Fall 2024

The Journal of RMLA

Welcome to RMLA!

– – – Mission Statement – – –

The mission of the Association shall be to educate the members and the public as to the breeding, raising, care and use of llamas and alpacas.

RMLA Board of Directors

President
Sandy Schilling
Chino Valley AZ
602-403-8166
Sschilli9151@gmail.com

Vice President
Lougene Baird
Cottonwood AZ
808-747-5023
lougenebaird@outlook.com

Secretary
Nancy Wilson
Camp Verde AZ
928-220-5553
spinllama@msn.com

Treasurer
Linda Schlenker
Scottsdale, AZ
602-576-3828
lindalouschlenkler@mac.com

Chairpersons, Active Committees

Bookstore
Distribution: **Karen Miller**
Accounting: **Marilyn Arnold**
303-807-2051
rmlaaccounting@yahoo.com
Liaison Lougene Baird

Facebook
Sandy Schilling
RMLAmembershipchair@gmail.com
Liaison Sandy Schilling

E-Blasts
Nancy Wilson
928-567-6684
RMLAeblast@gmail.com
Liaison Lougene Baird

Finance
Marilyn Arnold
303-807-2051
rmlaaccounting@yahoo.com
Liaison Lougene Baird

Library
Sandy Lockwood
303-838-9554
Rmlalibrary3@gmail.com
Liaison Nancy Wilson

Education/Events/Marketing
Mary Wickman
719-651-8871
Mwickman1@gmail.com
Liaison Lougene Baird

Membership
Sandy Schilling
602-403-8166
RMLAmembershipchair@gmail.com
Liaison Sandy Schilling

Youth, 4-H, FFA
Lougene Baird
rmlayouthinfo@gmail.com
Liaison Sandy Schilling

Website
Content: **Kathy Stanko**
970-256-7716
Rmlawebsite@gmail.com

Membership: **Sandy Schilling**
602-403-8166
RMLAmembershipchair@gmail.com
Liaison Lougene Baird

The Journal
Kathy Stanko, Editor
970-256-7716
Rmlaeditor@gmail.com
Liaison Lougene Baird

Journal Committee Members:
Fiber, Nancy Wilson
Graphics, Ron Hinds
Research, Ron Baird & Keith Payne
Proofreader, Marilyn Arnold
Pack, open

About the Journal

The Journal of RMLA© is a quarterly publication of the Rocky Mountain Llama and Alpaca Association (RMLA). The RMLA Journal Committee and the Board of Directors reserve the right to select and edit all articles and advertisements submitted.

The information in The Journal is not intended to be a substitute for qualified professional advice. Readers are encouraged to consult with their own veterinarian, accountant or attorney regarding any questions concerning their animals or business operations.

RMLA is not responsible for any losses resulting from readers' failure to heed this caution. The views expressed by the authors of articles are not necessarily those of the Rocky Mountain Llama and Alpaca Association, Inc., its officers, directors or members.

To request permission to reprint content from the Journal, you must obtain permission from the author. Send your request to Kathy Stanko, RMLAeditor@RMLA.com who will obtain the permission to reprint, then respond to you. Note "reprint request" in the subject line.

Table of Contents

Advertisers in this Issue

Cover Photo: Fun at Llama Lunacy, see page 7.

From The Editor

Kathy Stanko, Editor, rmlaeditor@gmail.com

Hello to everyone. We have a new contributor to the Journal! Rebecca Kern Lunbery has a passion for animal nutrition. A fellow RMLA member sent me one her articles which I found educational so I contacted her to get permission to reprint. The article is on page 14. We will be seeing more of her articles in the future. And if you have a questions for her, please send it to me so that she can address it directly. And, please remember, if you see an article that you think our members would be interested in, let me know.

Please see page 17 for information about GALA's (Greater Appalachian Llama and Alpaca Association) 2024 Conference. This is a major educational conference and is well-attended.

Thank you to everyone who submitted an article for this Journal and to all of you who read and learn from the many topics included. Please remember, if you have a great photo, send it to me for possible use in a future Journal. Have a fun and enjoyable autumn. Take some time to watch the leaves turn colors and drop.

Journal Submission Dates, Ad Rates & Specifications

Issue	Submission Deadline	Publication Date
Spring	February 28	March 31
Summer	May 31	June 30
Fall	August 31	September 30
Winter	November 30	December 31

Ad Type	Width x Height	Member Rate	Non-Member
Business Card	3.5"x2	$ 7	$ 15
¼ page horiz.	7.5"x2"	$ 12	$ 24
¼ page vert.	3.5"x4.5"	$ 12	$ 24
Half Page	7.5" x 5"	$ 24	$ 48
Full Page	7.5"x 10"	$ 39	$ 78

Ad rates are quoted per issue. Lock in the current rate by purchasing an ad for four consecutive issues and receive a **5th ad for free**. You may change your ad once during the year.

To submit articles, ads or photo:

- All submissions go to rmlaeditor@gmail.com
- Documents in MS Word format
- Camera ready ads as a pdf or jpg file. **NOTE**: What you send is what we publish.
- Images/photos as .jpeg (.jpg) or .tiff files. Photo from a camera or phone are sufficient. Please check the background and lighting. RMLA will only crop for fit and/or enhance the lighting.

Instructions for advertising payment:

You may pay for your ad at RMLA.com using a credit card. Payment and ad copy must be received prior to submission deadline. See the table above for dates.

President's Message

Greetings from Arizona! Hope everyone's weather is starting to cool down. Northern Arizona is finally out of the high 90 degree range and the mornings are dipping into the 50's. Heavenly.

RMLA recently held its Annual Meeting. The attendance was higher than I have seen since I became a member of RMLA. It was great to put faces with names of long-time members as well as new members. We had a very productive meeting with some great suggestions from all in attendance. I want to thank everyone who attended this year. The Board appreciates your participation. The RMLA Board will be meeting in person in October to talk about activities for the next year as well as any new activities that RMLA may be ready to pursue.

Fall is coming soon, and hopefully everyone will be able to get more active with their lamas. Please remember that all of our RMLA members enjoy hearing your stories about adventures with your animals. Consider writing an article for the Winter Journal and show everyone what you've been up to.

I hope the rest of 2024 is fun and productive for everyone. As always, please reach out to me if you have any comments, concerns or suggestions for RMLA.

Sandy

New Members

RMLA continues to grow. We welcome our new members!

Bradley Kuhn, Parker CO
Christina & Arthur Ortega, Parker CO
Heather & Steve Rohlwing, Parker CO

Upcoming Events

September 27-29, 2024, Castle Rock, CO. Fallama Fest. A joint ILR and ALSA show plus educational clinics on llama health and care. September 27 thru September 29th, 2024. Location: Douglas County Fairgrounds, 500 Fairgrounds Drive, Castle Rock, CO. Contact Julie Hall for more information: jmhbluehorse@yahoo.com or 303-910-2134.

December 7, 2024, Prescott AZ. 42nd Annual Prescott Chamber Christmas Parade A returning educational and fun event for owners to showcase their animals to the public. For more information, contact Sandy Schilling, 602-403-8166 or sschilli9151@gmail.com

SAVE THE DATES:
National Western Stock Show, National Western Stock Show Complex, Denver, CO. Arrival Thursday, January 23rd 9AM to Noon. Walking fiber and Shorn fleece, Friday, January 24th beginning at 9 AM. Llama Halter and Showmanship, Friday, January 24th at 2 pm. Llama Performance Show, Saturday January 25th at 1 PM. Contact Judy Glaser, judy.glaser@yahoo.com for more information.

RMLA EVENT

Llama Lunacy 2024

By Stephanie Roller Corr

The Town of Fairplay, Colorado provided a beautiful day for Beau, Blaze and Duke to navigate the fun of an obstacle course designed for hands-on fun between humans and the llamas.

Approximately 125 humans enjoyed leading three different llamas through a variety of obstacles including ducking through a tunnel and stepping through an oversized hula hoop.

Young kids, older kids, and even adult kids enjoyed the opportunity to lead the different llamas. From the fun of a llama ducking, stepping over and stepping through different items to the challenge of at least one llama laying down (kushing) in the middle of the obstacle course (for a break), there were many smiles.

A big thank you goes out to: Julie Bullock, Events Director for the town of Fairplay; the RMLA for sponsoring the event and providing insurance; volunteers Karen McLennon, Rod McLennon, Sierra McLennon, Al McLennon, Char McLennon, Heather Abbosh, Jim Roller, Ellen Roller, Bret Roller, Susanne Roller, Brooke Roller, Dalton Roller, Bridger Roller, Nicole Brue, Cody Brue, Stephanie Corr, Trevor Corr; and Silver Scoop Ice Cream, which provided each participant with a coupon for a free ice cream cone at its shop. Photos are courtesy of Trevor Corr.

Llama Lunacy is held in conjunction with Llama Rama, a llama race raising awareness for organ and tissue donations. If you missed the fun this year, check out future newsletters regarding upcoming events for the remainder of 2024 and beyond.

TRAINING/BEHAVIOR

All Tied Up and Nowhere to Go...Teaching Your Alpaca to Tie

by Marty McGee Bennett, CameliDynamics

Reprinted with the author's permission

Tying an alpaca is undoubtedly a useful thing to be able to do - unfortunately, many alpacas learn about what it means to be tied when they are tied up for the first time. There is a HUGE difference between teaching an alpaca to accept being tied and simply tying him up. Teaching an alpaca to tie by tying him up is the same as teaching a person to swim by throwing him in a pool. The human being thrown into a pool may learn to swim BUT he may hate and fear the water for the rest of his life and perhaps even more importantly... will he ever trust the person who threw him in?

