

# The Journal of RMLA



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**Letter from Your RMLA Board - Page 5**

# Llamas Reduce Anxiety During Pandemic

By Morgan Barba, Chair - RMLA Youth Committee

The bonds between animals and humans are powerful. I did not personally realize how powerful this bond was until the COVID-19 pandemic when we were told to be safer at home, and I was given more of a chance to be outside with my llamas. It would have been easy to be negative, upset, and angry about the current circumstance. Instead, I tried to redirect that negative energy into something positive. Owning animals of any kind has been scientifically proven to reduce depression, anxiety, stress, and loneliness while still providing unconditional love and joy. My llamas have been a great source of motivation; they get me outside and walking around with them, increasing my level of physical fitness.

Not only that, but studies have shown that playing with animals, such as llamas, reduces stress-related hormones after only five minutes! Playing with an animal increases our serotonin and dopamine levels, which help calm and relax the nervous system. Whenever I begin to feel stressed or overwhelmed, I immediately go outside to see my llamas because hugging them makes me feel instantly relaxed. Running them through obstacles or even walking them down the street brings me joy, and I tend to laugh much more when I am with them.

Through this challenging time, I have always felt needed by my llamas, which has mental health benefits. Caring for another living thing gives me a sense of purpose and meaning. I always know that my animals will need me to water and feed them, which is why I always make it a priority to plan thirty to forty-five minutes out of my day to go out and care for my animals. I have found this time invaluable during the pandemic as I am doing all remote learning and need to leave my computer for a little while. That time away from my workspace is a chance for me to unwind and regroup myself before heading to my next class.

Finally, my llamas give me a chance to focus on being in the moment versus concentrating on everything else in my life. There have been plenty of cancellations and disappointments during 2020, which I sometimes get caught up in when I feel my lowest. However, when I am with my llamas, I am no longer worried about what happened yesterday or what might even happen tomorrow. I can say that one of the more positive traits I have gained during the pandemic is mindfulness. Mindfulness is defined as the psychological process of

bringing one's attention to the present moment. Spending time with my llamas has increased my mindfulness as I am less worried about what the future may hold or what curveball may be thrown next and more about what is bringing me happiness at that moment.

In conclusion, it is extremely easy to become caught up in the negatives of 2020 and COVID-19. I have certainly shed some tears over my non-traditional senior year or the cancellation of the 2021 National Western Stock Show. Then I remember that I always have access to one of the biggest joys in my life right in my backyard; my llamas. My llamas have greatly improved

my mental health these past few months and have even helped me become a better person. Remember, when you can only think of the negatives, remember that one positive thing that brings you the most joy.



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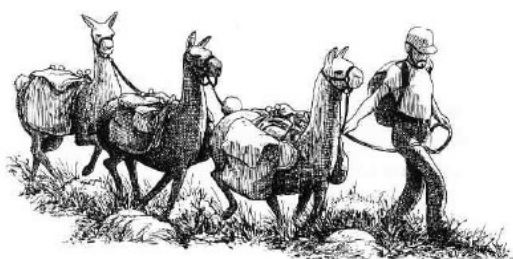
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## Journal Submission Dates, Ad Rates and Specifications

Issue	Submission Deadline	Mailing Date
Spring	February 20	March 20
Summer	May 20	June 20
Fall	August 20	September 20
Winter	November 20	December 26

Ad Type	Width x Height	Member	Non-Member
Business Card	3.5"x2"	\$15	\$18
1/4 Page Horiz.	7.5" x 2"	\$24	\$36
1/4 Page Vert.	3.5" x 4.5"	\$24	\$36
1/3 Page Horiz.	7.5" x 3"	\$35	\$48
1/3 Page Vert.	2.5" x 10"	\$35	\$48
Half Page	7.5" x 5"	\$48	\$72
Full Page	7.5" x 10"	\$78	\$117
Two Page Spread	15" x 10"	\$200	\$300

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## EDITORS' CORNER

Congratulations to all! We made it through what may go down in history as the most confusing, tumultuous year in our history. The vaccines are here and soon available to all who want them.

So now it is time for some fun. In this issue you will find several articles to get you thinking and planning about your next adventure whether it be competitions, learning how to compost that precious pile of beans, working with fiber, or dressing up your critter for a parade.

Also, we are thankful for the many articles providing us with information on how to care for our llamas and alpacas. We do have a fantastic network of people sharing their expertise with us.

So read this issue from cover to cover and note the last page. Let's fill up that event calendar.

Thank you all so much for supporting us with your articles, photos, and comments. And thank you for supporting RMLA and this Journal with your advertisements.

*Kathy and Ron*



Morgan Barba

### Cover Photo:

Courtesy Lougene Baird  
 See page 12 for the full story



# Letter from Your RMLA Board

As you receive this winter issue, the holidays will be winding down and the stillness of winter upon us. This is a great time to reflect as well as plan the coming year. Hopefully soon, the problems we dealt with in 2020 will be distant memories and we can look forward to more outings and events with our llamas and alpacas. Regardless, we are the RMLA family and we will support each other.

Bringing sadness to our heart is the passing of Dick Williams who died of COVID complications. Dick and Jeanne became members of RMLA in the early days and Life Members in 1994. Dick served on your Board for many years, wrote Journal articles, and was a strong advocate for the RMLA mission. Dick cared for the RMLA Library since 2009. We are grateful for his service to this organization and wish Jeanne well.

The Library remains at the Williams home, but will not be available for checking out material until a new Library home is found within our members. Please contact Nancy Wilson, Library Liaison, at [spinllama@msn.com](mailto:spinllama@msn.com) with questions about the Library.

One of the things that has impressed us is our RMLA Youth. Between the health issues with COVID and the constant noise of the election, our Youth's response has been refreshing. They have found new and exciting ways to enjoy their lives and their animals. Check out what they are doing on Page 2. The Youth were handed a few lemons but made some fine lemonade!

This year's Board is bursting with energy to move forward and get back to events, committee activities and all things new that may surface before our eyes. Board meetings are exciting, and we see more good things coming in 2021.

Fairplay. The Town of Fairplay has budgeted for Burro Days and it is on the schedule of events for this year - 2021. Like all things these days, the town is standing by for the status of COVID. RMLA, therefore, is as well. If we are lucky enough that it goes, RMLA will take a new approach this year. The llama events will be broken down into pieces: Lama Pack Race, Lama Lunacy, Lama Rama and the Llama and Alpaca Walk. Each section will have its own Chair. The Section Chairs will elect their overall Chair. Some sections may take place; other sections may not take place because of a lack of volunteers – people and animals. Only with membership participation to work the event and members bringing llamas and alpacas will RMLA return to Fairplay. Please connect with your llama community and find other members to team up with you on one of these sections. And, please read Marie Bernard's article (see Page 6) about her experiences at this event.

Thank you, Mary Wickman, who has already stepped up to continue the Lama Lunacy. Mary and her team have given the children who are at Burro Days a wonderful chance to walk through a little obstacle course with a llama. The kids get a ribbon and an ice cream cone to top it off. We love your enthusiasm for this, Mary. Thanks again.

It is going to take a few months, but the RMLA.com revision has begun. We are working toward a more user-friendly, beautiful and up-to-date website. The professional designers have years of experience and have advised and are working well with our team. This is going to be awesome.

These are long-standing pieces of RMLA. These are some of what make us family. The best of 2021 to you and your family and animals.



## Truly AmaZing

Is what the volunteers & contributors of Southwest Llama Rescue can accomplish. \*Help Is Always Needed: your time and money go a long way.

\*Contact: [www.SouthwestLlamaRescue.org](http://www.SouthwestLlamaRescue.org) or [SouthwestLlamaRescue@yahoo.com](mailto:SouthwestLlamaRescue@yahoo.com) or 184 Hoofbeat Trl, Kerrville, TX 78028

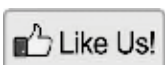
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# Llama Races – Always Fun Memories

By Marie Bernard - Berthoud, CO

For 35+ years, Fairplay, Colorado, has held the Fairplay Llama Races. A hundred plus llamas and alpacas run/walk a 3-mile challenging, fun course with hundreds more runners and walkers.

One year, I was in my sixties as a first-time owner of two llamas and one alpaca and a slow runner at heart. I was thinking, “really?” Can I run three miles with a llama or alpaca on a trail that takes you across several river crossings, over a bridge, on uneven rocky trails, through bushes with orange/pink ribbons tied to branches to help you not get lost? The folks in Fairplay could even look across the river to see the crazy llamas, alpacas, and runners, with some dressed-up runners and some dressed-up llamas, too. “Easy” I thought!

This one year, I ran with my alpaca, Prince Remington. He is such a proud alpaca and loves the attention. The gun goes off and so does Remmy! Good thing I have a strong hold of his lead rope. He just took off dragging and pulling me behind, all the way down main street. Then things got a little boring for him and I had to pull him to keep him going onwards! Oh, and then he sees more llamas in front of him and he decides to go hand in hand with me. That’s my favorite pace, when we are both running at the same pace. Then just before the finish, he sees the crowd again and bazoom, there he goes racing again, dragging me behind (again), long neck and the proudest animal on the crowded street of Fairplay. So much fun. I want to do that again next year and again and again.

Another year I ran with both of my alpacas, Prince Remington and Princess Lily, with some friends. My friends took hold of the lead ropes and I asked that they not leave me behind (as they were much younger than myself). Well, again the gun goes off and there goes my group with Remmy and Lily pulling them down the main street crowd. “Hey, wait for me!!!”, my shallow voice would say, but down Main Street the crowds of people on both sides of the street are all wondering where my llama was!!!! My group did finally allow me to play catch-up with them. They were a fun group to run/walk



Holding leads of Remmy (black) and Lily (white)



Crossing The Middle Fork South Platte River with friends

*continued on the next page*



*Llama Races – Always Fun Memories continued ...*

with. But, as the story goes, as we get back to Main Street, off they go again being pulled by Remmy and Lily to the finish line. I loved sharing my alpacas with friends, even if it may have looked like I ran/walked the course without my alpacas.

Oh, and here's a story you really don't want to repeat. I seem to learn the hard way how to figure out the right ways!! Don't they say that about life in general? You learn a lot from making mistakes!!!! Well, take it from me, when you are crossing a river with rushing waters, remember to always have your animal downstream of your body. For safety, there is always a rope tied from one tree to another that crosses over the river at every water crossing for the runners/walkers to hang on to when crossing if they want to use it.

