

ALPACAS AUSTRALIA

The official publication of the Australian Alpaca Association Ltd

Included inside this issue:

- * The birth of a logo
- * Emerging colours in alpaca
- ✤ All about liver fluke

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2012

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2007 Mic 16.1 SD 3.1 CV 19.4 CF 100% 2008 Mic 16.1 SD 3.1 CV 19.4 CF 100% 2010 Mic 22.1 SD 3.9 CV 17.6 CF 96.5%



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2002 Mic 21.71 SD 3.9 CV 17.97 Fleece weight 7.64kg 2004/5 Mic 24.20 SD 4.1 CV 16.9 2007 Mic 27.60 SD 4.2 CV 25.7 2010 Mic 29.2 SD 5.0 CV 17.2 CF 66.2a



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2010 Mic 23 SD 4.3 CV 18.9% CF 94.1%



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2010 Mic 19.2 SD 4.1 CV 20.2 CF 98.2

2

Publisher

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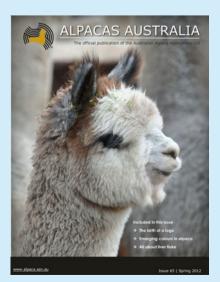
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Cover: Photo by J Farman Flowerdale Alpacas

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President's Message

Welcome to this edition of your Alpacas Australia Magazine. The magazine covers a wide spectrum of activities, including animal health and welfare, showing and judging and end products. These regular features are certainly of interest to all and I congratulate the magazine team for sourcing and compiling such an excellent range of articles for us to read.

Esmé Graham in her volunteer capacity as AAA Magazine Editor is available to receive articles and photos for use in the future editions of the AAA magazine. Producing both a hard copy and an online version enables us to reach a wider audience and I encourage you to send your submissions to Esmé so that they can be duly considered.



The show circuit across Australia is in full swing and at my recent local show I had the opportunity to sit and remind myself of the many volunteers it actually takes to run this organisation and its many associated activities. I stopped calculating the actual number when I realised that more than half the membership across Australia is involved in some capacity. Whilst we may not always be in total accord with one another, I do believe that we are always on the same page albeit in some instances either at the top or bottom of said page. Are our differences in page positions normal? Absolutely, and it's healthy because what matters is that we are on the same page and are all there for the same reasons - to promote, support and advance our industry.

The industry will lose, in the coming years, many memberships due to the age factor. These members began their alpaca journey when the AAA first came to exist. I wish all many happy hours in their retirement activities and thank them for their untiring efforts to make this industry one of importance. I trust that as they sit with their alpaca blankets around them, that they will reflect on the many hours of enjoyment they have experienced at the numerous AAA shows and events they attended. They can be assured that those of us who carry on will do so with the knowledge that as retired members, they will forever remain part of our history.

The AAA magazine itself has a history and this issue will become part of those historical records. I commend it to you.

Kind regards

Jenny M'auliffe

Jenny McAuliffe AAA Ltd. President

From the Editor

For the past three issues of Alpacas Australia (two online, one printed and online) we have had a small magazine committee to work on articles. This panel has now been expanded and I should like to thank Julie McClen and Debbie O'Neill for their input on all these magazines. Debbie has now stepped down and we welcome the addition of Carl Di Stefano, Leanne Tunny and Alan Fisher to the panel for this latest magazine.

In this issue we have two articles for our new breeders. One on showing your animals and the other on cria care. We hope our more experienced members will read these as a refresher course. Our next issue will have an international flavour with articles from Britain, and exporting alpacas from New Zealand, something to look forward to for Christmas reading.

Do you have an interesting story to tell? Are there any topics you would like covered in Alpacas Australia? Please contact me to discuss your ideas, I'd love to hear from you. Remember that this is your magazine and you are welcome to have your say. Comments on articles or letters to the editor are welcome. Letters are printed at the discretion of the editor and name and contact details must be supplied.





Bathurst Show Girl Alicia Fritsch with Supreme Huacaya Elysion Jupiter.

Alicia is the daughter of Michael & Helen Fritsch of Dural Alpacas and will be a great ambassador for the Bathurst Show and alpacas in particular.





National Conference in Adelaide 3rd-5th May 2013

Please pencil this date in your diary now - more information coming soon.



Deadline for articles & advertising Issue 66 8th October 2012.

Magazine Due – Early December 2012.

All editorial contributions should be typed and preferably submitted electronically as a "Word" document. Photographs should be digital, high resolution, sent as attachments, to ensure good reproduction.



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AWARD WINNING SURI ALPACAS

AAA History

Joy Walker AAA General Manager

The Birth of a Logo

From concept to design

"Any organisation needs to have a distinguishing logo or mark so people can recognise it at a glance"

Since its inception the AAA has had three logos.

The AAA has been sharing a logo with AAFL for some time and it was decided that it was time to have our own distinguishing features and so, the development of logo number four commenced.

A panel of members was formed to discuss our requirements and write a brief for a graphic design company. Graphic designers were appointed and so it began.

The creative process is not always easy and getting a logo from graphic design to a happy client can be fraught with problems.

Delays have occurred in ensuring that consultation occurs and that legal advice is sought and IP Australia contacted for registration.



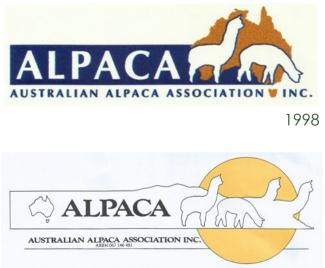
The shape of the alpaca caused many hours of discussion. Should it be just a head? Should it have a tail? Should it have legs? What colour should it be? Not to mention should it look like a Huacaya or a Suri!

In the end a stylised golden alpaca was born that fitted into the fleece shaped Australia.

It is very different from the previous logo. It's vibrant and bright and is recognisably Australian. *



2003



First Logo

Colour Genetics

Joanne Ham - Appaloosa Denise Moysey - Grey Adrienne Clarke - Brindle

Fancy Coloured Alpacas

Emerging colours in alpaca fibre

The Appaloosa

It was not by accident that I started my journey of breeding with fancy appaloosa alpacas, although, at the beginning of it all, I had no idea they even existed.

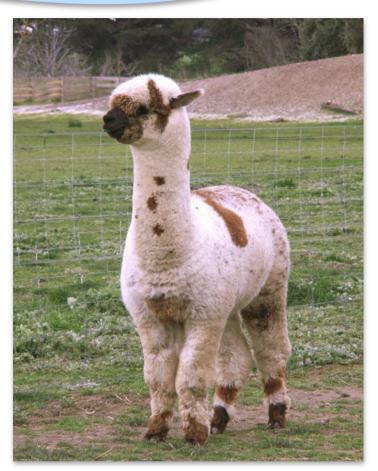
Visit my farm and you see spotty dogs, cats, sheep and horses. My old appaloosa mare (age 30) is all that is left of my breeding of appaloosa horses, so I was thrilled when I stumbled across spotted alpacas and knew that in some way, they would be part of my breeding program.

The breeding of appaloosa alpacas is as challenging as it is rewarding. It is a really difficult colour to breed (especially, it seems, by design). It was initially thought that simply by mating two appaloosa parents together the offspring would also be spotted but, although this can happen, it is often not the case. I have done this with two different dams and the same male, repeating each mating twice. One dam gave me brown with white markings for both crias and the other gave me appaloosa offspring, but with less spots than both parents! Time, I think, to investigate new ideas.

I have completed units in genetics at university and I can follow the language. I have looked at many models of inheritance and I have looked at what happens in horses. I have considered both incomplete dominance (ie white x red = pink) and co-dominance (both traits expressed) along with other modes of inheritance and I believe that the appaloosa pattern in alpacas is more complex than these simple explanations.

Even in well studied animals, such as horses, little is known about the genetics behind the breeding of appaloosas. Whilst I don't believe that appaloosa alpacas and horses are exactly the same, I do think there are some standout similarities.

Many theories abound and the following is my 'best guess' (with a little scientific research thrown in). I have based my ideas on alpaca observation and what is known about appaloosa horses.



There appear to be a number of characteristics which indicate an appaloosa gene is present in an apparently non-appaloosa alpaca.

The alpaca may show some, or all, of the characteristics.

As observed in alpacas:

1. Coloured banding above the toes on the coronet band.

2. Colour around the sweat glands on the legs.

3. Coloured markings around the mouth and eyes. Can be minimal or can be full face cover.

Observed in alpacas, known in horses,

4. Spotted skin and striped toes.

5. White sclera of the eyes (ie white in the front corner of the eye).



Effect of modifier genes in alpacas

Modifier genes also need to be present for the appearance of an appaloosa alpaca. These play a part in colour expression, similar to horses. In horses, the modifier genes are responsible for types of spotting, size of spots, distribution of spots and how many spots are present. This goes a long way to explaining patterns in appaloosa alpacas.

There also seems to be a link between the base colour of the alpaca and the size and distribution of spots. It seems that black spotting can only appear as small pinhead size spots through the fleece. There can be some larger spots as well, but the majority of the spots are small. Spots, both random in placement and size can appear in browns and fawns. The larger and more evenly distributed spots have appeared only in fawns to date.

In horses, the more extensive the size and number of spots, the more modifiers present. If this is applied to the alpaca, then it would appear that the large fawn spotted alpaca would have more modifiers present.

If the appaloosa gene is present (the one responsible for the characteristics), but the modifier genes are absent, all that you will see are the characteristics but no other markings.



This alpaca could then produce an appaloosa offspring, if mated to one carrying modifier genes.

If the appaloosa gene is absent, but the modifier genes are present, you will have a "solid-coloured" alpaca exhibiting no appaloosa characteristics. If this alpaca were mated to an alpaca carrying the appaloosa gene, then the offspring could be spotted.

If you have both the appaloosa gene and modifiers present you will see an appaloosa alpaca.

These ideas go a long way towards explaining:

1. Where some appaloosas come from in our matings of two solid coloured alpacas.

2. Why certain alpacas seem to be able to produce appaloosa markings even though they appear white.

3. Why appaloosa offspring appear most commonly in particular family lines.

Although some appaloosa alpaca births may not seem to fit the above, their seemingly random appearance can be explained by the following:

1. Coloured spots on the same coloured background. (ie Black spots on a black alpaca.)

2. The alpaca is exhibiting a dilution gene(s) and therefore appears to be white/light fawn.

I know of a number of such alpacas, and later in life they darken and their spots appear.

Joanne Ham - Rainbows End Alpacas.*



Solid Grey

Not impossible, just 'Invisible'! A personal odyssey began for me in 1995, the quest to breed a solid grey alpaca, but as sometimes occurs, when it actually happened it came as a complete surprise.

A lot of discussion has been had in recent years about what is a true grey and what is a roan alpaca. Does an alpaca need to exhibit the classic pattern of white face and light tuxedo to be considered a true grey? Are roans just a colour fault, are greys really just a type of multi anyway?

Personally, I suspected that a large part of the discussion problem stemmed from people's failure to recognise that grey and rose alpacas are really just roan variants. Alpacas do not have grey like in horses, which are born a colour and gradually grey and lighten with age (like human hair). The white face and tuxedo of alpacas is simply a pattern/marking gene and, although very commonly linked with the grey and rose colouration in alpacas, I couldn't believe that it was required in order to produce grey. (NB not all coloured alpacas with white fibres fit into the roan category however, and a white fibre colour-fault does occur, causing further confusion in the discussion).

Roan definition: (Wikipedia) Roan is a coat colour found in many animals, notably horses, cattle and dogs. It is defined generally as an even mixture of white and pigmented hairs that does not grey out or fade as the animal ages, therefore grey or rose alpacas fit this colour type. For example the silvery greys are variants of blue roan ie, basically black pigmented fibres with a varying % of white fibres.

A significant motivation for the pursuit of a 'solid grey' has been my strong belief that with colour variation comes change of fibre type and micron eg, the cream-shaded fibre on vicuna fawns is significantly different to the fawn saddle. Likewise, the white/light colour on the chest of greys is different to the main fleece. Logically, the more similar the colour, the more chance you have of similar fleece qualities. Marks and colour variations are not tolerated in other-coloured alpacas and they should not be tolerated in greys either. Furthermore, in the event that you did not get the expected grey progeny, but some other colour, the likelihood of undesirable markings in that animal is significantly reduced and the likelihood of solid colour is increased.



