



ALPACAS AUSTRALIA

The official publication of the Australian Alpaca Association Ltd



In this issue:

- Beserk Males
- Sydney Royal
- Selenium Deficiency



Victorian Alpaca Colourbration

Australia's **Premier** Colour Show

Bendigo Regional Exhibition Centre
August 26-28 || Entries open July 1
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www.colourbration.com.au || Jen Ford 0425 737 037



Pen Sales 2015 Colourbration

Buckland Mamasita with Liz Robinson
Buckland Valley Alpacas and purchasers
Shirley Grant and Peter Kennedy from
Neo Summerhill Alpacas.



Publisher

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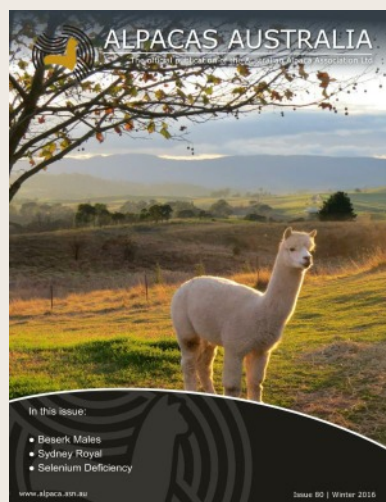
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Cover: Early Winter Evening
Photograph courtesy of Oak Grove Alpacas - Candelo NSW

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Presidents Message

Will there be any cool, wet weather in 2016? That's the question being asked across the country, with records being broken in many locations for the hottest temperatures during autumn. Finally the temperatures are cooling down as the days shorten, and the beauty of alpaca fleece is its lightness, providing a warm, cosy feeling without the weight, ideal for the conditions we have been experiencing. Alpaca product, from yarn, to garments, to homewares, is going from strength to strength, and we are seeing increased availability and awareness in the public domain. Congratulations to those who have worked tirelessly to bring alpaca fleece to the forefront - as growers, producers, processors and distributors.

The weather brings many challenges for herd management – managing parasites, ensuring adequate nutrition, birthing and mating decisions are all constant items to be considered, and situations can arise quickly in our challenging environment. Over the years many resources have been developed to assist alpaca producers – Alpaca Fact Sheets, books and various publications are available, and one of our greatest resources are the members in our local area. Take time to know your herd and keep a close eye out for behaviour that is out of character and minimise stress – for both your animals and yourself.

There are many opportunities for AAA members to promote the alpaca industry and their own alpaca enterprises through shows, educational displays and promotional events. Thank you to everyone who has given their time and knowledge to organise these activities on behalf of all members and the alpaca industry in Australia. We invite and encourage every one of our readers to take advantage of the opportunities available to share the alpaca passion, learn, compete and promote, and to network with fellow alpaca breeders and those who are yet to discover this industry.

I would like to thank our many volunteers, the AAA office staff, and my fellow Directors in continuing the activities of the association. As a team working towards the same goal, being to promote and advance the breed and husbandry of alpacas as an agricultural resource of Australia, the AAA continues to make 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



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An initiative of the Australian Alpaca Association



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AAFL: FROM FLEECE TO FASHION

Australian Alpaca Fleece Limited (AAFL) is majority owned by the Australian Alpaca Association and many of its alpaca growers. The company has grown over 12 years from an alpaca fleece buyer to a fully integrated operation purchasing ALL types, grades and colours of Australian alpaca fleece, contracting processing and manufacturing of a wide range of high quality alpaca garments and homewares. These products are marketed throughout Australia and overseas through a network of wholesalers and retailers.

Most raw fleece purchased from growers is now shipped to the world's largest alpaca processor: Inca Tops in Peru. Much of this fleece is now used for products designed and made for AAFL's Alpaca Connection label, now the most recognised quality Australian alpaca brand.

AAFL also manufactures knitwear in Australia and soft 100% alpaca throw rugs in New Zealand. The full product range is now comprehensive, covering thousands of lines of scarves, shawls, jumpers, cardigans, socks, winter coats and duffel coats and blankets. Foreign tourists are a particular target market that is now growing strongly. In another market growth initiative, selected fleece lots are quarantined for products that are labelled as made wholly from Australian fleece.

This product range will expand as more fleece becomes available.

Many AAFL customers are in Australian regional areas. Our market is also complemented by a number of outlets in major cities where we are now looking to expand retail locations, initially in Melbourne and later in Sydney.

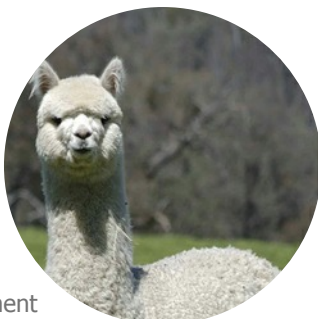
New Environmentally Sensitive Inca Tops Plant

The now limited availability and high costs of commercially processing all natural fibres in Australia encouraged AAFL to seek processing overseas. After closely examining facilities in Italy, France the UK and China, the clear best option was Inca Tops, in Arequipa Peru, where there is an 80 year history of alpaca processing. This required successful negotiations of shipping quarantine protocols with Australian and Peruvian agencies. The newly-commissioned world-leading Inca Tops plant uses solar heating and electricity generation for most of its requirements - and all water is recycled.

In January, Eduardo Casapia AAFL General Manager and Luis Chavez General Manager of IncaTops were invited to meet with the Australian Trade Commission in Lima, Peru to explore expanding AAFL's trade with South America and other countries. Rafael Rodriguez, Business Development Manager for the Australian Embassy in Peru was impressed with the transformation of Australian alpaca fibre, and the established global production and distribution channels.

AAFL will be working closely with Austrade to continue to transform Australian fibre into high quality accessories under the Australian Alpaca Connection brand and other labels.

In summary, AAFL has continually expended great effort on the development of the Australian alpaca fibre industry. Markets have been developed in Australia, Peru and Europe. The company believes its operations benefit all alpaca owners.



Advertisement

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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.

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Bookings.

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ALPACAS AUSTRALIA

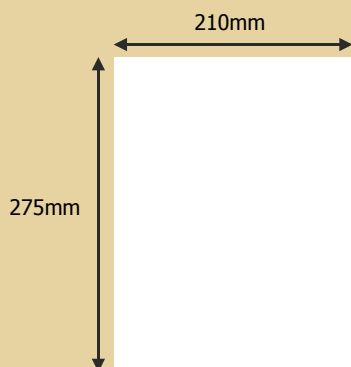
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The new AAA advertising rates for it's flagship publication Alpacas Australia Magazine make advertising your alpaca stud or alpaca related business more affordable than ever!

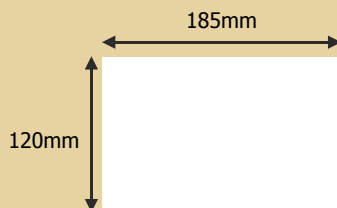
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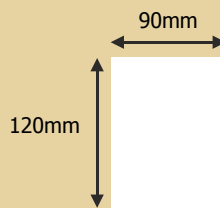
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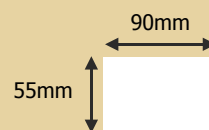
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- Package rates for prepaid advertisements in 3 issues of Alpacas Australia receive a 15% discount.
- Inside front cover or back cover attract a 10% loading.
- Alpacas Australia magazine during the 2016/17 Financial Year will have 3 editions in approximately October 2016, February 2017 and June 2017.
- Advertising needs to be provided as high resolution PDF or 300dpi JPG to specifications listed above.

To book advertising or for further details contact either:

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- Esmé Graham - Editor Ph: 0457 304 868
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WHAT TO DO WITH...

BERSERK

By Julie Taylor-Browne - CamelidSense

MALES (& FEMALES)

In the fifteen years I have been training and working with camelids and their owners, I have seen and heard too many heart-breaking stories about 'berserk alpacas who have ended isolated and/or neglected, abused or euthanized. I am contacted about male and female 'berserk' alpacas two to three times a month about problems that could have been prevented or ameliorated with the correct advice.

What is a 'berserk alpaca? I believe that the behavior we label as 'berserk is on a spectrum caused by inappropriate early imprinting. You may have an 'over-friendly' alpaca that runs up to investigate you all over and sniffs, clucks or snorts at you. It might also stand in your way and this can progress to biting your clothes or your hair or kicking at you when you try to move around it. Although they often like to be stroked on their necks they can switch quickly to being difficult to handle when you want to put a halter on or lead it.

At one end of this unwanted behavior spectrum are bossy alpacas that just want to be in charge of you. At the other end of the spectrum, they can be dangerously aggressive, running along the fence between you, screaming, spitting, rearing up and trying to bite you over the fence. If anyone were to go into their field it will leave the herd and come running over at speed to rear up, chest butt, knock them down, kick them or try and mate them.

Which alpacas are most likely to become berserk? In my experience they often come from very small herds, and/or have owners who have followed bad advice on handling and hand rearing newborns, where lone cria that have been treated as cuddly pets and where ungelded, single males are used as stock guards. Marty McGee Bennett refers to this as Novice Handler Syndrome. Any of these experiences compromise alpacas' ability to develop normal herd behavior, rendering them confused, frustrated and unable to relate appropriately to both humans and other alpacas.

There are always warning signs about this behavior earlier in the animal's history and this behavior may have been unwittingly encouraged, rather than positively discouraged. I hear things such as '*the children liked to play with him*', '*we thought it was cute*' and '*I thought he loved me!*'. Prevention is key as many of these problems could easily have been circumvented by encouraging the development of natural herd behaviors, coupled with skilful and appropriate handling and training. Even if an alpaca begins to exhibit these behaviors, early intervention can be effective. It is best to seek to advice on training methods that increase the likelihood of desired behaviors and reduce the frequency of unwanted behaviors.

What to do if you have a suspected 'berserk alpaca.

1. Keep yourself safe.
2. Employ behavior management and reward based training strategies
3. Take control, be the leader and teach your animal new skills.

Keeping yourself safe - Buy some panels to make pens where you can feed and confine your problem alpaca, so that you can safely enter the field to poo pick or carry out training.

Make yourself seems bigger. Alpacas are more likely to be subservient to people larger than them, and tend to eye up and bully smaller people, so wear an imposing hat, a padded jacket, or hold your jacket above your head. You could use a broom handle stuffed down the back of your jacket with a hat or another jacket on top. Carry a dustbin lid when you go in, you can use this as a shield to protect yourself if it tries to barge, bite or rear. These precautions should help to make you seem much less of a push-over.

2. Employ behavior management and reward based training strategies. If your alpaca is an uncastrated male, get him gelded. However, after gelding, testosterone levels can take several weeks to reach an insignificant level.

By the time people phone me for advice on these matters they have normally got to a confrontational stage with a history of unsuccessful attempts to dominate the alpaca. In my experience, confrontational methods rarely work, and can make things much worse. Fortunately, there are kinder, safer and more effective ways to retrain your alpaca.

Be specific about the problem; is it biting, barging or rearing? Your alpaca needs to learn that looking away is more worthwhile than biting, that respecting your personal space is better than barging and that keeping all four feet on the floor is more gratifying than rearing. You can do this by rewarding the behavior you want and ignoring the behavior (wherever possible) you don't want.

I suggest that you learn how to *clicker train*. Clicker training works mainly through positive reinforcement. Studies show that animals (including human animals) learn quickly and permanently through these methods.

Get a clicker and start by working over the fence from your alpaca or whilst it is in a pen. Alexandra Kurland who clicker trains horses calls this 'protective contact'.



1. Loading the clicker, keeping food hidden...click



2. ...and treat

3. Wait for the behaviour you want...then click

4. ...and treat. Feed where you want your alpaca's head to be



Find some yummy food that it really likes and have 20-30 small pieces of food. I find that pony nuts are usually very well received, plus they are low value, i.e. not fattening. However, I recently worked with a very aggressive alpaca that was exceptionally partial to guinea pig treats!

Part of safe handling is to deliver the food on something that gives you a bit of distance from the animal and protects you from being bitten. I use a large frisbee (the rim keeps the food on) to deliver the food. Hide it behind your back at all times except when using it to deliver the reward.

