



IN THIS ISSUE

- Vaccinations
- Free cowl knitting pattern
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- Dehairing Alpaca Fibre
- Achieving Pregnancies

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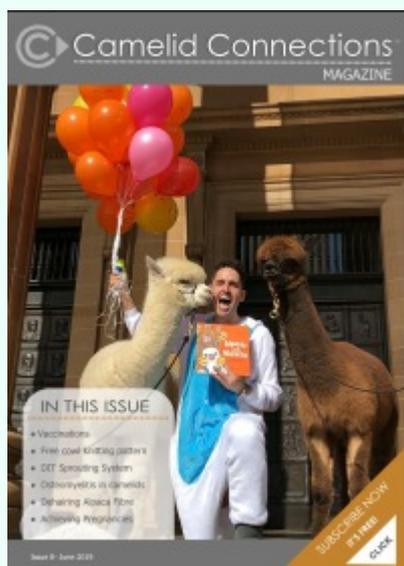
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Cover: National Simultaneous Storytime - Mat Cosgrove

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Welcome to Camelid Connections

June heralds the official start to Winter although from some of the postings I have seen, some of the southern states have already had to get out the winter woollies. Here in Queensland we have had a very warm Autumn (by Qld standards!) but the last few days have seen the temperature come down.

In this issue of Camelid Connections we have a fashion spread showing some of the lovely alpaca knitwear available both online and instore so click on the links to see the full range available from the retailers whose fashion wear we have featured. For those of you who love to knit we have a great pattern for a cowl scarf.

Interested in a low cost alternative to buying hay? Have a look at the article by Peter Harford who shares with you how to make your own "sprouting system" without breaking the budget.

New Zealand vet and llama breeder, Dr Corey Regnerus has written a great article on vaccinations for llamas and alpacas – especially useful for new breeders but a good refresher for more experienced breeders. Another New Zealander, Judy Webby, has written about her experience halter training llamas with much of the article applicable to alpacas.

Congratulations to all the alpaca breeders who joined in with National Simultaneous Storytime. Wasn't this a great promotion for the alpaca industry? Matt Cosgroves' books about Macca the Alpaca which we have featured over the last few issues, being chosen for the 2019 storytime with over 1,000,000 children reading Alpacas with Maracas on the one day have meant that children around the country have a better understanding about alpacas. Have a look at the photos sent to us from around the country showing just a few of the visits made by breeders prepared to give their time to promote the industry.

Enjoy the magazine, always happy to have feedback on the articles or anything you would like us to feature and please support the advertisers in the magazine as they are the people who support us to provide you with a FREE magazine.

Meet The Team



Esme Graham - Editor

My husband and I have been breeding suri alpacas for the past 20 years, I have been heavily involved with both regional committees and the national board of the Australian Alpaca Association for a number of years.

My major interest has been in marketing and education and to this end I was editor of Alpacas Australia magazine for over six years.

I hope that the experience I have gained editing Alpacas Australia can be extended to educate and inform a wider range of alpaca and llama breeders who are not necessarily association members.



Julie McClen - Designer/Editor

A breeder of ultrafine Huacaya alpacas for over 18 years, I have a passion for fine fibre and the genetic connection to the most diminutive and finest of the camelids - the wild Vicuna.

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

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

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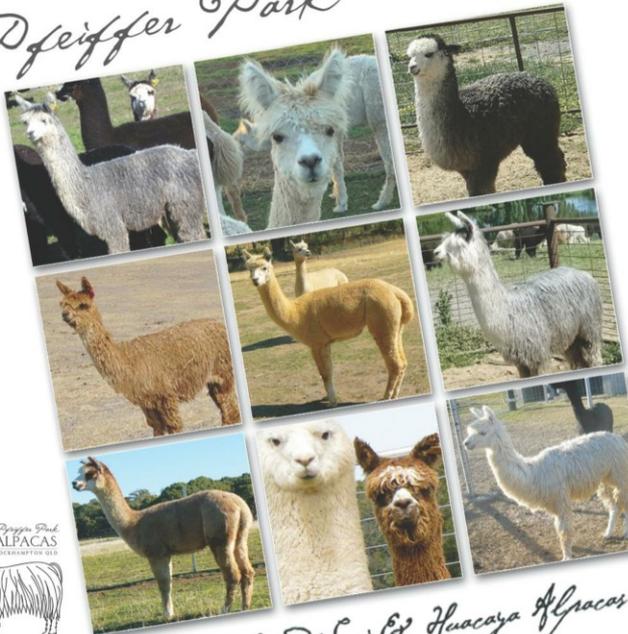
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The DIY SPROUTING SYSTEM

By Peter Harford - Dairy Road Alpacas



Dorothea Mackellar said it in her poem:

“I love a sunburnt country, A land of sweeping plains, Of ragged mountain ranges, Of droughts and flooding rains..”

Droughts and flooding rains impact all Australian farmers and alpaca breeders are not exempt, we will experience the power that nature hands out and its how we adapt to those situations that will see whether we succeed or fail.

During 2017 and 2018 Dairy Road Alpacas experienced a drought which really impacted on the amount of grass that our property was producing, the alpacas were eating the grass faster than it was growing.

For cattle or sheep breeders when things get tough, when there is not enough feed, then the answer is to downsize, sell the herd and then re-stock when things get better. But not for alpaca breeders, there is no market to downsize your herd and what of the genetic lines that you have been working on over the years. No!! Alpaca breeders can't downsize, alpaca breeders need to buy feed.

But everyone in the district is also affected by the drought and everyone is also looking for feed. When the local produce store put a one small bale a day limit on a \$30+ bale of lucerne, it was time to think outside the square.

And thinking outside the square was to produce our own feed, producing our own feed with a sprouting system. Now there are many sprouting systems on the market and they range in price from about \$10,000 up to \$70,000 or more.

The price was out of our reach and so a DIY sprouting system was the answer.

First, we needed somewhere to sprout our seed, so with recycled modular fencing, recycled colourbond fencing and some old windows a shed was built. So far, the cost was a couple of bags of cement and a few screws. Wire was placed over the top to stop the birds from eating the seed. While it was still in drought conditions the seed was sprouting really successfully, when the rains came the seed got too wet and started to rot. Therefore, a roof is required on your shed.

Secondly, we needed some trays to sprout the seeds, so with recycled 1200mm x 2400mm 5 ply sheets of plywood a raised 50mm timber edge around the sheet and all covered with a sheet of builder's plastic we now had our sprouting tray. We then made 6 trays. Again, the cost was a few screws and some galvanised clouts.

With the trays made they then had to be positioned over the top of each other, that way we could water the top tray and the remaining trays underneath would also be watered. The top tray sloped from left to right the length of the tray, with holes in the righthand end the water would drain into the tray underneath. The second tray then sloped from right to left with drain holes in the left-hand end.

By watering the top tray from the left the water would run the length of the tray, drain to the tray underneath and run back to the left end of that tray. This way the water would run through the entire 6 trays and into a catching reservoir at the bottom.

The trays were placed on benches made from recycled weldmesh fencing panels supported with concrete blocks and some timber blocks as packers to produce the correct fall for each of the trays. Once again being a master in recycling and reuse there was very little to no cost for the benches or trays.

To get water to the top tray the wife's water feature pond pump was used, but failed to get the required head to reach the top tray. Ebay was searched and a \$37 pond pump was purchased to get the water to the required height.

Our sprouting system was now in full swing. With a little trial and error, we realised that barley sprouted much quicker and better than wheat, so we stayed with the barley. The barley seeds were soaked overnight to kick start the sprouting process then poured out onto the trays. The barley created a mat of white roots and then the green shoots started to rise out of the trays. When the sprouts were about 100 mm high, we would feed them out to the alpacas.

The alpacas were a little hesitant about the sprouts to start with but once a couple started to eat the sprouts the rest soon followed suit. The alpacas ate both the green shoots as well as the white root mat, they left nothing. The great advantage of feeding out sprouts is that the nutritional value of the sprouts is much more improved than feeding the seeds themselves.

The sprouts have increased protein, starch and sugars and the vitamin and mineral levels are so much greater. Also, the sprout mat is fresh green pick, so much better than bales of hay which in a drought time are often more stalks than leaves, or they are half mould because the only bales available are the old ones.



Creating a DIY sprouting system raised a couple of challenges for us to overcome, as was said previously we needed a roof over our system to control the amount of water the trays received, we found that recycling the water wasn't as successful as using fresh clean water. The barley seeds create a lot of starch in the runoff water and reusing unfiltered water caused the seed to start going mouldy.

Another challenge that we faced was that our shed was not vermin proof and the local rats and mice found their way into the shed, and feasted on all that barley seed laid out on the trays. Having the sprouting system built near the chook shed didn't help as the chook feed was already attracting the mice and rats. A vermin proof shed is definitely a must.

In November 2018 our drought broke, the rains came just when the growing season was beginning and we were able to move our alpacas to a neighbour's property to eat their grass. This allowed our property to regenerate and with continued rain we have sufficient grass to accommodate the remaining alpacas on our property.

Our sprouting system has been placed in standby. We are no longer sprouting our seed at the moment, but the infrastructure is set up and ready to be kicked off whenever needed.