Advocates of the tie 'em and leave 'em approach argue that the animal blames the rope and not the person for the unpleasantness of the experience. I believe that even a not so smart alpaca can figure out who is responsible for catching him, putting the halter on, and tying him to the fence. The rest of the logic includes a belief that tying an alpaca to a fence teaches him that he cannot escape and somehow that this experience will teach an alpaca not to challenge or attempt to pull on a human. Again, I think that alpacas are smart enough to figure out that a fence is different than a human; in fact, I suggest that if an alpaca panics while tied to a fence, that I would prefer that the rope break before his neck is injured.

Human beings frequently run afoul of our fellow man when we operate without properly considering another's point of view. The same thing is true of training. Consider for a moment your alpaca's point of view when it comes to being tied up. An alpaca is born depending on his or her ability to run from predators for safety. Not being able to run away is the same thing as being in mortal danger. Combine that with an often abrupt introduction to a halter that may or may not fit, and you have a recipe for a very frightening experience. An alpaca that is haltered and tied and subsequently panics can carry the scars of the experience forever. In fact, the avoidance behavior that these alpacas exhibit is so consistent that I have coined the phrase *drowning victims* to describe them.

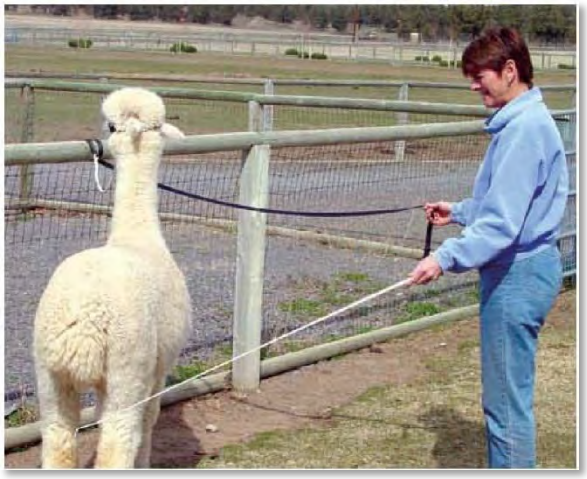
Drowning Victims

Drowning victims exhibit terror when confronted with a halter and will go to great lengths - sometimes injuring the handler or themselves in an attempt to avoid the halter which to them represents extreme danger. Ironically, some trainers suggest tying these animals for extended periods of time as a way of fixing the problem.

Understandably, this often makes the problem worse. Not all animals that are summarily haltered and tied thrash about violently or become behavioral problems, but for the ones that do, learning to trust a human again is a long, slow way back. I think it is safe to say that it is definitely a problem that is easier to prevent than to fix.

Camelids are anatomically different than many other types of livestock that human beings find the need to tie. Camelids have a very long neck. Tying a long-necked animal by the head is problematic. The extra length in the neck means that regardless of how short you tie the animal, the distance from the point of contact with a fixed object (e.g., the fence) to the center of mass is greater. This gives the weight of the animal's bucking body more power to injure the neck and spine. Some handlers attempt to mitigate the danger by using an inner tube attached to a fence, rather than tying the animal with a rope alone.

The lead rope is wrapped once around a smooth pole or rail. Notice that the wrap is such that the lead rope attached to the alpaca comes off the top of the rail not from underneath. Wrapped this way the rope slides more easily.



If the alpaca pulls back wait two or three seconds to allow the alpaca to realize that he is tied. If he doesn't stop pulling offer a bit of slack by allowing the rope to slide just a little bit. If desired the handler can use the wand to prompt the alpaca to come forward by tapping the rear leg.

In my opinion, this practice may be more dangerous than using a rope by itself. The stretchiness of the inner tube may give the impression to a panicked animal that fighting is going to produce results and may actually cause a more prolonged and intense battle with the rope. An alpaca bucking wildly at the end of a rope whether it is attached to an inner tube or to the fence itself is still in danger of damaging the neck and spine. It is the weight of the body bucking at the end of the long neck that poses the danger.

A better approach, in my opinion, is to stage the first few tying experiences in such a way that the animal learns to come forward to release the pressure on the rope without panicking. The process of teaching an alpaca to tie must begin with the process of teaching an alpaca to understand, accept, and feel safe in a properly fitting halter.

Leading Comes First

Secondly, tying is something that comes AFTER the animal is trained to lead and NOT before. At the age of 4-6 months, a weanling that is comfortable with the haltering process is ready to learn how to lead. Because teaching an alpaca to lead is so closely related to learning to tie safely, it is useful to spend a bit of time on the subject.

Teaching an alpaca to lead is the process by which the alpaca learns to understand the significance of a signal given to the head. It is very important to give meaningful signals and to persist in giving the signals until your student takes a step. Otherwise, it will be very difficult for your animal to make the connection between the signals on his head and your goal of having him move his feet.

The first leading lessons should be taught in your training/catch pen. Once your alpaca realizes that his head is no longer free to move about at will and begins to respond to a series of signals on the head by moving his feet, you are ready to leave a small catch pen for a slightly larger area that is long and narrow. I use a very long lead for initial lead training (15 feet long). Using a long lead in a small pen means that there is never the need to hold the alpaca by the head. Many handlers make the mistake of leaving a small space for a much larger square area such as a small paddock. A panic reaction when the handler is using a short lead in a large pen means one of two things will happen: the handler holds the rope and the alpaca bucks wildly (no good) or the alpaca pulls the lead rope out of the handler's hand (no good).

Unless you can move sideways and keep your alpaca from running past you, the space is too wide. A space such as a barn aisle or pasture lane no more than 15 feet wide by 30-40 feet long is ideal. In order to be useful, your leading space must be directly adjacent to the area that you use for halter training. Once your alpaca has gone on a few walks, has negotiated a few easy obstacles, and is responding to a signal to stop consistently you are ready to teach your alpaca to tie.

Tying for the First Time

The first several tying lessons should happen inside an enclosed area. Panic reactions are much less likely in an enclosed space and if they do occur, they are usually much less violent. Using an 11-15 foot long smooth flat lead line, attach your lead rope to the halter and run it around a smooth pole, using one wrap and hold the end of the line in your hand.

Make sure that the line can slide freely around the pole or rail. If the alpaca pulls back, hold the line for a few seconds to allow the alpaca to realize he is tied and settle down. If he begins to panic and doesn't yield to the lead, allow the line to slide around the rail just a bit and give him some slack.

You can also use a wand or cane to tap the rear legs of the alpaca when he pulls back to help him understand that he should come forward. Once your alpaca learns to come forward and accept the restriction of being tied, you can tie him to the rail using a quick release knot *(see below)*. Be sure and stay alert and be ready to pull on the release end of the lead rope if your alpaca really begins to lay back on the rope.

In my opinion, it is not a good idea to tie an alpaca without being close at hand. There are also times when alpacas should not be tied:

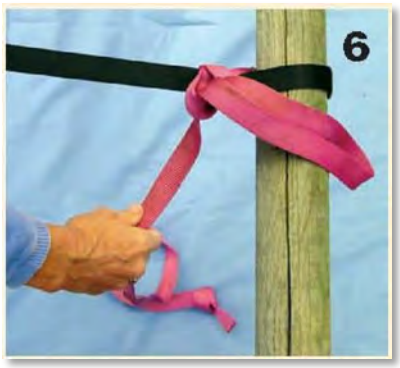
- NEVER tie an alpaca in a trailer unless you can continually monitor the animal.
- Avoid tying your alpaca when you introduce new things such as a day-pack or a costume. It is much better to work in a catch pen when teaching your alpaca to accept new and potentially scary equipment.
- Work in a catch pen when you groom and allow the alpaca to move freely inside a small area.
- When you do use a chute, always use one with a back gate or barrier. Tie the alpaca with a long enough rope so that he reaches the rear barrier BEFORE running out of rope.
- Offer food or hay in the chute to make the process more pleasant.
- ALWAYS use a quick release knot when you tie your alpaca. A break-away device integrated into your tying system is a good safety measure if you must leave your alpaca alone even for a short period of time. I would much rather cope with a loose alpaca than one that is injured.

The fight response is a powerful instinctive response. Take the ability to run away from an alpaca, and he moves to the fight response or freeze response sometimes moving rapidly between the two. Animals that are in the midst of a panic response have a very hard time processing information, just as we humans have a hard time learning when we are frightened. Tying an alpaca without teaching him to accept the process first is not an efficient way to educate him and can be dangerous. Work with your alpacas in a way that honors their nature and capitalizes on their considerable intelligence and you will be rewarded with an alpaca that truly enjoys his association with humans.

How to Tie a Quick-Release Knot

Take the lead rope and feed it through the ring or around the rail (photo 1).

1. There are two parts of the rope: one that is attached to the animal, and the tail end. Pink is the tail end and makes the knot, black is attached to the animal.
2. Using the tail end (pink), form a loop in the rope with the tail end of the rope on the top of the loop (photo 2). Hint: The knot is easier to tie if you make the loop up close to the rail or ring that you are tying to.
3. Put the loop over top of the other section of the rope (black) (also photo 2).
4. Reach your fingers through the pink loop and grasp a portion of the tail end of your rope (pink) and pull it up and through the pink loop as a fold and tighten (photos 3 and 4).
5. Your knot should now resemble photo 5.
6. Pull on the rope attached to the animal (black) to snug the rope up to the ring or the rail (also photo #5).
7. To release the knot, just pull on the tail of the rope (pink) (photo 6).



I suggest tying your animal to a piece of baling twine or other weak link so that if your animal does panic, the weak link will break, thus preventing injury.

HEALTH

My Llama Won't Eat - Simple, Serious, or Silly?

By Char Arendas, DVM

Editor's Note: Reprinted with permission from the June 2024 *TOPLINE Newsletter*.