First, the alpaca needs to learn that the click means that it is going to get a treat. This is known as loading the clicker. Click (once) and then feed one treat. Repeat 5-10 times or more if necessary until you can see that when you click it looks for the food.

Once your alpaca has learned that a click signals a treat, you can begin training it to behave better. Working from behind the protection of a fence or pen, start by training it to turn its head away from you, because if it is thinking of biting, rearing or barging, it will start by looking straight at you, whereas if its head is at a right angle to you, it will not.

Every time it glances away again from you, click and treat. Reinforce this behaviour by feeding one treat after every click (even if you messed up the timing). The click is not the reward, but it will 'mark' (pinpoint) the preferred behaviour, so perfecting the timing of the click is key here - the timing of the delivery of the food, less so. Make sure you feed where you want your alpaca's head to be. You will probably need to progressively 'shape' (train) the preferred behaviour by marking and rewarding even the smallest head.

Case study:

Marvel was one of the most aggressive alpacas I've had to work with. He lived with two other alpacas but had very little to do with them. He was constantly 'on guard'; watching for anyone who might try to approach 'his fence', so that whenever anyone walked near it, he would race over, rear up and try to bite them over the fence. He'd had years of practice and was very fast and determined.

Because there was no pen in his field, I started by working with him with the fence between us. Fortunately he was more interested in the treats than biting me, and it only took about five minutes before he was consistently keeping his face parallel with the fence (and not over it). I then progressed to walking up to the fence, and each time he looked away (and kept his feet on the floor!) he got clicked and rewarded. I then taught his handlers how to click and treat the 'look away' whenever they approached the fence. We took a break and found some pens. Under cover of dustbin lids they were assembled, and feeders added. We then fed Marvel in the pen and shut him inside it, so we could train him (still using protective contact) in his field. Then we clicked and treated on all sides of the pen when his head was turned away.

movement away from you. Don't over-train; aim for a set of 20 repetitions, quit while you are ahead and leave it wanting more.

To hone your clicker training skills, you could practice training a family member or pet to do a specific task. For example; I've trained some of my alpacas to stand still while I put a pack on them, my dogs to get into their beds, and of my pigs to sit on command. You can find some great examples of clicker training many different species on Youtube!

Conclusion

By working in this way you should get an alpaca who will 'offer' to turn his head away from you when you approach him, and also stop him mugging you for treats.

To learn more about clicker training, I recommend anything by Karen Pryor who is the doyenne of clicker training.

To learn more about CamelidSense training, courses and articles please see my website www.carthveanalpacas.com or contact me by email taylor.browne@clara.net

Julie Taylor-Browne is a qualified alpaca judge with the British Alpaca society and as a practitioner in both Camelidynamics and Tellington TTouch. She started giving courses in 2005 and has taught throughout Europe and Scandinavia, becoming one of the very few Camelidynamics Instructors. She has a Diploma in Animal Behaviour with Edinburgh Veterinary School and has studied clicker training with Alexandra Kurland and Advanced TTouch with Linda Tellington-Jones.

Published courtesy of Alpaca World magazine and the author.



By Jarle Vaughan BVSc PhD MACVSc

Photo courtesy of Lezley Golding of Stevley Park Alpacas

Breeding recommendations for supervised yard matings

- First breeding of maiden alpacas usually begins from 12+ months of age, if and when females have reached 65 % of their estimated mature body weight. Parous females may be mated 15- 20 days after delivery of the cria if parturition was straightforward and unassisted, as ovarian function returns and the uterus recovers quickly after delivery of the cria.
- There is no simple way of selecting "more fertile" females from a group to mate on a particular day. There is no association between the time it takes a sexually receptive female to sit down for mating and likelihood of conception. Some females sit down immediately for mating, but fail to conceive; some females wander around the yard for 1-2 minutes before becoming recumbent for mating, and do conceive.
- Breed each female once when receptive*. Multiple matings of a single female may lead to uterine infection as the male penetrates the cervix with his penis during copulation and deposits semen into the uterine horns.
- Place the mated female into a yard with a male 7 days after mating to check for ovulation (perform a "spit-off test"). If the female is sexually receptive, ovulation did not occur and she should be mated again on that day (*start protocol again). If the female is sexually non- receptive (known as "spitting off") at 7 days then she has ovulated i.e. has a corpus luteum on one of her ovaries and elevated plasma progesterone. So place the female into a yard with a male 14 days after the original mating to check for pregnancy. If the female that was non-receptive at 7 days is now receptive, conception did not occur and the female should be mated again (*start protocol again). Non-receptivity by a female at 14 days indicates continued elevation of plasma progesterone (the hormone of pregnancy) and extended life of the corpus luteum ... and we may infer that the female is pregnant. This variable sexual behavior in the presence and absence of plasma progesterone is characteristic of South American camelids, and is a very useful management tool.
- Perform a "spit-off test" in "early pregnant" females regularly (every 2-4 weeks) until ultrasound pregnancy diagnosis at (30 and) 60 days after joining to observe the foetus and thus confirm pregnancy status. There may be 10% embryo losses between a 14 day positive spit- off and 60 days of gestation, so re-mate any female that becomes receptive during this time and minimise stresses such as showing, shearing, transport during the first 2 months of pregnancy to optimise conception rates.
- Perform a "spit-off test" with females intermittently throughout gestation, as up to 5% foetal loss occurs between 60-days gestation and full term. To minimise stress on pregnant females, this procedure may just entail bringing the pregnant females into a yard next to a mating pair. Any female that has aborted will usually walk up to the fence and sit adjacent to the mating pair. These females can be ultrasounded to confirm loss of pregnancy and re-mated depending on the management calendar and birthing pattern of the farm.



*A female should be given three rounds of this management before seeking veterinary advice for failure to conceive. Assuming males achieve a 50% conception rate per mating, 90% of females will conceive in the first 3 mating attempts after reaching puberty or post-partum (Mate 100 females and 50 conceive; mate non-pregnant 50 females a second time and 25 conceive; mate non-pregnant 25 females a third time and 12.5 conceive = 87.5% pregnancy rate). Ensure that dates and findings are recorded at each mating to assist your veterinarian with further reproductive investigations.

2. Paddock mating of alpacas

Male maturity and fertility

The definition of puberty in alpaca males is two-fold:

- The adhesions between penis and prepuce present at birth, have broken down so the male can physically mate a female; and
- The male is producing viable sperm; usually associated with a mean testicular length > 4 cm (ideally > 5 cm long).
- All males should have reached puberty by the age of 3 years, but remember that 10% of yearlings and 70+% of 2 year-olds are fertile. Males over 3 years that have not achieved any pregnancies are considered sub-fertile and should be castrated. Use fertile males and plan ahead. It takes approximately 60 days for a fertile male to make healthy sperm. It is imperative that all males are subjected to a health check by their owner/manager (and their veterinarian as necessary) at least 2 months prior to the start of the breeding season. During this check:
 - Males should be identified (brass ear tag and paddock tag so there is no confusion as to who is mating whom!)
 - Weighed/body condition scored
 - Shorn at appropriate time
 - Vaccinated (see Cria Genesis Vaccination information sheet)
 - Drenched for worms/fluke (depending on faecal egg count results; see Cria Genesis Liver Fluke information sheet)
 - Any other husbandry performed as necessary

- Males should be certified and have DNA collected if owners wish to register their off- spring. Depending on body condition scores and pasture conditions in the weeks prior to mating, supplementary feeding of males may be indicated. There is no single recipe, but lupin supplementation may be of benefit if pasture is low in protein. Remember that over-conditioned males are prone to heat stress which could result in sperm damage and infertility. Prior to the joining season, unproven/recently purchased males should be given time to acclimatise to the new property, herd, pasture, management, yards etc. They should also be used in supervised yard matings to confirm their fertility and ability (veterinarians can confirm pregnancies using trans-rectal ultrasounds as early as 18 days after a female is mated). Don't expect a new male to successfully impregnate females the day he arrives.

As a rule of thumb, use a male twice per day during supervised yard matings. There is a spectrum of fertility in males, so whilst some will perform up to 6 successful matings per day, others will go-through- the-motions but fail to achieve any pregnancies. With time, you will identify where your males fall on the spectrum of fertility.

There is no association between copulation length and pregnancy rate.

Australian alpaca farmers have been successfully using supervised-yard matings for the last 25 years. It is imperative that you use fertile males and prepare them 8 weeks prior to joining so they are fertile, fit and healthy. Set up a farm husbandry calendar on your farm in consultation with your local veterinarian to ensure optimal alpaca health, fertility, production and welfare.

In a stud herd, it may make sense to use one male per mating group, so that sire identity is known without DNA testing of progeny. In a commercial herd it is possible to put multiple males in a mating group. If one male breaks down there are other fertile males to assure the joining period is tight. If necessary, the paternity of any progeny can be DNA-assured through blood testing.

The size and composition of the female mob

Whilst there is a spectrum of fertility in males, it is reasonable to join any stud male with fifteen (15) females for paddock mating. Some males will be able to cover 25-30 females or more, but this needs to be determined on a case-by-case basis.

Females should be examined 2-3 weeks prior to joining:

- Females should be identified (brass ear tag and paddock tag so there is no confusion as to who is mating whom!)



- Weighed/body condition scored. Females should have a good body score: 2.5-3 is ideal and over 4 is undesirable as fertility can be adversely affected by obesity (adipose interferes with hormonal function and body temperature regulation). Supplement as necessary *3
- Shorn or crutched to remove excess fleece/dags around vulva
- Vaccinated
- Drenched for worms/fluke (depending on faecal egg count results;
- Check the vulval opening is clean and free of discharge. Any female that has had a recent dystocia (difficult birth) should be examined by a veterinarian prior to paddock mating
- Non-receptive females should be scanned to identify pregnancy status
- Any other husbandry performed as necessary. Paddock mating of lactating females can be a tricky issue:
- Management needs to keep females in an annual breeding/unpacking cycle, so females need to be joined a few weeks after giving birth, however, some machos will mate any female that is receptive regardless of its age (or try to join or injure a male cria) i.e. some female crias could reach puberty as young as 3 months and could be mated in the paddock. Beware.
- Body condition scores must be monitored during joining, as females will be reaching peak lactation 2-4 weeks after unpacking (giving birth) and at risk of rapid weight loss if nutrition is inadequate. Supplement as necessary

Ovarian function in non-pregnant females

Non-pregnant females that have (a) not been exposed to a male in the preceding 2 weeks or (b) given birth at least 2 weeks previously, will have a ripe egg capable of ovulation, most of the time on one or other ovary.

Mating of the female by the male induces ovulation (release of the egg from the ovary). Fertilisation of egg by sperm occurs in the oviduct. A corpus luteum (CL) develops on the ovary at the site of ovulation and produces progesterone (the pro-gestational hormone) to maintain the foetus for the entire pregnancy. Elevated blood progesterone leads to sexual non-receptivity ("spitting off") for the duration of pregnancy. If a female ovulates but fails to conceive, she will become receptive again approximately 12-14 days after the failed mating.

It is reasonable to give a female three (3) mating opportunities to conceive, given that a male on average will achieve a 50% pregnancy rate (thus after three matings about 90% of the mob will be pregnant). This is true for both supervised yard matings and paddock matings.

Handling and paddock requirements

Any type of mating program depends on lots of animal handling. Set up the paddock/paddocks, access lanes, yards and other handling facilities so that stock can be mustered/drafted/yarded quietly (no dogs), calmly and efficiently. Stressful handling of males and females will be detrimental to conception rates.

Within the mating paddock, consider the positioning of water points (females can exclude the male once most of the group has been covered so provide two water points at least), adequate shade, protection from the weather (especially if crias are included with their dams). Move juvenile or other stud males from adjoining paddocks as they will distract the covering sire or "join" the group! Check that all fencing is tight and in good repair. Ensure the chosen paddock/paddocks have sufficient good feed to adequately feed the mob and to limit feed competition for the duration of the stay. Monitor body condition scores closely and alter nutrition accordingly.