Even silver grey



Dark-headed dark grey



Solid black roan

Our luck has been to have two grey male bloodlines which combine well to produce even-coloured greys. The cross has also produced some dark grey animals with dark faces and solid roans.

Then came April 9th, 2012. At sunrise, scanning the birthing paddock through my binoculars, I could see that a new cria had been born overnight and was up, walking about amongst the girls, but, in the twilight of dawn, I couldn't make out the colour very well and it didn't get any more clear as I got closer. Or, more exactly, I couldn't believe what I thought I was seeing.

The cria had obviously not rolled about after its birth and the birth membrane had dried and was still wrapped tightly around its body like crisp tissue paper. For the first time ever my initial action was not to lift the tail to find out the sex of this new cria - it was to peel off the fine 'paper' in great excitement to discover what colour the bodyfleece was, because the head, neck and legs were evenly grey and, underneath that dried membrane, so was the body! Only then did I lift the tail, and, in another 'first' I was happy to see that this cria was male! Welcome to the world, Arcady Invisible.

So there he was, our first solid grey alpaca. ece at 10 week His colour is so even, so unexpected and unusual in the world of alpacas, that the general consensus from people who have seen him is, quite simply, WOW!





At 10 weeks

It seems unlikely that he is the first or only one of a kind, but he is most certainly very rare and we can only look forward to the future, and his potential progeny, with great anticipation.

Sire: Solid Black Roan

Grandsire: Even Light Grey

Granddam: Medium Grey with a couple of large dark marks, white sclera, throws roan or solid roan, not silvers.

Dam: Solid Black (not blue-black)

Grandsire: Rose Grey

Granddam: Solid White with coloured background

If you want to further challenge your thoughts on alpaca colour manifestations, consider the full sister to Invisible's SBLK roan sire.

She is a vicuna-shaded MBR roan with the classic white face marking of a grey, but also with some colour on her nose and white sclera in her eyes. She has already produced one appaloosa cria and one varnish roan patterned cria (also with white sclera) to the same SW sire.

Denise Moysey - Arcadian Alpacas 🛠

Newborn Invisible

Brindle - In between coat colour.

The challenge is to define brindle as an alpaca colour in terms of the existing scheme for colour classification of the Australian Alpaca Association.

The brindle colour appears to be a unique distribution of small stripes of dark fawn and black, a colour pattern that is commonly seen in certain breeds of dog (ie terrier, great danes etc).

With ultraviolet affected tipping from exposure to sunlight, the outer coat also develops a greyish tinge. As the fleece grows longer the colours become melded together, and the pattern of markings displayed at the skin become less obvious. On their muzzle is typically displayed some muted shades of grey, black and dark fawn.

Shear the brindle alpaca and its fleece resembles the colour of a pile of fur that remains after two possums have been fighting. Shearing, however, reveals on the alpaca's body, the remarkable brindle patterning of the coat.

The dilemma of colour classification is encountered firstly by the breeder of the brindle alpaca, and if entered at an alpaca show, the inspection stewards posed with the responsibility of colour checks and classification. Initially we had the inspection stewards wanting to place the brindles into the roan class as their fleece, rightly so, is a composite of at least two shades, black and dark fawn, and possibly also grey.

But a roan by the AAA classification must have white fibres as its secondary shade, so a brindle cannot be a roan. Alternatively, place the brindle in the fancy class, as its fleece is not of solid colour.





Other exhibitors in the fancy class will glance with confusion, as from a distance, the varying colour pattern of the fleece is muted together and the brindle appears to be of solid colour. This is not consistent with the other patchy or appaloosa alpacas that typically comprise the fancy class.The complexity of the coat colour is paralleled by its uniqueness, so very rarely will the brindle owner need to ponder over the registration of its coat colour, or the inspection steward scratch their head over the appropriate class in which to include the brindle exhibited at a show.

More and more, alpacas are being embraced for the diversity expressed in their coat colour. Appaloosas are gaining significant momentum as a distinct colour class, and the 2012 National Show in Adelaide (October, 2012) will see a one-off award of Best Appaloosa, sponsored by Popham Alpacas (Cornwall, UK). Popham have been breeding appaloosa alpacas in the UK for a number of years. The passion for appaloosa alpacas is certainly not unique to the Australian alpaca breeders, with recognised breeders also in New Zealand and the US.

The coat colour of the appaloosa alpacas also falls in between the classification of colour, as roan or fancy. In blanket appaloosa, the distribution of mixed colour can be very evenly distributed, with white as the secondary colour, yet the blanket appaloosa is not classified as a roan. Nor do some display random patches of colour of varying size and distribution, which would typically have had them classified as fancies. There is increasing momentum to have appaloosa recognised as an alpaca colour classification in its own right.

With increasing numbers of alpacas displaying these "in-between" coat colours the existing range of colour classification may have reason or impetus to be reviewed. Meanwhile, alpaca breeders can happily embrace the remarkable range of colour displayed in the fleeces of our alpacas.

Adrienne Clarke - Ambersun Alpacas 🛠

Alpacas Australia

Back issues available from the AAA office

Alpacas Australia, currently in its 65th edition, has come a long way since its inception in 1992 when the Australian Alpaca Association was in its formative years.

The magazine has evolved from a slim 32 page publication in Autumn 1992 to the glossy journal that we enjoy nowadays.

Its reading audience has also grown in recent times with the online publication of the magazine enabling worldwide exposure these days.

The aim of the magazine has always been to inform, educate and entertain the alpaca community through the publication of stories written by members of that community.

Alpacas Australia

From the technical text of scientists and veterinary specialists to the homespun yarns of alpaca breeders sharing their experiences Alpacas Australia has published them all. A catalogue of all magazine articles is published on the AAA web site at

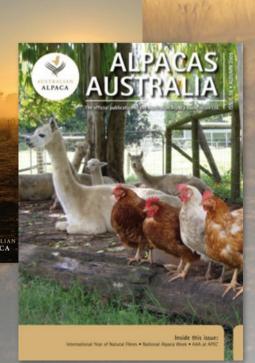
http://www.alpaca.asn.au/magazine.shtml Articles are listed in the catalogue under the following headings:

- Education
- Fashion
- Marketing
- Showing & Judging
- Industry
- ✤ Animal Health & Welfare
- Research & Development
- Suri
- Breeder Profiles

and are further defined by issue number, page number, title of article, brief description and author.

Please take the time to browse the catalogue. You may find something of interest to you and if so, the AAA National Office has back issues of some magazines still available to purchase at \$4.40 per copy (plus P&H). Unfortunately some issues are no longer available to purchase as stock has been depleted.





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Fibre of the Gods



Valerie Richard - Rivermist Alpacas

Hazel Cantem & Michael McKone,

June 11th 2012 was International Yarnbombing Day.

Valerie Richard of Rivermist Alpacas got it all started by putting tree cozies (jumpers) on the trees in the main street of Toodyay.

It looked great but Hazel and Michael of The Fibre of the Gods alpaca mill felt there was something missing, so Hazel knitted up an alpaca using the yarn Michael had made in their mill and on Yarnbombing day they sewed it onto Valerie's tree cozy.

Yarnbombing or Gorilla knitting is a form of graffiti made popular by knitters who wanted to brighten up cold sterile public areas.

It is both fun to be part of creating the pieces and fun just to go and look at them. It is hard to walk past without smiling. It can also be the project that just keeps growing as more and more people add things to it.





Yarnbombing can be easily removed if need be and the yarn reused for the next project.

Valerie Richard – Rivermist Alpacas

Hazel Cantem & Michael McKone – Fibre of the Gods \clubsuit

International

World Alpaca Conference

Dinah Fisher Grey Leaves Alpacas Oxford UK 10 - 12 April 2012

Dinah Fisher is a Director of AAA Ltd and represented the Association at the World Alpaca Conference, Oxford UK April 10 – 12, 2012. At the conference Dinah made a brief presentation about the current activities of AAA Ltd and the Australian alpaca industry.

The venue, Keble College, was marvellous, very atmospheric in a formal and slightly spartan academic way, but comfortable. Rumour had it that the College was either the inspiration for Hogwart's in the Harry Potter movies or had indeed been used as an actual film location for them. There was some concern amongst the delegates that the staircase to the Great Hall might become difficult to negotiate if we had too much fun in the bar. The site was compact with the added bonus that the conference proceedings themselves occupied two very new buildings on the campus which were complete with all the facilities that one would expect of modern lecture halls.



Lunch in the Great Hall

The delegates mostly hailed from the UK and Europe. Ten Australians attended, not including Gillian Howard, the spokesperson for the French association who although Australian-born, has been living in France for more than 25 years. There were only 6 Americans, 2 New Zealanders, 4 Canadians and 1 Peruvian. It was notable that there was no one from any other South American country or from China or Japan.



The conference content had been planned to appeal to

delegates at all levels in the industry and it was interesting to see and hear first hand the presentations from notable alpaca industry speakers such as Eric Hoffmann and Julio Sumar.

The three main subject areas covered were:

• 'Health and Husbandry' with several presentations on intestinal worms and parasites, which seem to be of particular concern in the UK and Europe at present.

• Pedigree Registration Systems with presentations from ARI (USA), Grass Roots (the UK provider) and Germany. The Germans apparently have the most exacting registration requirements. These are based on the screening criteria that Hoffman developed for the early importations of alpacas into USA from South America.

• Alpaca fleece value adding. There is some very interesting work currently being done in this area by several different English breeders.



Chapel at Keble College

There were at least three presentations on parasite burdens, all from UK vets - Rob Broadbent, Kat Bazeleyn and Claire Whitehead. There is a lot of concern in the UK and Europe about worms, worm burdens in pasture, drenches and drench resistance. Broadbent sometimes appears as an expert witness in disputes over alpaca health matters. He is advising his clients who import alpacas into the UK to insist on a programme of weekly faecal sampling that commences prior to the alpaca arriving at the guarantine station through to when it finally arrives at the destination farm. The samples are kept refrigerated and only tested in the event of a worm burden developing. The aim is to be able to prove at which point in the animal transfer the worm infestation occurred.

Karen Mueller, a UK based veterinarian did an excellent presentation on alpaca dentition.

Unfortunately I missed British and International Alpaca Judge Val Fullerlove's presentation on the history of the alpaca industry from pre Inca farming through to the emerging alpaca fibre market in the UK but was told by several delegates that it was excellent. Sadly there are no plans to produce papers on the conference proceedings.

'The representatives of each national alpaca organisation were asked to provide a brief presentation. The theme for the Australian presentation was the commercialisation of our industry'

Most of the European organisations are very small and their presentations were largely concerned with establishing their breed registers and show circuits and lobbying government particularly with respect to farm subsidies and issues related to land tenure.

Other concerns expressed were the same as for alpaca breeders the world over. "How can we make our alpaca farms economically viable and how can we get a reasonable economic return on the production of our alpaca fleeces?"

Associations represented in these presentations were South Africa, Finland, Spain, Ireland, Australia, Canada, Italy and Germany (two presentations – two organisations) France, Benelux (Belgium, the Netherlands and Luxembourg), Norway, New Zealand, USA and UK.



There is a strong interest internationally in value adding of fleece with hints of a few interesting developments. The presentation from the Italian Association stressed their national expertise with textiles and their synergy with the Italian textile industry. BAS is also raising the bar on value adding as demonstrated in their hospitality room, which was named "The British Experience" and the fashion parade, "The Best of British Fashion".

The Best of British Fashion Parade was probably the most popular segment of the event.



'Urban Graffiti' - Prize winning fashion entry



It was well sponsored and organised as a competition. Selected entries by fashion students from three UK university design schools were funded to be produced by those short listed students and the student who produced the winning garment received a prize of £500.

This created an intensely competitive design environment and resulted in a collection of very original and exciting garments.

While Australia did not win either the huacava or the suri Golden Fleece awards, the Australian fleeces had a verv credible showing and the fleece show organisers were appreciative of the support from Australia, both AAA Ltd for coordinating and dispatching entries and the AAA members who entered the competition.

Shaun Daniel, President of BAS, in his closing remarks to the conference summed up the situation for alpaca breeders as follows: "If you treat your alpaca enterprise as a business then it will be a business. If you treat it as a hobby then it is destined to remain a hobby." These words resonated for me in the context of the push towards commercialisation of the alpaca industry in Australia and I think that they would also resonate for many of our members.





Workshops for new breeders.

The Program.

Includes classroom and handson 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.