Yeh, you guessed it. Good thing I was holding onto the rope for safety. But, even my Prince Remington lost his balance and pushed just a tad against me while crossing the river. Bam. There I go. Both arms are able to quickly round over the rope while my body slips under the rope letting me look like a wet noodle caught on a fork just hanging on!! Remmy is fine; he continues to cross, wondering where I was. On-lookers are shouting at me to put my feet onto the ground. Water is pouring over my head and rushing very fast, but so fast that I couldn't get my feet to the ground. Two wonderful guys try to get me to wedge myself across until the depth is much shallower. Whew. That was a close one. Thanks to them, I made it across and continued on the trails and more crossings to make it to the finish line. People are wondering why I am so wet!!! The announcer is saying there's a rumor that someone had problems crossing the river and was wondering if that person even made it back!!! (yes, I did). Just another fun memory.

And one more here – after the race, my group always likes to get a tasty, delicious, cold ice cream cone. Remmy gets tied outside as we go inside for that scrumdiliicious ice cream cone. There is a line, of course. I peer outside to find Remmy is also enjoying his own "treat"! Evidently, llamas and alpacas love the flavor of mountain flowers! All sorts of colors and flavors!! Oops; not good. Sorry about that; gotta tie him where his lead is a little shorter than the reach of those mountain flowers!!

You really have to give it a try. You don't even need to run. Just walk the three miles with a llama/alpaca. You'll make it to the finish line which is jammed with people of all ages clapping and cheering and shouting words of encouragement. It's a llama/alpaca hoot.

***Note from Your Board:*** *What a wonderful story. It represents the experience of many who have participated and the joy of a beautiful day at Fairplay. While the Fairplay event is an amazing day, the event cannot be held without volunteers. At its last meeting the Board agreed it will again this year attempt to find volunteers. Without a team of volunteers to make the event happen, it cannot go forward. Please, please volunteer. It will be sad to say good-bye to this long-standing event.*



# Prehistoric Amazon Rock Art Depicts Camelids

By Ron Baird, Cottonwood, AZ

Researchers from the University of Exeter (England) announced in November the discovery of 12,600 to 11,800-year-old paintings on the northern edge of the Amazon rainforest of eastern Colombia. Thousands of petroglyphs in the Serranía La Lindosa depict camelids, giant sloths, mastodons, horses, snakes, fish, and a myriad of other creatures. Significantly, they show people interacting with these animals, some of the very first art ever to show humans and animals together.

Massive panels of petroglyphs were made by using fires to peel off the outer layer of rock, producing a smooth surface. Then drawings were done using ocher, a red color extracted by processing iron ores. At that time, the terrain was not tropical rainforest, but a mixture of savannah, scrub, and patchy forests.

Project researchers, from Exeter and Colombian universities, conclude the megafauna depicted, such as mastodons, giant sloths, horses and other native animals all became extinct, likely due to a combination of climate change, changing habitat, and hunting by humans.



Much more information can be found at [https://www.exeter.ac.uk/news/research/title\\_829032\\_en.html](https://www.exeter.ac.uk/news/research/title_829032_en.html)

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## Planning for Your Lamas' Future

By Kathy Stanko - Whitewater, CO

Have you noticed that life is moving fast? And with this speed, changes seem to be happening more frequently. Often, these changes are unexpected life changes such as long-term health issues or financial difficulties. Do you have a plan for your llamas' future should an unexpected change happen in your life?

For starters, as my husband and I are up there in age, we stopped breeding a number of years ago. We rehomed a few and acquired a few rescues. But we have now stopped that as well. We try to keep in mind how long llamas can live and balance that with our health and finances and with our love of llamas. Being a responsible owner is important to us. At present we have a nice healthy aging herd. We are content with this and know that we are doing the best for all.

The pets-in-wills-fact sheet from The Humane Society of the United States provides a starting place for making a plan to provide for one's animals when the unexpected happens. I have listed some major points for which all responsible animal owners should consider.

- ❖ Find at least two responsible friends or relatives who agree to serve as temporary emergency caregivers in the event that something unexpected happens to you. Provide them with keys to your home, feeding and care instructions, the name of your veterinarian, and information about the permanent care provisions you have made for your animals.
- ❖ Make sure your neighbors, friends, and relatives know how many animals you have and the names and contact numbers of the individuals who have agreed to serve as emergency caregivers. Emergency caregivers should also know how to contact each other.
- ❖ Carry a wallet "alert card" that lists the names and phone numbers of your emergency animal caregivers.
- ❖ Consider a formal arrangement with the short term and long term caregivers and the executor or personal representative of your will so that your wishes for your animals are fulfilled.
- ❖ Consider authorizing your executor to expend funds from your estate for the temporary care of your animals as well as for the costs of looking for a new home and transporting the animals to it.
- ❖ If you are considering entrusting the care of your animals to an organization, do some research first and try to make a visit.
- ❖ Before making formal arrangements to provide for the long-term care of your animals, seek help from professionals who can guide you in preparing the legal documents that can protect your interests and those of your animals.





# Ask The CSU VET Team I: By Amanda Carmellin, VMD CSU Livestock Intern - Colorado State University

## Uterine and Vaginal Prolapse

Although prolapse is relatively uncommon in llamas and alpacas in comparison with bovines and small ruminants, it is important to know how to handle this situation before the veterinarian arrives, or until the animal is able to be transported. It is also important to note that this situation is considered an emergency: the sooner it is addressed, the less chance there is for inflammation or other tissue damage to occur, and therefore increased ease of replacement. Additionally, epidural anesthesia with light sedation are generally recommended for replacement of uterine prolapse, therefore, replacement of the tissue should not be attempted until the veterinarian arrives.

In camelids, uterine prolapse generally occurs immediately (within 30 minutes) after parturition (delivering the cria). The uterus may be partially prolapsed (meaning only a portion of the uterus may be extruding from the vagina either at all times or with changes in position) or completely prolapsed (meaning the entire uterus is involved). This can happen after dystocia, or during passage of the placenta after a normal parturition. Administration of oxytocin by the owner or the veterinarian during parturition can increase the risk of uterine prolapse. Oxytocin is a hormone that stimulates uterine contraction during labor. It is also released for milk let down during nursing by the cria. Additional oxytocin administered during parturition can cause abnormal uterine contractions that can result in uterine prolapse.

Low blood calcium around the time of parturition can be a contributing factor, as this can cause the uterine musculature to become flaccid and prone to prolapse. Low selenium in the blood is also a contributing factor. Uterine prolapse can occur after mid- to late-term abortions, generally immediately after abortion occurs. Additionally, uterine prolapse can occur with excessive straining due to retained placenta.

Vaginal prolapse and uterine prolapse can initially look similar and can occur in a similar timeframe. These two distinct problems can be differentiated from each other by examination. A vaginal prolapse only involves the vagina and may include a portion of the cervix. The primary cause is disruption or weakness of the tissues of the perineum (the area beneath the tail) that hold these structures in place. Vaginal prolapse is most commonly observed in late gestation and progresses until birth.

Veterinary intervention is important to help identify the underlying cause and prevent progression that can compromise both the dam and the fetus. Once a vaginal prolapse is observed in an individual animal, it will often occur on subsequent pregnancies. A uterine prolapse is caused by abnormal uterine tone, either too relaxed or too much contraction, after delivery of the fetus has resulted in stretching of the pelvic and perineal tissues. In cattle, uterine prolapses do not tend to occur on successive pregnancies.

There are a few steps that can be taken before veterinary assistance is available. First, the animal should be kept quiet and restrained in a clean, dry area. Do not attempt to move her any significant distance, as movement or stress can cause trauma or laceration of major vessels of the uterus that can potentially be fatal. Secondly, if the uterus is persistently exposed to the environment (completely prolapsed), the tissue should be kept clean and moist. If tolerated, the uterus can be gently wrapped in wet towels or plastic bags to protect it from dirt and debris and to keep it moist. Sterile saline or water may be used in this case. Regular granulated white sugar can be kept on hand, as well. If indicated by the veterinarian who will see the animal, application of sugar to the uterus can help to reduce swelling and make the replacement of the uterus a bit easier. Oxytocin should not be administered until the uterus has been replaced, as this will cause contraction of the uterine muscles which can make correction of the prolapse more difficult. If any bleeding is present, firm pressure with a clean towel may be applied until the veterinarian arrives.

If uterine prolapse occurs directly after parturition, the cria may be kept close to the dam to allow for nursing and natural bonding behaviors. A uterine prolapse is considered an emergency and veterinary assistance should be obtained as soon as possible. The longer the prolapse is present without correction, the more damage there is to the uterus and this increases the risk of uterine tears and internal hemorrhage from the uterine artery or vein. If there will be a significant delay (>2 hours) in treatment and you have a live cria, it is helpful to either feed the cria some thawed frozen colostrum, or milk some colostrum from the dam to support the cria with nutrition and passive transfer of antibodies.

For Ask The CSU VET Team II see page 21

# STRETCH

By Nancy Wilson, Camp Verde, AZ

I've recently had the opportunity to think about the word *stretch*. What comes to mind when you think of the word? Maybe you stretch after exercise, maybe you're trying to make an ingredient stretch to make a meal for your family, or maybe you think of stretching a rubber band. For me it means all of these things, but here I'm thinking about stretching my brain and fiber skills.

I am lucky to have two fiber arts guilds near my home, and I am a member of both. Last year, the Verde Valley guild had a spinner's challenge (read stretch) to spin and knit a pair of socks. I used a crepe yarn (a special kind of 3-ply yarn) to knit a pair of Insouciant socks using a special technique developed by Cat Bordhi. My next stretch opportunity came when I saw a "First Point of Libra" shawl. I carded, spun, and knit mine using cranberry and grey handspun yarn. Both of these projects also had the distinction of being firsts for me. I had never knit socks from handspun and had never knit a shawl.

My next stretch opportunity came as a formal stretch. The Prescott guild built a program around the concept, challenging members to do something to stretch their skills. Maybe it is a new technique for a fiber art they already do. It was left open to members to make the decision. For me, I chose to stretch by weaving fabric on my rigid heddle loom and making a garment. I had already spun a lot of yarn that I used for a knitted vest; however, I didn't really like how it fit me. So I used the remaining yarn for the weft (the crosswise yarn) and used commercially spun yarn for the warp (the lengthwise yarn). I had some Shetland wool/Suri alpaca yarn that had been waiting for just the right project, so I dyed it to become part of the warp. Then I wove the fabric, with the idea of making a vest from Judith Shangold's book, *Weave, Knit, Wear*. I ended up making a vest from the 1982 Interweave Press's Handwoven Collection 4. This project included minimal sewing (read more stretch), and I really like how it turned out.

So what's my next stretch? The Verde Valley guild has another spinner's challenge: to spin and knit a cowl. While this may seem like an easy challenge, there are plenty of ways to up the ante. One thought is to spin some of our suri llama from the lock and create a lacy cowl. And

then I happened upon a cowl pattern that would stretch my knitting skills. So it's still up in the air. I have until next May (which will be here before I know it) to complete my project, so I can't put it on the very far back burner.