Consider seasonal conditions on your stud

Are you expecting a male to work well during months when the weather is known to be excessively hot, or pasture conditions usually poor? And will you want the majority of your females to be unpacking and lactating in poor seasonal conditions 11.5 to 13 months later?

Paddock mating protocol

When a male is placed in a paddock with a group of fertile, non-pregnant females, he will endeavour to mate them all within a few days as they will all be sexually receptive. The females will mostly ovulate in response to mating and become sexually non-receptive. Females that fail to conceive will become receptive 12-14 days later. Females that conceive will remain sexually non-receptive and continually "spit-off" the male.

Based on these observations (and reproductive physiology of female alpacas!), place a fertile male in a paddock with a group of fertile females for four (4) weeks to give three (3) mating opportunities for each female (which will occur approximately on Days 0 – 4, 12 – 16 and 24 – 28 during their stay in the paddock with the male).

Trans-rectal ultrasound by a veterinarian 3-4 weeks after the male is removed will allow accurate foetal- ageing to assist with pregnancy management. Any female that failed to conceive could then undergo a reproductive examination on-the-spot to determine treatment options.

Meanwhile, the male could be placed with a second group of females for four (4) weeks immediately after removal from the first group (as most females would have been joined in the first two mating opportunities the male should be fit and fertile). This



would give the stud management an eight (8) weeks joining period. Note females from the second group should be scanned 3-4 weeks after the male is removed, too.

Many Australian alpaca farmers are successfully using paddock mating to tighten up their joining/unpacking times and to save time and energy. It is imperative that you use fertile males and prepare them 8 weeks prior to joining so they are fertile, fit and healthy. Set up a farm husbandry calendar on your farm in consultation with your local veterinarian to ensure optimal health, fertility, production and welfare of your alpacas.

*3 see *Cria Genesis Nutrition information sheet*

USE GOOD HUSBANDRY TECHNIQUES. KEEP GOOD RECORDS. WRITE DOWN TREATMENTS/MATING DATES/MEAT WITHHOLDING TIMES.

NO PRODUCTS ARE REGISTERED FOR USE IN ALPACAS. CONSULT YOUR VETERINARIAN AND ALWAYS READ THE LABEL BEFORE USING ANY OF THE PRODUCTS MENTIONED. *NEVER* USE ANY PRODUCT IN ALPACAS THAT IS NOT REGISTERED FOR USE IN FOOD PRODUCING ANIMALS.

FOR ANY SIGNS OF UNUSUAL OR SERIOUS ANIMAL DISEASE, RING THE DISEASE WATCH HOTLINE: 1800 675 888.

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Accordingly, no person should rely on anything contained herein as a substitute for specific advice.

The author does not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in this publication.



Photo courtesy of Oak Grove Alpacas

Case Study:

Selenium Deficiency in Alpacas

By Kelli Pfeiffer – Pfeiffer Park Alpacas

Summary

Pfeiffer Park is located between Rockhampton and Yeppoon, on the Capricorn Coast in central Queensland, and runs a herd of more than 250 alpacas. The property was directly impacted by Cyclone Marcia in February 2015 and shortly thereafter ten unexplained, sudden deaths occurred from one paddock, with the remainder of the animals in that paddock very ill/aborting and further deaths occurring over time. Necropsy results were “unremarkable” in all animals but did show orange to clear fluid in the perineal cavity, chocolate coloured blood and low protein levels. Tissue and blood samples determined, after exhaustive investigation, that the cause of death was a mineral deficiency subsequently identified as selenium deficiency.

Symptoms displayed prior to death:

- Sudden ataxia (lack of muscular co-ordination)
- PEM (polioencephalomalacia). Inflammation of the brain caused by thiamine deficiency – symptoms include twitching of the ears/face, the head held in an elevated position, walking in circles, loss of coordination, pressing the head against solid objects and blindness
- Anaemia (reduced red blood cell count)

Alpacas with these symptoms were dead within 15 hours.

- Some animals had acute diarrhoea - went from passing beans to fluid manure within 15 hours.
- All animals consumed feed and water throughout monitoring prior to death
- None had an elevated temperature.
- All animals had acute muscle weakness in the hind legs and neck (displaying a kink in the neck from muscle weakness – “white muscle disease”).

Case Study:

February 2015: Initially one paddock of animals only was thought to be affected. These animals were 3-5 years of age and dying in late term pregnancy. Several abortions from other animals in the same paddock occurred. The vet believed this group was the first to show symptoms, having the highest requirement for selenium at that stage of pregnancy.

Other paddocks were subsequently affected.

June 2015: A sample group of 17 out of 250 alpacas were blood tested; individual results came back with selenium levels ranging from 150-250 ng/ml (serum selenium concentration). Vet instructions were to give selenium to all animals on farm, this being the second dose given in 2015 of Cobalife B12 with Selenium, the first having been in the weeks after the cyclone. At the same time we had administered Mineral Plus (oral trace element supplement for sheep and cattle) in January 2015 and directly after the cyclone in late February 2015, as a tonic to assist recovery after the cyclone.

August 2015: Whole herd blood tested, due to concerns we had initially selected animals that were showing reasonable levels in the first group tested. Of the 250 animals tested, the levels ranged from 15-239 ng/ml. Vet recommended the following regime:

- Selenium (Cobalife B12 with Selenium) dosing for all animals under 200 ng/ml immediately
- Thirty days later a further dose to those with a level below 150 ng/ml
- A further 30 days later a third dose to all animals under 100 ng/ml
- Blood test all animals again a further 30 days later

October 2015: tested whole herd, results remained relatively the same. At that time vet advised that the product we were using was not adequate, and recommended a change to Selovin LA for next dosing at end of October 2015.

January 2016: tested whole herd, results remained relatively the same again. Further research suggested that it was necessary to administer vitamin E with selenium. Dosed whole herd with SelovinLA and Hideject ADE.

February 2016: Several animals started displaying PEM symptoms. Vet instructed to give Mineral Plus oral and B1 injections. Further investigation indicated that an oral route for selenium administration may be preferable.

March 2016: One animal down with classic selenium deficiency symptoms of ataxia of the rear legs, kinked neck, lying on side groaning, anaemia. Vet recommended administration of Selovin LA, B12 (cobalt), Hideject ADE all by injection – having investigated a

potential correlation between cobalt deficiency and selenium. By the following morning this animal (which had not been expected to recover) was walking and eating with only PEM symptoms remaining.

Following treatment with vitamin B1 (thiamine) the PEM symptoms resolved by the end of the same day. Vet instructions were to give the whole herd Selovin LA, B Complex (cobalt), Hideject ADE.

April 2016: Another animal down with selenium deficiency symptoms: ataxia, anaemia, lying on side groaning, diarrhoea. Given Mineral Plus oral – next morning walking and eating with some PEM symptoms.

These were treated with vitamin B1 and symptoms abated by nightfall. Given a second dose of Mineral Plus two days later and monitored stool which went from water to beans in four days with only this treatment. Vet instructed to treat whole herd with Mineral Plus and B1.

Ongoing

Selenium testing and administration, and historical farm research, indicate that on this property the use of injectable selenium is failing to achieve the desired result.

Ongoing liaison with livestock consultants in the USA and WA, who have both worked with large mobs of alpacas and undertaken internationally recognised research, is indicating a linkage between selenium and vitamin E.

We will be working with these consultants to develop a tailored loose lick mineral mix for oral supplementation.

The first step is to selenium test the whole herd again (GHPX testing).

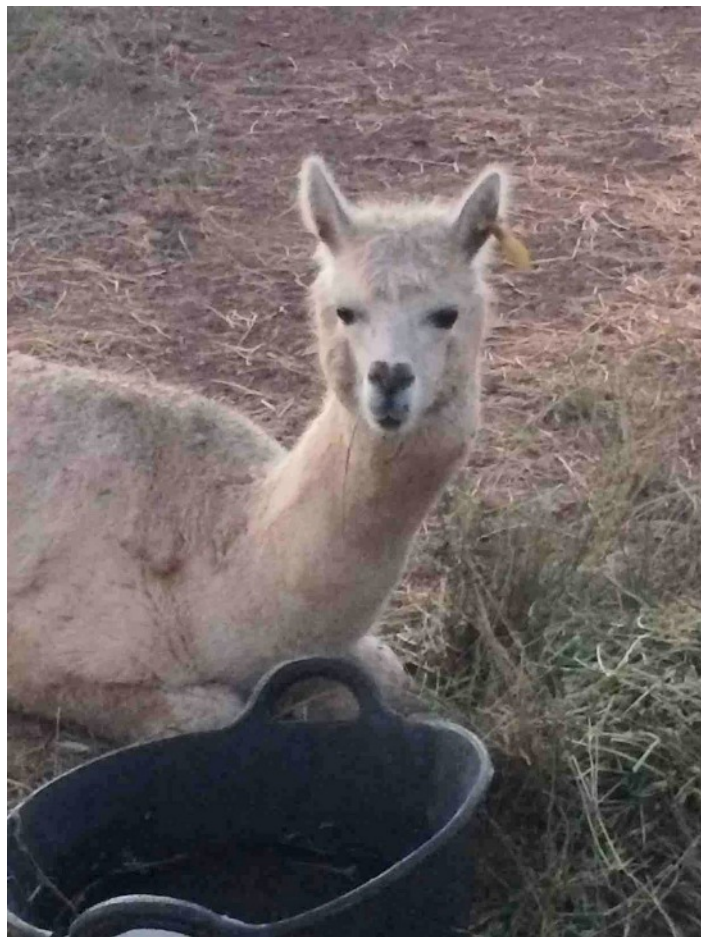
Subsequently fifteen animals (three age groups, with a mix of sexes and colours – four in each age group with low selenium levels and one with high) will be tested for vitamin E levels and undergo a mineral screen test. Following the results of this testing – a specifically designed vitamin/mineral lick mix will be constructed including vitamins E, D and B1, selenium, cobalt, copper, zinc and yeast – this product mix will be added to gypsum, limestone, sodium, DCP and dolomite sourced locally and made up to a tonne of product, which will be fed to 200 alpacas over 200 days.

The 15 animals will continue to be tested to monitor their levels as indicative of the herd. Oral vitamin E supplementation will also be administered. The work is ongoing but it is hoped this may resolve the issue, now and into the future.

Comment

Fiona Vanderbeek, AAA Director

This case study highlights the well-recognised importance of adequate selenium levels for camelids. Many parts of Australia are known to have selenium-deficient soils, though the extent of this will vary widely between geographical areas and with rainfall (high rainfall leaches minerals from the soil and rapidly growing pastures will also have reduced mineral content).



Sheila - displaying white muscle neck

For this reason, if you believe your animals could be suffering from a similar syndrome to that described here, it is vital to conduct blood tests under veterinary consultation in order to ascertain the severity of any problem before treatment.

Excessive selenium levels can result in toxicity.

In addition to the continuing research being conducted by the author, we are aware of another ongoing trial with injectable long-acting selenium (Selovin LA) which appear to show it as effective.

This research is being conducted in Victoria on a property with very different geographical and climatic conditions.