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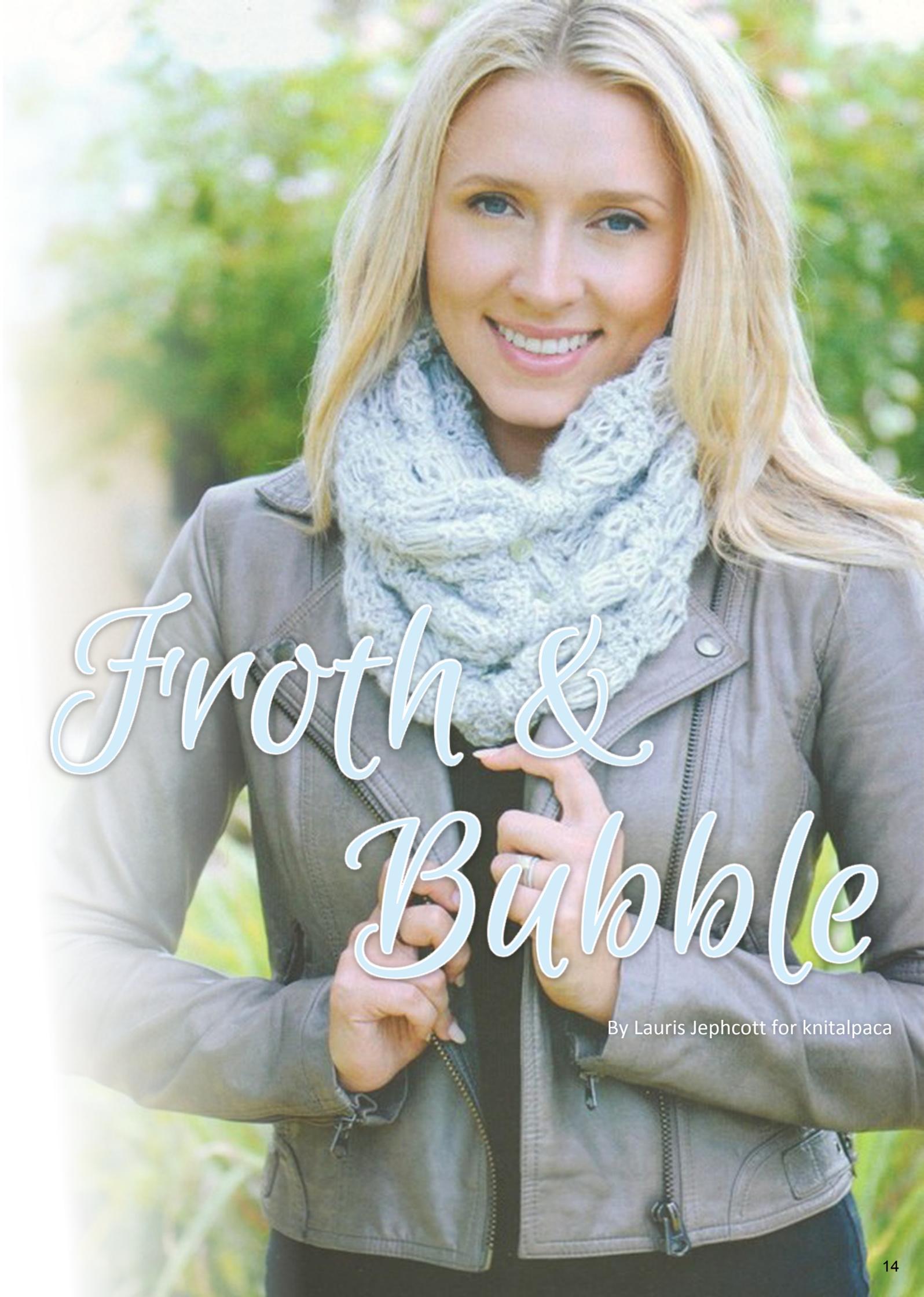
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Froth & Bubble

By Lauris Jephcott for knitalpaca

'Froth & Bubble' cowl or hood knitting pattern

Thanks to Lauris Jephcott of knitalpaca (www.knitalpaca.com.au) for this lovely pattern.

Yarn

5 x 50g balls knitalpaca 'Luxa' 100% alpaca or 'Luxa with a Twist' alpaca/merino

Needles

One pair 5mm, one pair 3.5 mm

Optional

Buttons for optional trim (6)

Tension

Not critical in this project.

Size

One size fits all.

THE COWL

Using smaller needles cast on 60 sts. Knit 3 rows.

Begin pattern:

****Change to larger needles and knit into the back and front of each stitch (thus doubling the number of stitches).**

Next row: knit, winding yarn twice round needle at each stitch.

Knit 1 row.

Next row: knit, winding yarn three times round needle at each stitch.

Knit 2 rows.

Change to smaller needles and knit 2 tog across row (halve the number of stitches)

Next row: k 1, * y o, k 2 tog to last stitch, k 1.

Knit 1 row. ******

Continue to work pattern from ****** to ****** until work measures 62 cm.

Change to smaller needles and work 4 rows garter stitch. Cast off.

FINISHING

Darn in ends.

Join cast on and cast off edges, to create a vertical 'tube' shape.

Trim with buttons if desired.



Dehairing Alpaca Fibre

At Cashmere Connections Pty Ltd.

By Trisha Esson - Cashmere Connections Pty Ltd

Background...The need for dehairing.

Many animals grow a double coated fleece; an adaptation that evolved no doubt to keep them warm over the cold conditions of Winter. The outer coat is usually coarser, hairier and longer, it is also often medullated (has a hollow core). The under coat is usually shorter and finer. The outer coat repels the weather and helps to protect the finer downier undercoat from VM contamination. The outer coat is grown from Primary fibre follicles and the finer undercoat from secondary fibre follicles within the skin of the animal.

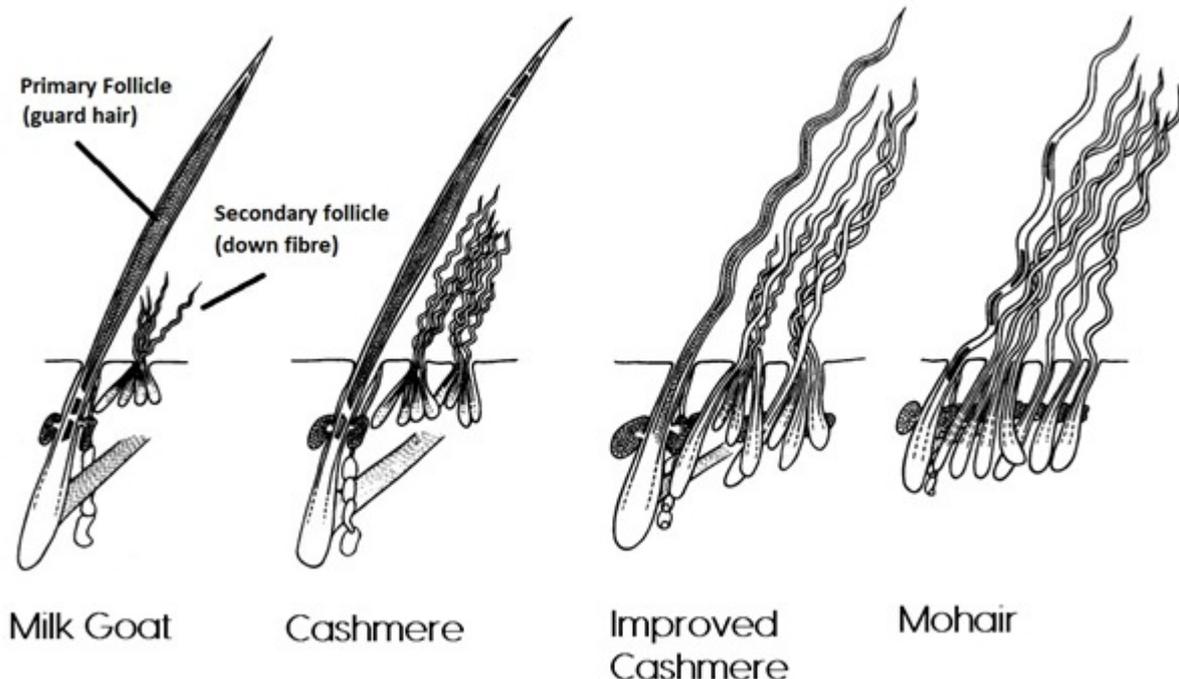
This type of double coated fleece is often referred to as a "Primitive Fleece". It is the finer fibre produced by the secondary follicles that people favour for use in textiles by selectively breeding animals for fibre fineness and fleece weight farmers have increased the number of secondary fibres on the animals over time whilst at the same time reducing the coarseness of the primary fibre. This is what has happened in the alpaca industry and whilst the alpaca industry has come ahead in leaps and bounds over the last 30 or so years there is still definition between the primary and secondary fibres on at least some parts of most animals.

Where there is no discernible difference between the primary and secondary fibres in an alpaca fleece, there is no need to dehair. However for hairy saddles, as well as the pieces, dehairing the fibre produces a softer handling more commercially acceptable product.

How dehairing works

There is more than one method of dehairing successfully employed by commercial dehairers world wide. Dehairing is not an easy process to get right, so most who have managed through time, research and experience to get it right, guard their process carefully.

Our dehairing process uses a series of rollers, that throw off by centrifugal force and careful control of air flow, the waste products (hair and VM). This waste falls under the machine whilst the finer downier fibre flows through the machine, into a card and from there it exits the machine in a web form.



Above: An example of skin follicle evolution in goats

Alpaca is just one of the animal fibres that we dehair at Cashmere Connections.

The machine has to be reset for each different fibre type. Some of the setting changes require us to modify the actual set up of the machine ie moving bits of the machine so that the different fibre type will move through the machine in such a way as to be both efficient and effective. You don't want to drop a lot of good fibre under the machine, but then again you don't want a lot of hair coming through the machine into the dehaired product (good fibre).

Other changes require us to reset the speed settings of different components of the machine. Very subtle changes in speed settings and their relation to other speed settings can produce vastly different qualities of product both through the machine and under the machine (waste). The operator needs to watch the machine carefully after a reset and change to another product, in order to ensure that no further "tweaking" of the settings is required.

Some products or fibre types, require more than one dehairer pass. Most cashmere requires a minimum of 2 – 3 passes in order to remove the guard hair.

Cleaning

Cleaning is not only an integral part of the everyday operation of the dehairers, but also a huge part of the transition from one product to another.

Daily cleaning of the dehairers is critical for efficient operation of the machines. An hour to an hour and a half each day is spent on the daily clean. Particular attention has to be paid to the cleaning of the bearings as the fibre tends to wrap on the bearings. If left, the wrap would accumulate to a stage where it causes the roller to jam. Once the roller jams, fibre will no longer flow through the machine but begin to accumulate within the machine (not good!). Fine alpaca and cashmere seem to wrap more than coarser fibre.

If we are changing from dehairing white alpaca to white cashmere we have to allow at least 2 to 2 ½ days for thorough cleaning of the machines and the dehairing room. The same sort of procedure is followed if moving from dehairing coloured alpaca back to dehairing white alpaca.