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Husbandry

Debbie O'Neill Signatur<u>e Alpacas</u>

Amputee Alpaca

Graciela's story

This is a story with a prequel

 \cap

Gracie was born by emergency caesarean on the front steps of the vet surgery as this was the only place with enough room and flood lighting to carry out this procedure. We fully anticipated losing the mum or the bub or both as the mum had a twisted uterus (3 x!) but we had to try.



We managed, to all our surprise, to get a live female cria who was strong and sucked madly on the powdered colostrum that we got into her. Mum was fixed up and still dopey when we brought her home and set her up in a stable with the cria, so mum didn't roll on her in her still dopey state.

We supplemented the cria for two days and lost her mum on the third day. Gracie settled in well to a life as a poddy cria out in the paddock with the other mums and bubs. Graciela was a favourite of my husband's and had all the kindy kids from the local primary school fighting over who would feed her next. We weaned Gracie when we weaned her peers and she adjusted well. We had just moved Gracie's mob into a new paddock two days prior and on the third day I noticed Gracie favouring her hind leg. This resulted in a trip to the vet which led to the happenings in this article. *



A few weeks ago I had the pleasure of meeting an Alpaca called Graciela. She was referred to us at Charles Sturt University for an injury to her stifle (knee) joint which had left the joint unstable and unusable. The referring vet thought (correctly) that she had ruptured the cruciate ligaments in her knee and that the small animal surgery team here at the university would be the best ones to send her to, as we deal with this type of injury in dogs routinely.

Graciela arrived and once we had clipped the fleece from her knee and examined the joint it became clear that the joint was also infected. One of our anaesthetists experienced with camelids put Graciela to sleep and we opened the infected joint and explored it carefully. It soon became clear that the infection had completely destroyed the cartilage in the knee and that the joint was not saveable. This did not leave us with many options, and we discussed the possibility of amputation with Graciela's owners. We felt she would cope with losing the leg as she had been managing on three legs for a few weeks since her injury, and being a back leg it carried less weight than a front leg.

Thankfully we were given the go ahead and Graciela was given an epidural for pain control before her leg was amputated. The leg was removed high on the femur, making sure no infected tissue was spared, and she recovered well after surgery. By the next day she was able to move around on her own, though she still needed a little help to get up. A few days later she was able to get up on her own, and was again a well and happy alpaca.

I have had only a little experience with alpacas, being a small animal surgeon, but I was surprised by how good a patient Graciela was and how adaptable she was to the situation and the people around her. I have a small farm which may need an alpaca one day!

Jacob Michelsen Lecturer in Small Animal Surgery Charles Sturt University, Wagga Wagga

Showing

Peter Kennedy Canchones Alpacas

Going to a show?

A Guide for Exhibitors

So you are thinking of going to a show?

Attending alpaca shows can be a valuable way of marketing your alpacas and getting some feedback from judges and other breeders on the progress of your breeding program. It is also a great way of meeting other breeders and catching up with friends.

Though showing your alpacas should be fun, it can be a daunting task, especially for your first show. Many questions can arise for the novice exhibitor such as:

- How are the shows run?
- How do you enter your alpacas into a show?
- What do you need to do to prepare your animals?
- How do you get them to the show?
- What will you need to take for the animals and yourself?
- What do you do when you get there?
- What do you have to do in the show ring?
- What are the judges looking for?
- When can I leave?



How are the shows run?

Exhibitors should have a good understanding of the show rules. The latest version of the AAA show rules can be found on the AAA web site. The show rules contain useful information regarding:

- Alpaca conformation
- AAA Breed Standard
- Specific show rules for Show Convenors, Exhibitors, Stewards, Judges
- Information for Show Stewards
- Information for Exhibitors
- Judging criteria
- Various forms for use by judges and show officials

An alpaca show is run in classes based on the show schedule. The schedule specifies all the relevant information in relation to the show. It will cover such items as:

- Times for alpacas to be penned by
- Classes offered at the show (both fleece and animal)
- Reference date for the calibration of the ages of the exhibit
- Dress standards for exhibitors
- Entry forms are usually associated with the schedule

The schedule is based on approved AAA classes for the type of show that is being run, i.e either a colour based or age based championship show. Copies of these standard classes are part of the AAA show rules. Alpacas should be entered in the appropriate classes. Information that will be required will be:

- Section and class number
- Age of alpaca
- Sex of alpaca
- Name
- Colour
- IAR number
- Date of birth
- Last shearing date if appropriate
- Some shows require name of sire and dam of entry.

Fleeces will require the following information:

- Section and class number
- Name
- IAR number
- Last shearing date if appropriate
- Age of animal when shorn
- Months of fleece growth
- Colour

This information is required by the convenor to double check that the alpaca/fleece is entered in the appropriate class for judging.

Another form that will need to be completed will be a health declaration. This is required to ensure that your alpacas are penned in the appropriate area of the pavilion.





You will need to complete the form with your farm address, the animal details and then complete information on the status of your property in relation to the Johnes Disease zoning. This is a national scheme and information required can be obtained from your local veterinarian or state government department of agriculture.

Some shows will also require copies of the pedigrees. This is becoming less common due to the use of the AAA on-line show entry system. Copies of pedigrees, printed from the AAA database, are usually sufficient as they contain all the relevant information.

Preparation of your alpacas

Once the forms are completed and posted, it is now time to start to ensure that your alpacas are properly prepared for the show.

The main requirement here is that the alpacas are comfortable with being led on a halter. This is important, as the alpacas are required to walk into the ring to allow the judge to try and assess your alpaca's conformation.

For many breeders this is a difficult process and you often see animals being shown that are unwilling to lead and this can affect their placing due to the inability to properly assess the alpaca. The main thing here is to allow yourself and the alpaca plenty of time to get used to the process, get them comfortable wearing their halter then slowly increase the amount of time that they are lead.

Each alpaca is an individual and some are easier to train than others.

It is vitally important to ensure that the halter fits correctly.



If they are too loose, the halter tends to move forward, restricting the alpaca's nostrils and as obligate nose breathers, this will cause them to panic and start to

misbehave. This is the most common issue that we as judges see in the ring when alpacas start to misbehave.

Alpacas are also very aware of their environment. They are cautious and if you are wanting them to walk on a strange surface they may be reluctant. The show ring surface will vary from show to show. Some will be held outside on grass and the alpaca should be relatively comfortable.

Others will be inside and will use synthetic grass in the ring. It is useful to look at purchasing a sample of this to have available in your shed during the halter training process. Just put it on the ground and get the alpaca used to the strange look and feel of the surface.

It is also good practice to get them used to walking in and out of shadows, loading in and out of your van or float, in and out of the shed, so that they will be more comfortable when you are trying to load and unload them for the show and walk them into the pavilion for the show.

Your alpacas will need to be comfortable with being examined and touched in the show ring. Also yourself and your alpaca must be comfortable with showing the animal's teeth to the judge as part of the conformational checks carried out by the judge. It is good practice for you to lead the alpaca with their halter on and then get someone else to touch them as the judge will look at them in the show ring. This will help them to be a lot calmer in the ring. Also remember to try and stay as calm as possible yourself as your alpaca will sense your heightened stress level and will be more likely to react in a negative fashion due to this.

Obviously your alpacas will need to be fed at the show. For the period of exhibition and the time required to transport them to and from the show they will be off their natural pasture. Some sort of supplement will be required. The most popular source of feed will be either hay of various types or some sort of pellet and chaff mix. The choice will be yours and it is a good idea to discuss this with your veterinarian. Whatever type of feed you use, it is important that the alpacas being shown are used to eating the feed. It is therefore essential to slowly introduce it to your show team so that their digestive system will be able to adjust. They are reliant on bacteria in their digestive systems to break down their feed into absorbable nutrients. This process takes time and issues can arise if feed is changed too quickly.

It is good practice to weigh or body score your animals that are being shown to ensure that they are maintaining good condition. They are likely to be shown at multiple shows over the season and can lose condition if they are not being maintained on adequate feed rations.

Alpacas should be shown in a clean pasture condition and over-preparation of the fleece may damage the fleece structure for show day. Judges want to be able to assess the alpaca as well as possible so make sure you put some thought and effort into your preparation for the show. Keep your animals in as clean a paddock as you can manage.

It is often a good idea if possible, to have your show team shedded overnight before heading to the show. This will help keep them dry overnight and also will be easier to load the animals in the morning especially if it is an early start. It is also good practice the night before to check that the alpaca's IAR tag is still present in their ear and that you have brought in the correct animals. You will not be the first to arrive at the show with either the wrong animals or with alpacas without their ear tags which will mean they are unable to be shown.*.



Next issue we will continue this series of showing alpacas.

Husbandry

Carolyn Jinks Benleigh Alpacas \cap

Neonatal Cria Care

A basic guide

As a follow-on from the 'Basic Introduction to Antenatal and Neonatal Care' article published in the last AAA magazine, we continue with further basic information regarding the newborn.

Initial check procedure for newborn:

The initial check of the newborn should be thorough but rapid, to enable the natural bonding of mother and cria to occur.

Over zealous attention by humans can prevent this bonding and this is not a desirable outcome for the newborn or mother.

- Be sure there is no membrane covering nose or mouth which would inhibit breathing
- Be sure there is no haemorrhage from the umbilicus (navel) of the cria

This is a rare occurrence, and a clamp on the umbilicus will be needed to stem the flow.

Mosquito forceps are ideal and should be included in the cria care kit.

Do not move a cria if there is bleeding.

10% Betadine may be sprayed on the navel area of the cria, and should be used if it is born in a dirty area or a shed.

- Check for eruption of teeth by running your thumb across the lower gums
- If teeth are not erupted, regardless of the length of gestation, the cria must be treated as premature
- Check the sex of the cria*

*This is not vital, but who can wait to find out?

On arrival:

The cria is born covered with a clear membrane rather like Glad Wrap.

There is no need to remove this from the body, as it is nature's insulator and will disintegrate as the cria wriggles.

The mother does not lick her baby clean, but may 'kiss' around the nose and mouth and sniff around the tail area.

As the head and tail are the scent identification areas, try not to touch them.

Some mothers pay little attention to the cria until the placenta has been passed, so do not interfere excessively or take cria away to be weighed.

After good bonding has occurred, further inspection can be made and the cria's weight recorded.

Average progress of the neonate:

10 minutes: Sitting in 'cush' position

- 2 hours: Standing and searching for udder
- 4 hours: Suckling well



Feeding

Within two hours, the cria should be standing and attempting to locate the udder.

This is frustrating to watch, as they often search around the chest, 'pop out' the other side, or try to reach the udder from between the back legs of the mother.

This process of detecting the udder is even slower if the animals are shedded, as the cria will also try sucking the walls or gates that are enclosing them, therefore if at all possible, keep them in the paddock.



Be assured, that if they are seeking, they will find, and it seldom helps to assist at this time.

Some mothers have hard waxy plugs on the teats and tugging at these can help the stimulation of milk, but if cria is struggling, removal of plugs may be considered.

The average length of time for a feed is two minutes, and this should be remembered if bottle feeding is necessary. Use a large hole in the teat!

Colostrum is the first rich, creamy milk that the cria ingests and it provides passive immunity. Without adequate colostrum, there is a much higher risk of infection which may be life threatening. Colostrum from goats or sheep is the most like alpaca colostrum.

Powdered colostrum has been found to be successful, but plasma sourced from alpacas is considered the best option if the neonate is unable to suckle.

Milking the mother is not easy and not highly recommended as bruising or discomfort for the female can make her reluctant to allow her cria to feed later.

Cria birth weights

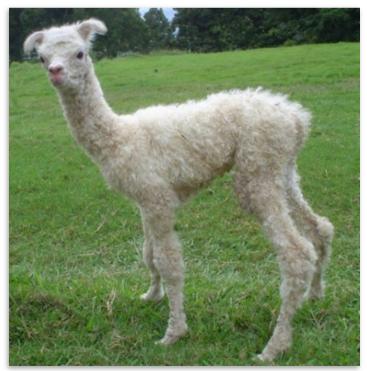
- 5.5kg or less is very small and special care will be needed
- <6kg is small and should be weighed daily until 7kg
- ✤ 7.5 8.5 kg is average
- 8.5+ is large. Some larger cria are sluggish and may need encouragement to move

Healthy cria gain around $1\,-\,1.5 kg$ per week for the first four weeks.