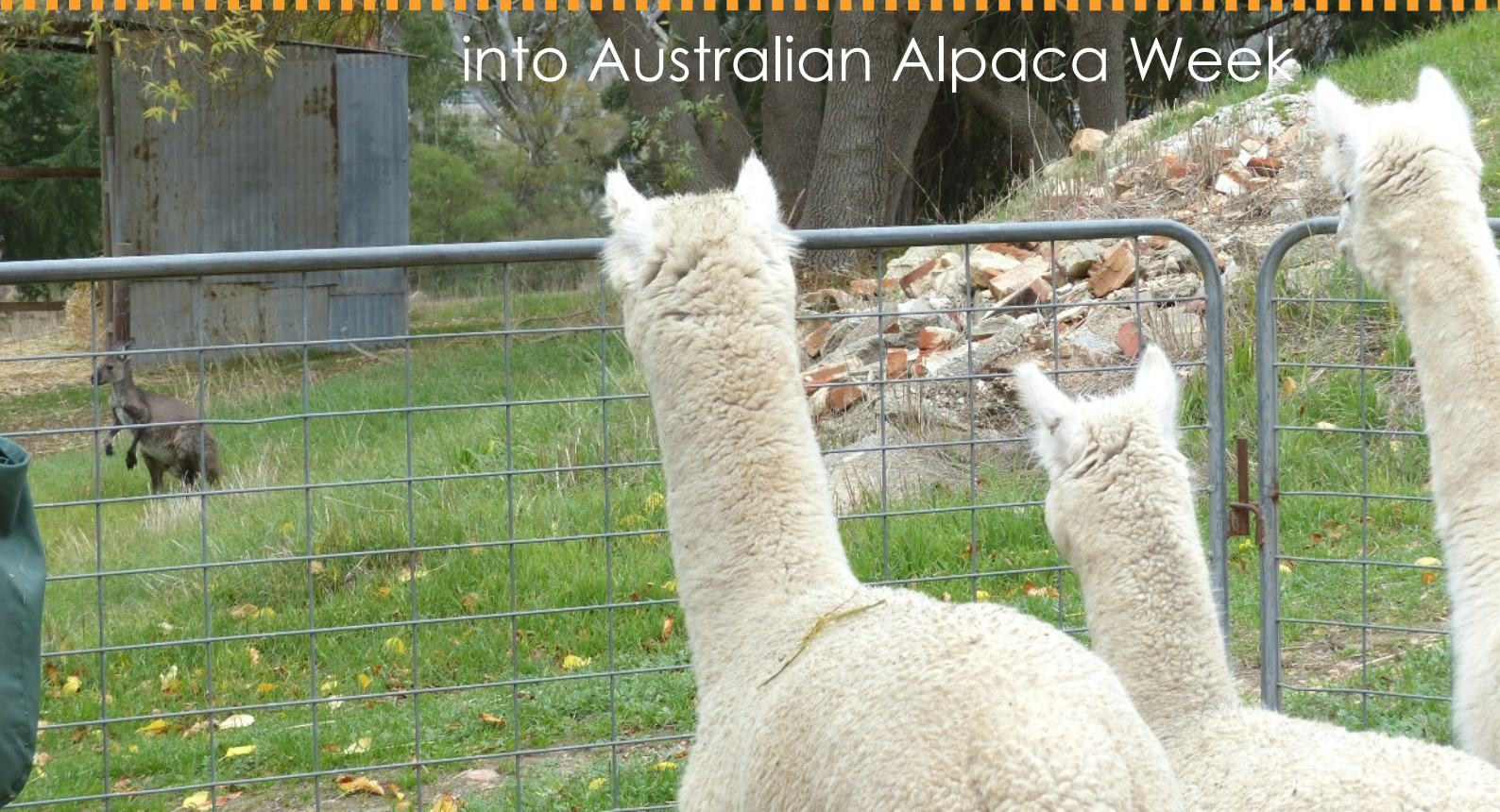
The AAA will be asking the Research Development & Extension Committee, together with the Biosecurity & Animal Welfare Committee, to liaise with all those currently undertaking clinical trials with selenium, or who have previously addressed the issue within their own herds, in order to co-ordinate the findings for the benefit of all in the industry.

Further Reading

Selenium Nutrition in Camelids.
Robert J Van Saun. Penn State College of Agricultural Sciences.

<http://extension.psu.edu/animals/camelids/nutrition/selenium-nutrition-in-camelids>

Putting the ‘Australian’ into Australian Alpaca Week



2016 Australian Alpaca Week's big turnout included a very genuine Aussie welcome this year.

How AAA members around Australia teamed up to present the world renowned modern Australian alpaca to delighted new audiences.

When AAA members opened the gates this year to celebrate Australian Alpaca Week, it seemed as though everyone came – even the roos.

In just a quarter century or so, Australia has built an enviable worldwide reputation for quality and expertise. And so this year, the Association's key annual promotional event turned its focus outward to new audiences, inviting all to help #BuildTheHerd, to enable the industry to fully deliver on its commercial opportunities.

With high levels of media interest, and unprecedented online engagement and traffic, the message was concurrently delivered to real life and “virtual” visitors in Australia and around the world. A fresh strategy for social media, which featured members on film or via re-shares, brought the real passion and expertise of our industry alive on screens, with plenty of viral sharing around the world to expand our horizons.

Around Australia, participating AAW members put in long hours, preparing, opening and manning their farms, staging events, and giving interviews & photo opportunities for media.

To support the Build the Herd message, the AAA marketing team used database software to more directly connect with AAW participants this year. The already expansive range of marketing materials produced in 2015 was revised and enhanced, taking on board 2015 member feedback and adding further social media and selected other tools to the suite.

Comprehensive media pitches were issued nationally by green, green grass communications, often in conjunction with members. Further media was activated locally by individual members, often using the suite of publicity resources offered via the Association's online Members Resource Centre.

Extremely significant marketing outcomes were achieved to the benefit of all members and alpaca owners, AAW participants or otherwise, as awareness of Australian alpaca again peaked in media. New levels of engagement in the agricultural sector were achieved, and a host of fresh content assets were created. These will continue to be leveraged in future marketing campaigns on behalf of the Association's membership. Thank you to all members who found time to participate in interviews and photo opportunities to promote our industry.

HIGHLIGHTS

"Knit More" Alpaca



AAMI

May 6 at 2:45pm · 🌐

As you can tell from our latest TV Ad, we're big fans of llamas and alpacas here at AAMI!

To celebrate Australian Alpaca Week with [Australian Alpaca Association](#) we're giving away 10 knitting kits, for Alpaca Aficionados to create their own little woolly soft toys. To win, comment below and explain why you love alpacas as much as us. The most adorable answers will win.

Winners will be announced 11am Monday, and will need to provide details to receive the prize by post. More terms here: <http://bit.ly/1Oj9ssN>

WIN THE WORLD'S CUTEST KNITTING KIT



Love Comment Share

"Knitmore Alpaca", a cute free knitting pattern, was crafted with the generous support of Great Ocean Road Woollen Mill as a call to action to all in "Building the Herd". Supported by an official list of AAA members who produce alpaca yarn, this adorable toy charmed his way into the pages and online feeds of Australia's largest circulating rural publication, the Weekly Times and its beautiful FARM Magazine, and even seduced insurer AAMI, who had some fun acknowledging the camelid contribution to their current advertising campaign.

Little Knitmore has been a hit – keep an eye out for more online promotion with this fun toy aiming to get even more alpaca into the hands of even more knitters.

Images courtesy Weekly Times/FARM Magazine, and AAMI.



Olivia Haltering Timelord

SQNNNSW region drew together to promote a group event with ads and editorial using the AAW graphic suite provided online, and took a collegiate approach to Building the Herd.

Fun hands-on events were staged, and informative starter workshops were strategically promoted for later in the year. Over 400 people attended on the day.



"Class More" Alpaca

The announcement of much-needed on-strategy federal government support for NSW alpaca fleece classing training coincided perfectly with AAW this year and provided further media clout to the event's essential agribusiness-focused "Build the Herd" message, with generous support from the government offices responsible.



"Shop More" Alpaca

In TAS, alpacas were pressed into service in the retail sector where despite miserable weather The Alpaca Shoppe was inundated all day with demand for locally made throws and other alpaca product. The alpacas were given extra chaff when they got home.



"Post More" Alpaca

2016 was the year Australian alpaca reached out to the world. Online and social traffic hit new highs. The world responded to our invitation, and they watched, commented and shared as we celebrated all that's wonderful about "Building the Herd".

"Film More" Alpaca



The many wonderful interviews given by members such as Shahrizai, Sunline, Pfeiffer Park and Canchones Alpacas to their local networks and to the Association's cameras during recent years were put to work to generate record-breaking audience and engagement on air and online in news items and Facebook broadcasts that have achieved over 100,000 views to date, and counting.

"See More" Alpaca

The generous gifts of time of so many members drove the year's media blitz. For example, the beautiful stories generated by energetic VIC breeders Sensuri Alpacas resonated as several appearances in the Weekly Times FARM Magazine, and a number of impactful online hits and Facebook posts.



The AAA marketing team is now collating debrief data to inform future campaign planning.

This year, AAA overall member participation numbers were down, and so we now ask our membership: What works for you in your business as an annual industry marketing initiative?

"Bake More" Alpaca



Build the herd however you can, we say. WA put out a welcoming message this year to draw the crowd, which had them already making deliveries to before AAW was over.

Email us at hello@gggrass.com.au to share your ideas.

2016 certainly showed the power of teamwork, and we'd like to work even more closely with all members in 2017 and beyond to keep "Building the Herd".

Thank You

On behalf of the Australian Alpaca Association membership, we sincerely thank all breeders who supported the Australian Alpaca Week promotion this year. The scale of attention and profile achieved by the industry reached another new high this year. This sort of voice would never be possible at an individual level.

But with the collective efforts of AAW members this year - and the many family, friends and neighbours who get inveigled into helping out along the way - new opportunities have been created that will see us all continue the journey into the Smart Future of Australian Alpaca.



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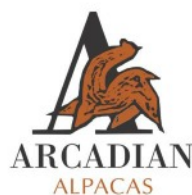
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SYDNEY ROYAL

By Keryn Burns - Convenor

Although rather early this year our 2016 Sydney Royal Alpaca show was once again a huge success.

Attendances were at an all-time high despite the fact that it was not school holidays. We had plenty of visitors to the Munro Pavilion, both alpaca breeders from here and overseas, as well as thousands of general public.

Competition was fierce and although numbers were down we certainly managed to keep our judges Peter Kennedy & Shane Carey on their toes.

Grand Champion Female Suri

Pacofino Dubonnet (Adult Female) shown by Pacofino

Grand Champion Male Suri

Bedrock Carter (Adult Male) shown by Bedrock Alpacas

Best Suri in Show

Bedrock Carter

Grand Champion Female Huacaya

Bedrock Wanaka (Junior Female) shown by Bedrock Alpacas

Grand Champion Male Huacaya

Jennjoley Braveheart (Intermediate Male) shown by Jennjoley Alpacas

Best Huacaya in Show

Bedrock Wanaka

Most Successful Suri Exhibitor in Show

Pacofino

Most Successful Huacaya Exhibitor in Show

Softfoot

It was fantastic to see a few New Breeders join us at Sydney Royal this year and plans are afoot for next year with incentives for breeders who introduce new exhibitors to Sydney Royal.

I am very grateful to all the team and exhibitors who helped me throughout the show. Without all your help we could not pull off such a successful show. The Royal Agricultural Society are once again very pleased to have us at their show representing and showing our beautiful alpacas to the world.

We hope to see YOU at Sydney Royal 2017.

Add the dates to your diary now. **14th - 18th April 2017**



Best huacaya in show Bedrock Wanaka - Bedrock Alpacas



Most Successful Huacaya Exhibitor in Show - Softfoot Alpacas

2016



Best suri in show Bedrock Carter - Bedrock Alpacas

Below and right - Young Paraders



AAA President- Micjhille Malt





Supreme Huacaya Fleece - Millpaca Terminator



2016 Sydney Royal - Alpaca Fleece Report

By Helen Fritsch

The 19th March had quite a chilly early morning start in the shearing shed at Meadow Flat.

We had 178 alpaca fleece exhibits, 163 huacaya and 15 suri.

Our Judge Lyn Dickson did an amazing job assessing many scrumptious fleeces, awarding Supreme Huacaya to exhibit F48 Millpaca Terminator ET, exhibited by Millpaca Alpacas of Berry NSW and Supreme Suri to exhibit F174 Bedrock Cryptic exhibited by Bedrock Alpacas Bedford WA.

2016 displayed another successfully year of quality fleeces grown around Australia. Thank you to all fleece exhibitors for entering the fleece section and a very special thank you to our Judge and the wonderful team of stewards I was so grateful to work with over the four days prior to the show, weighing & sampling, judging and displaying.

The Alpaca fleece display attracts many a keen natural fibre grower who visits the alpacas in the Munro Pavilion at the Sydney Royal and I have great pleasure in showing off our industry, so when you're preparing to shear your best alpacas next season plan to enter the fleece into the Sydney Royal and show off your breeding too.