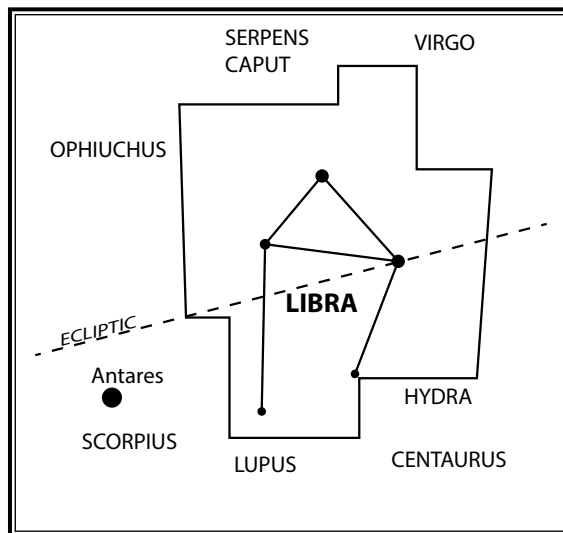
On the weaving side, I finished spinning some really lovely fiber a friend gave me. It coordinates nicely with some handspun alpaca and silk yarn, so I'm thinking of using the handspun alpaca for the warp and the handspun tan wool for the weft. I found a pattern for a scarf that uses a technique to create an airy fabric that I am thinking of using.

So, while I've focused on the idea of stretch with fiber, you can take this concept in any direction you want. How can you stretch while hiking with your llama or

alpaca buddies? Maybe you have no interest in learning to spin but you know how to knit or crochet. Pack some camelid yarn in the pack and knit or crochet at the end of a long day hiking. Sounds pretty good to me.



*Editors' Note: Curious by nature, I searched First Point of Libra on the internet. From Wikipedia: the first point of Libra is the point of intersection of the ecliptic and the celestial equator (equinoctial) when the sun is moving from the north to the south direction. It is denoted by the symbol  $\lambda$ . Also called the autumnal equinox. The constellation at this time looks very similar to the shawl pattern!*



# Camelid Fiber from the Ancient Past

Compiled from sources on the internet by Kathy Stanko

The glove in the accompanying photo is awe-inspiring even if you are not interested in fiber. The following is a catalog description of the glove from the Brooklyn Museum, Brooklyn, NY.

Glove of plain weave cotton fiber with tapestry-woven imagery in cotton and dyed camelid fibers. Decoration includes typical Wari elements such as fingernail tips, feline figures with split eyes, and profile feline heads with curved noses. The central human figure is Moche in style with a tumi knife headdress, serpent-headed belt and warrior backflap, and a shield and ceremonial goblet held in the figure's hands. Condition: fair; the plain-weave cotton structure is damaged with about 10% of glove missing especially around the wrist.

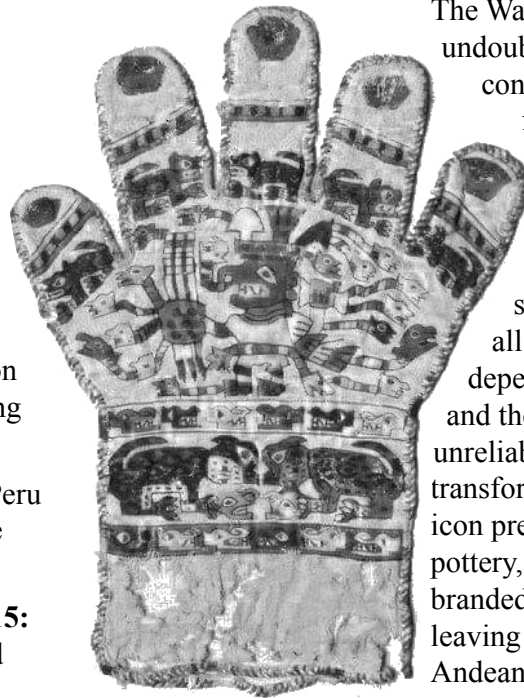
The glove was found in the Ullujaya, Ica Valley, Peru and dates to 650-800 C.E., also known as the Middle Horizon Period. It is a product of the Wari culture.

**From Mark Cartwright, published on 15 July 2015:**

The Wari Civilization flourished in the coastal and highland areas of ancient Peru between c. 450 and c. 1000 CE. Based at their capital Huari, the Wari successfully exploited the diverse landscapes they controlled to construct an empire administered by provincial capitals connected by a large road network. Their methods of maintaining an empire and artistic style would have a significant influence on the later Inca civilization.

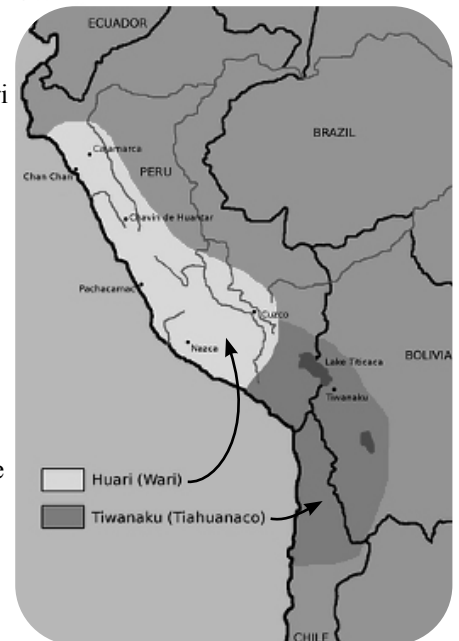
The Wari were contemporary with those other great Middle Horizon (c. 600 - 1000 CE) cultures centered at Tiwanaku and Pukara. The more militaristic Wari were also gifted agriculturalists and they constructed canals to irrigate terraced fields. The economic stability and prosperity this brought allowed the Wari to implement a combined strategy of military might, economic benefits, and distinct artistic imagery to forge an empire across ancient Peru. Their superior management of the land also helped them resist the 30-year drought period which during the end of the 6th century CE, contributed

to the decline of the neighbouring Nazca and Moche civilizations.



The Wari were undoubtedly influenced by contemporary cultures, for example, appropriating the Chavin Staff deity – a god closely associated with the sun, rain, and maize, all so vital to cultures dependent on agriculture and the whims of an unreliable climate. They transformed it into a ritual icon present on textiles and pottery, spreading their own branded iconography and leaving a lasting legacy in Andean art.

A map illustrating the extent of the Wari (Huari) civilization (white) which flourished in Peru between c. 450 and 1000 CE. The extent of the contemporary Tiwanaku culture is indicated in darker gray. Map by JohnnyMr Ninja, published on 24 June 2015



## FYI:

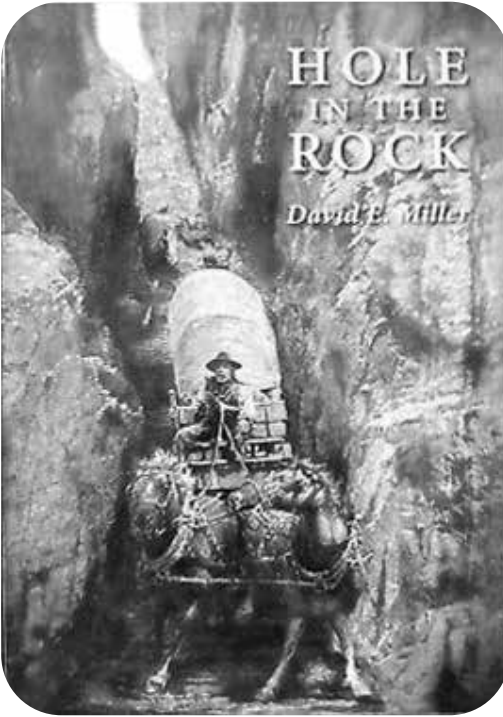
[www.HowToCatchALlama.com](http://www.HowToCatchALlama.com)

Animal rescue site for people who need to catch llamas and alpacas.  
Designed for people who know absolutely nothing about llamas and alpacas.

# Llamas in Utah, Then and Now

By Lougene Baird - Cottonwood, AZ

Ron, our daughter Kristin and grandson Skye and I love the Grand Staircase Escalante National Monument (GSENM) in Utah. We have had several week-long trips to the area and enjoy it more each time. The town



of Escalante is our home base and each day we go out to hike the Escalante River Corridor, slot canyons, a riverbed or a natural arch.

It has always been my habit to pick up a book, usually from the GSENM Visitor Center, to read about the area history and other interests of

the area. It ties the day all together as I read around the campfire in the early evening.

This year I found a fascinating book about the Mormon migration that began in 1879 around Bryce Canyon National Park and continues east to tell the story of the strenuous journey to cross the Colorado River and settle in the San Juan River area. *Hole in the Rock* by David E. Miller is a well foot-noted book with amazing photographs of this pioneering journey. Blasting a 45-degree road cut, hanging off the canyon wall, and down 2,000 feet to cross the Colorado River was a nail-biting recollection.

After scouts crossed the river and headed east to where Bluff, UT is today, the text reads like this area was the worst part of the trip as many canyons dead-end into mesas. The five scouts ran out of food, lost their way, and came close to starvation. So, what does this have to do with llamas in this Journal?

Early on a cold morning, one of the scouts climbed a hill to hopefully discover the path to descend Grey Mesa. His eyes fell upon a small herd of 14 llamas. Only one llama walked up the hill and stopped to look staringly at him. The llama had shown the scout the way to descend the steep canyon wall and continue the walk

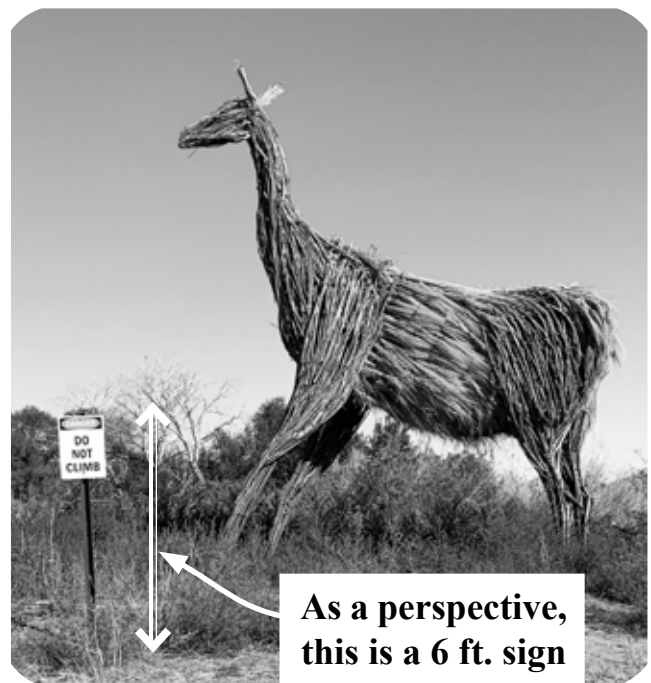
further east. Thus, finding the way for all who followed as they migrated to Bluff.