The finished products

Dehaired coarse alpaca and dehaired alpaca pieces, both white and coloured, are sold to Australian duvet making companies. Dehaired fine, short (40 – 80 mm) huacaya alpaca can be used for woollen spinning whilst dehaired huacaya alpaca 80 – 120 mm is further processed into combed top.



*Pictured is Debbie our dehairer operator.
She is also an expert dehairer cleaner.
She knows ALL the nooks and crannies on each machine.*

Alpaca combed top is sold to Australian companies wanting to spin alpaca or alpaca blend yarns. The commercial alpaca yarns are either sold to hand knitters or commercially knitted or woven into products locally. Some alpaca and alpaca blend tops are also sold to the local craft market for blending, hand spinning and felting.

For further information contact:

Trisha Esson
Cashmere Connections Pty Ltd
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Bacchus Marsh. Vic. 3340
www.cashmereconnections.com.au



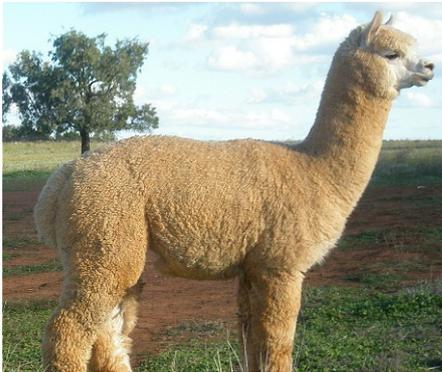
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Signature Pure Revelation

IAR: 219154 | Colour: Solid White
DOB: 14 May 2016 | NOT CERTIFIED
Price: \$1500 + gst

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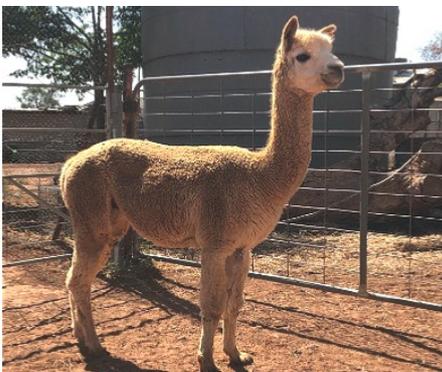


Signature Original Sin

IAR: 219178 | Colour: Dark Grey
DOB: 9 June 2017 | NOT CERTIFIED
Price: \$1500 + gst

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FEMALES FOR SALE



Forestglen Kinti

IAR: 72187 | Colour: Medium Fawn
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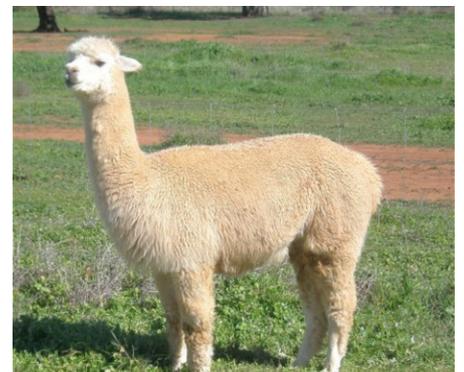
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Molonglo Zuleika

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Signature Flirt

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FEMALES FOR SALE



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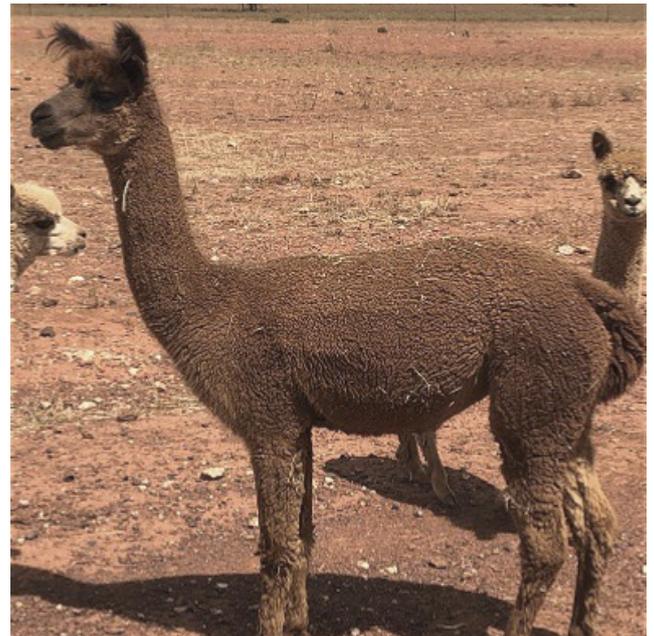
Signature Masquerade
IAR: 219156 | Colour: Dark Fawn
DOB: 10 June 2016 | OPEN
Price: \$500 + gst

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Signature Pure Indulgence
IAR: 219151 | Colour: Solid White
DOB: 2 May 2016 | OPEN

VIEW FULL DETAILS



Signature Damsel fly
IAR: 219136 | Colour: Dark Brown
DOB: 30 March 2016 | OPEN
Price: \$900 + gst

VIEW FULL DETAILS

Vaccinations

Recommendations for Llamas & Alpacas

By Corey Regnerus-Kell – BVSc, BSc;
Innovative Vets Ltd. NZ; innovativevets@gmail.com

Vaccinations and Immunity:

Providing protection to our herds at home is an important aspect of camelid farming, and something dear to all our hearts. Vaccinations play a crucial role not only in an individual animal's health, but also the herd's overall health. Before getting into recommended practice, it would be good to discuss what vaccinations are, and how they provide protection to your animals.

Every animal, including we as humans, have two main types of protection against disease; These are 'innate' and 'adaptive' immunity. Innate immunity is the first line defence against disease that we all possess, things like the skin as a barrier to exposure, chemicals in the blood stream to prevent establishment of disease, and specific cells that are designed to recognise 'foreign' cells in a very short period of time and attack them (but are relatively non-specific). Adaptive immunity is about developing cells in the body that can recognise certain diseases in a 'lock-and-key' type of system with antigens (the bit on the virus or bacteria themselves... the bad bit) and antibodies (the bodies dictionary to recognise the disease, the good bit). Adaptive immunity is acquired over time, either in the uterus during development, or after birth by means of exposure (naturally or intentionally like colostrum ingestion or vaccinations). Majority of our livestock species (including camelids) do not acquire antibodies in the uterus due to the structure of the placenta, so colostrum is the primary protection for our cria.

Now that you have a brief over view of the immune system, we can discuss vaccinations. Vaccines are made up of two main parts; An adjuvant, and 'Killed' or 'Modified' component of the bacteria or virus that they are trying to protect against. The adjuvant is a solution mixed into the vaccine that is known to cause an increased recognition by the body's immune system. The reason for this is to draw attention to the vaccination site, cause an inflammatory reaction to absorb it into the main blood stream of the animal. This is a very crucial aspect of ensuring your animals build up a memory of the disease they are being vaccinated for. The second part of the vaccine is the disease specific part of the vaccine. There are two main forms, either 'killed' or

'modified live' (sometimes called attenuated vaccinations). They are exactly as it sounds, and either means there are killed bacteria or viruses in the vaccine like a soup, or a modified version of the live virus. The term 'modified' means that they have been altered in the laboratory at the DNA level of the virus to prevent the cause of active infection. Generally speaking, killed vaccinations are safer than modified live vaccinations due to a small risk of the actual disease being caused by administering the vaccine with live viruses present.

Once you have vaccinated an animal, the 'bug' (either the virus or bacteria) is picked up at the site of the injection with the help of the adjuvant as spoken about above. Once this happens, the body develops two different types of immune cells. One has a short-term memory, and the other a long-term memory. Any new disease that is introduced to any animal (vaccination or exposure) will result in the body generating new immune cells with the antigen to be able to recognise that particular disease in the future. This allows the body to respond quicker to try and prevent the spread of disease and clinical signs (what we actually see as suffering from the disease). This is important to understand as most vaccinations require multiple exposures to the diseases (repeat vaccinations) in order to ensure the memory cells are kept up-to-date, and in quantities required to provide adequate protection. This is further complicated by something called 'passive immunity' that happens mainly when animals are young. Passive immunity is when the baby receives whole antibodies (the good guys) to give them immediate protection against the disease. The most common way of achieving this, is by ensuring consumption of colostrum. Colostrum is the first milk that is produced by the mother and contains a very important mix of antibodies to most every disease or infection that she has ever been exposed to. With good colostrum intake (occurring in the first 12-24 hours of birth), the baby should receive immediate protection to the vast number of bacteria and viruses they are exposed to as soon as they hit the ground. Colostrum will last for about 4 days from the mother before losing the extra goodies and becoming standard milk. When a baby consumes adequate colostrum, they should have about 12-18 weeks of protection until the baby starts to remove those cells in the process of developing their own.

The above passive immunity is also important to understand as this 'passive immunity' can interfere with our vaccinations that we give. If the body believes that it has enough immune cells present to fight infection, it will not work to make more. So, we have to wait until the baby's immune system starts to wean off mum's immune cells to achieve a good response to the vaccinations. To best achieve this, we use the same vaccination multiple times. The first time the vaccination is given, it is referred to as the 'primer', and the second time as the 'booster'. This is generally achieved with the two vaccines being administered 3-6 weeks apart. Once this is done, the antibody level should remain above the protective threshold, and therefore protect the cria when they are exposed to the disease with a marked and rapid rise in antibody level at the time of exposure.

All of this is depicted in the graph below.