Supreme Suri Fleece - Bedrock Cryptic



Performance Alpaca Shearing Competition

Sydney Royal 2016

By Keryn Burns - Convenor

The first alpaca shearing competition in Australia was a huge success!! Our wonderful announcers, showmen and women drew huge crowds.

Trans Tasman - Australia v's New Zealand and The Young Gun Shearing is already receiving lots of interest from Shearers across Australia keen on being involved in next years Competition.

This year was an invitee only Comp to get it up and running, there will be some changes as the Competition evolves but the initial intention to support our new up and coming Shearers and involve our professional shearers will always remain.

There was an exceptional group of people involved this year and we would like to thank every one of them for being a part of something that we think will grow and help strengthen another aspect of the alpaca Industry.

Huge thank you to everyone involved:

Australia: Chris Power, Shaun McFayden, Kurtis Parker
 New Zealand: Nigel Wood, Glenn Dawson, John Dawson, Jess Sharpe

Young Guns: Glenn Dawson & Kurtis Parker

Judges: Helen Fritsch, Stuart Marshall & Robert Gane

Announcers: Mick Williams & John Hay

Helpers/Sponsors: Peter & Lyn Harford, Pat Bova, Mick & Karen Williams, Tyler Duroux, Beiyuan,

Top Gun Shearing Supplies, JD Rural Shearing Supplies, Dubbo Shearing Supplies

Organisers: Sharon Dawson & Neil Parker



2016 Paraders

By Janie Hicks

The 2016 Sydney Royal was host this year to the 4th Sydney Royal Alpaca Paraders competition, in which nearly 40 kids from across NSW, ACT, and VIC competed for the ribbons in the Showmanship and Stockmanship sections which test their skills, knowledge and understanding of alpacas.

Throughout the first day of competition, the crowds were five deep around the showing as the Alpaca Youth strutted their stuff before an envious crowd of visiting kids and parents. Some lingered for only a few minutes of enchantment, but others, more beguiled by the curious animals led by their cheerful and confident leaders, watched enviously for entire segments of the competition. The Munro Pavillion sparkled with the flash of cameras recording the event or, for those lucky enough to hug one of the many alpacas on show, taking selfies to capture the moment to share with friends and family in perpetuity.

Every portrait shot of an alpaca in the embrace of someone who has never touched one is destined to become a cherished trophy, an industry advertisement replayed a thousand times over and to audiences around the world. Owners of high rise apartments with small balconies, or suburban homes with busy backyards, would be facing the heat from their kids as families made their way home, dreaming of a world where they, too, could train, lead and show their alpaca, demonstrating their fluency and expertise to the next generation of disbelieving and envious onlookers.

In this context, it is difficult to accept that there are still alpaca breeders who are dismissive of the Youth Paraders Competition, describing it as a distraction from the "main game", drawing attention and resources away from the serious business of showing, breeding and selling alpacas. *Nothing could be further from the truth.* It is said that if you spend too much time studying your navel, you will not notice if your backside's on fire. The 2016 RAS crowd drawn by the Youth Paraders is proof that a sustainable alpaca industry is entirely *dependent* on Youth Paraders as an effective means of attracting new and younger people to the industry, and then training them to continue the showing, breeding and selling of alpacas, which is the serious business of the industry. Without a runner to whom we can pass the baton which earlier and current breeders have carried for the first 25 years, there will be no second 25 years to continue the research, genetic improvement, product development and market promotion that have brought us to this point.

What child, standing outside the circle, has not experienced a deep visceral envy upon witnessing others of the same age demonstrating fluency in a subject totally foreign to the observer. That separate universe could be the Mickey Mouse Club, or the circus, or the local pony club. How bereft and disconnected do those outside the circle feel, observing the easy confidence and unselfconscious commitment of those inside the circle. That envy can inoculate the seeds which germinate into aspiration, growing through ambition into achievement. Across all fields of endeavour, those who achieve at an elite level will often recall the very moment when their chosen field first touched their lives, often at a tender and impressionable age.

The Alpaca Youth Group has seen many kids come and go over the years since its formation, but it has also seen an impressive number come and grow. Graduates of the Youth Group already include a bank manager, a young lawyer, university students, and



owners and breeders of alpacas. This year's Youth Paraders judge was, herself, a youth parader only a year or two ago.

Some who joined in junior high school are now facing their HSC. Of those, some are choosing a career that will take them into agriculture or veterinary science. And still others have gone on to become apprentice judges of halter classes, or students of Rural Science and Agriculture. All have drawn inspiration and confidence through their involvement in the Alpaca Youth Group, designing and convening its competitions, administering its committees, and training and mentoring its newer and younger members.

So why Alpaca Youth?

Well, to begin, it's fun for the members, the parents of those members, and the AAA members who are variously their teachers and mentors. It is an inclusive, not exclusive, way for kids to engage in the alpaca industry. For those studs embracing the role of mentorship, the kids are extra hands on farm and at shows, ambassadors for the studs (as well as the industry), and frequently establish their own herds as daughter studs of the mentor stud. For the AAA, it draws in new memberships from mums, dads and their kids, as well as from those schools which take on alpacas as a part of their school agriculture programme. Furthermore, the requirement that all alpacas shown be registered with the AAA brings in new registrations of both animals and studs. The natural progression and evolution from alpaca youth to alpaca adults means that we have a process of succession in place, drawing upon experienced and knowledgeable breeders to take office at regional and national levels. As adults, these owners and breeders will be both buyers and producers, contributing to the growth and development of the industry.

None of this is new, of course. The horse, sheep and cattle industries were early to recognise the importance of succession, and have long since established their own youth groups and competitions to underpin their more mature industries. So when next you hear someone dismissing Youth Paraders as a dog show, a circus or an obstacle course, stop to consider the crowds of eager public who were drawn to the Monroe pavilion to watch the youth event, and how better to attract new entrants to the industry, and then to train, educate, and market to them. They deserve your support and your congratulations for what they have brought to the alpaca industry, and for their achievements both within the showing, and within the industry at large. Kids, we salute you!

Sydney Royal Show's Natural Fibre Showcase Alpaca Exposition

By Janie Hicks

For the entire 14 days of every Sydney Royal Show, alpaca products share the limelight in the Royal Agricultural Society's *Natural Fibre Showcase*. This presentation is currently the only fashion parade featured in the Sydney Royal Easter Show, and alpaca shares the footlights in a fabulous presentation of light, music and colour with their cousins in mohair, cotton and wool.

With support from the Australian Alpaca Association's promotional display, and a brilliant line up of enthusiastic volunteers drawn from alpaca breeders, Youth Paraders, veterinary students, & the omnipresent representatives of Menai and Vincentia High Schools, there is a fantastic interactive exposure of our industry to thousands of show visitors.

Our alpacas are a fabulous hit with the public, who queue in their hundreds to have their photos taken cuddling an alpaca. The alpacas chosen for this duty are veterans of many such shows, and feature in tens of thousands of photos treasured by their delighted subjects, now adorning walls across Australia, China, Japan, and Europe.

But not all natural fibres come on such amenable and enchanting animals, and none parade so willingly and handsomely on a lead as our alpacas. Only the alpaca will allow itself to interact in this way with an unfamiliar public, and only the alpaca gets to strut its stuff on the catwalk alongside the models who wear their fleece. Uniquely visual to every visitor, day after day, our alpacas work hard to represent us, showcasing also one of the most elite, commercially viable natural harvests of the world.

Children and adults alike are entranced by these gentle and intelligent creatures gently weaving their way quietly through the crowds, drawing in the passing multitude to marvel at the fashion parades held four times daily. Their ears forward, they look curiously at every new introduction, leaning forward to be photographed cheek by jowl with yet another showgoer who has never before handled an alpaca. These alpacas are trained to their job, and do not kick or spit or take fright, and are equally at ease with their handlers and admirers, much like police horses in traffic.

Alpacas mount the catwalk with their models, strutting their stuff under such famous Designer labels as Beatriz Canedo Patino, who has clothed celebrity in Alpaca from New York to Paris.

But it's not only in the Natural Fibre Showcase that alpacas make their presence felt. Alpacas make another impact at each of the three Grand Parades throughout the Sydney Royal Show, leading the entire parade of champion livestock into that massive arena, beneath the watchful and wistful gaze of country and city folk from across the nation. The first such parade is under the dignified gaze of the Governor on the occasion of the Opening of the Show; the next, three days later on Excellence in Agriculture Day. The climax is on the Easter Weekend, with a full contingent of show alpacas delighting the crowds.

This fabulous exposure of alpacas to the wider public is made possible only through the support of the RAS and the AAA, and their many volunteers, who deserve our thanks and gratitude. Particular mention must be made of the students of Menai and Vincentia High Schools, whose dedicated role it is to exercise, feed and care for the animals throughout the show, and to their charges, the practised stable of Coolawarra gentlemen: Rugerforce, Pizarcy, Mr Vale, Dynastic, Mascot, Darvenezia, Indi, Pemberley Prince, Elica, Pitti, Ricciman, Hunter and High Jump, all of whom captured the hearts and minds of the young and young at heart in their daily performances. To all who contributed, a heartfelt thank-you from the Australian alpaca industry.



Canberra

ROYAL

By Jess Sachs – RNCAS Councilor and Convenor

I hope all the exhibitors had an enjoyable weekend at the 2016 Canberra Royal Show.

Entries were down in both fleece and halter with multiple factors contributing including the dry and hot weather most have been experiencing. I'd like to thank all the exhibitors who entered as it takes considerable effort in these times to prepare fleeces and animals.

While low suri numbers are an ongoing issue, I'd like to thank the suri breeders who came regardless, as its important to showcase our industry to its full. It was great having a full best in colour in the fleece section for suris although coloured huacaya fleece entries were down.

I'd like to take this opportunity to thank all the stewards and volunteers of this section. The time that they all put into the show is remarkable and it's always a pleasure to work with such competent people.

To all of our sponsors, your contribution to the running of the show is highly appreciated by the RNCAS and I hope also, by all the exhibitors. It ensures that we can keep entry and pen fees reasonable and ensures that the alpaca section remains viable. There are many areas with sponsorship available, so if you are interested in sponsoring anything, please get in contact.



Supreme Huacaya - Alpha Centauri Kittery - Alpha Centauri



Supreme Suri- Birrong Charlotte - Birrong Suri Alpacas

A massive thank you to our Premier Sponsors Karen and Andrew Caldwell from Wyona Alpacas and Julie Wilkinson from Baarrooka Alpacas.

I'd also like to thank our judges, Karen Caldwell (fleece) Kylie Martin and Natasha Clarke (halter) and Andrew Munn (schools competition). Your experience and commitment to your judging positions is invaluable.

We hope that Canberra continues to be an enjoyable and relaxed event for all and encourage all breeders big, small, new and old to attend.

I wish you all the best for the show season and look forward to seeing you all again next year.

Huacaya Supreme - Alpha Centauri Kittery - Alpha Centauri
Suri Supreme - Birrong Charlotte - Birrong Suri Alpacas
Huacaya Fleece Supreme - Monga Khan - Monga Alpacas
Suri Fleece Supreme - Baarrooka Durango's Juliaca - Baarrooka

Alpaca Myths 2

SD or CV - What's it to be?

By Cameron Holt

The usefulness of using CV in alpaca breeding programs is very limited.