Llamas and alpacas have a presence in this beautiful country even today. Occasionally, a small group of either is seen here and there in small pastures around the village of Boulder, UT, about 27 miles northeast of Escalante.

We met a fellow and his wife who own a pack trip company to take hardy hikers into The Capitol Reef NP Waterfold area. Several others have their animals for fiber and keep their hands busy in the winter months creating beautiful garments to sell during the July Street Market in Escalante.

But the most amazingly odd llamas we saw are in the Boulder City Park. These two giant llamas are made of what looks to be willow wood harvested from along the streams, pasture grasses and twigs. They stand about 12 to 15 feet high and have decent conformation. If you place yourself in the correct spot they look right into your eyes; you can almost smell their breath. I have wondered if they decorate them for the holidays. And the bonus? I love the way my book now smells of campfire.

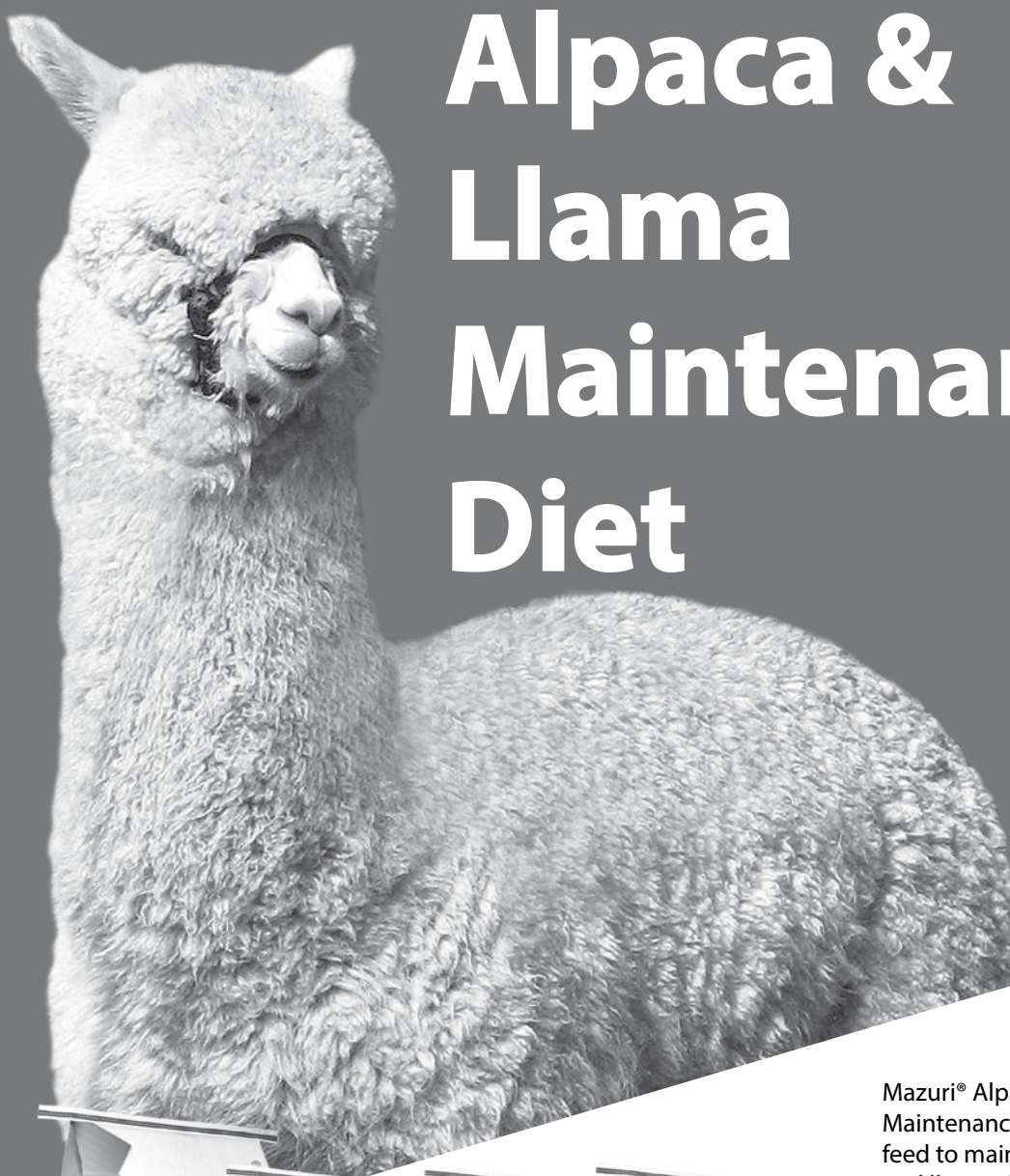
Side note: This is not the only reporting of llamas in the canyons of Utah. Ron and I recall an article in a long-ago Journal, maybe written by Stan Ebel, about llama pictographs in the Grand Gulch area, which is located 50 miles south of Moab in the Bear's Ear National Monument. We will try to locate that article.



**As a perspective,  
this is a 6 ft. sign**







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# Making Money from Your Llamas

by Linda Hayes - Prescott Valley, AZ

Right now is the ideal time to take advantage of the llama craze. People want to get out in the open. If you are anywhere near a park or hiking trails, you can provide short walks that are not stressful, great for kids and best of all, offer social distancing.

A ranch in Colorado did 3-hour treks on a scenic ledge over a river. The llamas carried the lunches that the patrons brought with them. It was an easy task for the ranch as they only had to supply the llamas for the people to lead. (Although additional money could have been made by supplying lunches as part of the hike, this is not recommended during the pandemic.) City people, especially those with kids, want a fairly easy walk. The 3 hours included a lunch stop so they only hiked about an hour and 15 minutes each way.

When I lived in Colorado, I'd get at least one call a week from people wanting to take llamas on back country treks of a week or more. This could be a money maker for the younger generation of llama ranchers. I always turned them down as I was too old to take part and would never let my llamas go without me along. I have heard too many horror stories about renters turning llamas loose, not treating them well or even leaving them tied to a tree where they became bear bait. I don't recommend leasing without the owner on hand. I just know that the outfitting business could be a successful enterprise for the right people.

City folks love to come to the country. You don't need a fancy place to host llama activities for the public. For example, a llama ranch in Texas lets people take a chair into the llama pen to sit and watch them. They were letting people groom and feed but on a weekend they would get so many people that they had to come up with something that wasn't hard on the animals. Thus, the chair idea. For an additional payment, they let the visitors lead the llamas on short walks. This was especially coveted by children.


Rodeos, being an outdoor event have been taking place in rural areas of the country, even with COVID restrictions. Most will allow petting zoos. Check with the rodeo committee and you may find they would love to have you and your animals at no charge. I took my llamas to the Snowmass, CO rodeo several times. I found that I needed a large number of llamas to keep up with the demand. To keep the llamas from being stressed, I'd leave half in the trailer and bring them out when the first ones got tired.

A lady in Georgia told me about her petting zoo days. The kids all wanted to feed the animals so she charged money for a cup of grain. Most of the grain got spilled on the ground where the llamas and alpacas would clean it up. They would quickly become full and no longer want to eat. She knew that camelids do not like wet food so she would nonchalantly sprinkle the ground with a watering can. Supposedly to keep the dust down. That way she could sell more cups of grain.

You will need to check with your insurance provider to make sure you are covered for liability. If you are charging money you will probably need a separate policy, maybe a permit from your local government. They are not that expensive and a good thing to have even if you are not charging for events.

Be creative and think outside the box. Now is a great time to make money with your animals. Often a customer will turn into a buyer and probably a new friend as well. Don't let COVID slow you down, get out there and make some money with those animals.

hw



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# Teaching Your Camelid to Wear a Costume

By Marty McGee Bennett – Camelidynamics.com

*Editors' Note: Let's think positive! Let's envision our wonderful fun events returning in 2021. Teaching a llama to wear a costume takes time; but it is winter, a time for the creative juices to flow. Time to plan and maybe start training your llama or alpaca for some fun this year.*

Whether you are asking your animal to accept a halter, a trailer, a new obstacle, a day pack, a driving harness or a Halloween costume the process is the same. It is a matter of introducing the elements that might be scary in a way that allows the animal to decide that each step is safe. This is called systematic desensitization.

I am going to outline how I would introduce a costume to an animal. Perhaps this somewhat unusual costume will inspire thoughts of how to take larger tasks or challenges regardless of what they might be and turn them into tiny manageable bits. If at any time the animal shows reluctance, back up and/or figure out how to add an easier step.

So let's say you want to dress your llama up like a chicken. Here is the set up:

- Assemble towels of different sizes: a kitchen towel, bath sheet which is a BIG Turkish type towel and a large heavyweight non static producing blanket (old wool blankets work great). I drape these items over the side of the stall or catch pen where I am working, not on the ground

- Work in a catch pen with the animal haltered and on a lead, but do NOT tie your animal.

- Stand behind the eye to encourage the animal to move into an escape route as you introduce each new element.

- Only do as many steps in each session as you and your animal are comfortable with. Five minutes in which your animal is relaxed and interested is plenty; if the animal is doing well you can go longer. I would not work more than 10-15 minutes per session and 3 times a week is plenty. Begin soon enough that you are not feeling pressured as this is a huge mistake! Push too

hard and you will end up by making your animal afraid and then you have a HUGE job in front of you. It is much better to stop sooner than later. The best program of desensitization involves never having to back up to something easier. You work in such tiny increments that there is NEVER any concern on the part of the animal.

Now hold the lead in one hand and begin by putting a bit of food on the small towel and allow the animal to sniff and eat the food. Note: You can repeat this with each step if the animal seems very reluctant but I usually only do this for the first few steps.



1. Next put the folded kitchen towel on the animal's back just behind the neck.

2. Allow the animal to walk.

3. Offer some food.

4. Pull the towel off the back and let it drop to the ground.

*continued on next page*

5. Allow the animal to look at it. This step is often overlooked but is very important. Bits of any costume are likely to fall off so it is important that the animal experience this in a controlled way at first. Then when the inevitable does happen it is no big deal!

6. If the animal is frightened you can offer food again on the towel, either in your hands or on the ground.

Now, gradually move up to a folded bath towel and repeat steps 1-6. Unfold the towel so that it is covering a substantial amount of the body. Repeat steps 1-6. Put the folded blanket on the back and repeat steps 1-6. Unfold the blanket fold by fold repeating steps 1-6 each time until the blanket is completely unfolded and touches the ground. Make sure that the animal takes a few steps wearing the unfolded blanket.