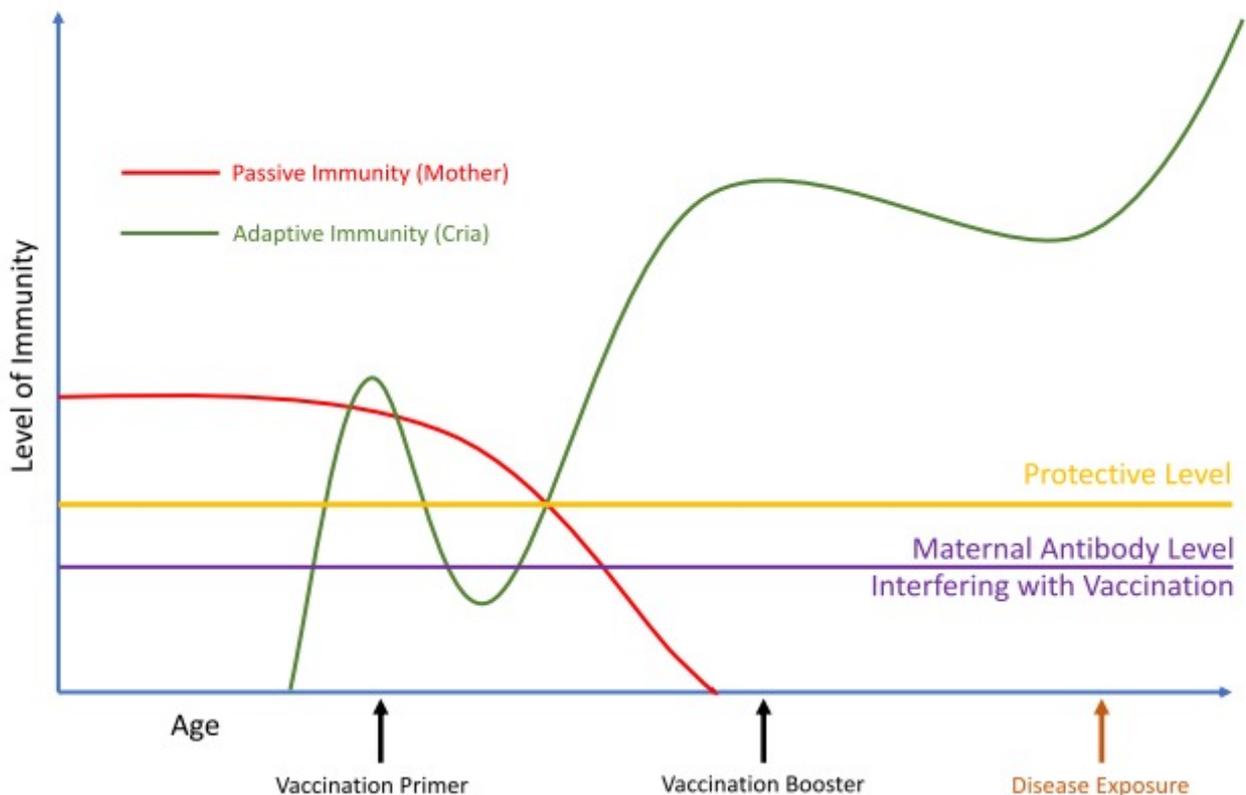
Every vaccination works slightly differently and will maintain a high enough level of immunity to provide protection for a different period of time. This becomes important for the 'booster' vaccinations that animals receive as they continue through their lives. Part of this depends on risk of exposure to the disease, the protective 'memory' of the vaccination, and the risk that you are willing to take for protection against that disease. These are the most important points to discuss with your vet for your own farming situation.

Specific Vaccinations Protocol Recommendations:

Clostridial Vaccinations (e.g. 5-in-1):

There are five main clostridial diseases that we vaccinate our livestock for, including camelids. These are: 1. Tetanus (*Clostridium tetani*), 2. Black Leg (*Clostridium chauvoei*), 3. Black's Disease or Infectious Necrotic Hepatitis (*Clostridium novyi* Type B), 4. Malignant oedema (*Clostridium septicum*), and 5. Pulpy kidney or enterotoxaemia (*Clostridium perfringens*). All of these are preventable diseases and can be found in the standard 5-in-1 vaccination found both in New Zealand and Australia (called CDT in the USA). Pulpy kidney can occur with high carbohydrate feeds being suddenly introduced, and the others all occur due to injury or exposure (e.g. shearing cuts, navel ill, penetrating wounds, etc.).

Best practice is to give the dam a vaccination booster 4-6 weeks before giving birth in order to produce high levels of antibodies in the colostrum for the cria. We all know that camelids have a great way of keeping us on our toes waiting for unpacking, so getting the timing right is a bit of a mission. Even more complex, the larger the herd the more stretched out the mating dates become, and therefore the unpacking dates making herd-wide vaccination days hard.



to capture all of those dams due to give birth. If you manage to time this vaccination right, then as discussed above you should achieve 12-18 weeks of immunity for the cria (when they get adequate amounts of colostrum in the first 12-24 hours of life). This means the cria should then only need 2 additional vaccinations for themselves starting at about 3-4 months of age (one primer and one booster 3-6 weeks apart). Then, depending on risk of exposure, it is recommended for either once, or twice annual vaccinations, as some of the above 5 diseases will only have an immune memory of about 9 months, others longer than 12 months.

If the dam isn't vaccinated in time (either early or late), it would be recommended that an additional vaccination be given earlier in life for the cria. Consider vaccinating from 4-8 weeks of age for the first vaccination, and then two boosters. Many will choose to use 'lamb vax' (with just tetanus and pulpy kidney) as the first vaccination as the tetanus in this vaccination gives protection within 12 hours, and then the boosters as above (i.e. 5-in-1). A booster vaccination should also be given at times of risk to exposure (e.g. castration) to help adequately promote their immune system to be on high alert.

There are additional mixes of combination vaccinations (7-in-1, 8-in-1 and 10-in-1). The 7-in-1 vaccination contains two serovars (strains) of leptospirosis. This disease will be discussed below. The others, 8 and 10-in-1, contain additional clostridial disease strains that are not as common. It would be best to discuss these vaccinations with your vet should you consider using them, as there isn't a need to vaccinate for a disease unlikely to get exposed to.

Leptospirosis Vaccinations:

Leptospirosis is a bacterial disease that causes acute kidney failure and marked disease including abortions. Rodents and pigs are two of the most infectious carriers of leptospirosis found on farms and can be a common complement to the menagerie found on small-holder or lifestyle blocks. Leptospirosis is also a zoonotic disease meaning that humans can contract the disease from animals infected as well. Therefore, risk of exposure to this disease should be considered and discussed with your veterinarian for vaccination. The first case of leptospirosis causing an abortion storm occurred in New Zealand in 2017 and has been a known pathogen causing disease in Australia as well.

Leptospirosis vaccinations come generally in a 2 or 4 serovar vaccination. There are many different strains, or serovars, of leptospirosis present, and certain ones are more common in specific breeds (e.g. L. Pomona in pigs, L. copenhagani in dogs, L. hardjo in cattle). There is some evidence to suggest some cross protection of the vaccine, meaning that despite not being vaccinated for a specific strain of the disease, it should provide some protection against those other strains. Again, a discussion about risk of exposure and the

formulation of the vaccination should be discussed with your veterinarian. Any of the leptospirosis vaccinations however have a reduced immune response in camelids specifically. Recent research out of the USA suggests that the immunity might only last as short as 3 to 4 months. Therefore, if you are going to invest in vaccinating for leptospirosis in your camelids, you need to be vigilant with vaccinations and do them 3-4 times per year to provide adequate protection.

Other vaccinations:

There are other vaccinations that could be considered depending on where your farm is located, and therefore should be a discussion to have with your veterinarian who is familiar with the disease risks in your area. Some additional vaccinations available include protection against Cheesy Gland (Caseous lymphadenitis), Rabies, Johne's and BVD.

- The Johne's vaccination causes marked reactions at the injection site and provides an unknown level of protection. It should therefore not be used in camelids.
- Despite camelids being known to contract BVD, the BVD vaccinations are not currently recommended as the immune response isn't known in camelids. Additionally, any future testing to determine true disease verses vaccination becomes impossible should you be trying to remove BVD from the herd.
- Cheesy Gland vaccines are found in the 6-in-1 vaccination available in Australia.
- Rabies vaccinations are required for certain livestock depending on locations in the world, but both New Zealand and Australia are Rabies free at the time of publication and the vaccination is not required.

Handling and Administration of Vaccinations:

Vaccinations, as discussed in the above sections, are a very intricate formulation and therefore need to be treated and handled appropriately. Keeping the vaccine chilled is a crucial aspect for ensuring the efficacy of the vaccination. If you are going to be out vaccinating on farm all day, make sure that there is a chiller pack of adequate size to maintain the vaccine in the temperature range advised on the packaging. Some vaccines require mixing, and others come pre-prepared. In either case, they will require mixing. This should be done gently in a rolling or rocking motion, not a shaking motion. Shaking is a violent process that you will note generates a foam on the top of the vaccine. This foam is created from ruptured proteins in the vaccine mix and degrades the efficacy once again.

Administration of most of our vaccines is done via a subcutaneous (or sub-q/SQ) injection. This is where the needle of the syringe (or vaccination gun) is inserted below



the skin, but not into the muscle that lies below. Subcutaneous injections should be given with short needles (¼ to ½ inch needle length), and injected at a 45° angle to the skin. Good sites for injection into the subcutaneous space include the base of the neck in front of the shoulders, or behind the front legs on the chest at the level of the elbow (as demonstrated by the red circles in the image below). Smaller needles sizes should be used in smaller and younger animals (e.g. 23-gauge in cria, and 18-22-gauge in adult animals).

In Closing:

Hopefully the information provided gives some general guidance in regard to vaccinations of your camelids. As indicated previously, vaccinations, and all general husbandry treatments, would be best completed in collaboration with your local veterinarian.



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Why male and female alpacas must be kept separately

By Jill McElderry-Maxwell, April, 2019
Bag End Suris USA

Every alpaca owner will eventually be asked if male and female alpacas can be kept together. It's my opinion that your answer should always be "no," even if the male is wethered – and here are the reasons why.

Let's start with reproductive anatomy. Many new owners will counter that geldings and wethers are kept with females in other livestock species like horses, sheep, and goats. What needs to be understood, however, is that llamas and alpacas breed like no other traditional livestock.

Alpacas and llamas have a hard, cartilaginous tip to their penis, a penis that actually penetrates into the uterus doing coitus. During intercourse, the corkscrewing penis rakes the lining of the tract, opening it to infection. If a female alpaca is pregnant, penile penetration into the uterus can cause her to abort. Photographs of the female reproductive tract taken after a breeding, show that it looks like raw hamburger, females often bleed even after a single, planned breeding. In other species, the penis is shorter, softer, and does not damage the female.