We've all been there before with a llama that decides not to eat. What could possibly be wrong? We know llamas are quite stoic, so maybe this is a serious underlying health issue just rearing its ugly head. Will the vet need to come out and run tests? Maybe this warrants a trip to the university and a hospital stay. Or, maybe it's something simple. Let's explore some of the possibilities.

The Simple:

The food: Is it a different type of feed and they are simply leery of trying it? Is it a new batch that was mixed incorrectly and tastes odd? Maybe the feed has gone bad and there is mold or bugs in it. Is it a different type of hay that doesn't taste as good? Check the hay to see if it's stemmy, weedy, moldy, dusty, or has a bad odor.

The company: Is your llama being bullied by a stall mate that won't allow them to eat? Maybe this is stressing them out and they aren't comfortable eating or turning their back on their companions. Maybe they need more space or their own area to feel like they can eat peacefully.

The mouth: Check the lips and mouth thoroughly for any wounds, infection, or even tumors. Look at the teeth the best you can to see if one is broken or loose. Feel the jawline for any bumps or abscesses. Is there any sort of discharge, blood, or odor coming from the mouth? Another clue to a dental issue may be if you find quids on the ground, wet chewed up chunks of cud.

The neck: Check to see that your llama can lift its head high but also can reach it to the ground. Older llamas can get arthritis in their necks. This can cause them to have mobility issues, especially being able to lift their neck up above the level of their back. You may need to adjust the height of the feeder to allow them to eat. Or, maybe a neck injury is making it painful to lower their head to the ground to eat from a dish or graze.

The Serious:

Choking: Does this llama have a history of choking on feed? Did you walk away and come back to a llama coughing up saliva mixed with feed? Llamas who have choked on feed might become apprehensive to eating it again. You may need to experiment with the type of feed, moistening it, the height of the dish, or even a slow-feed bowl. Does this llama even need feed on a regular basis or can you maintain it in good health with quality hay, pasture, and free choice minerals?

Ulcers: Could this llama be refusing to eat due to a GI (3rd compartment) ulcer? Ulcers can be caused by a number of things including stress, parasitism, or secondary from other illnesses or injuries. If I have not determined a simple or silly cause for my llama not eating, I would consider treatment for an ulcer using Protonix (pantoprazole). This medication comes in 40 mg vials of powder that must be mixed up with sterile saline or sterile water. The typical dose is one vial per 40 lbs. SQ once every 24 hours. This is a prescription product that you will need to contact your vet about having on hand and how they recommend you use it.

Parasites: Has this llama had a recent fecal test? Could it have a parasite load with strongyles, E. mac, or something else? Before you give dewormers willy-nilly, run a fecal sample to your vet or test at home if you have the equipment. Because of parasite resistance issues, you should only treat for the actual issue at hand.

My favorite dewormers for specific parasites are shown below. You should work with your vet to determine what dosage/frequency they recommend and how to mix up/dilute some of these products. I will note that the horse/cow/goat label dosage for any fenbendazole product (Safeguard or Panacur) is not high enough to be effective in camelids. You need to use 4x their weight on the label… and even higher when we are treating meningeal! Be VERY cautious if you choose to use Valbazen (albendazole). It has a narrow margin of safety with possible lethal side effects if dosed incorrectly.

E. mac: Marquis/ponazuril or Baycox/toltazuril

Whipworms/Trichuris or Capillaria: Safeguard/ Panacur/fenbendazole

Nematordirus: Safeguard/Panacur or Anthelcide EQ/ox- ibendazole

Small coccidia: Marquis/ponazuril, Baycox/toltrazuril, or Corid/amprolium

Strongyles: oral moxidectin Quest (or Cydectin)

Resistant Strongyles: Prohibit (levamisole) or Pyrantel/ Strongid

Anemia: Do you know how to check for anemia? A technique called FAMACHA was developed in South Africa for use in goats. Simply pull down the lower eyelid and observe the membrane color of the inner eyelid tissue (conjunctiva). It should be a nice healthy pink. If it is pale or white in color – there may be anemia. Anemia can be caused by a wide variety of factors including GI parasites (especially strongyles), blood parasites (Mycoplasma), cardiac problems, and more. Your vet can run lab work and do an exam to help determine the cause of the anemia and how to treat it.

Other Illnesses: Any other major illness could also contribute to a llama not wanting to eat. Does the llama have a fever? Is it able to stand up and move around? Is it urinating and defecating normally? You likely need veterinary intervention at this point.

The Silly:

Someone spit on my food! Llamas hate the smell of spit. If they recently spit or if their food was spit upon, they will likely have no interest in eating. Or, they will pick up a mouthful of food and let it fall back out of their mouth. Try again in about 20-30 minutes with a new dish of feed!

I'm packing cud in my cheek. This typically happens when traveling as your animals are probably wearing halters for a few days. Depending on the fit of the halter, your animal may have trouble with their normal chewing behaviors and may get cud stuck in their cheeks. It can feel very firm and at first you might think it's actually an abscess. Remove the halter and push the cheek bulge inward. Typically they begin to chew the cud and swallow it. Some animals with dental issues may also "pack cud" in their cheeks without a halter on. These animals may need evaluated by your vet and may need their molars filed.

My halter is too tight or doesn't fit right. Similar to packing cud, but sometimes the halter may be restricting any sort of chewing/eating. Try removing the halter to see if this fixes the situation.

Sources: Ingrid Asmus via https://icinfo.vet.ohio- state.edu/sites/camelid-sta.osumc.edu/files/documents/Practices2005FINAL.pdf

This information originally appeared in the 2023 GALA conference note book.

PASTURE MANAGEMENT

Rangeland Grazing and Livestock Diversity

By Rebecca Kern-Lunbery, MS, MBA, PAS Animal Scientist

Recently, I attended the Wyoming Stock Growers Association's Cattlemen's Convention and Tradeshow in Gillette, Wyoming. While driving up, I noticed the diversity in the livestock in rangeland grazing.

Most grazers were beef cattle. I also saw horses, sheep with lambs, and goats with kids. Additionally, deer and pronghorn were sharing many of these rangeland grazing areas. Once I arrived, a customer spoke with me about the importance of his Ward Laboratories forage analysis. He said the feed composition had an impact on alpaca fibers.

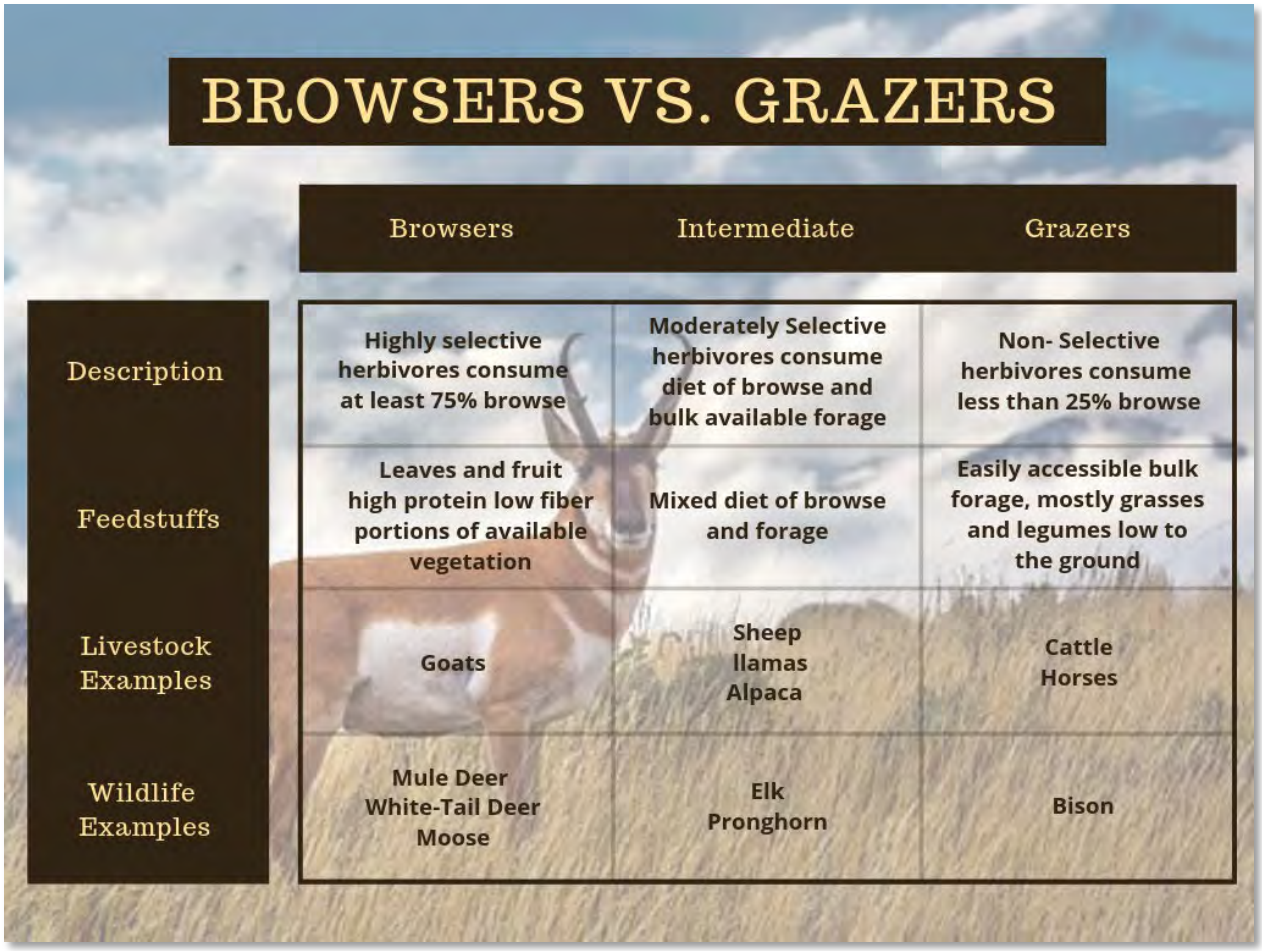
All of this got me thinking about the challenges of rangeland grazing. With the diversity of the livestock, producers need to take into account which species are consuming specific plants and what part of the plant. The diversity of livestock, wildlife, and rangeland forage species must be considered when grazing rangeland. Additionally, the seasonal and year to year variation in nutrient values of these feedstuffs will have an impact on grazing plan success or failure.