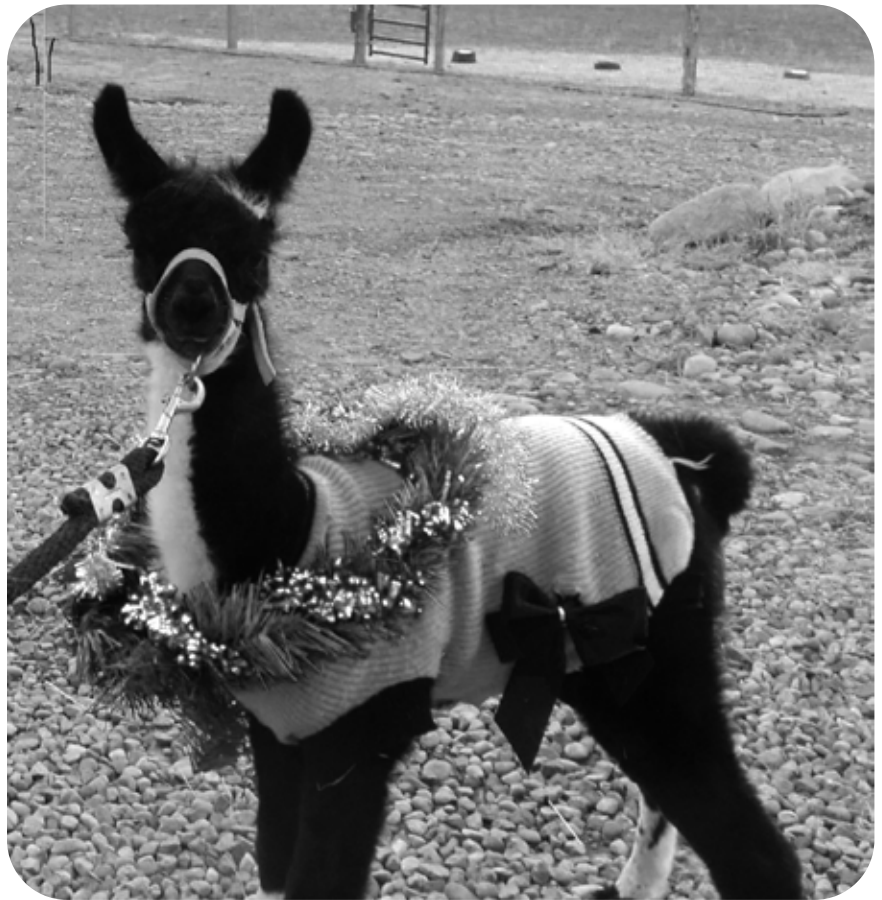
To introduce the beak or anything that you want or need to put over the head, begin with standard halter training, mouth work, TTouch, etc. Feed your animal out of a series of increasingly small dishes so that the animal becomes accustomed to having his nose inside something confining.

Use a tiny light handkerchief in much the same way that you did with the body covers only this time put the folded hankie on top of the head to start. Unfold, one fold at a time until you can drape the hankie over the top of the head and then over the nose.

I have written many articles on desensitizing the legs and feet for purposes of trimming toenails. If you are going to ask your llama or alpaca to wear a costume that will cover the feet and legs the same steps would be involved. (Editors' Note: look for these instructions in past RMLA Journals.)

These steps represent the beginning of the process. For a costume as complete as the chicken, there is lots of work to do! I have never dressed a llama or an alpaca up like a chicken but the steps above are how I would go about it.

I know that some people are opposed to costume classes for llamas and alpacas. I am not. I think if costumes are introduced in a respectful way that dressing up can be a lot of fun for the two-leggeds and just a weird day for the animals.





# Composting Your Camelid Manure 101

By Karen Nicholson Stepping Stone Farm Alpacas Stowe, VT

Human society and its agriculture depend on the health of the soil and water. Your alpaca manure can either be an asset to your farm or a contaminant to the environment. By employing simple on-farm composting techniques you can easily turn your manure into a marketable product or integrate it back into your farm in as little as 120-360 days.

## Identifying a Composting Site on Your Farm

The quality of your composting site will have a significant impact on the ease of pile management and the quality of the compost produced. Considerations in choosing your site:

- What will you be composting (manure, hay, other?) and where on the farm will that material be coming from? Obviously, the shortest distance to travel with the materials is desired. If you are composting materials other than the waste from your farm it may require a permit.
- Will you compost throughout the winter or have an active summer pile and a winter stock pile?
- You will need enough space to begin a pile that is mountainous in shape with a convex top, 3-8 feet high and 6-15 feet in width at the base. The pile will be turned over the course of several weeks so that the entire pile has been turned over itself and is now in a new location.
- Will you turn your pile by shovel or bucket loader? If bucket loader, then you will need space to move about with the equipment.
- A sunny location speeds up the process.

## Follow the minimum recommendations for environmental protection.

- Min. distance to bedrock: 3-6 feet
- Min to ground water: 1-1/2-3 feet
- Distance to property boundary or public roads: 100 feet unless permission is obtained.
- Distance to wells, springs, surface waters or wetlands: 25-100 feet upslope and 300 feet

downslope of the pile. (A site should not be located in an area with potential for flooding.)

- Site slope: 2-3% grade is ideal, 1.5-6% tolerable

## The Recipe

You are striving for approximately 60% moisture content and a ratio of 25-30 parts carbon per 1 part nitrogen (C:N - 25- 30:1). This will create the habitat and diet for your decomposer populations (earthworms, microorganisms, etc). While it is important to understand how the recipe is arrived at, I don't recommend going through a six-page worksheet of calculations to create compost on your farm. Below is a simplified version of how the recipe is arrived at followed by a very simplified estimate of what you want your hay/bedding to manure ratio to be.

### 1. Carbon to Nitrogen Ratio - Bedding to Manure Ratio

- Manure – what is the carbon/nitrogen makeup of your manure? You can have it tested or you can approximate C:N – 16:1.
- Bedding – this is usually a carbon component (paper, hay, straw, cardboard). Again, you can have it tested or estimate it to be C:N – 45:1.
- Ratio of bedding to manure – From the above you can see that your manure already has a high level of carbon as does the bedding. Now you just need to get the right mixture. After factoring in moisture content to the above two figures the calculations would bring you to a ratio of about .32 pounds of bedding to 1 pound of manure (or Bedding:Manure – 32:100) Simplified even further this comes out to be roughly 1 part bedding to just over 3 parts manure. In the summer months this means you will need to add (1 part) bedding to (3 parts) manure if scooped directly from pasture piles. Although it would seem that your winter pile would have too much bedding and not enough manure, remember that you are adding moisture/urine. The winter mix will likely be correct but after monitoring it can be amended.

*continued on the next page*

**Moisture Content** - this is critical to the pile health and a good method of determining if you are getting your C:N ratio correct. To monitor, dig 12" deep into the pile and grab a handful of material and squeeze. If it is:

- ✱ Dripping = too moist (about 65%+ moisture content, want 60%)
- ✱ Damp and glistening = Ideal 60%
- ✱ Crumbling = too dry (below 60%)
- ✱ Sniff – if it has a gassy smell it is too moist or too much Nitrogen (manure)

**Turning**– you should plan on turning the pile about once a week. Turn pile ¼ at a time by taking material from the side and dumping it on top. Your pile should, again, be a mountainous shape with a convex top after you have turned it. Continue turning ¼ at a time until the pile resembles loose crumbly dark soil. It should take about 3 months in the spring/summer months. An alternative to turning it yourself would be to pasture pigs with your pile. They'll be in hog heaven and you will too as they do the turning for you!

**Pile Monitoring** – Ideally you would do this every time you walk by the pile; at a minimum once a week.

1. **Temperature** – you want it to reach 130 degrees w/in a few days to a week. It will need to stay at this temp. for several days to kill pathogens and seeds. You can monitor with a 3' probe thermometer or dig in and if too hot to touch you're over 120 degrees. If it is excessively hot you are killing your decomposers.
2. **Moisture** – Look at the pile and reach in and take a handful and squeeze. Is it dripping, glistening, crumbly? Add more bedding if too wet or manure if too dry. Open top to allow rain in if too dry.
3. **Odor** – smell the pile as you work it and inspect for moisture. It should smell earthy. If it doesn't it means it is either too low in carbon (bedding) or low in oxygen (too moist or too dense).
4. **Visual Inspection** – Dry? Damp? Crusting on the surface (this reduces available air in pile)?

## The Finished Product

**Curing** – After composting is finished, allow your pile to cure for 1-3 months. Make sure it is covered.

**Testing** – you can test your finished product so that you know how you did or what you are spreading on your pastures or to aid in commanding an excellent price for it.

**Ideas for Selling** - Bag it in used feed bags and sell to local gardeners or place an ad on Craig's List for someone to buy and take away the whole pile. Top dress your pastures in the fall and you will have lush pastures in the spring. Just price a bag of "Moo Doo" (composted cow manure) and you'll know how valuable your composted manure is!

## Simplified into 5 Easy Steps

- 1) **Recipe** - Pile your manure and bedding in a mountainous heap with a convex top in a ratio of 1 part bedding to a little more than 3 parts manure.
- 2) **Turn** – Turn your pile over itself ¼ at a time once a week for 3+ months til done.
- 3) **Monitor your pile** – feel, look, smell to see if you have the right mix.
- 4) **Harvest** – Use or sell this valuable resource generated by your farm's waste! And feel good that you "Did the Rot Thing" for the environment by composting!
- 5) **Cure** – after you have made "dirt", cover it and let it cure for 1-3 months depending on the time of year.

*Karen Nicholson has a herd of ten alpacas at Stepping Stone Farm Alpacas in Stowe, Vermont. Any comments or questions can be directed to: Karen@stowealpacas.com.*

Reprinted from Vermont Llama & Alpaca Association Blog.



# Spring Means Shearing School

By Linda Taggart

For many, finding a shearer is a very stressful part of raising fiber animals like alpacas. Finding one whose schedule will match with yours, who will care for your animals (and your fiber!) the same way you will, and who knows what they're doing is a challenge. Then there's the cost. If you only have a couple alpacas it can be expensive to pay a setup fee just to have them do three animals.

One solution is to learn to shear yourself. Shearing is vitally important! Not only do you get the wonderful fiber, but it's a health issue. Unshorn alpacas can overheat in the summer, have matting that impedes movement, and it can cause skin lesions where the fleece mats or pulls from the weight. Even for older animals whose fleece won't get turned into yarn or other items, shearing is still critical to their well-being.