Add to this that intromission can easily exceed thirty minutes without owner intervention. In other small ruminants, if you blink, you'll miss the breeding – which also happens while the animals are standing. There's less chance of dirt and other materials being carried into the reproductive tract. Since alpacas breed while cushed – and males can take substantial time to find the appropriate opening – breedings on dirt or less savoury substrates can introduce a significant amount of debris into the female. Now imagine a gelding sneaking breedings night after night. The female doesn't refuse because she's not pregnant and she's sleepy – and so her reproductive tract never has a chance to heal.

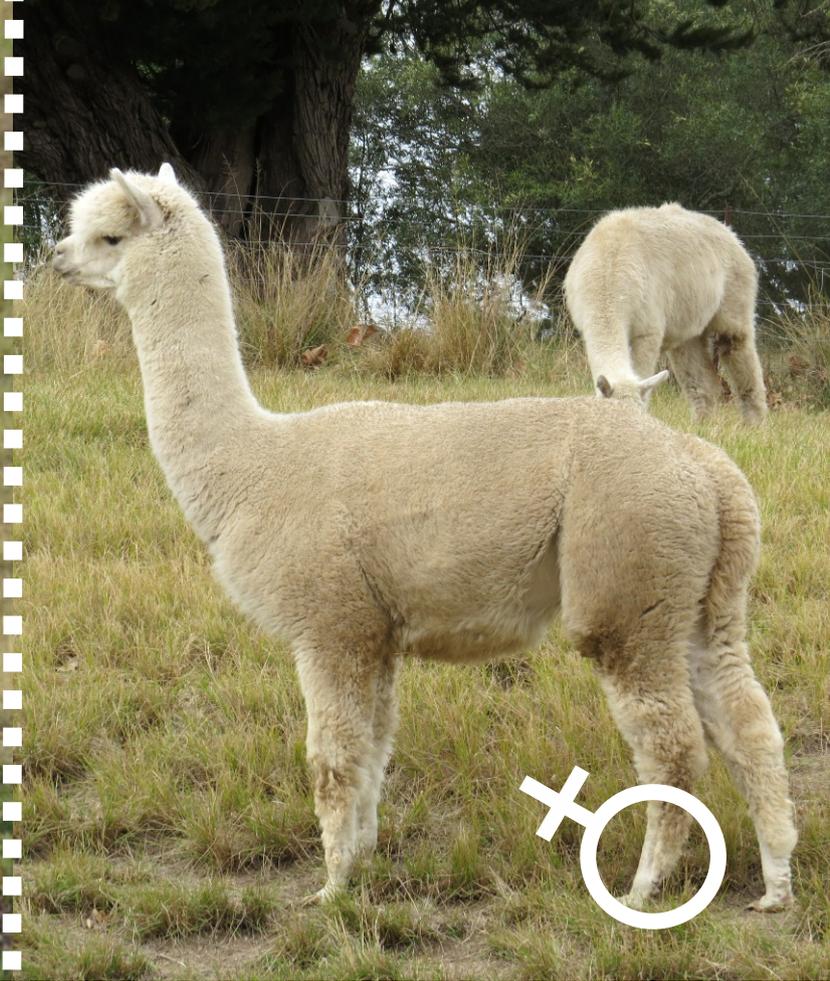
“Overbreeding is the number one cause of infertility in alpacas and llamas.”

But my wether never breeds my girls, some owners will exclaim, I would see it! Except alpacas really do prefer to breed under cover of darkness. One owner's eyes were opened dramatically the summer her home was right next to the alpaca paddock; my thanks to Jennifer Freundlich for allowing me to reprint her words:

“Here is a cautionary tale from my lived experience: Several years ago, I lived in a camper on the farm where I worked, close enough to the alpaca pasture for 'pacas to stick their heads in my window. It was a huge eye-opener (literally): geldings that we believed were living peaceably with females WERE in fact attempting to breed them relentlessly in the wee hours of the night. I observed these animals pretty much all day, every day and would have had NO idea this was going on if I hadn't slept beside the pasture. One nearly killed his half sister. We separated them, of course, and she recovered with supportive care. I will never house gelded alpacas with females since, for any length of time or reason. It's simply not worth the risk to the girls!”

Sometimes potential owners will counter that even intact males and females run together in “the wild” in South America – why can't they do the same here? For one thing, llamas and alpacas are receptive and fertile all year around: there is no rut, estrus, or true breeding season like in some other livestock. Mature females have a follicular cycle that produces ripe eggs on a regular basis, and this cycle is generally only interrupted by pregnancy. This is why owners can have spring cria, fall cria, or accidental cria at any time. In their native altiplano, alpacas are forced into a single breeding season not by their anatomy, but by the available forage. There is only enough food to support pregnancy and lactation in the spring – severe nutritional limitations typically prevent out of season cria.

Genetic and morphological studies confirm that alpacas are essentially domesticated vicuña, whose behaviour is well studied. Successful vicuña males maintain harems of four to six females, which they defend vigorously. Once his females are pregnant, a macho's energies are devoted to this energetically expensive defense against rival males and



predators – he doesn't have the time or the energy to pursue females that spit him off. Females are not overbred simply because the males can't afford to. Inbreeding is avoided by the dams and harem macho combining to drive young females out of the herd once they reach reproductive maturity. Mature females generally remain with the harem macho in a stable group, unless a rival ousts the breeding male. The unsuccessful vicuña males live together in bachelor herds, which is in part why we can keep groups of intact males together with minimal fighting – they are evolutionarily programmed for it.

But of course, there are no wild alpacas, and so we have human intervention making out of season breeding even more difficult in South America. Most farms or groups of owners keep the males and females separate by using human shepherds, who only bring breeding pairs together for limited times. Hand breeding is common, and pasture breeding mimics male harems, with females being introduced into breeding groups controlled by a specific macho. Supplemental feed is not typically offered, so the females face the same nutritional restraints as their wild ancestors. There is evidence of significant human intervention in alpaca breeding dating back 4000 before present in South America.

Here in the US, our alpacas are spoiled. Males and females both are kept on a much higher nutritional plane, meaning that pregnancies can be maintained at any time of year (it's also why so many more alpacas are producing twins – they have the energy and nutrition to do so). An intact male kept in with females will be anxious and able to rebreed them if a pregnancy slips. Females can therefore end up with poorly

timed cria. When alpacas are kept as pairs or in small groups, a breeding male's libido may be strong enough that he will attempt to breed the female as she is birthing, killing the cria. Just before birthing, pregnant females will smell similar to open females.

Likewise, strongly sexed males may try to breed very young females, even their own daughters, either impregnating, injuring, or killing them. Many owners assume that young males won't breed their mothers, or older males their daughters, but alpacas have no incest taboos. The youngest sire on record was only between seven and eight months old, male cria need to be safely weaned and separated from the female herd before their sex drive kicks in.

Surgical castration is the removal of the male's testicles, which only removes the ability to impregnate, but not the ability to penetrate. While many males will experience a significant drop in testosterone levels after gelding, breeding is also a learned behaviour which does not require sex hormones to be present. Castration should not be performed before a male alpaca reaches 18 months of age (24 months in llamas) to avoid future skeletal problems. This means that on many farms, males will have been exposed to breeding behaviours long before they are gelded.

Breeding remains a pleasurable experience for even gelded males. Many gelded males are happy to breed at any time, and since they can't impregnate a female, she will remain receptive and not spit the gelding off. This can lead to uterine infections, injury, and infertility.

In short, all alpaca and llama males may have the urge to breed, whether gelded or not. Given the unique sexual anatomy of the male camelid, and the unusual breeding behavior of the species, repeated, prolonged breedings can do significant damage to the female reproductive tract.

Overbreeding is the most common cause of infertility in female camelids. There are no benefits to running male and female camelids together, and many potential drawbacks, including female injury, infection, and death.

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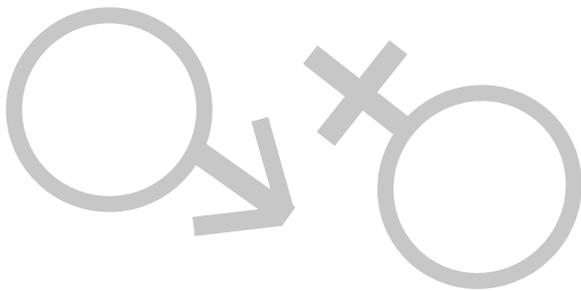
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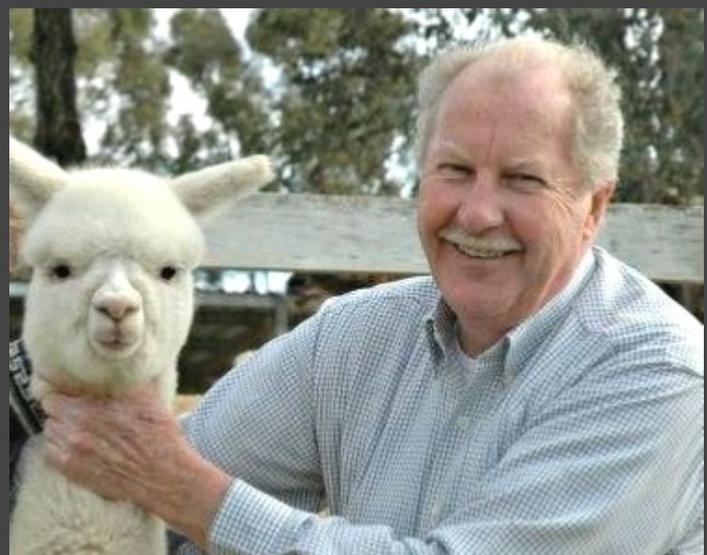
It is with great personal sadness that I report the passing of Graeme Dickson who I have known for many years.

Graeme joined the alpaca industry in 1992 and made a huge contribution to the industry. Graeme, together with his wife Lyn, played a key role in the formation of the Hawkesbury and Blue Mountains NSW Region and held numerous committee positions including Regional President, Vice President and Treasurer, as well as serving as AAA National Vice President in 1995 and 1998.

Graeme was inducted as a Life Member of the AAA in 2005.

