by adjusting breeding fibre goals each year with increased overall knowledge of my fibre breeding lines, meant I could change or kept the sire used over the female and therefore improve the overall quality of the herd fibre. I have found each year, 80% of progeny produced a better fleece than their dam (with 30% of this better than dam and sire). 20% had a fleece similar to their dam, but none were less than. 100% in the colour range I was wanting.

By changing the way the males were marketed to be sold, by giving personal training and knowledge of alpaca fibre to new owners, and by offering a buy-back fleece scheme, I have managed to sell all males that were born each year, in the year that they were born, for good prices for each. One or two exceptions that were kept as Stud males or potential studs.

I have brought back the fleece of 90% of those males sold as fibre producers, increasing my fibre pool each year without increasing my herd. The overall processable fibre was greatly increased, therefore the amount of Alpaca Fibre Products for sale increased also without increasing my herd. When you have a small lifestyle block this is ideal.

So really looking back, in 2011 birthing season, that initial disappointment of such a high male/female ratio became the springboard of looking at all my cria males born in a different way, and therefore the females as well from a fibre view.

This flowed on to marketing changes in the way I was selling males, which have now become the steadiest profitable income streams from my alpaca herd. I have found on post natal check of each cria born, checking the sex is actually one of the last things I tend to do, and if it's a boy it gets welcomed to the world exactly the same with a congratulations to its mum.

Maree has been breeding Alpacas, specialising in coloured Suri's since 2006, based in Swannanoa, North Canterbury, South Island NZ since 2011.

She has been producing, handcrafting, and selling all sorts of Alpaca Fibre products online, at markets and shows. The vast majority of products are made with her own herd's fibre and from her breeding lines of alpacas she has sold .

Maree has a special interest in Suri fibre and learning how to use this fibre with its unique characteristics in various ways.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