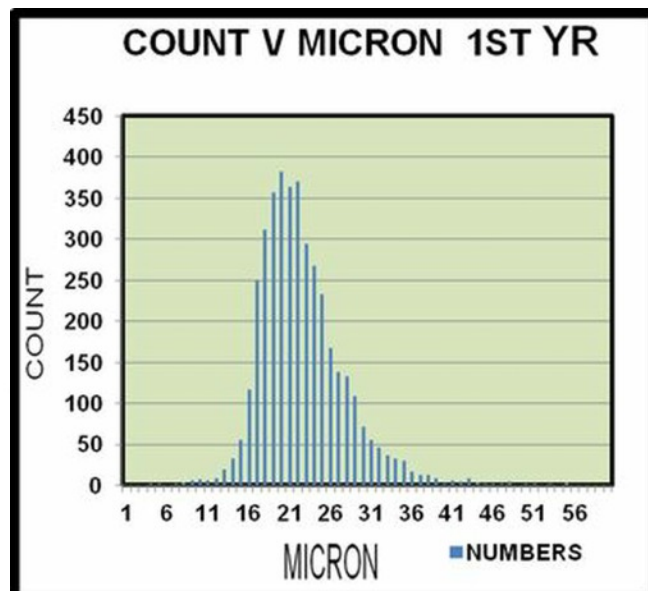
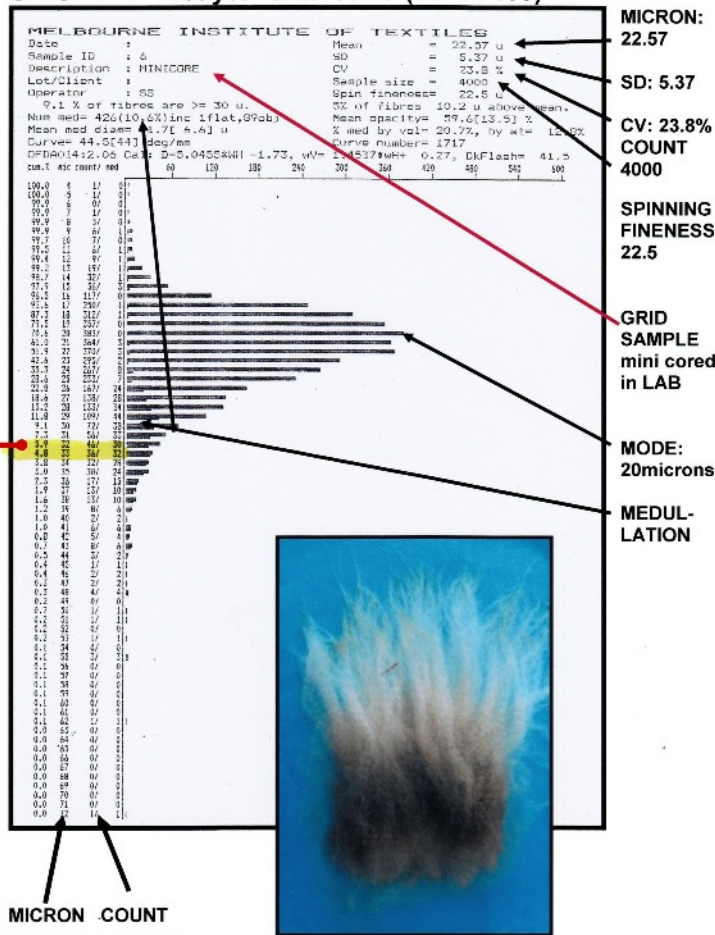
NO ITS NOT!!!!

In the breeding sector of the industry, Standard Deviation, CV and Spinning fineness (SF) can be used in the breeding program.

To demonstrate the interaction of blowout on alpaca fibre over 3 years I have taken an original histogram and original fleece from which this test was created and made some estimated assumptions based on current data.

HISTOGRAMS

ORIGINAL: 1st year test result (OFDA 100)



GRAPH	1 YEAR	2 YEAR	3 YEAR
COUNT	3998	3996	3996
MICRON	22.55	24.81	26.05
SD	5.28	5.81	6.09
CV	23.4	23.4	23.4
MODE	20	22	23.1

In my assumptions I have used the American method of sampling (butt cut, where the sample has been taken 1cm from the base of the staple). Using this method removes the discrepancy we have with the normal Australian testing which has been described earlier. A 10% blowout has been used between test 1 and 2 and a 5% blowout has been used between test 2 and 3 for ease of calculation.

It is accepted that fleece blowout is a percentage change not a micron change overall. As we discussed earlier the fibre structure has a large range of microns growing within the skin unlike the synthetics which might only have fibres of 3 or 4 different microns. When the fibre blows out 10% then all the fibres growing on the alpaca would be expected to increase by that percent. If you look at the graphs 1, 2 and 3 and the spread of the base in each this phenomenon is clearly shown.

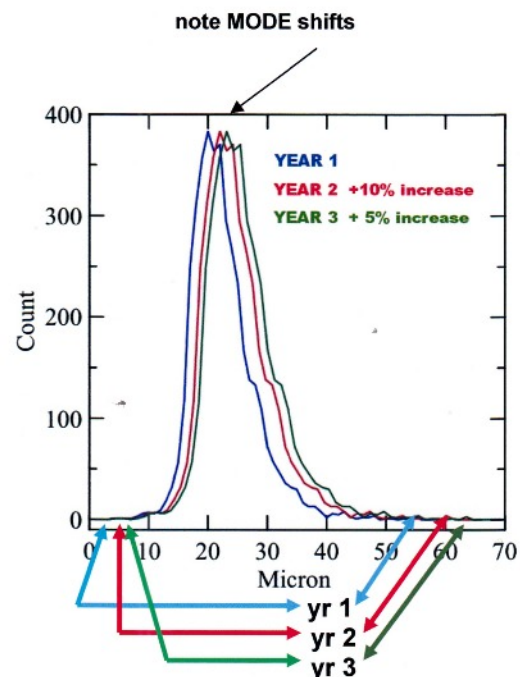
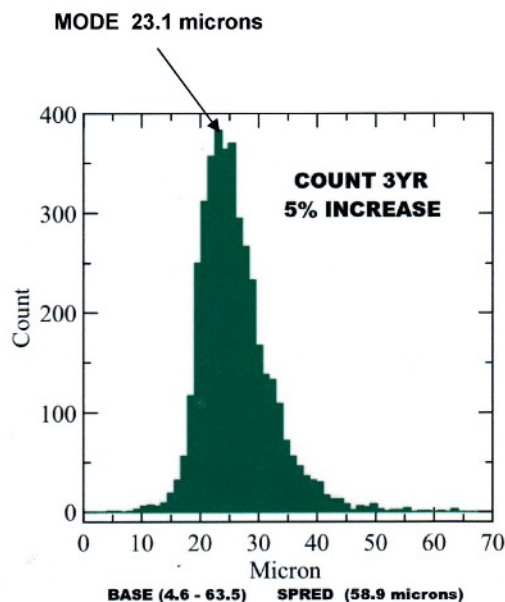
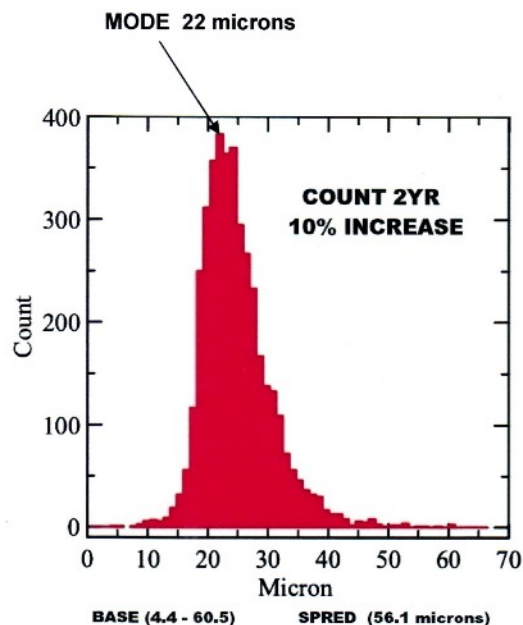
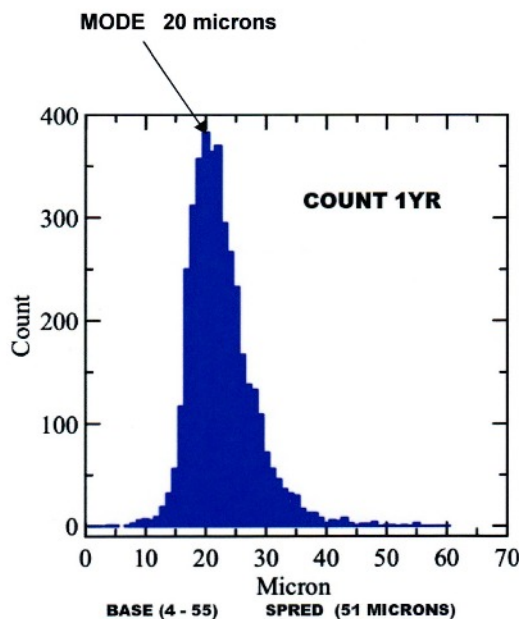
You will notice in this theoretical example that when the micron changes the SD increases, however the CV remains the same. In our theoretical example it is easy to mathematically have that CV the same because we have not had the effect of:

- Pasture
- Sickness
- Genetics
- Sampling and testing variations
- Stress
- Parasite infection

In normal fleece measurements these areas listed affect the final data from year to year on each animal. Blowout is also dependant on the health, nutritional intake, age/body weight as well as pregnancy. Taking all these into consideration sampling and testing variation can have the CV floating around the 2 % variance, however the Standard Deviation will get larger with micron increase. THAT IS A FACT.

CV or better still, spinning fineness is a great tool to monitor your alpacas and CV basically does not alter much over the alpaca's life and it's easy to remember what's a good percentage. Buying animals based on SD, CV or SF alone is dangerous. Spinning fineness is a good measurement to compare alpacas within your herd because it combines micron and CV into one measurement.

PREDICTED MICRON AND BASE SPREDS OVER 3 YEARS



Getting back to the standard deviation, if you were running a herd of 18 to 25 microns say and you decided that you were going to only select animals of a standard deviation below 4.5, you could end up culling those good animals of a slightly stronger micron which may be needed to put frame and fleece weight back into the herd. This is very clear if you look at the general data in the document which displays the standard deviation at each micron point. Whereas if you were trying to breed an ultra- fine herd of 16 to 19 microns you could probably set your SD at 4.5.

This is all hypothetical as so much more is in the breeding selection traits required for evaluations.

Assessing micron on its own and not taking into account any form of variation of micron throughout the fleece could create the wrong result you are looking for. Conversely, measuring variation, SD, CV or SF and no micron is also an unwise approach.

Imagine a 14 % CV was obtained from a fleece of one of your alpacas. If you were to jump up and down and say that this is fantastic, it certainly would not be if your micron was say 32 and you are trying to breed a herd average of say 22 or 23.

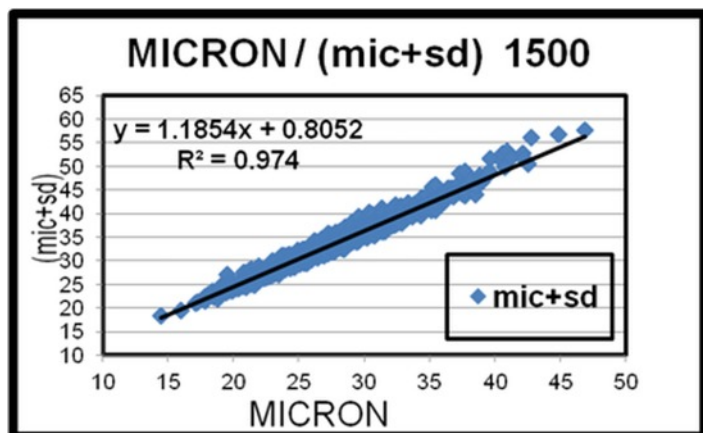
These measurements for micron and variation must go hand in hand and whether you use SD, CV or SF in your assessment it is up to you the breeder based on your research.

SOME BREEDERS USE:

SCORE OF UNIFORM MICRON (SUM) *(Bob Kingwell 2012)*

This is the sum of the average fibre diameter (FD) and the standard deviation of fibre diameters (SD) of a fleece sample.