Gestation is extremely variable and a 'full term' cria can still exhibit signs of dysmaturity.

Indications of prematurity or dysmaturity

- Teeth not erupted
- Floppy ears
- Unable to stand or hold head up
- Short gestation
- Low birthweight see above
- Down on pasterns
- High or low temperature (normal = 36.8 38.6)



Cria with floppy ears

Objectives of dealing with premature or dysmature cria: (see methods below)

Stabilise the temperature.

Retain the bond with the mother.

Develop a feeding regime if necessary. Remember that Colostrum/plasma come first.

Record everything. Involve your Veterinarian.

Stabilising temperature – Using a digital thermometer that beeps when temperature is reached, inserted in rectum, using petroleum jelly for lubrication, is the most practical method.

The belly is the thermal window and if the cria's temperature is extremely low, placing it on an electric blanket or hot water bottle will speed the process of raising the core temperature.

Do NOT place cria near a heater.

Bubble wrap is a good insulator.

Be sure to record temperature each time it is taken. A high temperature is a likely indicator of infection and antibiotics may be required.

High temperatures have also been known to occur when the neonate is born on a very hot day and has not drunk enough. Glucose mixture can assist – see below.

In an emergency with a high temperature, the cria can be placed in a cool bath until it improves.

Low temperatures are generally the result of weather conditions.

Glucose is a miracle 'fix' and will give the cria a sugar burst that lasts around an hour.

This is often enough to get a slow cria to improve activity levels. Two teaspoons of glucose in 60ml of warm water can be given by eyedropper or bottle.

Retaining the bond with mother: If the cria needs to be shedded or given special care, allow the mother to be there at all times. Her murmuring can keep a fragile cria alive.

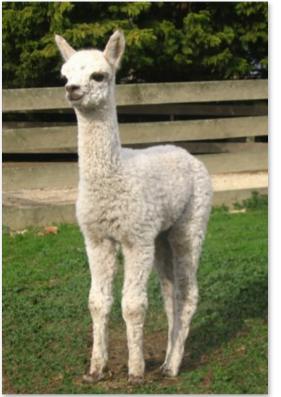
Taking another alpaca into the shed for company for the mother is worthwhile to prevent fretting. During the day, let the adults out for 15 minutes every two hours for exercise.

Develop a feeding regime if the cria is unable to nurse. 10% of body weight of cria up to 12 kg is the amount required.

Over feeding will cause scouring.

Sterilization of implements and good record keeping are essential components to the overall care of a neonate that needs special care.

With good information, the veterinarian will be able to offer better advice.



Cria with firm straight legs



Cria down on pasterns

Cria coats

Well fitting cria coats are beneficial in cold weather.

Be sure there can be no rubbing of straps near the navel area.

Do not allow the coat to cover the tail due to scent identification needs of the mother.

Try to remove the coat during the day so cria can run and get exercise and warmth in a natural way.

The joy of seeing healthy cria prancing at sundown is the goal we aim for.

Most cria are born naturally, feed happily and grow successfully, but it is good to have tools for consideration if other than 'normal' occurs.

Good luck, and enjoy these beautiful animals.

Author's note:

The subjects of birthing and neonatal care are so broad, that it is difficult to condense it into two articles.

From 1989 when we first purchased alpacas, Dr Ewen McMillan and myself recorded every aspect of care, both successful and otherwise, and



ultimately found the best practices which have been collated into the easy to read booklet 'ABC for Alpaca Owners' – our complete experience of Antenatal, Birthing & Cria Care.

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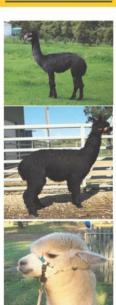
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Commercial

Ed Holman Velieris Carpets

Strong Alpaca Fibre

Is there a market?

If five boys had ten apples......can there be anything commercial about strong alpaca fibre?

 \bigcirc

Yes, there can be – and the increasing trend in the market place toward natural fibres, sustainable fibre processing, natural colours (no dyes) and Australia's increasing alpaca herd size provide all of the indicators of a commercial fine and

strong micron, alpaca fleece industry. Velieris is part of that industry in its production of quality alpaca carpet, but there is real scope for the Australian alpaca farmers to also reap the benefits.

So what are the problems? Where is the fibre?

Unlike the sheep industry where 'thousands' number a herd, alpaca herds are in the tens or hundreds. Alpaca breeders seem to focus on individual animals and their fleece characteristics rather than their total herd and the production of fleece lines.

Alpaca fibre therefore tends to remain in plastic bags with the individual animal's name and end up stored in the shed.

Velieris uses coarse alpaca fibre – over 28 micron, long (100-120mm), white and coloured and lots of it. The average size alpaca rug uses 40kgs of fibre whilst the carpet of an average house size would use around 300kgs of fibre. This provides local farmers an opportunity to provide fibre directly to a major local processor and manufacturer of fibre.

> Velieris wants to use Australian alpaca fibre but the major difficulty is its availability in sufficient quantity lots. There is no economic value for farmers or for manufacturers to process small lots of fibre under 20kgs. The manufacturing process using commercial machinery that has the capacity to process 100s of kilograms at a time.





We have an ethos to work with alpaca farmers and to promote the environmental, efficiency and luxury of alpaca fibre. The challenge is – how can we work together so that you, the alpaca farmers, can establish a commercial market for strong micron fibre and that we, the industry, can buy fibre at market prices in viable quantities? That is quantities of 100kg or more lots.

Is there a practical way that alpaca farmers can work together to combine their quantities of similar fleece lines for Velieris to purchase? Where is this strong micron fibre? Does the alpaca industry admit to having strong micron fibre? The sheep industry does and it is the bread and butter of many sheep farmers.

For example on the finer micron Suri alpacas consider the fleece on the bellies, briskets and haunches which may be suitable in both length and strength for carpet manufacturing. On the older animals and for those animals where the fleece micron has blown out, the total fleece can have a market value.

Wool scour at the Velieris factory

Strong alpaca fibre from all of these areas doesn't have to end up on the scrap pile or considered to be of no commercial value. The critical aspects when sorting fleece for consignment to Velieris is it all has to be of similar strong micron and all of similar required length and colour.

From the old adage – if five boys had ten apples each... If ten farmers each had 20kgs of white coarse fibre (probably from an average of 15 animals) and 20kgs of dark fawn to brown fibre (from 15 animals) then combined, this would total 200kgs each of white and coloured fibre that has a market value and is a commercial quantity.

This could be a beginning for farmers to receive regular income for their fibre and for Velieris to obtain much sought after Australian product. We need your fibre more than your shed does. We are willing to work with groups of alpaca farmers to establish the formation of commercial opportunities for strong micron fibre.

Yes, it takes work to pull this style and quantity of fibre together to be commercially viable but the outcomes have to potentially grow the alpaca breeding industry and Australia's natural fibre manufacturing industry.

Velieris is up to the challenge – are you? *

Do you have a comment about the commercial future for coarse alpaca fibre ? Let the editor know your thoughts.

0

Meat Industry

Autumn Degustation Dinner

Mel Brown Ravenswood Alpacas

Alpaca on the menu

Alpaca Degustation Dinner in Mudgee - a first for the Central Western region.

Well, let's face it, I love food. Thumbing through an older copy of Alpaca Yacca we picked up at a regional meeting, I noticed an article about an alpaca degustation dinner that had been held in a restaurant in Berry during national alpaca month in 2011. I'd always been a little intrigued about the taste of alpaca, having heard both positive and negative stories about the experience.

The menu sounded both delicious and innovative and I excitedly mentioned this to my husband Dale. Equally enthusiastic, we were inspired to try and hold a similar event in our home town of Mudgee. We thought Mudgee, being wine country, would be an ideal place to hold a dinner. What to do next?

Aware that the meat had been supplied by Illawarra Prime Alpaca we contacted Ian Frith. We'd met Ian and Annette at a few shows and with a shared loved of black huacayas he seemed like a pretty approachable sort of chap. Sure enough he responded to our email in a friendly and enthusiastic manner. We then discussed the idea with the other members of our local Alpaca Group 'Alpacas Over The Ranges', who were happy for us to research the idea further.

Illawarra Prime Alpaca generously supplied the meat, we shared Hungry Duck Restaurant's Chef David Campbell's costs with Illawarra Prime Alpaca, and Blue Wren Winery agreed to host the dinner in their magical venue. The group decided to go ahead with the event and suddenly our little idea had morphed into the Central West's first ever Alpaca Degustation Dinner which was to be held at Blue Wren Winery on the 4th of May 2012.

So now to go about generating some interest and advertising for the night. Needless to say, we were trying to do so without spending a lot of money on advertising. So we designed and printed tickets and flyers ourselves, set up an Event on Facebook and invited all our friends.



We wrote an advertorial for Discover Central West Magazine, which they kindly published for free alongside Blue Wren's paid advertising, got an article in the local paper, advertised in Alpaca Chat, and Alan Fisher from Greyleaves Alpacas even did a few spots on both the local radio station and the ABC with Dougall Saunders out of Dubbo.

Orange ABC got wind of the latter and asked for an interview too- we asked David Campbell to speak to them to give a different perspective. We also took out a couple of classified ads, but as you can see, our actual costs were minimal. Media outlets are always looking for content and the use of social media is free too, so we were pretty happy that we'd been able to reach a large number of people for minimal expense.



The 4th of May soon arrived and around eighty dinner guests were looking forward to an interesting night.

The goal of the night was to introduce the delicate qualities of the meat to diners by providing a unique dining experience. With dishes such as Tataki of Sirloin with spicy miso, yellow chilli and truffle powder served with the slightly dry but creamy Blue Wren 2007 Chardonnay, and Ribs braised with lemon, sumac and Japanese taro served with Steins 2011 Half Dry Riesling I think we can say that this was achieved. On arrival guests were treated to a glass of sparkling wine whilst milling around and soaking up the cosy atmosphere and log fires. After being seated, we were on our way to experiencing a memorable meal.

In addition to the fantastic food, there were lucky door prizes, displays of alpaca products and David Campbell and Blue Wren's chef Gavin Tidbury discussed the preparation of the meat, the techniques used to prepare the various dishes and took questions from the floor.

It was a really interactive and entertaining evening, and all the diners left feeling satisfied in some way. As Ian Frith said, "I'd say 100 per cent enjoyed at least one dish, 75 per cent enjoyed 75 per cent and 50 per cent enjoyed 50 per cent".

Menu

Alpaca and pork cheek croquettes, Sancho pepper and ponzu mayonnaise

served with Blue Wren 2011 Semillon

Tataki of Sirloin with spicy miso, yellow chilli and truffle powder

served with Blue Wren 2007 Chardonnay

Sausage with Korean BBQ flavours and kimchi

served with Fat Yak Pale Ale

Ribs braised with lemon, sumac and Japanese taro

served with Steins 2011 Half Dry Riesling

Tempura tenderloin, nori, edamame and tobiko

served with Steins 2007 Sangiovese

Braised shoulder with beer, potatoes and mint

served with Blue Wren 2008 Cabernet Sauvignon

The feedback from Blue Wren was also really positive too, with the Mudgee team enjoying working with the new protein immensely, saying that it was a fantastic experience to work alongside David.

Blue Wren has also indicated that it will be using alpaca in their menus in the future. As for this little foodie, well, my favourite dish of the night was the tataki of sirloin, the subtle flavours of the meat being perfectly showcased in this tender, mouthwatering dish.

Education

Carl Di Stefano Lemarli Alpacas

Alpaca Class

Alpacas at St Joseph's College – Ferntree Gully VIC

This story starts before my time. A boys' school, with an alternative Year 9 program goes to a farm clearing sale looking for a bargain.

Maybe some cheap tools and farming equipment that can be used to teach the boys some handy skills. It's an auction, it's exciting, there's shouting, there's bidding, hands go up, and before you know it the school owns two alpacas. Two wethers, Shakespeare, a light fawn huacaya and Tictoc, a black, although the boys quickly rename them Tupac and Sixpack.

The alpacas were an immediate hit, the boys walked them, fed them, groomed them but soon the novelty wore off, the number of tasks were insufficient and the grass grew short and the alpacas were lent out to Salesian community at their nearby farm, acting as herd guards to the lambing sheep.