Graeme's passion was to ensure a viable fleece industry for alpaca breeders. He was instrumental in establishing alpaca fleece standards, alpaca fleece classing courses and an alpaca classing agreement between the AAA and AWEX.

I was fortunate to serve on several committees with Graeme, a true gentleman, whose ethics and commitment could not be faulted. I along with many others, will miss him. Lyn and family we share your grief.



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Practical Advice for:

ACHIEVING PREGNANCIES IN ALPACAS

By the late Jane Wray - Classic Alpacas. © Jane Wray 2010.

The following is intended to provide some practical advice on how to achieve pregnancies. It is not written with veterinary expertise, rather as a result of 16 years of alpaca farming experience, including thousands of joinings and resultant pregnancies.

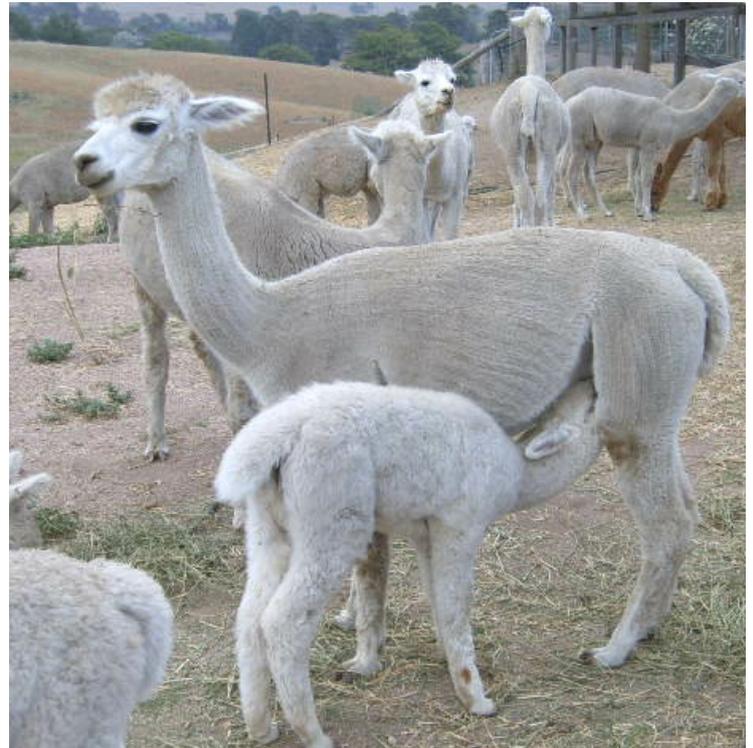
We recommend you always consult your local veterinarian to obtain specific advice, as the following is intended as a guide only.

A few brief reminders before we start. Female alpacas are induced ovulators, requiring specific stimulation for egg release from the follicle on the ovary to occur. Generally that stimulation will be the joining or mating. Very occasionally spontaneous ovulation will occur, usually due to presence around another mating or matings.

Research has shown that at any one time the majority of females have a follicle of sufficient maturity to erupt and release an egg in response to mating. If the male's sperm fertilizes the egg the pregnancy begins.

Receptivity, Behaviour and Maidens

It is vital to remember the age-old adage that there is no such thing as people with animal problems, only animals with people problems! Alpacas are, reproductively speaking, extremely forgiving animals. The majority of females breed well, despite being forced into our methods and timetable. Unfortunately, those that do not quite fit in with our grand plan are often termed difficult or problem breeders. The good news is that in the vast majority of cases all that is required to fix the "problem" is a different approach.



There is little point in mating a female that is not receptive. They will be highly unlikely to fall pregnant, as receptivity is related to the presence (or not, as the case may be) of a mature follicle. Levels of receptivity vary, but ideally, the female should sit with little encouragement from the male or us.

In lots of cases matings are scheduled with either the male or female travelling. In many others the stud master on the farm schedules them. So in most scenarios little thought is given to the alpaca's "timetable".

If a female is repeatedly not receptive, and provided she does not have a false pregnancy (see later), simple techniques can be used to gauge when she is most receptive.

Vary the times and days at which the male is introduced. An excellent way to do this is to use a combination between hand and paddock mating to simulate as far as possible natural herd breeding.

The female is put into a mob of females that are ready for or are in the process of being mated. That mob is put in a small yard and the male is introduced under supervision. The most receptive females will sit first. If this is done on a regular basis, preferably daily, you will be able to monitor the receptivity of your females and mate them at the optimum time.

This technique works particularly well with maidens, who may panic when put with a male for the first time. If they are put in with the mating mob at, say, 11 months of age they will be able to become accustomed to the process without pressure and will invariably sit when ready. There is no specific age or weight guide as to when a maiden is ready for mating. Rather, she should be mated when physically and psychologically ready. Physically she should be at least 2/3 of her adult size and weight, taking into account the size of her sire and dam. Psychologically, she should be sitting readily.

Some maidens may not be reproductively mature until two years of age. With alpacas slower may be quicker in the long run. A female forced into early production may abort or develop other problems. It is also worth mentioning the hymen. It may not be broken with a maiden and it may be quite persistent and difficult for the male to break. If the male is having difficulty with full penetration you can check the hymen by inserting your small finger (gloved and lubricated) in the vulva. If you feel the hymen (1-2cm in) you can very gently probe to break it.

Maidens are best bred with proven working males, and similarly, young unproven males are best tried with proven breeding females, so that if there is a problem the cause is clearer.

Matings

It is said females should be mated 2-3 weeks post partum. Most will be receptive within this time frame. Some will not. Again, let the female's behaviour be your guide and take into account factors such as a problem birth, which may require a longer recuperation period.

The duration of matings can vary between 1 minute and 1 hour. Duration has little effect on the possibility of pregnancy. In fact, long matings are not particularly good for the uterus. 15-20 minutes is plenty. Also it is important to check that the male has in fact fully penetrated the female.



Ovulation and Pregnancies

After the mating check the female with a male at 7 days to see if her behaviour has changed. A change of behaviour at 7 days indicates ovulation and if that change continues to 14 days that indicates a pregnancy.

A change in behaviour may be the traditional “spit off” where the female spits at the male or it may be running away or even just planting the feet firmly and flattening the ears. Also look out for the “escape sit”. Some females respond to the male’s pressure by beginning to sit and then lunging forward and upward at the last moment. They are simply trying to avoid the male’s attentions, albeit in a less traditional way. It is therefore important not to remove the male at the first sign of sitting. Wait until you are sure of the outcome. It also pays to be aware of the escape sit, as it can be dangerous for the handler.

In summary, what you are looking for is a change from the female’s receptive behaviour as an indication of ovulation and pregnancy.

Some females will “spit off” after a matter of hours; others will take up to 7 or possibly even 8 days to know if they have ovulated. If the female has ovulated and is not pregnant, she will be receptive again some time after 7 days from the mating date, but time frames do vary. If the female has not ovulated she will continue to be receptive at and after 7 days. However, she should not be mated until at least 7 days since her last mating. Repeated mating can make the uterus too disturbed and unhealthy to hold a pregnancy due to factors such as infection or damage.

If a female continues to fail to ovulate she may need an ovulation-inducing drug to assist her. If a female continues to ovulate but fails to fall pregnant often a course of penicillin can help as she may have a uterine infection that may or may not be detectable on ultrasound. Your vet can advise on the specific drugs, dosages and management plan of such females.

It is important not to rely solely on the female’s behaviour as an indication of pregnancy. Once she is “spitting off” have the pregnancy checked by ultrasound or some method whereby you can confirm that her behaviour is consistent with a pregnancy.

‘False Pregnancies’

Occasionally a female that has ovulated but is not pregnant will have a retained corpus luteum (“CL”), resulting in a “false pregnancy”. The CL has failed to regress, despite the egg not being fertilized. She thinks she is pregnant and behaves accordingly, but is in fact empty.

Such a female may require prostaglandin to facilitate regression of the CL and she should be receptive again anywhere between 24-72 hours afterwards. If she is not, then she may have a persistent CL that may require a course of prostaglandin. These are often the result of a retained CL not being detected and being left for some time. This is one reason why it is important to confirm pregnancies to ensure the change in behaviour is consistent with an actual pregnancy and not a false one. Your vet can advise on the specific drugs, dosages and management plan of such females.

Summary

Get to know the behaviour of your females and listen to and monitor it. They will “tell” you all you need to know!

Keep good records and don’t rely on your memory. Records will help you and they will assist your vet to assist you. Most females follow consistent behavioural patterns year after year. Similarly, reproductive behavioural traits appear to be quite heritable, so familial traits emerge.

Health, nutrition and stress can have an effect on whether or not a female is ovulating and falling pregnant, so bear these factors in mind. Similarly there are anatomical and hormonal problems that may arise that your vet can assist with.

The techniques mentioned above are simple yet effective. The main ingredient required is observation and patience. Enlist the help of your vet where necessary, and beware of following a regime involving drugs unless your vet has formulated it for a specific alpaca of yours.

Happy breeding!



2019 NATIONAL SIMULTANEOUS STORYTIME



Matt Cosgrove at the State Library of NSW

Wednesday 22nd of May 2019 marked the 19th National Simultaneous Storytime event, an annual advocacy campaign, hosted by the Australian Library and Information Association.

Each year, one picture book is selected for a simultaneous read-aloud event held in libraries, schools, pre-schools, family homes, childcare centres, bookshops, children's hospitals and communities across Australia and New Zealand, where two nations read together as one.

Last year we saw over 1 million kids join in the campaign. This year we took the number of participants even higher, to help promote the importance of reading and literacy for children.

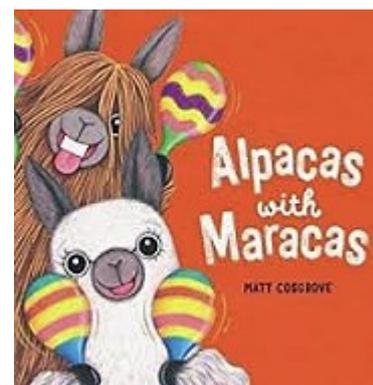
This year, the selected story was *Alpacas with Maracas* by Matt Cosgrove, published by Koala Books for Scholastic Australia. *Alpacas with Maracas* is the sequel to Australia's best-selling picture book, *Macca the Alpaca*. It is a beautifully illustrated book and is a cheerful tale that promotes friendly competitive behaviour along with the idea that having fun and 'giving your all' are as important as winning.