I was thrilled when I saw that Sarah Donohoe of Long Acres Alpacas and Carol Howard of Cinco C's Alpacas were hosting a shearing school this past May. The weekend started with a presentation describing the process and talking about the equipment. There were multiple brands of shearers to handle so we could try them all and see how they were different and which we preferred. We learned how to change out the combs and cutters and how to adjust them so they would cut cleanly.

Next we learned the pattern to take off the fleece. You want to get the largest amount of prime fiber (aka the blanket which is the part of the fleece that comes from the barrel or torso of the animal). Sarah explained that long strokes were important. It feels natural to take lots of short little cuts, but that's how you get "second cuts", short little pieces that make lumps in your yarn and you increase the risk of injuring the animal. A smooth, even stroke keeps the shearing blades steady along the animal instead of jabbing at them.

Then we moved to the barn and brought in the animals. Witnessing alpaca shearing for the first time is somewhat traumatic for the viewer! Unlike sheep, alpacas can't be picked up and moved around for shearing. Instead they are stretched out on the floor with ropes (or attached to a table and stretched out with ropes). It looks like the poor animals are being tortured, but that couldn't be farther from the truth! Stretching them out like that immobilizes the alpaca so they can't struggle and hurt themselves or the shearer. The process by a trained, experienced shearer, takes 5 to 10 minutes and the alpaca is back up and goes along as if nothing

untoward happened. It's also the perfect opportunity to trim toenails (and even teeth for those intact males whose fighting teeth need ground down).

Editors' Note: Llamas can be shorn standing up by one or two people. Some shearers do use the floor method by just extending the length of the ropes

The first cut with shearers was pretty scary for me. This heavy, loud machine that could badly injure my beloved alpacas, if I messed up was really intimidating. But after watching Sarah demonstrate and some of the other students go first, I picked up the shearer and gave it a go...and it worked! The first one I sheared looked pretty rough. There were tufts of fleece left on him, lots of second cuts, and distinct lines you could see where I sheared one cut line at a slightly different height than the line next to it. But we both survived my first attempt with minimal drama.

One of the biggest differences I've found between shearing sheep and alpacas is the number of people required. Sheep shearing, when it comes down to it, can be done with one person. Oh, it'd take a lot longer and be a pain in the tush, but it's possible. Alpacas require three people minimum including the shearer and four or five is better. Most tellingly, the assistants need to be as familiar with the process and as skilled as the shearer. You need to be able to attach the ropes properly, then have someone to work the ropes at the right speed, while a couple of people help lower the animal to the ground safely. Moving the animal as the shearer works takes practice and strong muscles, plus you need someone to deal with the fleece as it comes off the animal. Those helping need to be able to anticipate the shearer's movements and help when needed while also staying well away from the blades of the shearer. It's an intricate dance that takes practice.

I'm really glad I took this class. Whether I end up shearing on my own or continuing to hire in, I understand the process in a way I didn't before. I can better evaluate the shearers that I hire and better communicate with them. I also learned how to handle my alpacas during shearing as I could tell from the shearer's perspective what it's like to have an unruly animal or a too-handsy helper. I learned a lot in this class!

*Originally printed in the GALA Newsletter, May 2020, Volume XXXVI, Number 2.*



# Animals in Translation

A book review by Linda Hayes - Prescott Valley, AZ

This is a book that any animal lover will enjoy. It gives you a whole new outlook on how animals think and how we can best train them. While it says very little specific to llamas and alpacas, what you do read can easily be adapted to camelids.

What makes the book unique is that it is written by an autistic animal behaviorist: Temple Grandin. She is considered the leading expert in handling feed lot and slaughter house animals. As a professor of animal science at Colorado State University in Fort Collins, CO, she has won numerous awards. Her seminar at the Greater Appalachian Llama Association conference last year was met with rave reviews.

Grandin is able to think in pictures just as animals do. AND, she is able to tell the non-autistic world how it works.

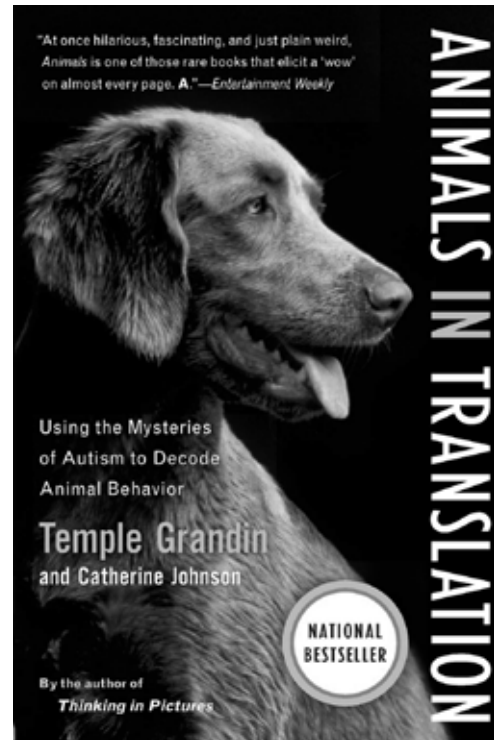
Not having a language as such, animal brains use pictures to be cognitive. These snapshots focus in on certain areas. Thus, when a llama sees something as specific as his feed bowl, he may not be conscious of other things in the surroundings. Most animals will have certain things that trigger fear. When that sound, smell or vision comes into their awareness, they react.

That is why animals will become obsessively fearful of certain items. To people, the item may be in a different setting or used differently, so we think that no fear should be attached. To a llama, all their brain is seeing is something that they fear.

Grandin uses the example of a horse that had a bad experience from someone wearing a black hat. The horse was afraid of black hats wherever they were seen. Even a black hat laying on the ground triggered the fear response. When the horse saw a white hat in the same spot, it ignored it. The horse was focused only on the visual image it was seeing at the time and ignoring related items. The color black on the hat shape triggered fear.

Grandin used her knowledge of how thinking in pictures worked to teach owners of livestock facilities how to make their establishments safer. When animals were more comfortable moving through the facilities, they were calmer and had less accidents. Workers were safer and obeying government regulations easily.

Some of the ideas that I picked up from the book that relate to llamas include:



- *Using wraps or putting pressure on a frightened animal often helps calm them.* If you are a follower of the teachings of Marty McGee, you know that she has successfully used wraps in her training program.

- *Fine boned animals tend to be more nervous.* She uses the example of the Arab horse being more skittish than an Appaloosa. Draft horses with their large frames are known for their gentle qualities. Those of you who have been around a large number of llamas or alpacas may have noticed this correlation.

- *White animals with blue eyes have lots of problems.* She gives several examples. This has been debated in the llama world for years. Judges have often been told not to consider blue eyes a defect. To those who have been in the llama business for a long time, know there is once more a definite correlation.

Her experiences are what makes the book exceptional. She is funny, has extraordinary insight and is very informative. The book is as much about autism as it is animals and that too makes it a fascinating read.

Pick this book up from your favorite bookseller. After reading it, you will feel like you have just had a college course in animal science. You'll come away with a better understanding of how autistic people think and why they act like they do. This is a book not to be missed.





# Ask The CSU VET Team II: Robert J. Callan, DVM, Diplomate ACVIM - Colorado State University

## Biosecurity and Biocontainment for the Llama and Alpaca Herd

One important aspect of raising llamas and alpacas is minimizing the risk of infectious diseases. That starts with utilizing management systems that minimize the introduction of disease into the herd (Biosecurity) and also minimize the spread of disease between animals in the herd (Biocontainment). In this presentation, we will discuss the principles of Biosecurity and Biocontainment. An important aspect of infectious disease control is knowing what samples to collect and how to test for the common infectious diseases. Isolation or quarantine protocols are important for incoming animals. Lastly, understanding what disinfectants can and cannot do and how to use them will help minimize transmission of infectious diseases within the herd.

### **Biosecurity:**

Biosecurity is the process of keeping potential infectious diseases out of your herd. The most common way of acquiring a new disease in your herd is through the introduction or exposure to outside animals. While a closed herd is a wonderful concept, it is rarely if ever a possibility in normal facilities. Animals are bought and sold. Animals from the herd may go to shows, packing, the veterinarian, or other events where they are exposed to other animals and could bring a disease back to the herd. Wild animals such as deer, elk, fox, coyote, waterfowl, etc. can have access to pastures or pens. Some infectious diseases are transmitted by insects, such as West Nile Virus. Colostrum from cattle used as a replacement if colostrum is not available from the dam can transmit infectious disease and was incriminated as a possible source of Bovine Viral Diarrhea Virus (BVDV) infection in alpacas. So, while a biosecure herd is a terrific goal, it is virtually impossible to attain in the real world setting. Instead,



our goal is to take the steps that we can to minimize the risk as much as possible.

**Know the Herd of Origin:** One of the simplest and least expensive steps of a good biosecurity program is knowing the herd of origin. More specifically, it is good to know the basic management, husbandry, nutrition, vaccination, and disease control procedures of the herd. It is a good idea to request a health and vaccination history for any new animals entering the herd. If possible, visit the herd of origin and examine the other animals in the herd. Put your hand on a few animals and assess the body condition score. Ask the owners what they feed, if they provide any vitamin and mineral supplements and if possible, get a label of the product. You can then evaluate that product, particularly for adequate levels of vitamin A, D, and E (should be around 200,000-250,000 IU/lb, 20,000-30,000 IU/lb, and 5,000-10,000 IU/lb respectively). If you are concerned about parasites in the herd, ask the owner if you can collect some fecal samples from dung piles and submit them for a herd composite fecal float. This will give you an idea of what intestinal parasites are more prevalent in the herd.

**Entry Diagnostic Tests:** Testing for pathogens can be helpful prior to entry of a new animal. However, for camelids, many of the common health related pathogens are endemic throughout the United States and testing may have limited benefit. For example, while *Mycoplasma haemolamae* can cause serious disease in individual animals, surveys in the Rocky Mountain region suggest that up to 70% of animals have previous exposure and may be asymptomatic carriers. Thus, the value of pre-entry Polymerase Chain Reaction (PCR) testing for this pathogen may be questioned, particularly if you do not know the status of your own animals. The same can be said for the coccidia, *Eimeria macusaniensis*. While this parasite can cause serious disease, it is relatively widespread throughout camelid populations and may be difficult to detect in healthy animals. Requiring a negative test before entry does not ensure the animal is not a carrier and will likely have little impact on your herd if there are other animals in your herd that are carriers. So if you have not performed

*continued on next page*

regular testing within your herd to show that the pathogen is not present, it may not make sense to test new animals.