This was done, everyone agreed it was the best thing, but an air of regret hung around – everyone wished the alpacas would come back. Teachers and students alike spoke of how peaceful it had been, sitting down and eating your lunch watching the alpacas graze. The halters hung silently in the office of the Discovery Co-ordinator (the man in charge of the outdoor program), and whenever he would see the halters he would sigh and wonder what the alpacas were up to now.

Teachers returning from the Year 9 program to the Main Campus tell tales of the peace and serenity that the alpacas brought and how they are missed.

St Joseph's Regional College is a 1,000 strong Catholic boys' school in Ferntree Gully VIC. Although officially run by the five local parishes, the College gets its guidance and philosophies from the Salesian order and the teachings of St John (Don) Bosco. Don Bosco worked in the poorer areas of Turin, Italy in the 1840s to 1890s. This was the time of the Industrial Revolution which through poverty, parental tragedy, or the call of the big sodium lights, displaced many young boys away from the farms and into the bigger towns like Turin.



However Turin's offering of dreams tended to revolve around the nightmares of pestilence, violence, hunger and early death.

In this environment Don Bosco established a school for young boys to learn trade skills and escape from these nightmares in the Valdocco district of Turin. If Don Bosco had just been another priest on yet another do-gooder evangelical crusade this would have been the end of the story. But Father Bosco was a skilled educator and had a very strong understanding of how to motivate boys through respect and responsibility. Don Bosco named his order Salesians, after the famous animal lover St Frances de Sales.

It was with this philosophy in mind that St Joseph's College set up its alternative Year 9 campus, which it named Valdocco, with a vineyard, chickens, garden beds and of course, two alpacas. But the first part of this story brings to light the first problem with alpacas in schools – just what do you do with them, and once you start thinking like that the novelty wears off. Even though I had our herd of alpacas at home, I must admit to being indifferent to the alpacas at school initially. They were at a different campus and I had enough to worry about with my own classes, alpacas and family, to get involved in something over at the

Year 9 campus.

Xalter Training 101



But some time in 2010 that all changed. I was asked if I would move into the Year 9 program in 2011 and amongst my missions was to try and get the alpacas back into the boys' lives.

My story of alpacas in schools is one I write as both an alpaca breeder, thinking about the welfare of the animals, and a teacher, thinking about the welfare of the boys.

Animal welfare is obviously incredibly important when you are in a school situation. Anyone who has taken an animal to a market or alpaca display knows that there is often some idiot who will try and do something stupid with the alpacas. I remember being at a show once where the public was walking through and watched a boy try and poke an alpaca in the rear end with a piece of straw. I jumped up to tell him off but the owner said to me just wait and the alpaca kicked out a now ashen faced lad who quickly scuttled off.

And then of course there are the do-gooders who want to pat the usually placid animal who is by now getting more and more stressed.

Thus the first and foremost thought in my mind was how to keep the animals safe in a school environment. This was done through two ways. The first and easiest way was through physical separation.

Our garden areas were behind high fences that you needed a key to enter which made them an ideal location to keep animals. We already had chickens in there and having the alpacas would be a good way of keeping foxes away from the chooks. The second and most important method of protection was through developing a sense of ownership of the alpacas. Boys don't damage things that they feel they own or belong to. This is the philosophy we use to avoid vandalism in general and it was important that the boys quickly bonded with the animals and saw themselves as carers and protectors of the alpacas.

Having animals in schools requires ethics approval. The process is different from state to state but the idea is pretty much the same. You need to convince the Department of Education that the animals are going to be safe and that nothing inappropriate is going to happen to them.

The Victorian Schools Animal Ethics Committee states that approval is not required when:

- the animals are on their home property
- the procedures would occur normally as part of routine management
- the animals are not subjected to anything additional to what would occur in routine management
- the teacher is competent to carry out the procedure.

They also state that the following activities are prohibited:

- surgical, invasive or other harmful procedures other than normal animal husbandry operations
- induction of any infectious diseases or illness
- production of nutritional deficiency
- exposure to stimuli that cause abnormal physiological or behavioural responses
- administration of toxins, ionising radiation and other bio-hazardous materials
- breeding of animals solely for dissection

The activities we proposed to do with the animals fitted in with routine management such as feeding, preening, walking and generally keeping the animal safe and healthy.

By our definition approval was not required but in this litigious age we sought approval anyway, which was not as big a concern as we thought. A few people in the school were worried about this as those that have been involved in, say keeping mice, have found that the ethics people can be very demanding but ours was about teaching farming not teaching science through the animals. For example weighing the animals every day so the boys can use this data for graphing is frowned upon while weighing the animals regularly to ensure they are keeping condition is appropriate animal husbandry.

The other area we sought approval from was the Council. They too were happy with what we were doing and had no concerns about us keeping farm animals but it is always worth checking.

At a Monday morning Community Meeting (Assembly) I introduced the alpacas, talked about their likes and dislikes and how to treat them. I spoke to the boys about what to do if they escaped from their paddock. I then began a talk about the importance of us behaving as guardians of the alpacas. The alpacas would be scared at times with unfamiliar sounds and surroundings and we had to make sure their time at school was comfortable. I encouraged the boys to come out at recess and lunchtime and meet the alpacas. Many did although I did not envisage that they would try and start feeding them their lunch. Fortunately alpacas do not like peanut butter sandwiches although we did start to generate a larger than normal compost pile.

So before I get talking about how we worked with alpacas as a class let me quickly explain how my class works. At Valdocco I teach my class every day until lunchtime and all day Friday. Teach them Maths, English, RE, Science and a subject called Discovery, which is basically everything else. As part of Discovery we go outside twice a week to tend our vegetable garden and to deal with the chickens.

The first problem with alpacas is simple. Two alpacas and 24 boys, not really going to work unless your plan is to totally overcrowd the alpacas or bore the boys. But with a variety of jobs, some tending the chickens, some working on the vegetable patch and some on the compost it meant that each time we went out we could rotate four boys to work with alpacas.

Initially the boys were tentative. They were worried about being kicked or bitten and of course the alpacas sensed this and gave a great big spit, which caused all sorts of excitement. Soon certain boys developed confidence in catching the alpacas and putting on their halters. As the novelty wore off only a few boys were keen to work with the alpacas while others just admired them.

Pretty soon it also became obvious that we would need to fence off the vegetable garden, another project the boys enjoyed, after Shakespeare had a wonderful day amongst the lettuce. One of the things we all know about alpacas is that they are quiet and peaceful creatures and they respond best to quiet voices and slow, careful actions.

For boisterous boys walking the alpacas was like yoga or meditation. Even the loudest, most active boy would have to calm down and spend quiet time as he walked the alpacas through the vineyard, else the alpacas would not co-operate.

The grass around the vineyard provided us with a great opportunity to give the alpacas some fresh fodder as well as solitude. The two alpacas were excellent at walking on a lead and the boys quickly learnt to take them all around the school. It was not uncommon for a student who had been asked to run an errand such as taking a book to the library, document to the office, or eggs to the staffroom, to take an alpaca with him for company. Much to her surprise, the Deputy Principal even found that the alpacas had taken a liking to her office and would occasionally pop in for a good cush. I did receive one stern email from a teacher complaining that walking alpacas past his Year 12 class was distracting from their learning.

The boys needed a purpose so we decided to prepare for the Berwick Show. Shakespeare, the light fawn, still had a reasonable fleece for his age. We entered him in the wether class. There were five boys who were very keen to walk him in the ring so we practised at lunchtimes to see who would get the honour. One of the boys was very familiar with horses and from that had a selfconfidence with animals that seem to make the alpacas relax around him.

When we got to the show I hadn't even considered the length of the animal's fleece, which was far too short but as there were no other entrants in the class and everyone could see it was really about feeding the boys' interest in alpacas, the stewards and judges overlooked the fleece length and let the boys have their day.

The other boys all got to enter the Junior Handler competition and they all got to go home with a ribbon. It was great to see the encouragement the show organisers gave the boys. Great too was the support of other breeders who quickly took to the boys and allowed them to walk their alpacas for some air. This level of support is needed if we are to get young people who are not the children of alpaca breeders interested in our industry.



Part of good animal husbandry is knowing the capacity of your paddocks and unfortunately the area we have at the college to enclose the alpacas is insufficient to provide them with permanent pasture. So as the pasture began to diminish we decided to send the alpacas back to the Salesians for a few weeks. The grass grew back quite quickly and we decided that the best management for the animals was to have them at school for a few weeks and then back on the Salesian's property for a few weeks depending on pasture availability.

This also dealt with another issue that had been on my mind. How safe were the alpacas when we were not at school?

Their enclosure was well hidden from the road but visible from certain sections of a nearby bike track. By inconsistently having the alpacas at the college we felt we could make their presence unpredictable. In reality things did happen on the campus at night and on weekends. We found occasional broken windows and the shed next to the alpaca enclosure was broken into but the alpacas were untouched although they were unprepared to give evidence (unlike the duck who went missing around this time). On one occasion I turned up to the Salesian's to collect the alpacas but Father asked me if he could keep them for a while. His sheep were lambing and he wanted the protection. So instead I went home and picked out two of our boys who were sitting in the paddock doing nothing.

To us these two had seemed quiet and an obvious choice, even if they were entire males. However, away from the more dominant boys in the herd these two began a battle of domination that the boys would spend their lunchtimes eagerly watching.

When the boys captured the alpacas and put a halter on them they were lambs. Alone they fought, riding each other and oddly enough, climbing to the top of the small hill in the enclosure and making aggressive snorts.

In our classrooms we discussed with the boys how the alpaca behaviour compared to their own behaviour. The boys related to dominating each other by jumping on someone or by seeking the higher ground and crowing. Remember these are 14 or 15 year old boys who normally make inappropriate comments about sexual violence and rape. We discussed in class issues such as this, using the alpacas as an example to see things from the victim's perspective.



The alpacas had become quite a tourist attraction and people visiting the school all wanted to see the alpacas. My students found themselves often explaining to prospective parents and their primary school sons what they knew about alpacas and the educational value.

It was interesting to hear the boys reflect not just on the animal husbandry but that the alpacas had taught them about how to care for something else and to question some of their aggressive behaviour.

The two fighting males were returned to the bachelor herd at home and I decided to bring in two weanlings. I gave the boys the challenge of teaching them to walk on the halter.

The boys took this challenge up and with the constant interaction the weanlings who were destined to be pets, became not only great walkers but very much attuned to being around humans.

From our perspective this extraordinary temperament made these two very highly sought after when later sold. In fact people now come to us asking for alpacas that have been at school.

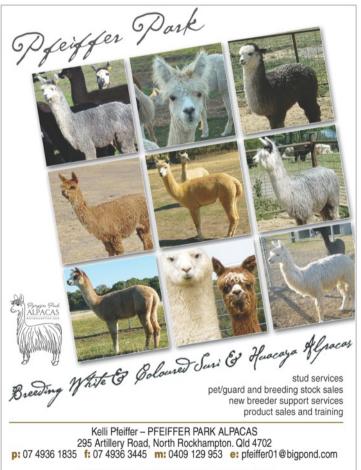
Finally one group of boys that I found the alpacas greatly benefited were those with Asperger's Syndrome.

These boys often find interaction with other boys difficult and struggle with the unstructured routine of our Discovery program where one day you may be weeding and another day you may be cleaning the chook pen. What these boys often enjoyed was just taking the alpacas for a walk and preening them. One boy in particular was great at getting those little grass seeds out of their fleece. This helped make the animals calm but also gave the boys a sense of worth and success in a program that they have often struggled with.

The last show I went to I saw two other schools bring their alpacas along. It is important that having alpacas in a school is thought out and going through the ethics process helped us justify what we were doing and think more carefully.

Overall the program has many benefits, exposing these great animals to a whole new generation and giving the students a chance to understand a side of themselves that they do not usually show.

School's Out!



www.ppalpacas.com.au

Marketing

NSW - Mel Brown QLD- Phil Godwin SA - Jen and John Duggin NSW- Fiona and Ian Vanderbeek

National Alpaca Week

"Everything Alpaca at Mudgee"

On a beautiful, crisp, late autumn Sunday, Central Western AAA members gathered at Mudgee Racecourse for "Everything Alpaca".

The open day was conceived by Judy Kain, who was ably assisted in organising the event by Alan Fisher and Max Northam in Judy's absence on an overseas holiday. Dale Brown also pitched in by designing a brochure and assisting on the day.