We had an amazing day on Wednesday 22nd May as Matt Cosgrove appeared at the State Library of NSW, which is the oldest library in Australia for National Simultaneous Storytime to read his picture book *Alpacas with Maracas* to over a million kids.

We are delighted to say we reached our goal for National Simultaneous Storytime and we officially had 1,138,889 people registered together across Australia and New Zealand. We are grateful to all the amazing librarians, teachers, parents and carers who made this a reality and read our adorable picture book - showing our kids how much we value books and reading!

We were delighted to be joined by the real life Macca and AI, the friendliest alpacas you could ever hope to meet who were supplied by Alpacaskisses.

Congratulations to all the alpaca breeders who joined the celebrations across the country. There are now thousands of children and their carers, teachers and librarians who know much more about alpacas as well as the joy of reading books.



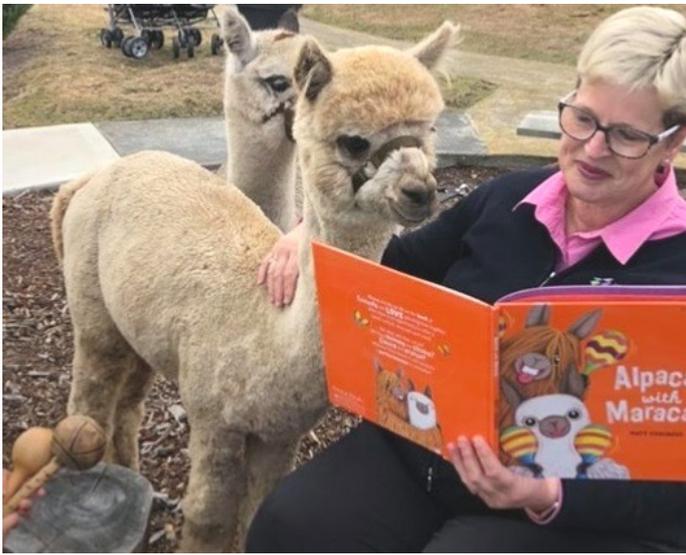
Two nations read together
– let's get 1 million
kids reading!



INSET: Albany WA public library - Kallarool Park Alpacas



Dunbars Run Emma Timmony – Hawkesbury Region NSW



Janelle Jago - www.toffeemontalpacas.com



South Qld Northern NSW Region

**NATIONAL
SIMULTANEOUS
STORYTIME**
Wednesday 22 May at
11am AEST/1pm NZST

**TOGETHER LETS
GET ONE MILLION
KIDS READING**
Register at alia.org.au/nss
Alpacas with Maracas
MATT COSGROVE
#1millionkidsreading #NSS2019

Australian Library and Information Association

South Qld Northern NSW Region



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Llama Cria Halter Training



By Judy Webby

Every llama trainer will have a different method of training, this is one that works for me, it is a combination of what I have learnt from dog training, clicker training and natural horsemanship.

Initially I was advised that baby llamas should be left until they were at least 12 months old before starting training. This might work for someone taller and stronger than me, but I found the yearlings too feisty. I also observed how the babies learnt from other members of the herd, who was boss, who was fun to play with etc. So it seemed to me that they could certainly learn to interact with humans from an early age also.

Keep in mind that llamas instinctively protect their head and legs, so handling must be done in little steps to avoid panic. Do not train if you are upset or angry, your energy must be calm and they will take that lead. I find it useful to check my shoulders, if they are up I know I am showing bad body language to the llama, shake them up and down, roll your neck around a few times to release your own tension before starting.

My main criteria is that lessons should be short usually only a few minutes to start with, and always end on a good note. I prefer the student to volunteer to come into the pen rather than chasing it in for a lesson. Mum should be close by to offer reassurance, although watch out for over protective behaviour, I find it best to have Mum in an adjacent pen. Your objective should be to create a partnership with the llama, it is not a master/servant situation.

Photo: 12 month old Hermosa has dropped her lower lip because she got spat on by an adult in the pen. She illustrates mild distress and the lesson should end at this stage. Usually they will have a worry wrinkle under the eye and can also drop the lower eyelid. If your subject is drooling and open mouth breathing you have missed the early signs, stop immediately and apologise to your llama!

The age you start training will largely depend on the mother, if they are very protective, you might want to leave it a while. I try and handle the baby the day it is born to check navel and teeth, then leave it to grow and learn the herd dynamics, although they do see me daily so know I am not a threat to them. Three months old seems a good time to start, but preferably by six months. Daily lessons are great if you have the time, but weekly or fortnightly is fine.

I start with holding the cria against my body until it is relaxed and carries its weight on all 4 feet, this can sometimes take a while. As it leans away from you, bring it back then take your hand away when they are back in balance. The next lesson is to allow its face and ears to be gently handled, this prepares it for the halter. I find that if the baby rests its head on my shoulder it is more comfortable with having its head rubbed. Always handle the mouth area from under the chin to avoid restricting breathing.

Once the cria is happy with standing beside me with its shoulder against my hip (my leg is in front of the cria's shoulder) and my arm around its neck, I introduce the halter. For the first time it is better to use a larger size so there is no chance of the noseband catching on the nose. With my thumbs ready to brace against the cheek and hold the face straight I slowly pivot the halter onto the nose, do not attempt to buckle it at this stage. The halter goes on and off a few times, and when the baby stays calm the lesson ends.

The best training halter is one with a clip rather than a buckle as they are faster and less fiddly to close.

Each lesson begins the same way and progresses forward. So the next lesson will be standing balanced against me, have a head, mouth and ear rub, halter on, halter off, halter on, then this time put the strap over the head and maybe buckle. If they are comfortable with that, let them walk around a little with it on, give a treat or 2, then halter off.

You will know when you can just go straight to halter on without the preliminary head handling.

Now it is time to introduce the lead with the correct size halter, use a round lead, not the flat type as that will burn your hands if they pull and maybe cause you to let the lead

go, not the lesson you want them to learn! Clip it on and let them get used to the weight, then when they relax ask for a step, as soon as any movement forward happens QUICKLY RELEASE THE PRESSURE. This part can be the hardest to learn, a good mantra is to "reward the try". Sometimes the try is just ceasing to pull back, release the pressure then gently ask for forward movement again. The llama must learn that walking quietly in the right direction results in a loose lead, it is only if they go the wrong way that the pressure is applied, their reward for walking quietly is no pressure on the back of the head.

Always start with a gentle ask, then add pressure if necessary, do not get into a pulling match, they have 4 wheel drive and will win! Make very sure the halter fits correctly as if it slides down on the nose and blocks their ability to breathe it is dangerous, plus will induce panic. If they are locked in position try asking for a change of weight on the front feet by moving the head to one side, that will often loosen them up. If they are braced backwards with their head low to the ground they are not in a learning state of mind, release pressure and try offering food to release them. The first time you put a lead on it is unlikely that you will be walking around the paddock, stay in the pen where you have control. If you do end up with the cria behaving like a marlin on a line, keep the lead low so they are less likely to get their neck tangled and wait, be patient, once they relax it is a good time to walk back to them put your arm around their neck close to the shoulder to steady them, and take the halter off for the day.

Continue building on the lessons by walking a little further each time away from the pen, then introducing obstacles such as step overs, steps, the float ramp etc. A companion can be helpful at the early stages.

Be consistent, if you want your llama to walk on your left side don't chop and change between left and right. If you expect to be walking up some narrow trails you might want your llama to walk behind you. Later on you might want your llama to walk on a different side in the show ring, or ahead of you if you are training to cart, but start with one position.

If you have any questions about equipment or training, call, email or text me.

Judy Webby
Champenoise Llamas
PH 027 271 7192
judy@askjudy.co.nz

RICKETS

A SNAPSHOT

By Elizabeth Paul - Erehwon Alpacas

Rickets is a painful, arthritic condition caused by deficiencies in the bone minerals of calcium and phosphate, a vitamin D deficiency, or occasionally by glandular dysfunction. All mammals, including humans, can be affected by rickets, but alpacas are particularly vulnerable. Every alpaca owner needs to be aware that this condition is intrinsic to alpacas; and may be virtually undetectable, in the early stages.

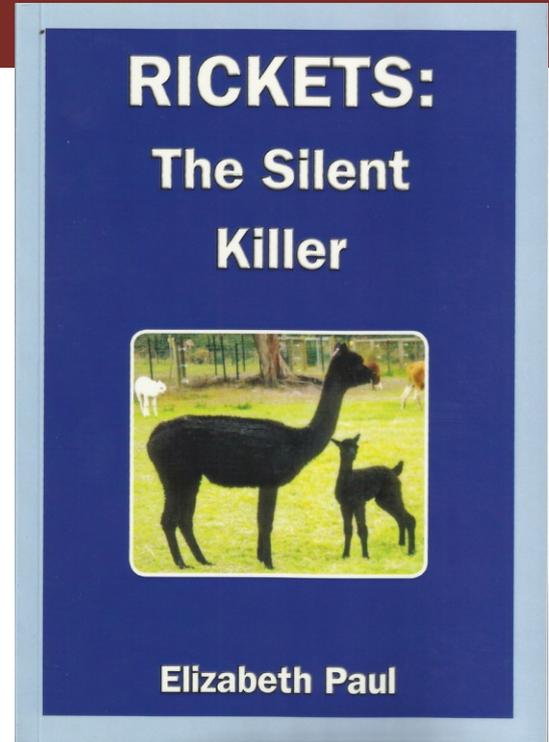
In crias under say, 12 months of age, the most obvious (but not the only) sign of rickets is crooked legs, or Angular Limb Deformity. They usually respond well to vitamin D treatment. However, rickets in older animals, is more difficult to detect, and therefore harder to correct. The symptoms are vague and may vary from animal to animal. Even when, or if, it is recognised, it may already be too late to save the alpaca.