Grazers, Browsers, and Everything Between
Rangeland herbivores can be categorized into grazers, browsers and intermediate feeders. Grazers are non-discriminating with feed selection. Browsers conversely are very selective. Intermediate feeders are less discriminating than browsers, but more selective than grazers.

Grazers
Grazers typically have a wide mouth good for grabbing large bites of forage in front of them. Because the feed they are consuming is typically lower in protein and higher in fiber, grazers have large body size to accommodate large gut size and gut capacity. Grazers utilize large populations of microbes, either in the rumen or hind-gut to digest feedstuffs. Fermentation allows grazers to meet nutritional requirements consuming high volumes of low quality feed. Horses and cattle are grazing livestock.

Browsers
Browsers on the other hand have very small mouths and are highly adapted to select high protein, low fiber portions of plants. For example, pronghorn can survive mostly on sagebrush leaves, consuming few stems and a small amount of prairie grasses. Pronghorn have narrow muzzles for selection and small rumens for fermentation therefore, a smaller body size. Additionally, these browsers have saliva that binds to tannins in leafy portions of vegetation that can be detrimental to other species. Goats are the only true browsing livestock species.

Intermediate Feeders
Other livestock and wildlife species consume a more varied diet. These animals feed on easily accessible grasses, leaves and fruit. Sheep, llamas, and alpacas all fall into this category. It should be noted sheep are more similar to grazers and have a relatively large body size and gut capacity. Llamas and alpacas, however, are pseudo-ruminants and therefore have only a three compartment stomachs. Therefore, these pseudo-ruminants have a smaller gut capacity and are more similar to browsers.



Determining Nutritional Value of Rangeland Grazing

As we have established, different types of herbivores are utilizing different vegetation on rangeland. It is important to match livestock species diet with their nutrient requirement. Matching nutrient requirements is not static, even within species. Peak lactation is the physiological stage at which nutritional requirements are highest. Non-lactating animals in the second trimester of gestation typically have the lowest requirements.

Supplement Design

When grazing rangeland, designing supplementation strategies can be a challenge due to the dynamic nature of animal requirements and plant nutrient content. Typically, it is recommended to test the forage for macronutrients. Use a forage report to determine strategies for protein or energy supplementation. Then, a mineral analysis can be used to design a custom mineral supplement or choose an existing supplement to best match the animal's nutrient requirements with the pitfalls of the forage content.

Under rangeland conditions, collection of samples can be difficult. These difficulties come from rugged terrain, adverse weather, and lots of area to cover. However, these samples are worth the time and effort. Using book values can result in underfeeding livestock. Depending on the geography of the open range, book values may be different for the same plant species. For example, dry hot arid climates of New Mexico are going to produce forages of less protein and lower energy values than the same plants on Wyoming ground which has been blessed with plentiful rain this spring. Furthermore, this year's forage nutrient values are likely different from the last couple of years when drought was a concern in Wyoming. Livestock without proper nutrition cannot perform at their optimal level. Conception rates, weaning rates and other measures of performance may suffer as a result.

Rangeland Grazing Plans

Producers must keep in mind the animal they are feeding and collect browse or bulk forage accordingly. Grazing patterns across the landscape may also vary, so it is important to observe animals and imitate their grazing as closely as possible. Collecting a sample exactly as the animals would is impossible, but our best attempt can provide valuable data. Taking feed samples for rangeland will be difficult and time consuming, but they can help in decision making.

Feed reports can help determine the best supplementation strategies, as well as which groups of animals should graze specific locations and during what season. Producers can also use knowledge of diet variation to graze cattle or horses alongside intermediate or browsing livestock without competition for feed.

When taking samples for rangeland grazing, consider that you are creating your own library to reference. Looking for patterns in the nutrients available in different forages at various seasonal time points and locations can help determine future rangeland grazing plans.

About the author: Rebecca Kern-Lunbery earned her M.S. in Animal Nutrition from the University of Wyoming with a collaborative project with the US Meat Animal Research Center. She is an active member of the American Registry of Professional Animal Scientists. With a passion for producer education, she is a regular contributor to Progressive Forage Magazine. Currently, she serves as the Immediate Past President of the NIRS Forage and Feed Testing Consortium (NIRSC).

Registration is now Open!

2024 GALA

Oct 31th - Nov 3rd
Saratoga Springs, NY

Holiday Inn
232 Broadway
Saratoga Springs, NY 12866
*$144/night - Book rooms by October 4th

2024 GALA Conference

Camelid Experts

Learn from top Camelid Experts about breeding and reproduction, training, animal health, and watch a standing castration.

Fiber Room

Interactive sessions about dyeing fiber, needle felting, wet felting, fiber identification and uses. Also learn how to prepare your fiber for the mill.

Fun with Friends

Meet new friends and reconnect with old friends. Cornhole tournament, llamatinis, dinner with friends.

Featuring Presentations By:
Ahmed Tibary DMV, MS, DSc, PhD
John Mallon
Amy Bowling
Patrick Long DVM
Joy Bishop-Forshey DVM
Dr. Char Arendas
Niki Kuklenski
Pat McKinney
Hilary Ware

Yard Sale - Photo Contest - Centerpiece Auction
Fiber Room - Vendor Bucks - Silent Auction - Llama Parade (Open to the Public) - Vendor Scavenger Hunt
Corn Hole Tournament - Vet Day - Fireside Chats

Check out the 2024 Conference Page for more information and to register!

galaonline.org/2024-conference

HEALTH

The Underestimated Power of the Right Blanket!

By Niki Kukulenski

Editor's Note: *Reprinted with permission of the author.*

An often overlooked and must have item in your barn toolbox is a good llama/alpaca blanket. Through the years our farm has bought and acquired many different styles of llama blankets. We have multiple uses for various styles of blankets which necessitates having the variety. While there are a lot of options available, many do not fit right, they shift too much, are not waterproof, and just don't work!

Most of the time people do not realize they need a blanket until they have a sudden issue: An animal shivering, an animal that can no longer keep weight on and is now thin and cold, sudden changes in the weather after shearing Most people end up in a situation where they have to improvise or go without this item. You do not want to wait until winter to order blankets for your farm. Summer is generally a quiet time for manufacturers, so order them during this time if you can.

Geriatric or compromised animals need to be blanketed. When animals can no longer maintain their weight, lack sufficient fiber growth or are not well, they need a warm blanket to help them. Trying to keep warm can cause weight loss and other related issues. Many of our older or thinner animals wear a thick blanket all winter. I know there are people that improvise with horse blankets, homemade sleeping bag blankets etc., but a good llama blanket is worth every penny. The blanket I use is made by Kate's Kreations. http://www.ktot.net/blanket/index.html It is a custom-made coat that fits the individual animal. I like this heavy-duty blanket because it not only stays in place once on but goes further down the legs and is waterproof. My llamas are snug and warm all winter. If there is extreme cold, there is a neck portion that can be added. You do have to waterproof them again from time to time.

I have another lighter weight blanket that I use for younger animals and right after I shear. This simple design works well for lightweight blanket situations. It is not waterproof but can be used in a pinch to layer over other blankets. When preparing for travel to a show, I will throw these on my freshly shorn show animals. It is also made by Kate's Kreations.

For really young llamas after shearing, I will use the largest sized dog coat. The ones I have are like a raincoat type material (https://www.weatherbeeta.com/for-dogs/dog-coats.) Weanling animals can be problematic to fit; this coat adjusts pretty well and has an elastic strap that is snug without being too tight.

During the warmer months of the year, I use a netted type show sheet. The material that this is made of is similar to the type on some screen doors. It keeps the debris etc. off my show animals, but doesn't make them too warm. Useful Lama Items Inc. https://www.useful-items.com/product-p/018.htm sells a good version of this blanket.

Depending on the time of year, I have cria coats for any babies that have been born. In the Northwest, it can be chilly at night during the summer, so it is good to have one to throw on a new baby. If you have a baby that is weaker or needs some TLC, it is always good to have cria coats on hand. All of the llama/alpaca product stores sell these.

Horse people have for many years blanketed their animals. The concept of blanketing a llama or alpaca is fairly new to most owners. It is a vital part of maintaining a healthy animal during the winter. Our herd of llamas is over 90% blanketed all winter. It has been easier to maintain our herd overall by doing this. As always you need be careful when putting anything on your animals and they should be monitored closely.

About the author:
Niki Kuklenski and her husband Jeff are very involved with all aspects of owning llamas: driving, showing, packing and educating. Contact Niki at jnkllamas.com or Info@jnkllamas.com or 360-592-2603.

Top Ten Helpful Tips for Rounding Up Wild Llamas on Over 160 Acres

By Lynda Liptak, Southwest Llama Rescue Coordinator and director of Llamas del Sol farm in Albuquerque, NM

Whenever there is a large llama roundup, there are so many elements to it and getting all the pieces to align with correct timing is tough. This is to highlight my top 10 tips that made this particular llama transport so successful. The greatest tip may not be a tip so much as taking advantage of luck. We got lucky in several ways – the helpful crew that showed up, the horse rescue down the road with panels to lend, the weather was nice, and perhaps the luckiest was that the llamas showed up, so surprisingly to us that we almost missed our cue.