At 10 am the crowds started flocking in. Animals and craft were on display and the attendees were also treated to a number of presentations throughout the day covering topics such as fleece, shearing, weaving, felting, spinning, farm management, husbandry and animal health.

Our thanks to the presenters, Janelle Perceval, Robyn Northam, vet David Parry-Okeden, Julienne Gelber and Mike Lake for their interesting and informative presentations and demonstrations. Dinah Fisher did a sterling job manning the AAA table and promoting the association and the future of our industry. Robyn Northam and local textile artist Rory Meyer provided spinning and weaving demonstrations. Janelle captivated members of the public with her Felting Demonstration making a scarf.

Dale and myself put some gourmet alpaca meals on the menu for lunch, and these were very well received. We sold out of the Osso Buco (made with neck rosettes) and the Italian Alpaca Sausage Buns were demolished by the crowd in preference to the beef sausages that were also on offer. The complimentary tea and coffee went down well with the crowd also.





Thanks to Gary Walker for helping us with the BBQ and serving the crowd, he was cool and calm and unlike Dale and I, looked like he knew what he was doing!

It was great to see the event so well supported by members and the public.

The demographic of the crowd was made up of mainly younger people and families which is really positive and hopefully the day inspired some of them to join our industry.

Thanks to member studs Marlyn, Keiana Lodge, Grey Leaves, Sayantsi, Torulosa Park, Yaraandoo, Jolleen, Wiraki, Manyana, Crystal Pines, Allynbrook and Ravenswood for their participation!



NAW Rockhampton Display Day May 12th 2012

During the week of May 7th - 12th 2012 the eyes of the world were upon Rockhampton with the Beef 2012 Expo being held in the city.

It is an event that attracts tens of thousands of local, interstate and international visitors to the Rockhampton city, and as an attempt to get some exposure for the alpaca industry, a group of nine alpaca breeders decided that it would be a great idea to hold a display day at a local park just six hundred metres from the main venue of Beef 2012.

So on May 12th to mark the beginning of NAW it was with the support of the AAA Qld Region, two radio stations, two newspapers, seven thousand A5 flyers, three hundred A3 posters and a number of large roadside posters advertising the event, that the group set about putting together an event with both Suri and Huacaya alpaca.

A handler's course along with a shearing table, spinning wheels and an array of raw fleeces and finished products were included, along with a wealth of great information from breeders and lots of free info packs to take home. These resources assisted the group when educating and talking to almost four hundred visitors who came to the display day.

From opening time at 8 am there was a steady stream of people all day. As well as speaking to locals we spoke to people from all over Australia, England, China, India and the USA. We found that more and more people are looking to diversify and run alpacas on their properties.

We also found that those nearing retirement were not the only ones looking to farm an animal that is easy to handle, many with young families were also interested in getting into the alpaca industry.

Many of the members running this event were relatively new to the industry and the event brought together an enthusiastic group whose confidence has been boosted by a successful event.

The breeders involved in the display were:

Balamacho Glen, Cobbadee, Dusty Lane, Humhaven, Kerjelo Hill, Morningside, Rosegum, Shahrizai, Whiptail Hills.

Phil Godwin, Whiptail Hills Alpacas - Co-ordinator

National Alpaca Week South Australian Region

The AAA South Australian Region opened National Alpaca Week in the Adelaide Hills for the third year in a row with an Open Day held on the 12th May at the Oakbank Area School. This year ten exhibitors took part in the Open Day and 16 alpaca farms across South Australia registered their interest in opening their farm to the public during National Alpaca Week.

The number of exhibitors that registered their interest to attend the Open Day was the highest number achieved during the last three years, despite dismal weather.

Exhibitors provided a very colourful display of their alpacas in pens around the oval, with a wide range of colours on show in both Suri and Huacaya breeds.

It was also very eye catching to see a fantastic display of colourful knitted garments, felted garments, raw fleece, dyed fleece in a range of colours, yarn, quilts, halters and many more alpaca products for the public to purchase and experience.

A very cute little black cria was the 'star' of the day and a big hit with children and adults who enjoyed lots of cuddles - he could have been sold at least a dozen times!

Despite the weather a number of members of the public attended the Open Day and spent a lot of time gathering information and learning more about alpacas. A number of breeders were very pleased with the results of the day - some selling products and alpacas as well as picking up leads for further networking and sales opportunities.

You have to be in it to win it! Next year's Open Day is set to be bigger and better at a new location.

Jen and John Duggin AAASA Marketing Representatives Marquez Alpacas

Birrong Suri Alpacas

For the last four years Birrong Suri Alpacas has promoted National Alpaca Week in our area. In the past we have done Farm Trails, joining with three other studs to offer an interesting drive through the area, and for the last two years have taken alpacas to the local Visitor Information Centre, also in conjunction with other alpaca studs.

This year, for various reasons, others were unable to join us in a NAW event and so we decided to revert to a simple Open Farm format – considering it an incentive to tidy the shearing shed and enjoy a "day off" from normal weekend farm chores. We opened for one day only on Sunday 27 May being unavailable on the actual NAW weekends.

We opted to undertake no paid advertising – instead sending out a media release to local newspapers (in the Southern Highlands and on the coast) and radio stations. This was combined with listing the event on a variety of free "what's on" event listings on media websites, and additional publicity provided by Tourism Southern Highlands, of which we are a member.

In the few days before the Open Farm day a couple of phone calls were also made to local radio stations, getting free airtime as either a community service announcement or part of a phone-in program.

A key difference with our media release this year was to highlight that we would be doing husbandry demonstrations (learn to cut an alpaca's toenails!) and explaining about farm infrastructure and pasture management.

This was in addition to listing the more usual family-oriented activities of patting a cria, taking an alpaca for a walk and going on a guided feeding walk around the farm.





When our first guest arrived at 10.20am we were immediately struck by the fact that this was a single gentleman in a farm ute - perhaps the day was going to be different to previous events. From that moment we did not stop, with a constant stream of visitors, through until 4.00pm, without even a break for lunch. We did not even have time to keep an accurate tally of visitors – but estimate it was in excess of 30 groups.

We were particularly struck with the demographic of this year's visitors – yes, there were families on a day out, retired couples out on a country drive and Sydneysiders on a day trip – but by far the majority were local people with a real interest in alpaca ownership, with a dozen signing up to attend a subsequent alpaca handling and husbandry workshop.

This was by far the most successful NAW event we have hosted to date and whilst it left us feeling exhausted it also left us feeling buoyant about the future of our industry.

Husbandry

Liver Fluke In Alpacas

Jane Vaughan - Veterinarian BVSc PhD MACVSc

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Liver fluke is the common name of the trematode, Fasciola hepatica.

The parasite is found worldwide and is the only liver fluke found in Australia. Infection can lead to reduced productivity and death and costs millions of dollars each year in lost production (meat, wool, milk, liver condemnation, secondary infection, replacement stock requirements), stock deaths and costs of treatment and prevention.

The fluke mainly affects cattle and sheep, but can also affect alpacas, goats, horses, pigs, kangaroos, wombats, rabbits and deer.

Humans may also be infected, for example after eating watercress collected from fluke-infested creeks or following use of contaminated water on vegetable gardens. The adult fluke is a pale brown or grayish-brown flat worm about 1.5-4 cm long that lives in the bile ducts of the liver (Figure 1).



Figure 1. Adult liver fluke (source: http://www.britannica.com/EBchecked/media/5519/Liver-fluke).

Liver fluke are typically found in areas of southeastern Australia where the annual average rainfall is 600 mm or greater, or on irrigated country where the average rainfall is 400mm, in and around swampy areas, springs and seepages, irrigation channels and shallow, slow moving creeks where the intermediate host snail of this parasite breeds (Figure 2).

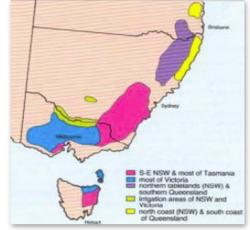


Figure 2 - Liver Fluke distribution

This includes:

- Most of Victoria and Tasmania
- South-eastern New South Wales
- Irrigation areas of NSW and Victoria
- Northern Tablelands and north coast of NSW
- Small areas of southern Queensland and South Australia

Western Australia is free of liver fluke and actively manages its fluke-free status using a system of drenching and liver fluke egg testing of faeces of stock being shipped westward (see www.agric.wa.gov.au for more information).

Life Cycle

The liver fluke requires two hosts: the definitive host, or alpaca, and the intermediate host, or lymnaeid snail, to complete its life cycle (Figure 3). Adult liver fluke live in the bile ducts of the host species, such as the alpaca. The flukes produce eggs, which pass in the bile into the small intestine and into the external environment in the faeces. The eggs hatch in wet areas in warmer months (mean temperature above 10°C, typically mid-September to May) and release larvae called miracidia, which need to invade certain species of snails within 24-30 hours to survive. Once in the snail, they develop and multiply as sporocytst, rediae and cercariae. The motile cercariae leave the snails and swim onto vegetation and form microscopic cysts called metacercariae on grass, leaves and reeds. The definitive host, such as the alpaca, ingests these cysts from the pasture and they hatch out into early immature flukes in the small intestine. These burrow through the walls of the gut into the abdominal cavity, and make their way through the capsule of the liver into the bile ducts over some weeks where they develop into egg-laying adult flukes.

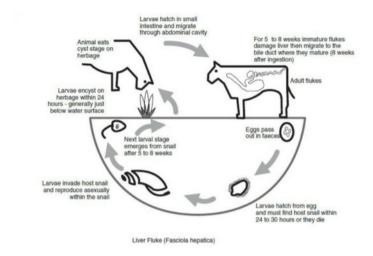


Figure 3. Life cycle of liver fluke is similar in alpacas, cattle, sheep and goats (Muirson 2004).

Over-wintering infection. In winter, all stages of fluke development and snail reproduction cease when temperatures fall below 10°C overnight, but metacercariae produced in summer and autumn will survive in declining numbers on vegetation (especially if moisture is present) as will snails and dormant larvae.

The early spring metacercarial cysts appear as a result of snails being infected by miracidia in autumn and completing the life cycle when temperatures increase in spring.

Summer infection. It takes 2-3 months from eggs being laid on the pasture to encysting on vegetation and becoming infective to the definitive host in favourable conditions: it takes 21 days for eggs to develop into miracidia in summer, but up to 90 days in spring and autumn.

Metacercarial cysts can survive on vegetation for many months if there is adequate moisture and temperatures stay below 20°C so there is usually high pasture contamination by late summer and autumn. Cysts die quickly in hot, dry conditions. Snails and fluke larvae in snails survive in mud during dry periods for about a year. It takes 6-7 weeks from ingestion of metacercarial cysts until they enter the bile ducts, eating liver tissue and blood on their way. It takes another 2-3 weeks to reach sexual maturity and start laying eggs so it takes 8-10 weeks from ingestion to egg laying (pre-patent period). Each adult fluke lays 20,000 to 50,000 eggs per day, and each fluke egg can produce 4,000 infective metacercarial cysts, rapidly contaminating pastures. However the eggs may enter the small intestine via bile secretions in an intermittent manner, so faecal shedding of eggs can be intermittent. Adult flukes live for about a year in cattle and may live for the lifetime of a sheep if they remain untreated. Longevity of flukes is unknown in alpacas. Egg production declines in cattle as they develop a natural resistance to chronic infections.

The life cycle is dependent on the presence of one of three types of lymnaeid snail that breeds in sunny, open, wet areas where there is an abundance of aquatic plant growth and algae on which to feed. Therefore, alpacas are most at risk of ingesting cysts from vegetation when grazing around waterways. Also, long, wet seasons (2012!) are associated with a higher rate of infection. Bear in mind that alpacas may prefer to graze away from swampy areas when feed is plentiful, and may therefore become infected in dry times when forced to graze more closely in the marshy areas.

Lymnaea tomentosa, an indigenous, freshwater snail is the most important intermediate host in Australia and New Zealand. It lives near slowmoving, shallow creeks, swampy areas, springs and irrigation channels/drains and is summeractive. It is only rarely found in dams, water troughs and large creeks, but may be found in dam overflows after heavy rain. It can survive in dry mud for up to a year, and tolerates low temperatures. This snail is 6-12 mm long and has a clockwise thread when viewed from the point to the base of the snail.

Lymnaea columella is an introduced snail from North America. It is less fastidious than L. tomentosa and may be found in deeper creeks and dams, and can survive in stagnant water. It is a small snail, 8-20 mm long with a dark grey body. The shell is thin, fragile and has a clockwise coil when viewed from the top. It is widespread in Western Australia.