Signs and Symptoms:

An alpaca with early rickets shows few signs of being 'sick'. It continues to eat, even rapidly, although occasionally, one may lose its appetite. Generally, the alpaca stays mentally bright and alert, and its reactions are normal. Its temperature is neither elevated nor depressed. It does not present with scours, vomiting, staggers, spasms, excessive rolling or goes blind. So what does it show?



Pic 1 - Crooked legs on cria



Lameness:

Lameness, or difficulty in walking or running, is the most obvious sign of rickets. There are, of course, many reasons for lameness. However, young crias, as mentioned, will usually display bent or crooked front legs. See Pic 1. They may be actually lame, or merely slower, more lethargic, or get left behind. Also, as the bones lose minerals and weaken, the back feet start coming under the belly, which produces the typical, humped back of rickets. Alternatively, the back legs may become "locked" together at the hocks, so that the cria walks forward with the front legs and then picks up both back feet together. This is called the "bunny hop". Sometimes the back legs can be so locked in that the cria can only turn in a circle.

As the condition advances, it becomes more painful, and the cria weakens. It may for preference sit down more often, or for longer periods of time, and start eating around itself. This might be seen as the animal being "lazy". The situation becomes critical when the cria can no longer walk to its mother, or find water. An animal that has been down for too long, will die of thirst, hunger or pneumonia.

Another name for rickets is "brittle bones", and sometimes a cria may suffer a broken leg, for no obvious reason. A cria born with a broken leg where no intervention was used, could well be suffering from rickets.



Pic 2 - Straight legs on nursing female

Adult alpacas with rickets, usually do not show bent legs. They may sit down more often, or they may hang back, or just look a bit 'off'. They may be lame, where the lameness shifts around from one leg to another. This female has rickets, although her legs are straight. She is pregnant as well as nursing a 3 month old cria.

See Pic 3 below. The female's back is slightly arched, but not severely. She was also slightly anaemic. With good grazing, she may have been able to carry on. However under drought conditions, intervention was required as all three were at risk. Females with untreated rickets, in late pregnancy, are likely to abort the foetus and then die themselves.



Pic 3 - Same female with slight hump in the back

Stunted Growth:

Occasionally, a cria will survive with rickets, but its growth is stunted. The body simply "makes do" with what it has available, and the animal gets along unless or until there is some other major stress. "Miniature" alpacas, are most likely to be stunted alpacas.

Worms

A cria, or even an adult, which eats normally, or even rapidly, and yet never seem to grow or put condition on, is often thought to have a worm problem. It may do, but just treating for worms, will not necessarily fix the problem. Most intestinal worms are opportunistic pathogens, meaning they are always present, and can take advantage of the time when the animal's immune system is under attack, to increase in numbers. Crias that die "of worms" almost certainly had something else wrong, to start with.

Loss of Condition:

One of the most worrying signs in a female is the rapid loss of condition, especially if they are heavily nursing. Most alpacas are huacayas, so most alpacas look round and fluffy, even if

underneath, they are walking skeletons. Alpacas with rickets tend to keep on eating, and this fact alone, means that a number of rickets cases are missed.

See Pic 4. This black female is 12 years old, and was nursing a five month old cria. She was noticed to be frantically and continuously eating, on good grazing, yet her condition was skeletal. She was stiff in her movements without being overly lame. She never sat down or chewed her cud during the day, until after starting rickets treatment. In this case the first action was to remove the cria.

Regular hands-on condition checks, of all members of the herd should be routine and frequent. This is especially important, for both the weanlings and the breeding female herd.



Pic 4 - Skeletal condition of nursing female

Serum Phosphate Levels:

The vitamin D3 level in a blood sample can be tested, but it is cheaper and easier to test for serum phosphate levels, since the two are considered to mirror each other. This is in fact not always correct, but nevertheless, a low serum phosphate sample is a good enough indication that the animal has rickets. Blood samples taken for serum phosphate levels need to be tested within the hour, or spun down for a serum sample, otherwise cell breakdown products can interfere with the result.

Anaemia:

Alpacas with rickets, are often anaemic. An alpaca with pale membranes is unwell. An alpaca with chalkwhite membranes, is on the critical list. Checking anaemia levels, should be as routine and as regular, as checking body condition. Anaemia associated with rickets, is caused by a phosphate deficiency, not an iron deficiency.

Weather:

Normal vitamin D production is initiated in the skin by UV light from the sun, so anything which inhibits this event is likely to cause a problem. Environmental events such as bad weather, dust storms, or bushfire smoke haze can affect vitamin D production some time after the event. Dark pigmented animals are likely to be more affected than lighter ones, as pigment protects the animal from too much UV exposure. Heavily fleeced animals are also at risk. Late shearing times can affect the extent of the alpacas' natural response to making their own vitamin D supplies.

Treatment:

There are two phases to any treatment program: prevention and specific treatment of individual cases. Rickets is a preventable condition. Successful prevention requires a tailor made program and constant monitoring of changing conditions within a particular herd. Specific treatment consists of giving enough vitamin D3 and phosphate to replenish supplies, but it is not a "one size fits all" situation. Crias usually present fewer problems of treatment, unless their rickets situation has gone unnoticed for a long time. They respond well to vitamin D3 supplementation. However, by the time rickets is well established, there could be other issues such as a heavy worm burden, coccidia or other problems. If these issues are seen as the cause, and treatment is only directed at them, the outcome is less likely to be successful.

Breeding age females with rickets invariably need the replacement of phosphate as well, since they are often using minerals for two, whether late pregnant or nursing. This group is more difficult to treat, and more likely to die, usually because the underlying cause of their problems goes unrecognised.

Rickets is, in my opinion, not only the major cause of non-infectious disease in alpacas but is likely to be the major cause of death, in breeding age females.

References:

Paul, Elizabeth:
Health Committee Report Sept 2005.
Rickets in Alpacas: One Breeder's Perspective
Part 1, Town and Country Farmer, Summer 2008 Vol 25 No 4,
Part 2, Town and Country Farmer Autumn 2009 Vol 26 No 1.
Vitamin D and Rickets Seminar 2005-10



Services Directory

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ALPACA EVENTS

AUSTRALIAN ALPACA ASSOCIATION

(For details see Assoc website)

Victorian Alpaca Colourbration

7th – 9th June 2019

Bendigo Showgrounds

Glen Innes – New England Alpaca Show

9th June 2019 8.00am – 4.00pm

Glen Innes New England Showgrounds

Held at Glen Innes Showgrounds halter judging on Sunday 9th
June Fleece judging on Saturday 8th (closed to the public)

Introduction to Alpacas Part 2

15th June 2019 Arrive 8.30am to start 9am.

A theory and practical workshop

Venue: Hyghclere Alpacas, Lewis Ponds (just outside Orange)

Contact – Jenny Menzies – rjmenzies@activ8.net.au

Pre-Shearing & Preparing a Show Fleece Workshop

16th June 2019 8.30am

Venue – Hyghclere Alpacas (details as above)

Murwillumbah Alpaca Show

29th June 2019 - Murwillumbah Showgrounds

Maleny Alpanca Colourbration

5th – 7th July 2019

Contact – Jeff & Jill Willis – info@sunlinealpacos.com.au

Fleece & Halter show

Two Workshops with Robert Kennedy-Gane

6th July 2019 – Central Western Zone of NSW

“Alpaca Business Planning” (in the morning)

“Breeding Strategies” (in the afternoon)

For more details contact – Jenny Menzies –

jrmenzies@activ8.net.au

The Wonderful World of Alpacas Workshop

28th July 2019 – Wahgungurry Alpaca Stud

The Wonderful World of Alpacas Workshop

4th August 2019 – Wahgungurry Alpaca Stud

Royal Qld Show – Ekka

9th- 18th August 2019 – Brisbane Showgrounds

National Alpaca Show

23rd – 25th August - Exhibition Park – Canberra

Canungra Show

24th August 2019

Royal Melbourne Alpaca Show

30th September – 1st October

RASV Showgrounds

LLAMA EVENTS

AUSTRALIAN LLAMA ASSOCIATION – Victorian Branch

Please contact the branch to confirm date and place:

Branch Committee Meeting – June – To be followed by an
all members welcome coffee & catch up

Bendigo Artisans & Textile Festival – July

Victorian Branch AGM – August

Kyneton Daffodil Festival Grand Parade – Sunday 15th
September

NEW ZEALAND ALPACA ASSOCIATION

(For details see Assoc website)

South Island Colourbration Show

28th September 2019

Convenors – Kees Rietveld (breed) and Anne Rodgers
(fleece)

Ellesmere Show

12th October

Convenor – Neville Warsaw (breed) Annabell Smith (A&P)

CAMELID CONNECTIONS

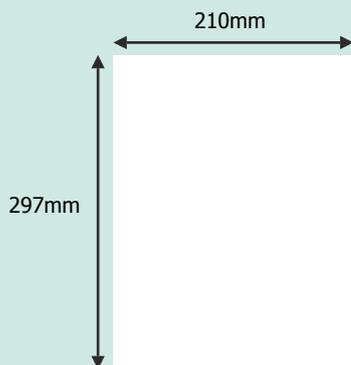
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Camelid Connections magazine offers you affordable advertising for your camelid related business, event or stud. Contact us to secure your advertising space in future publications.

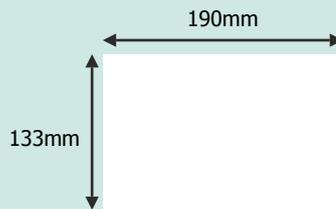
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- Camelid Connections magazine is a **FREE** online publication available as a subscription or download from our website
- Back issues will always be available online so your advert has a long 'shelf life'
- Camelid Connections offers readers a wide variety of quality articles of interest to attract a broad audience

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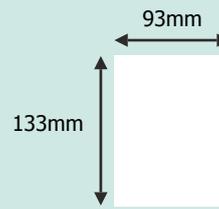
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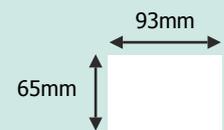
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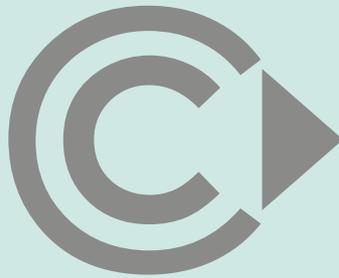
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