All new animals entering a herd should be tested, or confirmed tested, for BVDV status. Persistently infected (PI) carriers are the primary source of BVDV in camelids and the current PCR tests are very effective at identifying PI animals. Another important infectious pathogen that could have significant negative impact if it entered a new herd is Johne's Disease (*Mycobacterium paratuberculosis*). Johne's Disease is a slowly progressive infection of the small intestine that results in inflammation and thickening of the intestinal wall and reduced nutrient absorption. Animals that develop clinical signs show progressive weight loss and eventual death. There is no effective treatment to cure the disease. Testing feces by a Johne's fecal PCR is a good test to minimize the risk of introduction of this pathogen.

**Quarantine Protocols:** The use of a quarantine procedure is important in minimizing the risk of exposing the entire herd to an infectious pathogen brought in by an outside animal or any animal from your herd that is exposed to other animals outside of the herd. The main concept of the quarantine protocol is to allow time to obtain biosecurity test results for newly introduced animals and to allow the animal to clear any recently acquired infectious pathogens. Results for most of the diagnostic tests used to identify common pathogens are available within 2 weeks. In addition, potential shedding and transmission of most transient infectious diseases rarely exceeds 3 weeks. Based on this, 3 weeks is a commonly recommended quarantine period. Note that this time is 3 weeks from the introduction of the last animal to enter the quarantine group.

The quarantine pen must be isolated from other animals if it is truly going to be effective. A distance of at least 100 feet is recommended to help minimize aerosol transmission as well as indirect transmission through people or objects. Routine aerosol transmission for most pathogens can extend for distances of 10 feet, but decrease rapidly after that depending on environmental conditions and the specific pathogen. Movement of people and supplies between the quarantine area and the rest of the herd is a more common means of transmission. Separate cleaning, feeding, and watering equipment and supplies should be dedicated to the quarantine area.

Humans should feed and handle quarantine animals last and if possible, wear protective clothing while in the quarantine area, and wash hands when finished with the quarantine area.

**Entry Treatment and Vaccination:** It is a very good idea to treat incoming animals for ear ticks as soon as possible and preferably even before they enter the trailer for transport. Treatment can be as simple as spraying Catron IV fly and tick spray into each ear right away, and again at 2 weeks and 1 month. Ear ticks are so easy to control and can cause so many problems in the herd if they are not controlled that this is one of the simplest and most cost effective precautions. You may also consider booster vaccinations while in quarantine, particularly if the vaccination history of the animal is not known. This should at least include Clostridial CD&T toxoid. West Nile and Rabies vaccination may also be considered depending on the risk in your local area. Routine deworming would not necessarily be recommended unless something unusual was found on herd or individual animal fecal floatation tests.



### **Biocontainment:**

Biocontainment is the process of minimizing the spread of infectious pathogens within a herd. The concept accepts the fact that some pathogens are either environmental, or endemic within a herd and there are basic management practices that can help minimize the development of clinical disease in the herd. The most fundamental aspect of biocontainment is basic husbandry, including animal nutrition. Perhaps the most common cause of immunosuppression is poor nutrition, particularly vitamins and minerals such as vitamin A, D, and E, copper, zinc, and selenium. Dry hay forages in the Rocky Mountain area seem to be notoriously deficient in vitamin E, and often also in vitamin A. We also know that camelids are susceptible to vitamin D deficiency due to the thick fiber coat, particularly in animals with a dark fleece. This is accentuated at northern latitudes such as Colorado and further north but can be seen in southern states as well. Nutritional supplementation with an appropriate vitamin and mineral salt mix is helpful in maintaining appropriate vitamin and mineral levels to support normal immune system function. Insufficient energy and protein during the winter months is also a common nutritional problem that can lead to immunosuppression

*continued on next page*

and increased risk of infectious disease. Providing supplemental energy and protein in the form of alfalfa hay, camelid pellets, or simply a corn-oats-barley (COB) grain mix can greatly help maintain body condition and immune system function during the winter. Forage nutrient testing of hay is a very inexpensive way to evaluate what you are feeding and determine how to supplement during times of stress.

A proper vaccination program is helpful in biocontainment. Annual Clostridium CD&T vaccination should be provided for all animals. Animals less than 1 year of age should receive at least one vaccination at 4-6 months of age and again 2-4 weeks later based on label instructions for the vaccine that you use. This is true even if the animals received CD&T vaccination prior to 4 months of age. West Nile and Rabies vaccination should be provided in areas at risk. Work with your veterinarian to develop an appropriate vaccination program for your area.

Animals with suspected or confirmed infectious disease that is considered contagious should be separated from the herd until they have recovered. If available, you can use your quarantine isolation area. The same contact precautions should be provided for these animals as new animals entering the herd.

**Disinfectants:** There are numerous types of disinfectants and they all have their advantages and disadvantages. Common and economical disinfectants include alcohols (isopropyl alcohol), hypochlorites (bleach), povidone iodine (Betadyne), phenols (Lysol), and biguanides (Chlorhexidine, Nolvasan). It is important to note that all disinfectants will work better on solid surfaces that are already cleaned with a detergent and water. Detergents themselves can denature the surface of pathogens and the act of washing dilutes and removes pathogens from the surface. That is why washing your hands with soap and water goes a long way to help prevent transmission of pathogens. A proper disinfection procedure starts with thorough cleaning of the solid surface with soap and water followed by application of an appropriate disinfectant. The disinfectant can then be applied to the clean surface with a spray bottle or a garden sprayer. Recommended dilution rates of common products for disinfection are:

**Bleach 5%**

- Add 1 to 1 ½ cup Bleach to 1 gallon water
- Note, bleach will degrade over time when stored at room temperature. Recommend to replace if not used in 1 year or mix at a lower dilution.

**Povidone Iodine 10%**

- Effective disinfectant from 1-5% Povidone Iodine
- Add 8 cups Povidone Iodine to 1 gallon water to give a 5% solution
- Add 1.5 cup Povidone Iodine to 1 gallon water to give a 0.9% solution

**Chlorhexidine 2%**

- Add 1 ounce (30 ml) Chlorhexidine to 1 gallon water



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# BEFORE YOU BUY

## Prepurchase & Breeding Soundness Exams in Llamas

By Charlene Arendas, DVM

*Editors' Note: Originally printed in the August 2019 issue of American Llama magazine. Reprinted with permission.*

Bringing a new llama to your farm can be a very exciting time! There are many reasons you're bringing this new animal into your life. Maybe you've seen the animal in person and it's breathtaking, maybe you have studied its genealogy and love the genetics. Perhaps it's bred to a really cool stud, or has had some champion offspring on the ground.

Whatever the reason, you know why you NEED this llama. We all expect bringing home a new animal will be a fun, positive experience, and it should be! Let's talk about how to MAKE SURE it is and what we can do so that everyone involved has the same expectations.

### Meet Before You Buy

Whenever possible, view the animal in person prior to purchase. Pictures we see online and in advertisements are great; we can adjust the lighting and really get some beautiful poses of our animals. However, it is one small snapshot into the life of that llama. Photos taken from different angles can warp what we see. Don't forget it's easy to rotate a photograph to help hide a sloping topline (to an extent).

Sometimes there are videos of the animal walking and interacting with people; this is great because you can somewhat evaluate the gait and temperament, but not always. Maybe the animal is slightly cow-hocked, but when walking uphill, you can't really tell because of how their weight is shifted; you get the idea.

Sometimes we buy animals sight unseen, from pictures. For most of us, this has been a positive experience. But it's never a bad idea to contact someone who can personally evaluate the animal in person before you buy.

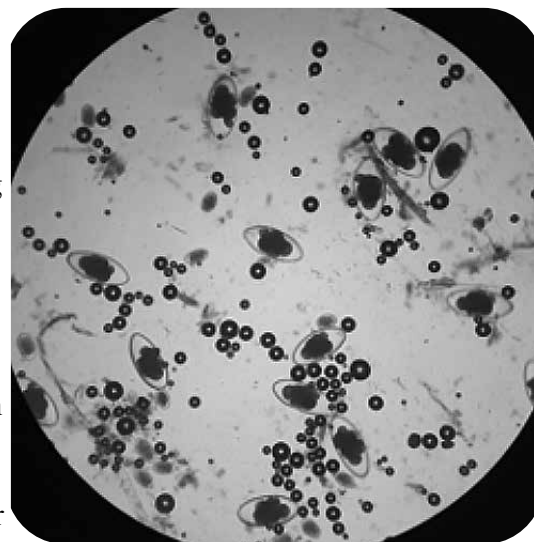
Besides the normal stuff we worry about – conformation, gait, tail set, legs, and fleece – what else is important to evaluate before committing to purchase a llama? You can get a general pre-purchase exam done by a veterinarian or, if you intend to breed said animal, also request a breeding soundness exam.

These types of exams are quite common in the equine world, and are always a good idea no matter what the dollar amount involved.

### Consider a pre-purchase exam

A general pre-purchase exam is an exam done by a veterinarian who is hired by the buyer to do a physical exam on

the animal they intend to purchase. This could be something as simple as a thorough physical exam, which should include exam of the eyes, ears, check the mouth for teeth, eyelid membrane color



A large worm burden on *Nematodirus* & strinyle-type eggs in the fecal sample.

(FAMACHA score), feel the abdomen carefully for umbilical hernias, foot pads/nails, auscultation of the heart/lungs/gut, body temperature taken, and a check over of the skin to look for any abnormalities.

You can, of course, take this step further and have the vet also run a fecal sample on the animal. This would be a great idea considering the parasite resistance we face as an industry.

If you want to get really fancy, you may request a basic blood panel to check organ function and blood cell counts, or even a trace mineral panel.

In horse pre-purchase exams, a lameness exam and x-rays of the legs/ feet is very common, due to the nature of their work. In our industry, this probably isn't something we would pursue unless there was reason to suspect an issue or if the animal will be working as a packer or carter. Any abnormalities on the physical exam would be reported to you by the vet, and this may affect your decision to purchase the animal, to investigate a condition further, or to negotiate the price.

### Breeding Soundness Exams

If your new llama is going to be a breeding animal, you may want to also consider a breeding soundness exam. These were awfully popular in the alpaca world

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*Before You Buy, continued ...*

when alpaca prices were at a premium. Then, as the market changed, so did a lot of our practices. This type of exam can be as simple or as complex as you'd like to go. One would assume the higher the price of the animal, the more extensive the exam you'd want. We've all had that beautiful animal we could never get bred. There's no guarantee that you can find every problem in an exam, but you can at least rule out some major issues. Most breeders will offer some sort of reproductive guarantee with the sale of a breeding animal – know what exactly it entails.