Lymnaea viridis has been recently introduced from various Pacific islands. It is a versatile snail, liking environments of L. tomentosa and L. columella, and has the ability to travel much further from water sources than the other snails. It is 4-12 mm long and its shell has a clockwise spiral too.

Clinical signs

Liver fluke disease can be acute, sub-acute or chronic depending on the size of infection and how quickly cysts are ingested. Clinical signs result from the damage caused by immature fluke migrating through the liver, and damage by adult fluke to bile ducts and blood ingestion. Sheep have no naturally acquired resistance to liver fluke so acute and chronic fasciolosis may occur at any age. Conversely, cattle develop resistance so clinical disease is more likely in young cattle.

1. Acute fasciolosis

This syndrome is seen in late spring and early summer following ingestion of massive numbers of metacercarial cysts from the pasture over a short period and many flukes develop at once. It is usually seen in specific climatic conditions combined with a lack of fluke control measures when alpacas are forced to graze heavily contaminated wet areas as a result of overstocking and/or drought. Animals may show some abdominal pain and/or jaundice but often present as sudden death. Death occurs within weeks of ingestion and is secondary to liver damage and blood loss caused by migration of immature flukes through the liver. Reduced liver function can be detected by elevated liver enzymes in the blood of affected animals 2 weeks after infection and can be useful in diagnosing acute fasciolosis. Elevated liver enzymes may persist in sub-acute and chronic cases for 16-18 weeks.

2. Sub-acute fasciolosis

This syndrome is characterised by liver damage, anaemia, jaundice and ill-thrift and is most common in late summer to late autumn. There is extensive liver damage and haemorrhage caused by the migrating fluke (Figure 4.). Liver failure and death occur in 8-10 weeks following reduced growth, fertility and wool production.



Figure 4. Liver of an alpaca with sub-acute fasciolosis.

3. Chronic fasciolosis

This is the most common scenario seen in sheep, goats and cattle. It can occur at any time but most commonly from autumn to spring. Parasites reach the bile ducts of the liver, and cause bile duct inflammation, enlargement and obstruction, hepatic inflammation and fibrosis and anaemia over a period of months.

Animals gradually become inappetant, anaemic, reluctant to move and eventually may die.

Chronic fasciolosis also provides the right conditions in the liver for the fatal clostridial disease Clostridium novyi type B, or Black disease. Clostridial bacteria multiply in areas of liver damage caused by migrating immature liver fluke and can lead to sudden death.

This is one of the organisms contained in 5-in-1 clostridial vaccines so make sure vaccinations are up to date if alpacas are being run in a fluke-endemic area.



Figure 5. Valvular endocarditis secondary to fasciolosis

In alpacas other bacteria, such as E. coli, may be showered from the fluke-infected liver along the hepatic vein to the right ventricle of the heart, where it causes severe endocarditis and right-sided congestive heart failure (Figures 5 and 6; Links et al, 1992).

Severe production losses occur when immature flukes burrow through the liver even when obvious symptoms are not apparent. Death from fluke infection, Black disease and/or E.coli abscessation depends on the burden of fluke in the liver and stage of fluke infection.



Figure 6. Hepatic fibrosis secondary to liver fluke migration and congestive heart failure.

Diagnosis

Grazing history, clinical examination, serology, faecal egg counts, response to treatment and necropsy findings are usually used in combination to identify liver fluke infections in sheep, cattle and alpacas.

1. Dead alpacas. Adult and/or immature flukes ooze out of bile ducts and tissue parenchyma when the liver is cut open.

2. Faecal sedimentation test. Fresh samples of faeces should be collected directly from the rectum of approximately 10 alpacas in each mob using a gloved finger. 10-15 faecal pellets (30 g) should be collected from each animal and placed into separate freezer bags. Air should be excluded from the bag and bags placed into the refrigerator and kept cool during shipment to the laboratory. Collect samples early in the week so they do not get lost in transit over the weekend. Do not freeze faeces. Alternatively, move alpacas to a communal dung pile and hold them there for 10-15 minutes then collect warm samples from the dung pile in a similar fashion.

Fluke eggs are larger than strongyle (roundworm) eggs found in alpacas and require a different faecal test (sedimentation rather than flotation) to identify their presence (Figure 7). Make sure you specifically ask the laboratory for a fluke egg count. The eggs have a characteristic operculum at one end.

Sometimes alpacas will pick up massive numbers of larvae from the pasture and die before larval forms of fluke have had time to mature and begin egg laying in the bile ducts. Worm egg counts may be zero or low, but diagnosis will be made at autopsy by the presence of larvae in the liver. Because there is a 12 week lag between ingestion of metacercarial cysts and fluke eggs appearing in faeces, false negatives occur in faecal tests between December and May. Between June and November, faecal testing for fluke eggs is more reliable. Intermittent shedding of eggs by adult flukes may also lead to false negative tests. Testing 10-12 animals in a herd rather than an individual animal is recommended to optimize potential for detecting fluke eggs.

3. Blood ELISA tests validated in sheep and cattle that test for antibodies made in response to flukes are not validated in alpacas. The test detects infection with both immature and adult flukes in a flock or herd (10 blood samples pooled in the laboratory into 2 groups of 5 prior to testing), but is not sensitive enough to diagnose infection in individual animals. Serum antibodies appear 6-8 weeks after infection in cattle, and 4-6 weeks after infection in sheep and remain high for at least 12 weeks after infection has been removed. Antibodies remain high in untreated sub-acute and chronic stages.

4. Faecal antigen tests are currently being validated in sheep and cattle in Australia. Commercial kits are available overseas, and they detect secretory-excretory antigens shed by both immature and adult flukes in the bile ducts. These kits should allow earlier detection of fluke prior to egg production by adult flukes.



Figure 7. Fluke eggs (http://www.nhm.ac.uk/natureonline/species-of-the-day/scientific-advances/disease/fasciolahepatica/index.html).

Treatment

Once a diagnosis has been made, a zero-tolerance approach is recommended when treating and controlling liver fluke because even light burdens can cause significant damage and production losses.

The treatment recommended will depend on the nature of infection – are immature or adult fluke causing disease?

Active Ingredient	Safety Index at	Over 90% efficiency at the recommended dose rate (age of fluke in weeks)						
	recommended dose	2	4	6	8	10	12	14
		Early Immature		Imma	Immature		Adult Flukes	
Triclabendazole	20	+	+	+	+	+	+	+
Closantel	5.3	-	_	_	+	+	+	+
Closantel + oxfendazole	5.3	-	-	+	+	+	+	+
Closantel + albendazole	5.3	-	-	-	+	+	+	+
Nitroxynil	4	-	-	-	-	+	+	+
Albendazole	6	-	-	-	-	-	<u>+</u>	+
Oxyclosanide + levamisole	4	-	-	-	-	-	<u>+</u>	+
Chlorsulon + ivermectin	20	-	-	-	-	-	+	+
Nitroxynil+chlorsulon+ivermectin	4	-	+	+	+	+	+	+

Table 1. Efficiency of drugs available in Australia for the treatment of liver fluke in sheep and cattle (modified from Boray 2007).

Not all flukicides (anthelmintics effective against liver fluke) are effective against immature fluke so are not recommended in acute fluke outbreaks (Table 1). They are also less efficient for strategic control of flukes. Even the best flukacides do not kill every fluke and an effective flukacide is described as being 90 % or more effective (compared with roundworm anthelmintics where effective drenches kill more than 95 % of target roundworms). Remember to test/treat introduced stock to reduce contaminating fluke-free areas.

The most effective drug of choice against liver fluke is triclabendazole (E.g. Fasinex®, Flukare®, Tremacide®). While very specific for Fasciola, it is not effective against nematodes, cestodes and other trematodes. The dose rate for alpacas is estimated to be 15 mg/kg body weight orally (in comparison to sheep and goats 10 mg/kg po and cattle 12 mg/kg po). The oral route of administration ensures the active ingredient is absorbed from the gastrointestinal tract and delivered to the liver via the portal blood supply. Triclabendazole has been combined with oxfendazole (Flukazole S®) to improve efficiency through a synergistic effect. Note that different products contain different concentrations of the active ingredient so read the label carefully before use and contact your veterinarian for assistance with calculating drench volume if necessary. Remember no drugs are registered for use in alpacas.

Do not use any of the pour-on products containing triclabendazole (Martin et al. 2010) as absorption across the skin is impaired by hair growth (cattle groom themselves and each other and lick the drench off the skin!) and will likely be ineffective in alpacas.

Closantel is effective against liver fluke and Haemonchus (barber's pole worm). The drug is effective against young, mature fluke (6-8 weeks of age) but has reduced effect on immature fluke. It is an oral drench and has been combined with oxfendazole (Closicomb®) to improve efficacy against susceptible 4 week-old fluke.

Nitroxynil (Trodax®) is an injectable sheep and cattle flukacide that has activity against adult fluke. Nitroxynil, clorsulon and ivermectin combination (Nitromec®) is an injectable cattle flukacide reported to be effective against early immature fluke as well as immature and adult stages (Hutchinson et al. 2009). Unconfirmed reports claim that the nitroxynil, clorsulon and ivermectin combination may cause local injection site skin reactions in cattle.

Timing of fluke drenches will depend on region of Australia and rainfall and temperature pattern and may vary a little from the outline below. The programme needs to be developed in conjunction with your local veterinarian. In south-eastern Australia, pick up of larvae usually begins in spring and continues through summer when snail survival is favoured (wetlands/irrigation). Snail numbers tend to plummet in winter so pickup of immature flukes decreases markedly. Beware though that in mild winters snail activity and fluke pickup may continue.

1. Late April/early May. The most important treatment. Most fluke infections are picked up in summer and early autumn. After the first frost in southern Australia, snails become inactive so there is very little uptake from pastures once it gets cold. Drenching at this time will markedly reduce fluke egg output over winter and reduce pasture contamination. Use a drench that kills immature and adult fluke such as triclabendazole.

2. August. Even the best flukacides do not kill every fluke and some fluke would have been too young to respond to drenching in autumn, so there will be some fluke in the liver left after the autumn treatment. Some metacercariae may have been picked up over winter too. Use an adult flukacide, such as closantel+oxfendazole or nitroxynil, at this time to prevent spring pasture contamination before snails become active, as there will only be adult flukes in the bile ducts of the liver at this time of the year.

3. December/January. Drenching at this time will help reduce spring pick-up and to keep egg production low if pastures are very contaminated. A drench effective against early immature fluke, such as triclabendazole, should be used. This drench is usually applied on farms that are heavily infected with fluke.

When using a drench that kills immature and adult flukes, egg production and pasture contamination will cease for about 10-12 weeks.

Treating more often than required is costly and may lead to the development of drench resistance. Not all of the above treatments may be required but treatment is essential when clinical disease is apparent. Aim to prevent disease and markedly reduce pasture contamination over the long-term. Remember to treat sheep and cattle if co-grazing with alpacas occurs.

Resistance of flukes to triclabendazole and closantel has been reported in Australia in various areas (Pyramid Hill in Victoria and New England Tablelands and Bega district in NSW) following 20 years of use. Resistance is not widespread and has been slow to develop because there are large refugia of susceptible fluke in the environment to dilute out resistant strains. Resistance is usually first seen as reduced effectiveness against immature flukes. Resistance to fluke drenches allows spread of fluke among properties via infected stock or snails.

Consider rotating from a flukacide with activity against immature and adult fluke in autumn to an adult-specific drench in August. Closantel can be used successfully against triclabendazole-resistant fluke and vice-versa as they belong to different drench families. Nitroxynil, clorsulon and ivermectin combination drench may be useful to use in rotation with triclabendazole to reduce development of fluke resistance to triclabendazole.

Limit the use of combination products that are effective against fluke and roundworms to when treatment of both is required.

Before you treat your animals, carefully read the directions for use of the selected drench. Shake the container so the drench is mixed evenly. Make sure you weigh some of the largest animals in the group and treat to the heaviest in the mob so that no animal is under-dosed. If the group has a wide range of weights, divide into lighter and heavier mobs so the smaller animals are not overdosed. Calculate the correct dose. Ensure drenching equipment, delivered via both injectable and oral routes, is calibrated to deliver the correct dose (and check throughout the day). Ensure drench is not spilled during drenching. If you are using an oral drench, place the drench gun over the back of the tongue and allow time for the alpaca to swallow. If injecting, place the needle subcutaneously. Do not hold drenched animals off water for too long after treatment.