The view the llamas had from atop their hill. We hiked much of the 160 acres to discuss the plan of movement for rounding them up the next morning.

These ten tips are not in any order, but more or less in order of achievement, as the effort transpired. To set the stage, imagine over 160 acres of beautiful hills with some aspen, scrub oak, evergreens, and prairie grass fields. It was late July, when you get afternoon thundershowers in Park County, in the Rocky Mountains of central Colorado. There were no corrals or cross fences to use. The eight llamas are keeping their distance from us and mostly seem to be hiding behind the trees along the ridges. Occasionally we see them faintly, the shape of their necks giving us a clue, but binoculars are needed to determine any real features.

Tip number one

Recruit a team that you know will communicate and work well together. A good way to build connections and easing communication is having some time to get to know each other and work together first. Robin Benton was a key partner who also recruited additional helpers (Gayle and Sandra) and her experienced daughter, Maura. We understood what we would be doing but we needed to be able to adjust to the eventual surprises that happen when herding llamas in large areas. We worked together setting up the corral for the llamas on day one. I was the designated leader and the team stayed unified, i.e., it was great to not be challenged or ignored, but to be heeded and actually requested for direction and instruction. This made for a smooth and happy time with the least friction possible in a large group. Frank, my husband, naturally goes his own way on occasion, but his seemly questionable movements had purpose and turned out to be helpful in herding the last stray llama who resisted capture the longest. I think they had some kinship, both being independent and resisting authority.

Frank, Amber, and Robin loading the panels that Robin picked up from the Middleway Horse Rescue.

Tip number two

Prepare, prepare, prepare. The plans for this pickup and transport started months ahead: from recruiting help, securing panels, coordinating with the owner who regretted having to surrender the llamas, and getting all the transportation arranged. The placement to a new forever home did not work out as hoped, but Jodi Sleeper Addis, another key assistant in the round-up, generously agreed to foster all eight until we could place them.

Tip number three
Set up a large corral with panels that you can borrow from a neighboring horse rescue. This includes placement of a trailer at the edge of the corral for loading. Put up height extensions if your panels are only five feet high. The llamas may be tall and have the ability to jump. Have extra panels on hand.

Tip number four
Walk the land to explore the space and give names to locations and natural or man-made markers to be able to be clear about where you are to your teammates. We imagined talking on walkie-talkies to inform each other when llama sitings were made and to discuss strategy for herding them down the mountain. The walkabout on day one let us think like llamas and how we might move them toward the corral. Admittedly, setting up the hundreds of feet of herding tape and snow fence on the hill to control llama movement was not needed in the end; but preparing for multiple possibilities is the correct modus operandi.


Sam, Amber, Sandy, me, Robin, and Maura working on a secure corral and testing the ramp. Note the alfalfa pellets in the trough for luring llamas in.

Tip number five
Use a ramp to the trailer so llamas can just walk up. Don't rush them though – maybe they have never felt plywood under their feet. Let them explore the ramp and feel that it is sturdy before pressuring them into the mouth of the trailer. Frank has designed and made ramps for our trailers, and we really saw the value here. It was quite impressive how quickly the llamas were able to enter the trailer. Past rampless experiences did not go nearly as smoothly as this one did at the loading stage.

Tip number six
Be prepared to corral the llamas when they show up in the morning in front of you. This was a surprise – it was lucky we were there around dawn. It was also good I had placed a lot of herding tape around the opening of the corral and on the hill to use as mobile fencing. A few minutes after we arrived at the site, Jodi noticed there were llamas standing outside the corral looking at us. "The llamas are here!" It was a surreal sight, and I was caught off guard. I had not given any instructions on what to do if the llamas happen to come down off the mountain voluntarily and stand outside the corral! We had two openings to the corral (not knowing yet which direction they would come from) and all I could think of was to go close one to prevent escape once they entered. My heart was racing and in my urgency of closing one gate, I was not communicating. Robin called my phone (it was luck I had a signal in that spot) and asked, "So what do we do now?"


Three llamas in this picture that came down at dawn for refreshments.

Llamas showing up at dawn and seeing me climb the hill above them to go high and wide so we can herd them in. Some herding tape was strategically placed in the area, luckily.

"Tell everyone to go high and wide – go around the llamas – go high, go wide," I loudly whispered into the phone. The corral was in a low spot of terrain and everywhere else was elevation. I just hoped the llamas would not spook and run off.

Tip number seven

Use clean water and delicious fresh alfalfa and grain to lure them in and help distract them from their concerns of being trapped. Four llamas must have been very thirsty because they went into the corral and headed for the trough of fresh water. There was also alfalfa that I started tossing in clumps all around the bottom (trailer end) of the corral to get the llamas to come in deeper. They were also familiar with llama pellets, which were plentiful in the corral.

Samantha manned the gate at the top of the corral, skillfully closing in more llamas. Snow fence extensions keep them from considering a leap to freedom.

I thought, "better to catch who we can, while we can" so I closed in the first four llamas quickly. Three more llamas nervously loitered around just outside the corral. Some crew were staying high and wide around them and using some long herding tape to contain a second ring outside the corral, were able to hold those three for a time. It was nerve racking. There was no easy way into the corral. Eventually Jodi managed to open the side of the corral and the three llamas were herded in and without letting the first four nervous llamas out. The relief of that moment brought tears to us both. It was so touch and go because the corral was very secure and difficult to open.

One llama is looking in the trailer and at the plywood ramp. Seven of eight llamas are in the corral and some of them are looking for their missing companion.

We then knew we needed to segment our corral in two areas for the last llama. The last llama took another two hours to get, but he eventually wanted to join his herd. Frank went out on his own to get behind him, and Robin and he herded him back down off the mountain. Sam deftly managed the gate and we all watched the last llama join the herd with relief and joy.

Tip number eight

Shear wooly llamas in the trailer after the long eight hour drive upon arrival in Los Lunas, New Mexico, while wearing head lamps for light. Seeing it would be unlikely to get wild llamas in a catch pen in the near future, Jodi and I got to work right away. Before unloading them, we gave the llamas a New Mexico style trim so they could feel better in the heat. Of course they kicked – hard and fast at first – into the side of the trailer. But with each kick, we kept going as gently and quickly as we could. Soon the kicking got lighter and less, and after a few minutes, ceased altogether. What lovely and gentle llamas these turned out to be.

Tip number nine

Stay the night to start early in the morning. Get on site early – earlier than you think you need to. Having a fresh crew at dawn to work with was the best. Robin's idea of staying the night after setting up all the infrastructure was brilliant. We found an Airbnb that we could all stay together in and got to know each other more over dinner. There were five of us from New Mexico including two HelpX volunteers from my farm, Llamas del Sol; and four volunteers from Colorado.

Tip number ten

Celebrate success, feel gratitude, and enjoy the warm feeling of helping llamas with a gentle transition to a new life. I hope everyone knows how grateful I feel to have such a caring circle of friends who are there to volunteer their time and energy to this cause. It takes special people to come together and pull off wild llama roundups and transports. Their continuing care and placement is also a challenge that will be the rest of this year's focus along with 15 more llamas from previous rescues. Thank you to everyone in support of Southwest Llama Rescue. To help us out with donations, volunteerism, fosters, or adoptions, please see our site at www.southwestllamarescue.org, contact me at llamasdelsol@gmail.com, and join our private Facebook group called SWLR Volunteers (Southwest Llama Rescue, Inc.), which is a 501(c)3 non-profit dedicated to the proper care and lives of lamas (llamas and alpacas).

Sam and Amber celebrating the successful roundup.

End Note: Thank you to the travelers from Albuquerque for all your help: Jodi Addis, Frank Liptak, Samantha Kroll, and Amber Reyes. Thank you to Colorado helpers Robin and Maura Benton, Gayle Humm, Sandra Dye, and Lori Araki for the horse panels. Photo credits to Sandra Dye, Amber Reyes, and Jodi Addis.

HEALTH & WELLNESS

Ask the Vet: Understanding Llama Thermoregulation and How These Remarkable Animals Beat the Heat

by Joe Menicucci DVM MBA, Colorado State University Veterinary Teaching Hospital

Llamas, with their thick luxurious fleece, might seem ill-equipped to handle the heat of summer. Yet these animals have evolved fascinating mechanisms to manage their body temperature, whether in the blistering heat or the biting cold. Understanding these mechanisms is crucial for llama owners, ensuring the health and well-being of their animals year-round.

Is this true for alpacas as well?
Yes, many of the thermoregulation mechanisms described for llamas are also applicable to alpacas. Both species have evolved to manage their body temperatures in similar ways, utilizing their fleece, behavioral adaptations, and physiological processes to cope with varying environmental temperatures.

The Importance of Shearing
Shearing llamas is essential to prevent heat stress. Their fleece, while perfect for insulating against cold, can cause them to overheat in warmer temperatures. Here's a deeper dive into why shearing is necessary:

- **Heat Dissipation:** The thick fleece traps heat close to the body, making it difficult for llamas to dissipate heat effectively. Removing this layer through shearing allows heat to escape more easily.
- **Comfort and Health:** Without shearing, llamas are at risk of severe heat stress, which can lead to conditions such as hyperthermia, heat stroke, and even death. Shearing not only prevents these conditions but also makes the animals more comfortable during hot weather.
- **Timing:** It's best to shear llamas in the spring before temperatures rise significantly. This timing ensures they have time to adjust to the shearing before the peak of summer heat.