E.g.: FD 22.57 + SD 5.37 = Score of uniform micron SUM 27.94

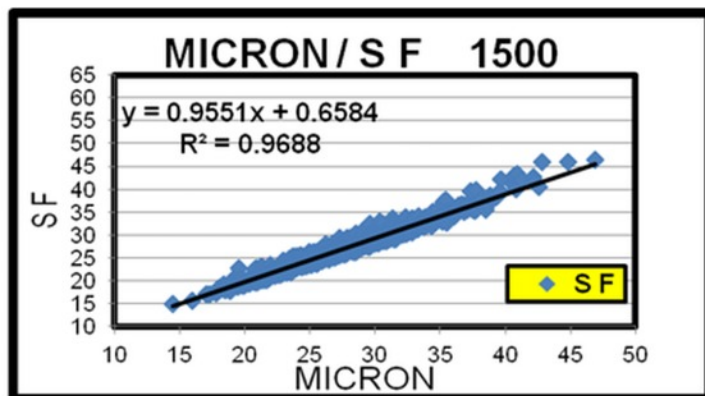


Average of 1500 Alpacas

SPINNING FINENESS (AWTA)

E.g.: Mic 22.57, CV 23.8 = SF 22.5

The CV and SF are already calculated in your test result. CV is derived from the use of the SD and micron. SF is derived from the use of the CV and micron



Average of 1500 Alpacas

SCORE of SPINNING FINENESS + CEM

Eg: SF 22.5 +CEM 9.93 = Score 32.43

There are two measurements for coarse edge

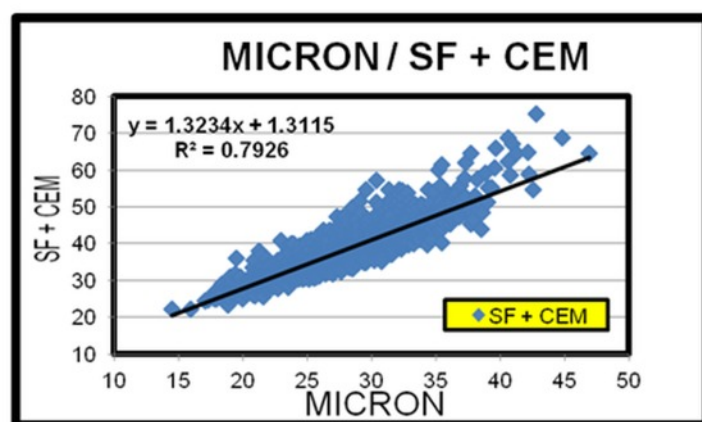
1. CEM
2. CE

To calculate the "CEM" when it has not been assessed use the following formula:

CEM (Coarse edge micron): (assess 5% of the total count , asses micron at the coarsest 5% and subtract the mean micron = CEM)

EG: 5% of 4000 counts from the coarse end = 200 counts which is 32.5 microns. 32.5 - 22.57 = CEM of 9.93.

79% predictability



Average of 1500 Alpacas

To calculate the "CE"

CE (Coarse edge): The percentage of fibres that lie over 10 microns greater than the average fibre diameter.

EG: mean micron (22.57). 10 microns greater than the mean (32.57).

In this example the "Coarse edge" for both are about the same.

This is not always the same. This reading can vary particularly in cases with the very even "super fine" fleeces.

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alpaca 2016



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**Alpaca Association
NEW ZEALAND**

I have I examined a large number of histograms and make these comments:

1. Not all testing houses record CEM or CE. They also vary in the way they express the fibres recorded, e.g. counts or percentages.
2. Where count is recorded and no CEM it can be estimated according to the formula previously mentioned.
3. Where no count is recorded or even no percentages as well, the CE can be used as mentioned above using the micron. It was obvious through all the histograms I looked at which had a good spread of microns, the CEM and CE over the micron range were not that far apart. Considering that this is an estimation assessment I believe either could be used subject to the information before you.

PRIMARY AND SECONDARY FOLLICLE/FIBRE AVERAGES

Looking at the Data below you can see where the "coarser primary / Guard hair" fibre falls. (515 Huacaya's from the USA and Australia 2009.)

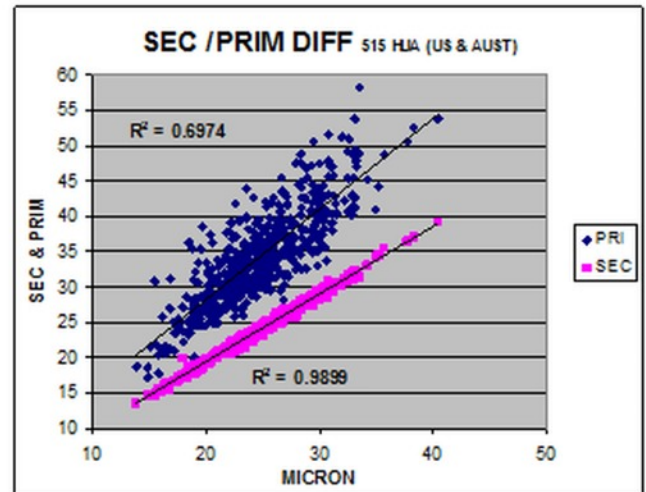
The primary fibre (alpaca & guard together) is on average in the coarsest 30% of fibres in each individual fleece. The CEM (coarsest 5%) and CE (The % of fibres that lie over 10 microns greater than the average fibre diameter), would account for the coarsest fibres, mostly Guard hair presumably. This should be used in conjunction with a visual inspection. Guard hair is usually the coarsest fibre in a given fleece and has been seen down at 17 microns in an "ultra fine" alpaca fleece

NO	S/P	DEN sqmm	DP	DS	DIFF DP/DS	%DIFF prim	%Sec To prim	AVE MIC
M1	12.5	61.3	28.9	18.2	10.7	0.37	0.63	19
M2	13.5	67.3	18.7	13	5.7	0.3	0.7	13.4
M3	8.6	57.5	21.9	16.5	5.4	0.25	0.75	17
M4	9.6	52.8	18.7	13.5	5.2	0.26	0.72	14.9

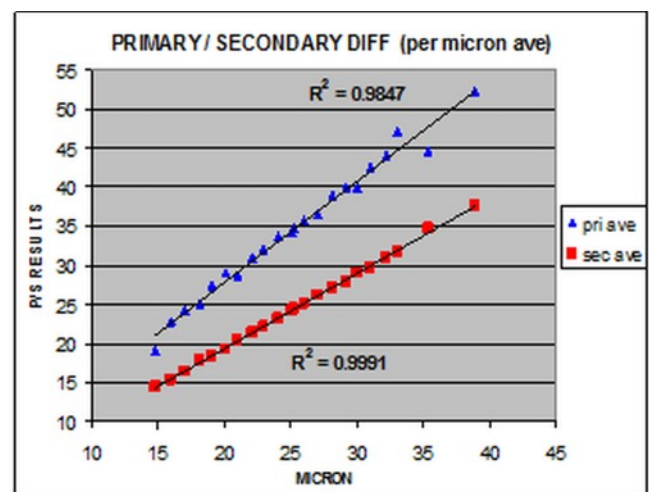
Example of finer micron data

In the first graph top right you can see the difference between primary and secondary follicle fibres.

The second graph shows the averages per micron for the same fibres. (*Holt, Evans Watts 2009*)



The chart below shows averages from 515 skin measurements. These show the differences between primary and secondary fibres. The primaries could be guard hair or alpaca fibre.



YOU SHOULD USE THE MAIN DATA AND TRAITS FOR FLEECE EVALUATION, NOT JUST ONE OR TWO CHARACTERISTICS.

EG:

MICRON

CV/SD/SF

CEM (5% of the total count, asses micron and subtract the mean micron = CEM)

CE (The % of fibres that lie over 10 microns greater than the average fibre diameter).

EVENNESS (refer sd/cv/sf - visual inspection)

LENGTH (micron related - 12 months measure)

DENSITY(micron related)

FLEECE WEIGHT (micron related - annualised)

STYLE & CHARACTER (visual inspection)

BRIGHTNESS (visual inspection)

GUARDHAIR (visual inspection)

mic ave	den ave	S/P ave	pri ave	sec ave	diff P/S ave	%diff to P ave	% S to P ave
14.78	73.48	10.90	19.13	14.38	4.75	24.37	75.63
15.99	73.66	9.67	22.84	15.31	7.53	30.88	69.12
17.00	78.36	10.37	24.27	16.31	7.96	31.28	68.72
18.11	63.77	10.57	25.05	17.75	7.30	28.78	71.22
19.12	54.62	10.93	27.42	18.38	9.03	31.81	68.19
20.10	54.44	11.23	29.10	19.33	9.84	32.87	67.43
21.01	51.57	11.51	28.71	20.36	8.36	28.45	71.55
22.13	47.97	10.73	30.97	21.33	9.64	30.47	69.52
23.00	48.40	10.49	32.00	22.15	9.84	30.00	70.00
24.03	47.75	10.79	33.62	23.12	10.50	30.46	69.54
25.10	42.58	10.44	34.24	24.20	10.04	28.71	71.29
25.29	48.71	10.27	34.73	24.41	10.32	29.06	70.95
26.06	42.45	9.93	35.74	25.11	10.63	29.10	70.90
27.02	43.41	10.96	36.49	26.16	10.33	27.23	72.77
28.11	40.29	10.11	38.93	27.05	11.87	29.49	70.51
29.15	38.12	9.95	39.99	28.03	11.96	29.06	70.94
29.98	39.23	9.86	39.79	28.99	10.80	26.46	73.54
31.01	37.91	8.66	42.53	29.67	12.86	29.38	70.62
32.18	38.06	9.88	44.08	31.02	13.06	29.01	70.99
33.09	33.05	9.29	47.22	31.61	15.61	32.27	67.73
35.33	38.77	9.50	44.73	34.73	10.00	22.03	77.97

(Holt/Watts /Evans 2009)

All selection schemes, like SRS breeding system, group breeding schemes, progeny testing and schemes like the "Across-herd Genetic Evaluation" (AGE) system (T8), all use the above or some of the above criteria in their evaluation programs. It is important that you select the one which suits you and stay with the same fleece testing service for continuity of results. In my book "A Definitive Guide to Alpaca Fibre" I show the variations which can happen across different test houses and machines on the same tested fleece.

THE SECOND YEAR FLEECE IS THE BEST TO EVALUATE FOR ALPACA SELECTION

NOT FORGETTING THE POLYESTER

Further to my comments early in this article, it would be remiss of me if I didn't give you a very basic understanding of how polyester yarn is created.

What are Polyester fibres?

They are classified as synthetic fibres, derived from coal and petroleum through chemical reaction.

Types - Generally available in two varieties:

PET - most common in the industry

PCDT --Used for heavier fabrics such as draperies and furniture coverings

Manufacturing Process

As mentioned the molten polymer is extruded through spinnerets (similar to a shower head) and the issuing filament/s are subsequently drawn into the desired polyester fibre.

The spinnerets can have holes of different sizes and shapes e.g. from 12 to 192 holes and shapes such as round, trilobal through to octalobal to yield lustre, opacity, wicking etc. Spinnerets can extrude either mono or multifilament's.

Fibre size

Monofilament - is a single filament fibre with a denier greater than 14. (One denier = 10 microns).

Multifilament... is a yarn produced by filaments each being much thinner than 14.

Micron is decided by the size of the hole in the spinneret and the amount of stretch applied to the filament when it is extruded from the spinneret.

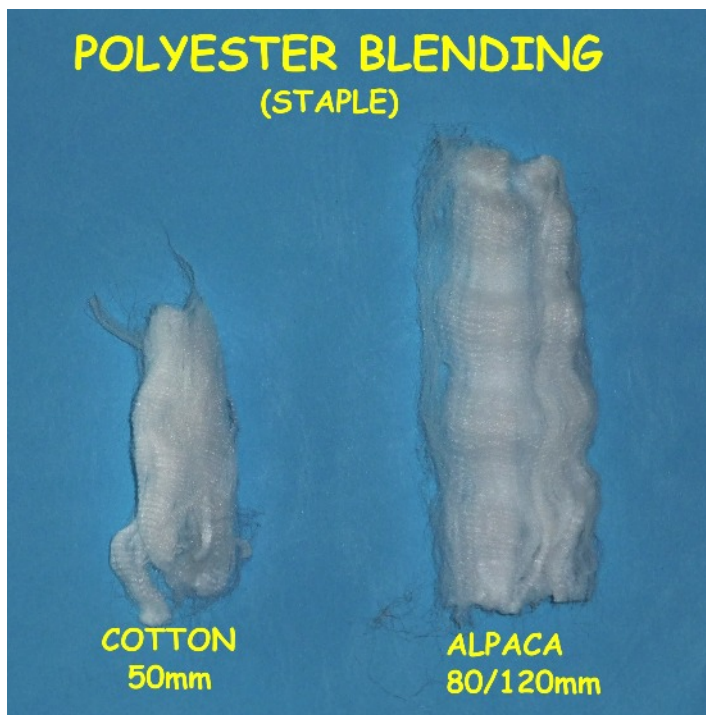
Some processes to create yarn are:

Filament - These start as a continuous individual strand of filament coming direct from the spinneret. Filaments from their individual spinneret are normally similar in size.