In males, at a minimum, the testicles should be visually inspected and palpated for uniformity in size, shape, and texture. If an abnormality is detected, the testicles can also be ultrasounded to look for cysts or nodules, and these areas can be needle aspirated for cytology if needed. Semen may also be collected for a sperm count and to look at structure and viability. The penis should be externalized from the prepuce and examined; hair wrapped around the tip of the penis can be a debilitating problem.

In females, a visual inspection of the udder and vulva is recommended, as well as manual palpation. A vaginal speculum exam can be done to inspect the cervix and look for damage or drainage, such as from a uterine infection. You can also have her uterus and ovaries ultrasounded to confirm pregnancy but also to look for abnormal fluid, cysts, and other problems. Lastly, a uterine abnormality can be cultured or biopsied if you wish to pursue further testing.

### **Quarantine Periods**

So, let's say you found the llama you want online, you got it checked out by a vet and by a llama friend who lives nearby. The fecal test looked great.

Everything is a go. Just trailer it on home and put it in the pasture, right?

Hold on just a minute. The ideal situation would be to quarantine your new animal in a separate pen/paddock for about 2-3 weeks, and run another fecal sample prior to integrating them in with the herd. Besides intestinal parasites, other types of infections and illnesses could pop up in this quarantine period – perhaps something they were exposed to before leaving their farm, while in transit, or even at a show where they may have been picked up.

This gives you time to recognize there's an issue and have your vet evaluate the animal before you expose the

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rest of your herd. There are some diseases that typically only occur in certain geographic regions of the country, for example: Anthrax, Vesicular Stomatitis, Liver Flukes, Blue Tongue, & Tuberculosis. This is because of differences in weather patterns and the types of wildlife and insects that inhabit those areas. In a world where we trailer animals cross-country on a regular basis, don't risk the health of your herd for sake of convenience. Alas, we know taking all the precautions isn't always possible, but when in doubt, keep them out of your pasture for 2-3 weeks!

Hopefully, this information helps you make a more informed decision when adding a new llama to your herd.

### **About the Author**

*Char Arendas is a veterinarian in Ohio. She got her first llama as a 4-H project in 1995, and her family's herd is currently home to 40 llamas and 16 alpacas. She and her mom have run the Llucky Llamas 4-H Club since 2001. Char is on the board of directors for the Llama Fiber Co-op of North America and is the president of the Ohio River Valley Llama Association.*



# Top 5 Things You NEED in a Medical Kit

Dr. Charlene Arendas, - Town & Country Veterinary Hospital, Howland, Ohio.

Reprinted from Topline, May 2016, Ohio River Valley Llama Association (ORVAL)

As camelid owners, we know we need to have camelid-savvy vet we can turn to for help with our animals.

However, sometimes we become accustomed to certain medical issues or minor injuries that occur at the farm or that we notice at shearing time. There are definitely some things we ought to talk to our veterinarian about having on hand at home, to use in such instances when the vet might not be able to come out for several days. Then, at least we can put a call in to them and they can advise us what to do in the meantime. If we have some of the following items at home, it may help our animals sooner.

## Vet Kit

### 1. Flunixin meglumine (Banamine)

Flunixin is a prescription-only, anti-inflammatory and pain medication. It can be used for a variety of painful conditions, colic symptoms, wounds, lameness/limping, swellings, and irritations. Multiple doses or high doses of this medication can possibly induce or worsen stomach ulcers. It should NEVER be combined with steroids such as Dexamethasone or Prednisone, or with other “anti- inflammatories” such as “Bute”/phenylbutazone or aspirin. Typical dose is 1cc per 100 pounds, given SQ, every 12-24 hours.

**\*\*Note –** although flunixin/Banamine does come in an oral paste, how well it is absorbed in camelids is unknown. You should only use the injectable form.



### 2. Vitamin B-Complex

This is available over the counter, and is a combination of all the B vitamins: B1 (Thiamine), B2 (Riboflavin), B6 (Pyridoxine), and B12 (Cyanocobalamin). They all are water-soluble, which means they are safe to give at high doses – any extra is excreted in the animal’s urine (and the urine can become a darker yellow or almost orange color).

Each of the specific B vitamins are responsible for many bodily processes, help with absorption of nutrients from food, support neurologic function, and can help stimulate appetite. I think any sick camelid – one with an illness lasting more than a day or two – can possibly benefit from a few injections of a vitamin B complex. I usually give about 5cc of B-complex SQ once a day to a sick adult camelid for about 3 days. There are also over-the-counter Vitamin B pastes/gels available for cattle/sheep, and these should be given according to label instructions.

### 3. Thiamine (Vitamin B1)

Although you can find a small amount of thiamine in your injectable B-complex, there are a few instances in which it is vitally important to have prescription strength, injectable Thiamine at a high dosage! ANYTIME I have a neurologic camelid (wobbly walking/ataxia, walking in circles, blindness/walking into things, tremors/shaking, mentally dull/dumb, staring/zoned out). I am sure to include at least one injection of Thiamine into my protocol, even if I’m convinced it’s meningeal worm.

The disease known as Polio encephalomalacia is a type of Thiamine deficiency that causes a sudden-onset blindness, and can occur after a change in feed, an animal going off feed, or even from giving medications such as Corid/amprolium for coccidia. There is a wide range of dosing for Thiamine, and it’s ideal that your vet give the first dose of it IV. However, the sooner it’s given, the better chance you have at saving a neurologic camelid.

### 4. Sterile saline solution (0.9% sodium chloride/NaCl)

Saline can be purchased over the counter or from your vet, in a variety of forms – sterile bags, bottles, pre-filled syringes, eye drops/flushes/contacts solutions, and even squeeze bottles with flip tops. Saline can be used for a variety of things around the farm! It can be drawn into a large syringe, and squirted out under pressure to clean out a wound. It will help loosen blood, pus, and debris from the wound and cause less trauma than you picking at it with your fingers.

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For eye infections, injuries, or pieces of matter stuck in the eye: use in a syringe under pressure to flush the mucus and debris out safely instead of touching the eyeball. This will also help lubricate the eye somewhat until your vet prescribes a medicated ointment or drop (if needed).

It is much better to use saline instead of water, because the salt content in it closely mimics the salt content of the body's tissues. If you use plain water (no salt) or a high salt content solution (called hypertonic saline), they can cause tissue to either dehydrate or swell (think of your fingers pruning when you're in the pool too long...in saltwater you would start to swell up and take on water).

The golden rule of using sterile saline is, keep it sterile! Use a clean needle to draw saline from a bag. If you have a saline eye flush in a bottle, be sure not to touch the tip of the bottle with your finger or touch it to the animal's eye. Make sure you have a large 60cc syringe and some large gauge needles (16- 18 gauge) to be able to draw it out of the bag quickly. Sometimes, if I know I will be using an entire bag or bottle of saline to flush a wound for several days, I will add about 5-10cc of Betadine solution or povidone iodine to the bag. This can ONLY be done for wounds! Never flush Betadine or povidone iodine into an eye!

## 5. Penicillin-G

Penicillin is a thick, refrigerated, injectable antibiotic that can be purchased over the counter at your local farm store or from your veterinarian. When an animal gets an open wound or abscess, starting penicillin can potentially help the infection from worsening. Although it may not be the antibiotic that your veterinarian ends up recommending for the issue, it is better to have this on board than nothing at all until your vet can come out. You MUST shake penicillin well before using and you MUST refrigerate it.



You will need to use an 18-gauge needle, because it is so thick. It is very important that you give this medication SQ or IM, and NOT IV! Be sure that when you inject the needle into the animal, that you pull back on the plunger a little bit to make sure you don't see any blood. If you do, move to another spot to give the shot. Most forms of penicillin are 300,000 units per mL/cc (sometimes it is 150,000 of procaine penicillin and 150,000 of benzathine penicillin, but the total = 300,000). I usually dose penicillin at 1cc per 20- 25 pounds SQ once a day for 5-7 days.

*Editors' Note: This is just a short list of some of the important medications you might want to include in your medical kit. Remember, it is better to be prepared than to scramble at the last minute for these items. Try to keep everything in a tote or bag that you can grab easily, and make sure you have enough needles and syringes on hand as well! Keep a watchful eye on the expiration dates of the medications you have in your medical kit also. These things do expire, especially "biologic" medications like antibiotics!*

hw



More Costume Fun  
From Morgan Barba

Kathy, Ron,  
Marylin

## Postscript from The Journal Volunteers

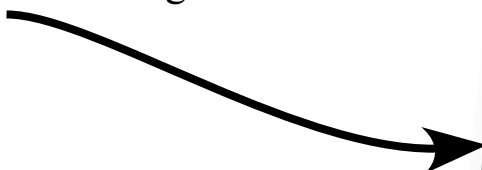
*"You can't go back and change the beginning,  
but you can start where you are and change the  
ending."*  
**C.S. LEWIS**



Rocky Mountain Llama and Alpaca Association  
5704 Canyon Trail  
Elizabeth, CO 80107-7814



It wasn't that long ago we had this  
Event calendar, hopefully we can  
return to something close in the near  
future!



**EVENTS CALENDAR**

For more details and live links, go to [www.RMLA.co](http://www.RMLA.co)

- **June 24 and 25, 2016, Camelid Kids Llama & Alpaca Camp**  
Contact Geri Rutledge at [buckshollow@wildblue.net](mailto:buckshollow@wildblue.net) or  
training, making crafts and a tour of St. John's School.
- **July, 9, 2016, Because of the Economy Black and Blue F**  
ALSA double point halter pasture show; single point per  
to ALSA show website for entry forms and information.  
two free educational clinics, must attend show to attend  
by Jens Rudibaugh. The second is a walking fleece clinic  
355-9355 for more information.
- **July 30, 2016 Fairplay Llama Races, Fairplay, CO** - Three  
Rama & the Public Walk. And of course, the Llama Luna  
borrow a llama for the race. Camp with the llamas in the  
Start time is approximately 9 AM. Contact Gary Carlton  
• **August 20, 2016 Hope Pass Aid Station Support Crew**  
race. A great deal of preparation goes into getting the aid  
operational prior to race day. Contact Gary Carlton llama  
information.
- **September 10-11, 2016 Salida Fiber Festival, Salida CO.**  
Salida Fiber Festival. Contact Jill Knuckles at [talltaillamas@bigjuntilla.com](mailto:talltaillamas@bigjuntilla.com) or 970-640-8028 to volunteer.
- **September 24 and 25, 2016 Annual PacaBuddies Open**  
Castle Rock, CO. Contact Ron Hinds or Elizabeth Cline  
Learn about the care and use of alpacas. Alpaca product  
• **October 1-2, 2016, Taos Fiber Festival, Taos, NM.** The F  
Fiber Festival. Contact Jill Knuckles at [talltaillamas@bigjuntilla.com](mailto:talltaillamas@bigjuntilla.com) or 970-640-8028 to volunteer.