Behavioral Adaptations
Despite being sheared, llamas often lie in the sun, which might seem counterproductive. However, this behavior serves several purposes:

- **Vitamin D Synthesis:** Sun exposure helps llamas synthesize Vitamin D, which is vital for their bone health and overall well-being. Vitamin D plays a crucial role in calcium metabolism and immune function.
- **Controlled Thermoregulation:** Post-shearing, llamas use the sun to regulate their body temperature. The sun's warmth aids in maintaining an optimal body temperature, especially during cooler parts of the day. This behavior showcases their ability to balance their need for warmth without the risk of overheating.

Why does a sheared llama lie full out in the sun when it is 95 degrees? A sheared llama lying in the sun at high temperatures may be engaging in a form of controlled thermoregulation. Even at 95 degrees, the sun can provide necessary warmth, especially if the llama is in a state where it needs to maintain its body temperature. This behavior is a balance between gaining warmth from the sun and preventing overheating, indicating the llama's ability to regulate its temperature effectively.

Sweating and Cooling Mechanisms
Unlike humans, llamas do not sweat to cool down. Instead, they rely on other methods:

- **Panting:** Llamas pant to help dissipate heat through evaporation from the respiratory tract. This process involves rapid, shallow breathing that increases airflow over moist surfaces in the mouth and nose, enhancing heat loss.

- **Blood Flow Regulation:** Llamas increase blood flow to the skin's surface to release heat. This vasodilation process allows more blood to flow near the skin, where heat can be lost to the environment. This process is significantly more effective after shearing as the fleece no longer insulates the skin.
- **Seeking Shade:** Llamas instinctively seek out shade during the hottest parts of the day to avoid direct sunlight and reduce their body temperature. Providing ample shaded areas in their environment is essential to support this natural behavior.

What is the difference between this *beneficial panting* and *excessive panting* you describe below as dangerous? Beneficial panting in llamas is characterized by rapid, shallow breaths that help dissipate heat. To a human, this might look like the llama is breathing quickly but still seems calm and in control. In contrast, dangerous panting involves more labored and frantic breathing, where the llama may appear distressed, drooling excessively, or showing signs of overheating, such as lethargy or uncoordinated movements. This indicates that the animal is struggling to cool down and is at risk of heat stress.

Are fans in the barns a good thing? And misting used as a way to cool them off, but then we heard it was not OK. Fans in barns can be beneficial as they help circulate air, which aids in cooling llamas by enhancing heat dissipation. However, misting may not be as effective because it can dampen the fleece, leading to reduced insulation and potentially trapping heat against the body, which might increase the risk of overheating. It's crucial to monitor how llamas respond to these cooling methods to ensure they are helping rather than hindering their thermoregulation.

Winter Adaptations

In winter, the thick fleece that poses a risk in summer becomes a vital asset. The fleece traps heat close to the body, providing excellent insulation against cold temperatures. Here's how llamas adapt to winter conditions:

- **Insulating Fleece:** The dense woolly coat acts as a barrier against cold, trapping a layer of warm air close to the skin. This natural insulation is highly effective at preventing heat loss.
- **Behavioral Changes:** Llamas will huddle together to share body heat and reduce exposure to cold winds. They also reduce their activity levels to conserve energy and maintain warmth.
- **Dietary Adjustments:** Providing a high-quality diet with increased caloric intake during the winter helps llamas maintain their body condition and generate the energy needed to stay warm. This is especially true for older animals.

What about the use of blankets in the winter? Blanketing llamas in cold weather can be counterproductive if not done carefully. Their natural fleece is highly effective at insulating and protecting them from the cold. Adding a blanket may trap moisture and reduce the insulating efficiency of their fleece. However, in certain situations, such as with older or sick animals, blankets might be necessary to provide additional warmth. It's essential to assess the individual needs of each llama and consult with a veterinarian for personalized advice.

Best Practices for Llama Care

To ensure your llamas remain healthy and comfortable, follow these care tips:

- **Annual Shearing:** Shear your llamas before the onset of hot weather to prevent heat stress. Ensure that professional shearers perform the shearing to avoid injuries and stress to the animals.

- **Provide Shade and Fresh Water:** Always ensure access to shaded areas and plenty of clean water, especially in hot weather. Hydration is crucial for temperature regulation and overall health.
- **Monitor Health:** Watch for signs of heat stress, such as excessive panting, lethargy, drooling, or uncoordinated movements, and seek veterinary care if needed. Early detection and intervention can prevent severe outcomes.
- **Regular Health Checks:** Maintain a schedule for vaccinations, deworming, and nail trimming to keep your llamas in peak health. Regular health checks can identify potential issues early and ensure timely treatment.
- **Nutritional Support:** Provide a balanced diet appropriate for the season, with additional nutritional support during extreme weather conditions. Consult with a veterinarian to ensure the diet meets all nutritional requirements.

References:

Bennett, M. M. and N. L. Richards (2015). "Camelid wellness." Vet Clin North Am Exotic Anim Practice 18(2): 255-280.

Cebra C., Anderson D., Tibary, A., Van Suan, RJ., and LaRue W Johnson (Eds.). (2014). Llama and Alpaca Care: medicine, surgery, reproduction, nutrition, and herd health. Elsevier (St. Louis, MO).

"Thermoregulatory | International Camelid Institute." Retrieved from International Camelid Institute (International Camelid Institute).

"Physiological and Behavioral Mechanisms of Thermoregulation in Mammals." Animals | MDPI. Retrieved from MDPI (MDPI).

"Overview of Llamas and Alpacas - Merck Veterinary Manual." Retrieved from Merck Veterinary Manual (Merck Veterinary Manual).

My Experience with the Nuñoa Project in Peru

By Dr. Shannon Brighenti, DVM
Photos submitted by Dr. Shannon Brighenti, DVM

Editor's Note: Reprinted with permission from the May 2024 *GALA Newsletter*.

This past January, I had the privilege to be part of a team of veterinarians working with farmers in the Peruvian Andes through the Nuñoa Project. The Nuñoa Project sends a small group of veterinarians and students to Peru twice a year to work with alpaca and llama farmers in the Nuñoa region.

During these trips, we do what we can to help the farmers, while in turn learning from them. In the Andes, the farmers have no access to veterinary care, so they do what they can, with knowledge passed down through the generations, to take care of their herds.

When I arrived in Peru on January 13, I met up with the other members of my team: two veterinary students, the two veterinary team leaders, including a Peruvian veterinarian who did most of the coordination with the farmers, and her dog. The five of us did some sightseeing in the Sacred Valley for a day to start acclimating to the altitude prior to continuing to Nuñoa (elevation 14,000 feet). A giant Suri alpaca statue greeted us as we drove into the town of

Nuñoa, which is known as the Suri capital of the world. After stopping briefly in town for lunch, we continued on for about an hour, passing by some flamingos in a lake, to arrive at the research station where we were staying for the first week.

It was a small complex of buildings, with no running water, no heat, and one gas burner in the kitchen, but the views were spectacular. There was one alpaca farm out behind the buildings, and that was the only other dwelling you could see. I'd get up early every morning and take my overnight oats and a cup of tea outside, and watch the sun rise, as smoke drifted up from the herder's hut, and the alpacas slowly made their way out of their corrals and up into the mountains to graze. The land was treeless rolling hills covered in short grass, rock, and the occasional cacti.

Most farms we visited in the mornings. The farmers would keep their animals corralled for a little longer than normal, then let them out into the mountains after we were done. Alpacas were more common than llamas, and many farms also had some sheep. The farmers were kind, hardworking people, who took great pride in their herds, and did their best to make a living in the harsh environment.

At the farms, the farmers would point out which animals they wanted looked at, and we would ultrasound females for pregnancy, evaluate the males for reproductive soundness and quality, body condition score, look at fleece quality and assess conformation. Most of the herds that have been working with the Nuñoa project for years had good reproductive rates, and many crias already on the ground. Most were also in very good body condition. Their fiber quality varied a bit, but the farmers are paid only on weight, not quality, of the fiber, so there is little incentive to breed and cull based on quality. In addition to fiber, selling animals for meat is a small part of their income.

As we were there during their birthing season (winter here is their summer), we witnessed many births while we were working with the animals, only assisting with a couple. For the most part, moms gave birth unassisted wherever they happened to be, and the herders would just monitor from a distance. A couple of farms would put cria coats on the smallest crias to help protect them from the weather. Even though it was summer, they still had passing hailstorms and downpours coming through most evenings, and the nights got cold. A lot of their cria mortality comes from exposure to these conditions. Most of these herders do not have shelter for their animals, and there are no trees for protection. Because of the low quality of forage, the herders move their herds over large regions of mountainside to graze their animals. When driving through the area, it was common to see alpacas dotting the hillsides.

After spending a week in Nuñoa, we then traveled to the town of Ichuña (12,400 feet above sea level). This was the Nuñoa project's first time here, and we were there to try and establish the project with the farmers. In Ichuña, we ended up staying in the town itself, which was nestled in a valley, and the surrounding hills were covered with terrace farming. From here, we would pile into two pickup trucks driven by members of the local government and drive up and down windy dirt roads, often for close to an hour, to visit the farms. Most of what we were driving through was alpine desert and the quality and quantity of forage for the alpacas was worse than in Nuñoa.

In contrast to Nuñoa where farms were individual and spread out, here there would be small clumps of farms, making little villages with some herds being a mix of animals belonging to different farmers. There were also more roofed shelters for the alpacas. Here, we would often only look at and ultrasound a few animals in each herd, showing the

farmers what we do, and talking to them about their herds, and their needs. Their animals tended to be a little thinner than in Nuñoa, and we also saw quite a few ticks on them. One morning after visiting the farms, our team leader presented a birthing lecture to the farmers, to give them tips for when to intervene, and how to help with dystocia, as there is no one for them to call if there is an emergency.