Staple - Is when the filament is cut into various lengths as required for blending with other fibres. The main fibre blended with polyester is cotton (usually cut into 50mm lengths). When blended with alpaca it is in the range of 80/120mm (F23).

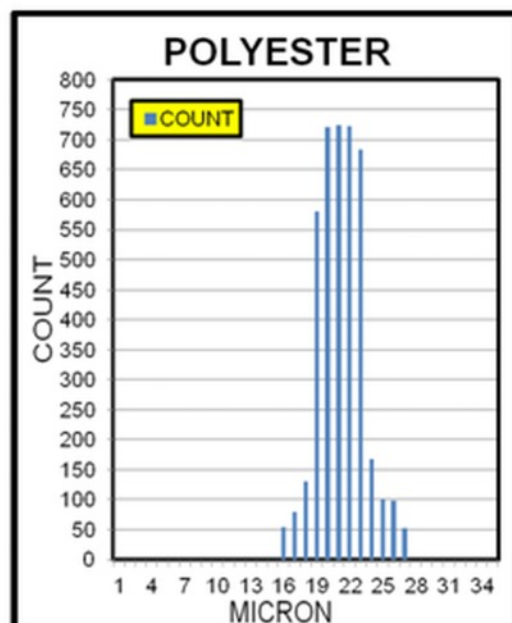
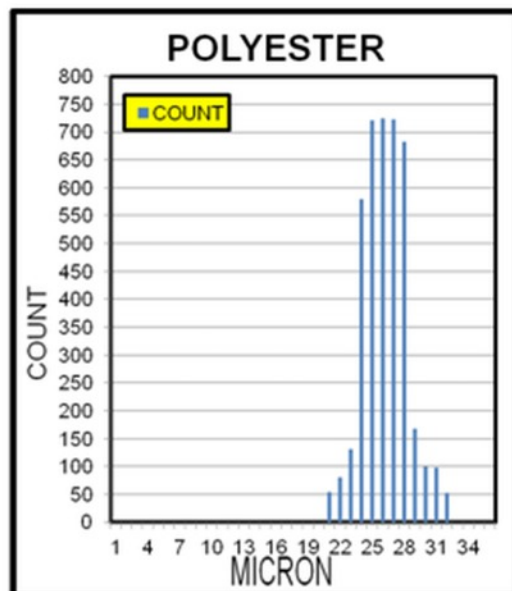
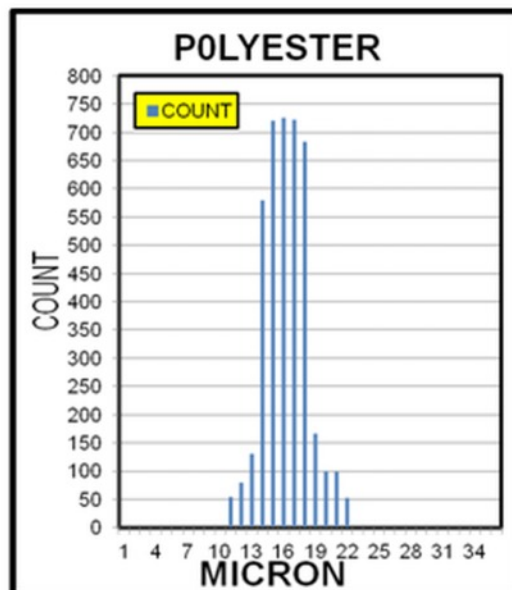
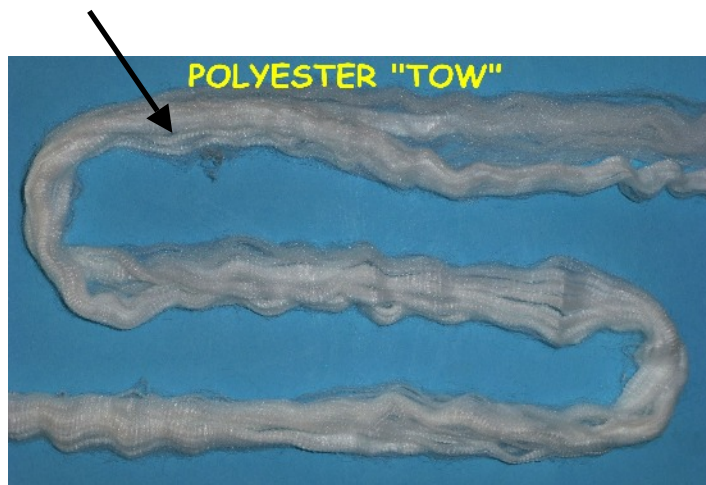
Tow - This is a continuous grouping of loosely formed filaments similar to a slither from a carding machine used in the alpaca processing industry.

Polyester does not absorb moisture, is strong (not brittle) and shows resilience in the fibre.



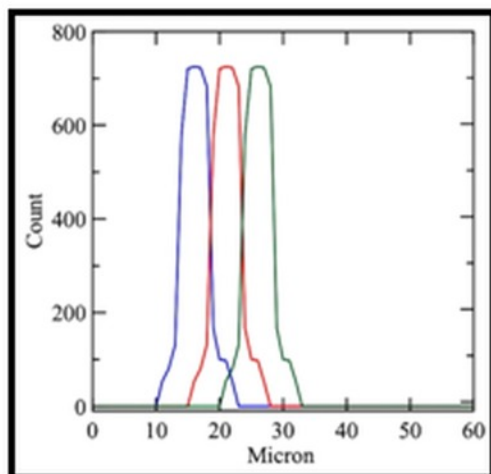
Here is a comparison of three micron averages created with the same variation and base spread, increasing in 5 micron increments, to simulate changes in spinneret sizes.

The original sample was cut from a "TOW" (Sliver) of polyester.



POLYESTER DATA BREAKDOWN

GRAPHS	1	2	3
COUNT	4115	4115	4115
MICRON	16.23	21.23	26.23
SD	2.07	2.07	2.07
CV	12.73	9.73	7.88



Further information on measurement and processing can be found in my book, **"A Definitive Guide to alpaca fibre"**

CONCLUSION

I hope this article has explained some of the misconceptions which float around our alpaca industry. The data in the breakdown of colours clearly shows that the lighter colours are finer. In some recent figures I have looked at the dark colours are slowly fining up in their averages but the differences are still there. Using the data from the mid 2000's enabled me to get a good spread of information because of the volume of tests.

Alpaca, huacaya and suri, like the merino sheep and angora goat is the factory that produces their fibre. It is controlled by genetics and can be altered by outside conditions and sickness, and like I have said a number of times these fibres are "living". Synthetics however are a scientifically and mechanically man made product with set specifications which have no overall interferences. Polyester is an "engineered" fibre.

I close with this - Mathematics may not be what they seem. When $1 = 2$. An alpaca farmer named Bill died leaving his 17 alpacas to his 3 sons. When his sons opened up the Will it read:

My eldest son should get $1/2$ (half) of total alpacas;
My middle son should be given $1/3$ rd (one-third) of the total alpacas;
My youngest son should be given $1/9$ th (one-ninth) of the total alpacas. As it's impossible to divide 17 into half or 17 by 3 or 17 by 9, the three sons started to fight with each other.

So, they decided to go to Bills mate, Cameron, also an alpaca breeder, who they considered quite smart, to see if he could work it out for them. The farmer's friend read the Will patiently, after giving due thought, he brought one of his own alpacas over and added it to the 17. That increased the total to 18 alpacas.

Now, he divided the alpacas according to their father's Will.

Half of 18 = 9. So he gave the eldest son 9 alpacas.
 $1/3$ rd of 18 = 6. So he gave the middle son 6 alpacas.
 $1/9$ th of 18 = 2. So he gave the youngest son 2 alpacas.
Now add up how many alpacas they have:
Eldest son 9, Middle son 6, Youngest son 2, TOTAL IS 17.

Now this leaves one alpaca over, so the farmer's friend takes his alpaca back to his farm. "Problem Solved!" There are 2 morals to this story.

Moral 1: Mathematics does not always work with alpaca's .
Moral 2: The attitude of negotiation and problem solving is to find the solution and the first step is to believe that there is a solution. If we think that there is no solution, we won't be able to reach any! However that's definitely clever Mathematics.

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- Ergonomic slim grip handle
- Cutting speed 2500db/min
- Fitted with Ovina Comb and Diamond Cutter

EVO

Shearing Plant

- Integrated safety cut out helps eliminate dangerous lock ups
- Durable high performance 400W motor
- 3 speed motor 2700 (alpaca speed) / 3200/ 3500 rpm
- Soft start increases handpiece life and reduces wear
- Unique electrical downtube insulation technology
- Comes complete with motor unit and 200cm flexible down tube*

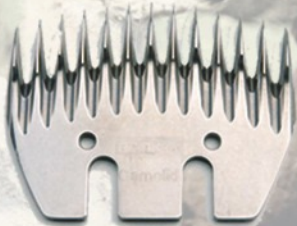
*requires Icon mechanical handpiece

Camelid Comb

This specialist comb is designed for shearing alpacas, llamas, and other members of the camelide family. Leaves a cover of 6mm to 10mm of fibre. Used in conjunction with a standard shearing cutter. Suitable for all skill levels.

Ovina Comb

A multi purpose comb. The convex design ensures quick and easy fibre entry delivering maximum safety while avoiding nicks and skin cuts. For the advanced Alpaca shearer only.



* Icon not included - sold separately

Heiniger

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Shearing is not just for sheep. Many people shear alpacas to get them looking trim and terrific for shows and competitions and also for comfort and management of the animal.

Heiniger offers a full range of shearing handpieces, camelid combs as well as cutters for the shearing of Alpacas and Llamas.

A full range of Heiniger accessories is also available and can be purchased from your local rural merchant.

We also offer professional repair and sharpening service by our qualified technicians available from our workshop.

To make your Alpaca shearing experience as easy as possible here are some tips on how to make sure your shearing handpiece is well maintained and your shearing combs and cutters are sharp – this will ensure that your alpaca/s are more comfortable during the shearing process, and its coat is well presented.

- * A clean animal will ensure longer comb and cutter life.
- * Keep the air vents of your Heiniger shearing handpiece clean and free from hair with brush supplied to avoid overheating.
- * Lubricate the head of your shearing handpiece often with a good grade oil (such as Heiniger Special Clipper Oil) to reduce wear and reduce heat.
- * Don't over-tension your shearing handpiece by screwing the tension screw down – this will cause heat and your comb and cutter will lose their edge quickly.
- * Always use correctly ground combs and cutters, as this will extend life and to be sure your animal has the best possible experience during shearing.
- * Be sure to clean and lubricate your shearing handpiece (head and vents) after each use.
- * Have your shearing handpiece serviced regularly, and replace any worn parts, so it will run and cut correctly at every shearing.

We are happy to provide additional information regarding the Heiniger range of Alpaca shearing equipment.

We can provide specialist advice and technical assistance on both gear and Alpaca shearing with a reference video of our Alpaca shearing specialist Kevin Gellately, as well as our servicing guide for our shearing handpieces.

If you would like some of this additional information for a minimal cost contact us on the contact details below and make your next Alpaca shearing experience the best for both You and Your Alpacas.

Email: sales@heiniger.com.au
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Regards
The Heiniger Team



A group of alpacas of various colors (white, grey, brown, black) are standing in a lush green field. In the background, there are trees and a fence. The scene is bright and sunny.

Choice, Quality
Affordability

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