To check how well your flukacide is working, do a fluke egg count on the day of drenching and again 28 days after drenching and calculate the percent reduction in faecal egg count. You need to wait 28 days for the fluke eggs to clear from the bile ducts of the liver. Remember that no drugs are registered for use in alpacas and you should work in close consultation with your local veterinarian to obtain appropriate information about off-label use of drenches.

Control

A continuous and coordinated strategic control programme is required because flukes and snails reproduce at such a high rate.

- Use strategic fluke drenches. Eradication is almost impossible because it is usually not possible to prevent re-infestation of pastures and animals.
- Monitor worm burdens regularly in your herd by collecting fresh faeces and testing for fluke egg output in the herd. Worm egg counts are given as a measure of numbers of parasite eggs per gram of faeces. Remember that the routine faecal egg count method that detects roundworms/nematodes does not detect fluke eggs and a fluke egg sedimentation test must be requested.
- Participate in Q-Alpaca. Liver damage secondary to fluke will be detected at autopsy so a control programme may be implemented before too many deaths occur.
- Avoid introducing animals (alpacas, sheep, goats, cattle) with liver fluke onto your property by quarantining and drenching new animals that come from a liver fluke area with an effective, broad-spectrum flukacide.

- Do not forget about the intermediate hosts! It may be prudent to fence off swampy areas to prevent grazing where snails may reside or to drain wet areas to reduce snail habitat and numbers. Planting trees may reduce snails by increasing a dense cover of vegetation. Keep irrigation drainage channels clear of vegetation so water flows freely and snails and cysts do not accumulate in their vicinity. Chemical control of snails is not an option because they reproduce and repopulate areas so guickly and no molluscacides are registered for this use in Australia.
- Grazing management. Identify snail-infested pastures on the property and treat only those animals grazing these areas. Graze cattle on fluke-prone areas rather than alpacas. Limit grazing of 'flukey' country in autumn and early winter (February to June), when pickup is greatest.

Development of vaccines against fluke have been very disappointing to date as the level of protection is not high enough to warrant commercialisation. However, ensure alpacas are vaccinated against Black disease using a 5-in-1 clostridial vaccine.

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Quechua Benefit

A vaguely shimmering halo crowned Mount Misti as the sun set. I asked Julio Barreda where alpacas came from.

When Don Julio liked a question or an answer he typically responded by saying "Buenos" as he did when asked about the origins of the alpaca. Smiling he said that the Quechua pastoralists believed that alpacas came from the "inner" world.

It seems there was a Princess of the inner world who fell innocently in love with a Quechua boy from the outer world. The only doorway between their mythical worlds was Lake Titicaca. The Princess' father reluctantly agreed that his daughter could marry her new found love but he was worried that the young man would not be able to support her. He decided to send alpacas from his herd to the shores of the lake as a dowry. The "Apu's" only condition was that the young man must take vigilant care of the alpacas. But the boy was lazy and not long after they were married a cria died from neglect. Ashamed the Princess instantly dove into the lake stroking her way back to her father's inner world; taking with her almost all of the alpacas. But a few lingered and according to legend alpacas have populated the shores of Andean lakes and the snow fueled bofedales of the high Sierra ever since.

Do you believe this myth? I asked. "No-no" he replied. "I believe that alpacas came from God, showered on the altiplano like manna from heaven. Alpacas are God's gift to the Quechua people meant to sustain them just as the manna sustained the Israelites in the wilderness."

The final interview for Alpacas: Synthesis of a Miracle had just concluded and Don Julio Barreda stood up from the table at La Posada Del Puente in downtown Arequipa; tugging his worn, sweat ringed hat firmly into place, he turned to leave.

Suddenly he stopped; his walnut brown face creased in thought, "Could you do anything for the children of my village?" he asked. My friend Mario, a dentist, who had been translating wondered if they needed dental services and Don Julio immediately responded: "Buenos".



Don Julio Barreda with alpacas

Later that year, November 11, 1996 to be exact, Mario, an alpaca breeder and several dental assistants made their way to Macusani, a remote town high in the Andes. The mission started in a storm of anger when Don Julio was told that the missionaries could not use the town's clinic facility as had been promised. It seems the local dentists were unanimously opposed to the gringos offering free care. They saw it as a threat to their business. Never mind that the patients to be served could not afford to pay for their services and that dental disease is one of the leading killers among third world populations. Julio Barreda stalked out of the clinic muttering in Quechua leaving us bewildered. We waited nervously.

Peruvian society has no tradition of charity. The Mayor in Macusani told us that his town was so far from Lima that the government forgot that they were even there. He marveled that we gringos could even find them, "coming from a place so far that he knew not where."

A person who worked for one of the largest textile companies in Peru once asked me why we chose to do dental clinics when all of the Indians had such good teeth. I remember his words every time I see puss oozing from the rotting teeth and gums of a small child.



Peru has a colonial mindset in which everyone exploits the person on the rung below. The Quechua are at the bottom of that ladder.

The dental chair was finally set up in the middle of a small bedroom in the Tejeda family's home one block off of the plaza in Macusani. The family was a long time friend of Barreda's and they took us in. The line of poor Quechua criadores stretched around the block, many of them barefoot in the freezing midday sun, all of them waiting to see the gringo dentist. The children's noses flattened on the bedroom window as they strained to see the "dentista" at work. The line did not shorten for the 7 days the clinic operated; from morning till night. Quechua Benefit was born.

From that day forward the path was marked in front of us, seemingly clear and easy to follow. Quechua Benefit forged on, serving more than 60,000 patients in the ensuing 16 years. Today we conduct medical missions, cataract surgeries, optometry clinics, deliver disaster relief to remote alpaca breeders, support four orphanages and we are completing the children's village we call Casa Chapi for 100 young residents most of whom come from homes that cannot afford their keep or they have no families at all. This year we will feed 78,000 hot meals in the courtyard of the church in Yanque through the Sister Antonia feeding program. Each of these programs is a step on a straight forward path.

The other path was initially invisible.

On the second day of the clinic Don Julio stood in front of the Tejeda house talking with the people in line. Small barefooted children grabbed at his legs. Shy women in clouds of ballooning red and turquoise skirts, many of them single mothers, their shoulders pulled square by the baby tied in a warm blanket across their back, came up and glancing down shyly at the dirt street, they offered their hand in thanks. Barreda turned to me and said, "The Bible tells us to let the children come to you." Over the years that sentence has echoed through my mind just as a catchy tune lives on in one's ears, occasionally re-playing its melody, never quite going away.

The other path suddenly had it first faint foot prints but no one seemed to notice.

Quechua Benefit soon began to extend their mission beyond Macusani. Peru, particularly the highlands, is a difficult place to find your way. There are no road signs and many of the locations where Quechua Benefit goes are not even on the map. The most reliable directions often come from

a Quechua speaker who usually indicates the path to our destination with a wave of their hand.

We learned early on in our journeys that the most reliable contacts for our work were the Catholic priests and nuns whose churches seemed to appear on every town square no matter how small. They are often the last social safety net for the poorest people and are always reliable



partners in seeing that the goods and services we sought to deliver to the poorest Quechua found their rightful place. Since that first trip in 1996 we have visited more than 60 small Andean villages. There were often sisters and churches there to assist our teams.

As time went on and sometime after we began Casa Chapi I began to read the Bible, a gift from fellow Quechua Benefit Board member Dr. Wayne Jarvis. I searched to find the verse that Julio Barreda referred to on that second day of our first mission trip to Macusani. I found it in Luke 18:15 and just as Julio said, it tells us to "let the children come to me" and adds the admonishment "do not hinder them..,"

The other path began to come into focus; a trail of translucent light.

As I continued to read the Bible James became my favorite book in the New Testament. There are two passages that I cannot get out of my mind; James 1:27, "Religion that is pure and undefiled before God, the Father is this: to visit widows and orphans in their affliction..," and James 2:17 "So also faith by itself, if it does not have works, is dead."

I cite these Bible passages, not for the purpose of attributing the work of Quechua Benefit as being Christian or any other religion for that matter but for the purpose of identifying what I believe is the spirituality that animates the benefactors of the charity. Quechua Benefit is supported by people of many faiths from the most personal to the most institutional. Some may be completely non religious but each supporter of Quechua Benefit endeavors to help someone far less fortunate than themselves: pure religion.

Each time a tooth is pulled and the pain subsides an act of faith is complete. The care giver must have faith in the outcome of the treatment and the patient must have faith in the essentially anonymous care giver. When someone receives eye glasses that bring a smile to their face our world becomes a brighter place. An antibiotic delivered to a sick Quechua child by a team doctor completes a kind deed. Donors from around the world send their money through the internet or by mail to help people who they may never even see, do so because it is the right thing to do—deeds are more important than words.

Like most of us the Quechua, who are a spiritual people, pray in times of need. Their child might be at risk of death or afflicted by birth defects. The people they pray for, the ones with pneumonia or abscessed teeth or the ones blinded by cataracts or who could not read a book at school before Quechua Benefits mission team followed a faint path to their village and provided eye glasses are the recipients of acts of faith. On occasion the Quechua Benefit volunteers become an answer to their prayers.

The capacity of volunteers to do good is remarkable. Volunteerism is born of the idea that the more fortunate among us should give back. It is sustained by sacrifices of time, treasure, personal comfort and sometimes one's safety.

During our last mission 16 volunteers braved airline cancellations and lack of sleep to find themselves on a pitch black night snaking their way down the mountain through a series of razor sharp switch backs on the road to Chivay.

Suddenly as the bus rounded a hairpin turn it slammed into a 4' high pile of asphalt left in the middle of the narrow road by a construction crew.



Sister Antonia's Soup Kitchen - Soup ingredients include vegetables , pasta and occasional meat such as llama or alpaca that a local rancher might donate. The Sisters also raise guinea pigs as another source of protein that is considered a delicacy.

No warning lights, safety crews or detours, just bloodied lips, lumps and stiff backs as the bus staggered to a halt a few feet from the edge of the road and a deep dark rock strewn ravine that stretched for hundreds of yards below.

Each volunteer on that bus was at the 7:00 am breakfast the next morning before making their way to the clinic and lines of Quechua people waiting to be served by gringos from a far off land. The spirit of volunteerism is strong in Quechua Benefit.

As Quechua Benefit builds Casa Chapi and continues the medical missions, dental missions, provides eyeglasses and cataract surgeries, delivers wheelchairs, and provides funds for Sister Antonia's feeding program it is amazing to witness the unique paths that people take to deliver of an act of charity. Some come from as far away as Australia and others from the U.S., Canada, England and parts of Europe. Each of them arriving in the highlands of Peru to help a people they have never met and may never see again: paths of righteousness. The other path was not initially envisioned by anyone save perhaps Julio Barreda. But it is paved with the footprints of people with good hearts from around the world. People simply motivated by their own personal faith, convictions, good will and charity. The other path is one devoid of labels, numbers, outcomes, miles travelled or material accomplishment. It is a simple spiritual journey that has led Quechua Benefit sponsors to do whatever good they may do. We need each of you no matter which road you take.



This Issue's Winner



Winner 'Cheese' Michelle Hamilton - Rosegum Alpacas QLD

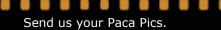


`Are you the new nanny?' Marina Mullette - Shahizai Alpacas QLD

Camera



` It's tiring just watching!' Maria Carpenter - Windspray Hollow Alpacas SA



Please send your paca pics as high resolution .jpg images to the AAA office via email, as an email attachment.

Email: sandra@alpaca.asn.au

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- Please ensure your images are of good quality and in high resolution.
- Provide a caption to go with your photo as well as your name and stud name.



' Rapsodie and friends' Glenda Bartlett - Surtierra Alpacas VIC



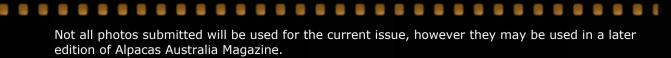
Mum do you have to?'
 Kathy Doyle - Jukama Park Alpacas QLD



' Charlie inviting himself to the BBQ nibbles' Kerrie Lucy - SamNat Park Alpacas QLD



` Is this close enough? Fiona Laughton - Beavona Lodge Suri Alpacas QLD



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