Overall, it was humbling to see this completely different way of life, inexorably tied to the alpacas and llamas, that we typically view as pets. The people were a pleasure to work with, and the landscape is beautiful. If you would like more information on the Nuñoa project, please visit nunoaproject.org

BEHAVIOR/TRAINING

Aberrant Behavior Syndrome

by John Mallon

Editor's Note: *Originally printed in the Winter 2018 issue of The RMLA Journal.*

Well, I guess we can't put this off any longer; it's time to talk about one of the most unpleasant topics relating to llamas and alpacas — Berserk Male Syndrome, or BMS. Actually, in these politically correct times, the new term is ABS, or Aberrant Behavior Syndrome, so as not to leave out the "ladies" (and, yes, females do develop the behavior, although usually to a lesser degree, as they are not typically the territorial defenders that males are.) I want to be very clear about a couple of things before we start.

First, I do not hold myself to be an "expert" on this topic; in fact, I don't know if there are any experts out there. (If you are one, or know of one, I would sure like to spend some time speaking with you.)

I have dealt with berserkers since the early 80's, have had six or seven shipped here to work with for extended periods of time, have encountered dozens more in my travels, and have hundreds of calls referred to me by ILA, zoos, veterinarians and private individuals, so I think it's pretty safe to say that I have had more experience with them than most people have, but that doesn't make me an expert in my mind.

I am not here to preach, but to share the benefit of that considerable experience with you, in order to help you to understand this often-misunderstood phenomenon, and to help prevent creating a monster in your own back yard.

Another thing worth mentioning is this: to the best of my knowledge, no one has ever deliberately created a berserker. Please read that sentence again — it is important. The point is that nobody wants a berserker, yet there are more and more of them out there — how can this be? It is easy for me to understand how this is, with all the talking and consulting I do about it, but, for the average person, it seems incongruous that people who don't want berserkers are creating them.

The reason that these people are causing aberrant behavior to show up more and more is that they don't recognize, or refuse to accept, the reality of the warning signs.

If you've never encountered an ABS animal, you'll find it difficult to imagine one. It is an animal that will scream, spit, charge, attack, bite, butt and lay on top of people — it is a llama or alpaca that can kill.

Now, I don't mean to frighten you new folks; this extreme form of the behavior is relatively rare (but becoming more common — more about this later) and is totally man-made. ABS llamas and alpacas are not born that way, and it is not a heritable trait. It is also (again, to the best of my knowledge) incurable, irreversible — not one documentable case of rehabilitation exists. Usually, full-blown berserkers have to be put down. (Well, maybe I do mean to frighten you a little.)

I should also mention that most of the animals that are labeled "berserk" are not — they are simply spoiled, disrespectful, bad-mannered, undisciplined "brats" that have been "trained" in an overly permissive manner and bribed with handfed food treats.

I meet quite a few of these guys every month at clinics and have no problem dealing with them, seeing meaningful and permanent changes in their attitudes within just a few minutes. It's simply a matter of understanding the psychology of the prey animal, and communicating to him in a way that he understands that he is not allowed to push people around. Once he understands that, he easily accepts it and is unlikely to regress, unless, of course, his handler goes back to his old habits. (That's part of the beauty of the herd animal's makeup — his willingness to follow leadership unquestioningly.)

On average, I receive over a hundred calls a year on this topic, and the conversations are remarkably similar. Someone has had an unnerving experience with their "sweetest" llama. "He's always been very "friendly," they say, "coming up to us in the pasture, letting us handle him all over, following us around the barnyard, giving us kisses… visitors just love him and he gets lots of attention, but this morning, as I was feeding, he ran up behind me and chest butted me, knocking me down! Out of the blue, just like that!"

"Sweet" and "friendly" are the most often used words I hear when these animals are being described to me. Those of us with no prior experience or understanding of prey animals fall easily into this trap, because, in other animals such as dogs and cats (the predators we are used to), the behavior would be "sweet" and "friendly."

Unfortunately, prey animals are very different, and what is submissive behavior in a predator (initiating physical contact, for instance) is aggressive behavior in a herd-living prey species. Simply brushing against a human without repercussions establishes the animal's dominance over the human, and this information is then "filed away" for future reference (say, when his testosterone starts to surge through his body and mind).

The subtlety of it all is what makes it so difficult for us to comprehend. Kisses seem so harmless, benign even, that we just can't seem to resist, and continue on that fateful course convincing ourselves that "this really doesn't apply to me, or to this sweet little llama. How could this lovable little thing turn bad… ?"

For years, it was believed that bottle feeding babies, especially males, was the cause of ABS. We know now that this is not true; that it is the improper over-socialization that accompanies the bottle feeding, rather than the bottle itself. It's important to know the difference between the two.

If you must supplement a baby, do it in a businesslike manner, with no talking, kissing, cooing or petting the animal. Sound easy? It's not, believe me. For one thing a baby llama or alpaca is the cutest thing we've ever seen, and if it's in trouble and has to be helped (we are literally trying to save its life), every instinct in our bodies cries out to comfort, soothe, love and encourage this baby to live, so we kiss, pet, etc., etc., thus planting a time bomb, set to go off in about two years when the hormones begin to flow.

Handling babies from birth, in a businesslike manner, and starting training early (in the first month or so) seems to be one of the best things one can do to prevent aberrant behavior in the future. It establishes parameters of acceptable behavior during the most critical learning period in the llama's life.

Young males living without conspecific companionship, that is, another lama, are at much higher risk of becoming ABS adults, even if never handled at all. The company of his own kind is crucial to the llama or alpaca (and any other herd-oriented animal).

I am very worried about what the future holds. There are unscrupulous breeders selling two- and three-day-old babies, complete with bottles, from local feed stores and Saturday night auctions. After years of seeing fewer cases of ABS males (and females), I fear that we may have a new wave coming, especially with the proliferation of "pet" breeders.

I don't like having to talk or write about this topic, but feel it is my obligation to do so, for the sake of the llamas and alpacas, the owners, and the industry.

Remember, ABS is NOT hereditary; it is a strictly human-caused condition, which only humans can prevent. For you new buyers, beware the "friendly" baby that is so irresistible.

What, exactly, is ABS (Aberrant Behavior Syndrome; formerly BMS, or Berserk Male Syndrome?). Bearing in mind I am a layman, and as stressed not an "expert", but rather someone with 40 years' experience with prey animals and 18 years of full-time involvement with llamas and alpacas specifically, particularly relating to behavioral problems, I'll give you my opinions and perspectives, based upon that experience.

Please understand that there are lots of opinions out there, some based upon very limited experience or knowledge — (sometimes a little bit of knowledge can be a very dangerous thing.)

Please also keep in mind what I mentioned previously — most of the animals that have been labeled "berserk" or ABS are simply spoiled, undisciplined brats, and can be brought around in a very short time with proper training.

Most of the spitting problems that develop (not necessarily having anything to do with ABS) can be prevented by avoiding the use of food treats in training, or hand-feeding grain at any time. I know some of you don't want to hear this, but 18 years and thousands of llamas and alpacas and their handlers have proven this to be the case. I am trying to do right, not to be right, in presenting this to you, for the reason of hoping to protect as many llamas and alpacas (and people) from having to experience this unfortunate situation firsthand as I can.

As simply as I can explain it, ABS results from a llama's inability to differentiate between the species (human and llama), resulting in inappropriate (that's putting it very mildly) behavior toward people.

This is usually a result of improper over-socialization of youngsters by humans, but not limited to that cause. I have seen many llamas and alpacas that had been born into, and raised in, a perfectly normal herd situation, and not handled at all until after weaning, develop ABS. In most cases, these animals were forced to live without the company of other young llamas or alpacas, and transferred their affections and associations to humans. I have met many animals that have been sold as yearlings develop the problem, as well.

It appears that the greatest risk for future ABS occurs very early in life, during the most critical learning period of the animal's life, those minutes and hours and days immediately following birth. The potential diminished with age, but is still very much there. Some typical scenarios:

- A compromised cria, requiring intensive care, including, but not limited to, supplemental feeding. The irresistible eyelashes and distressed humming of the newborn makes it almost impossible to keep this place of business businesslike.

  The snuggling and cooing and intense attention shown the baby causes it to imprint on humans and understand that there is no difference between itself and us. These are the "friendly" babies that follow us around, gurgling and humming, with tails flipped up over their backs.
  This is a submissive "I don't want any trouble, I'm just a baby" body posturing displayed to other llamas or alpacas to avoid trouble. The baby, then, is treating us as if we were another llama; he doesn't mind us handling him all over, he shows no natural fear.

  The problem arises when he reaches puberty and the hormones start to run his life (remember being, or raising, a teenager?) The male, being the designated territorial defender, then attacks his human handlers when they enter his paddock (territory) to drive them out, just as he would any other llama or alpaca on "his turf".
- A youngster sold soon after weaning to a child, who wants a playmate, an equal, a living, breathing, Disney-like "pet."
- Compromised crias that have to spend several days at the veterinary clinic, often being cuddled by the veterinary assistants.
- Petting zoo "graduates." Petting zoos probably produce more ABS males than all other factors combined. The constant, intense physical interaction with people and hand-fed "treats" is almost guaranteed to produce dangerous adults.
- Any cria growing up without the company of peers (animals his size and age and species).
- Youngsters of any age that are over-socialized — many "PR" llamas or alpacas "suddenly" develop behaviors. These may include llamas or alpacas that are used as children's birthday party attractions, county fair displays and other situations where there is a lot of direct physical interaction with people. There is an abnormally high incidence of the "he was our very best "PR" llama; why, he'd let kids climb all over him and get kisses all day."

Let's finish up this discussion on ABS (Aberrant Behavior Syndrome) with some tips on prevention. It is crucial that we recognize that this is a learned (taught) human-caused condition that is totally preventable and equally incurable.

TIPS TO PREVENT

- Do NOT over-cuddle llamas and alpacas — it is as simple as that. Llamas are not psychologically adapted to being "pets" in the sense that dogs and cats (predators) are. As difficult as this may be, it is nothing compared to hearing that your favorite llama or alpaca has to be put down, a very strong possibility in the future.
- Whenever the youngster approaches you with his tail flipped up over his back, ignore him (it sounds easier than it is…) Better yet, startle him by making a big noise and movement toward him. You have to make his llama-like interactions with you a little unpleasant in order to dissuade him from more of the same. This is known as "nipping it in the bud".
- Gelding: While some current wisdom advocates waiting until fighting teeth have erupted before gelding in order to avoid abnormalities in bone growth (tall, stretchy, post-legged adults) and "breaking down" of fetlocks/pastern, I would prefer to have an animal a bit down on his pasterns at age ten or twelve than to have to put him down at age two-and-a-half or three.
- Give strict instructions to employees, visitors, family members, and anyone else who may come in frequent contact with him to comply with your "hands-off" policy. You must be ruthless about his — most people cannot possibly believe that such a little sweetie could become a life-threatening adult.
- Make the llama or alpaca move out of your way. If you enter a pen or corral and a llama or alpaca blocks your way, don't go around him to be "polite"; go through him, using a good firm bump of your knee to his ribcage if he is standing broadside to you, or a "goose" of his lower leg if he is standing otherwise. This is language the llama or alpaca can understand, how they communicate with one another — he doesn't take it personally and won't hold it against you, really.
- Do not allow the llama or alpaca to invade your personal space for any longer than the one second or so it takes for a nose-to-nose "how do you do." No nuzzling! Although, to us humans, this seems a very sweet and friendly thing for a llama or alpaca to do, it is actually an aggressive act on his part, "testing the waters" to ascertain his position in the social order. As the more dominant "animal" in the group, it is our prerogative to enter his personal space, but he is never allowed to enter ours.
- At feeding time, get your exercise by doing what my Australian friends call the "Mallon Macarena" — throw your hands, elbows, knees and feet around your personal space, creating an uncomfortable zone for the llama or alpaca who wants to steal food from your hand, which brings us to…
- Do not hand-feed your llamas or alpacas, for any reason, at any time. I know, I know, but please trust me on this one.
- If your llama or alpaca approaches you whenever you enter his pen, make it an opportunity to teach him some "business;" pick up a foot, handle his ears, tail, etc., but don't pet him.

WARNING SIGNS!!!

Some behavioral clues to watch for in Berserk Male Syndrome:

- The young llama or alpaca that follows people around, seemingly preferring their company to that of other llamas or alpacas.
- The llama or alpaca that does not object to being handled (this does NOT apply to those animals which have been PROPERLY desensitized at birth) by people.
- The llama or alpaca that "casually" brushes against people in his proximity. This is the llama's way of establishing himself in the social hierarchy of the group or herd.
- Having been allowed to brush against us, it is now clear in the llama's mind that he is superior to us in the social order, and may exercise his options (spitting, bumping, ramming, biting, etc.) against us at any time in the future. Taking that a bit farther is the llama or alpaca who "bumps" his handler, usually the wife (smaller in stature) when her back is turned to him, most often when she is bending over to pick something up.
- The llama or alpaca that approaches with tail curled up and over his back, sometimes accompanied by the

"submissive crouch."
- 'Gurgling' to people.
- 'Lipping' clothes, shoelaces — a prelude to biting.

About the Author: John has over 40 years' experience training horses, dogs, and birds. Since 1981, John has devoted himself exclusively to all aspects of the llama industry.

FIBER

Adventures in Indigo

By Nancy Wilson

Indigo is a magic dye. You dip yarn or fiber or cloth into a bucket filled with what looks like car antifreeze, then carefully pull it out of that bucket and watch it turn from yellow to green to blue in a process called oxidation. The dye and chemicals in the vat first remove the oxygen from the vat in a process called reduction.

Indigo dyeing is what is called vat dyeing. That means that the fiber or whatever you're dyeing is dipped into a solid color dyebath. An indigo vat refers to the liquid and the vessel in which the liquid is stored. In my case, my indigo vat is a five-gallon Home Depot bucket with a lid, which contains approximately 3-4 gallons of indigo dye stock.

The easiest way to make an indigo vat is with pre-reduced indigo. You can get a kit for around $12 that will do quite a bit of dyeing. Indigo will dye both cellulose (cotton, hemp, linen) and protein (llama, alpaca, wool, silk) fiber and does not require a mordant. A mordant is a chemical that helps the dye attach to the fiber. The kit will include all the chemicals needed and directions on how to make a vat. Be sure to use safety equipment when dyeing with indigo. That means eye and mouth/nose protection. Be sure to wear gloves (preferably with long cuffs).

This article is not intended to be a tutorial about indigo dyeing. There are many excellent videos online, and the instructions that come with the kit are very clear. I did a class with fifth grade students where they each dyed a t-shirt. It was a lot of fun for them as well as me.

So, if this article isn't a tutorial, then what is it? I recently did some indigo dyeing with an old (lots of years old) vat that I had and was wondering why I never got the radiator fluid color, so I called Dharma Trading Company to ask questions: What were my vat and my results telling me? I learned that since the vat was blue and not yellow, the reducing process wasn't happening.

My vat had gone stale, and I learned that small vats can be hard to maintain. Small vats (four or five gallons like mine) don't last very long, and after a month sitting, you are better off to start over. You can't revive an indigo vat. I also asked whether you ever add any water to an indigo vat (I didn't do that but had thought about it). The answer is no because that dilutes the pH of the water and will affect the dyeing. To get a deep indigo color, do multiple dips rather than one long stint in the vat.

Another tip-off for me that my vat had gone bad was that I was getting a lot of excess dye washing off in the rinsing process. I noticed when I was spinning the fiber I had dyed that the color was coming off in my hands. This is called crocking and happens with indigo. Be sure to use well-cleaned yarn or fiber since grease or dirt can prevent the dye from adhering to the fibers. Rinse the final product in a container until the water is clear; adding vinegar to the water may help. Remember that jeans are dyed with indigo, so if you've ever had the blue rub off on your skin, this is crocking.

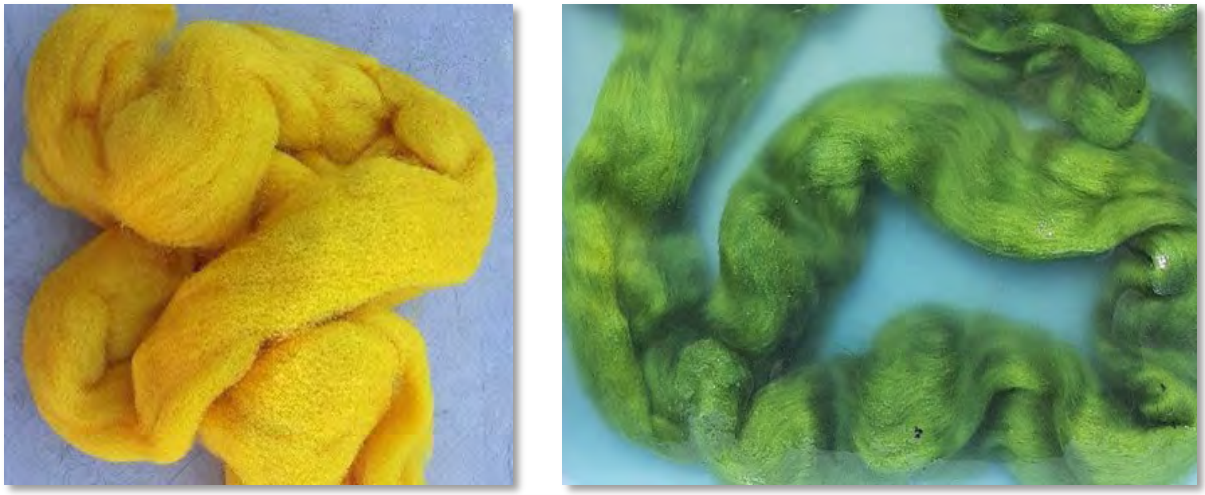
And if you want an interesting book to read about the history of indigo in the United States, I highly recommend *The*

Indigo Girl by Natasha Boyd. It's historical fiction about a real person, Eliza Lucas, who brought indigo dyeing to South Carolina in the 1700s.

Here are some pictures of my recent indigo dye adventure that I hope will inspire you to try indigo dyeing. I'm ready to order some pre-reduced indigo so I have it ready when the urge strikes.

Indigo crocking on hands while spinning, finished indigo yarn.

Knit hat before and after indigo dyeing.



Bright yellow wool top before and after indigo dyeing.

International Year of Camelids

The United Nations (UN) has designated 2024 as the International Year of Camelids. Camels, llamas, alpacas, vicuñas and guanacos are an important source of livelihood for millions of families - most of them pastoralists - in dryland and mountainous rangeland ecosystems around the world. The Year is meant to raise the public's and policymakers' awareness of the significant role of camelids in protecting ecosystems, conserving biodiversity, assuring food security and adapting to climate change. The resolution for the International Year of Camelids, proposed by the Government of Bolivia and presented by Ecuador as Country Chair of the Group of Latin American and Caribbean Countries (GRULAC), was approved by the UN General Assembly on 17 October 2017 upon recommendation by FAO (Food and Agriculture Organization of the UN).

Visit International Year of Camelids for more information and resources you can use to plan public activities. The videos are awesome.