



April 2012 Newsletter of the Maine Alpaca Association

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Greetings and happy spring to all of our readers. I hope this newsletter finds you well and full of optimism for the wonderful warm seasons ahead.

I'm so excited to have our Maine Alpaca Association newsletter up and running again. A huge thank you to Jill McElderry-Maxwell for putting it all together and providing us with a wonderful user friendly format and it looks awesome! And thank you to everyone that submitted to this edition. For those of you that didn't get a chance the first time around, please send in your submission anytime so we are prepared for the next edition.

I am delighted to share that our membership continues to grow and farm visits appear to be picking up at many farms across the State. We've had MAA members competing at alpaca shows with outstanding results continuing to demonstrate the quality of Maine alpacas. There are a tremendous number of seminars and events available throughout the State being offered at many of our member farms. Get out and visit some alpaca farms and keep the collaborating in full swing. I am so pleased to see the frequent outpouring of support happening between farms and with shearing days under way, offer any support you can to your fellow farms. Sometimes just the smallest contribution of time or a shared idea can make all the difference in the world. Giving is the greatest path to feeling true joy.

Happy reading!

Robin Fowler
Maine Alpaca Association, President

UPCOMING EVENTS....

May 5 & 6 - NorthEast Alpaca Expo, Syracuse, NY www.nealpacaexpo.com

May 12 & 13 - New England Alpaca Fest, including Hands On, Alpaca Fleece Off Fleece Contest at the NH Sheep & Wool Festival, Deerfield, NH, www.neaoba.org

May 16 - MAA Board Meeting www.mainealpacafarms.com

May 26 & 27 - Massachusetts Sheep & Woolcraft Fair, Cummington, MA <http://www.masheepwool.org/index.html>

May 26 thru 28 - AOBA National Show, Louisville, KY www.alpacaowners.com/2012nationalshow/index.asp

June 2 & 3 - Maine Fiber Frolic www.fiberfrolic.com

June 23 - MAA Regular Member Meeting, location & time TBA www.mainealpacafarms.com

August 6 thru 10 - FiberME 2012 - A Guided Tour of Maine's Fiber Arts Community <http://halcyonyarn.com/landings/fiberme2012.html>

September 4 - MAA Board Meeting www.mainealpacafarms.com

September 15 - MAA Regular Member Meeting, location & time TBA www.mainealpacafarms.com

November 13 - MAA Board Meeting www.mainealpacafarms.com

November 30 - 1st Annual MAA Gala, location & time TBA www.mainealpacafarms.com

Please visit www.mainefair.org for agricultural fair dates in your community



SMALL IS BEAUTIFUL FOR MAINE ALPACA FARMERS

by Terry Callery, Village Farm Alpacas www.alpacavillage.com

As a livestock exhibitor at both this year's Windsor Fair and at the Common Ground Fair, our alpacas continue to be something many folks have never seen up close. "Are they baby llamas...how old are these?" people would ask us, as they grew captivated by our gentle and graceful alpacas in our exhibitor pen. We would explain that alpacas were originally bred in South America for their fine fiber - and that an adult alpaca was small - perhaps 150 pounds. Llamas, because of their much larger size, were bred as pack animals by the Peruvian and Chilean peoples of the Andes Mountains. Alpacas' small stature, wonderfully colored, soft fleece and big, beautiful eyes evoke the same response from most people who are meeting alpacas for the first time: "They're so cute!"

There are now about 1,600 alpacas in Maine, up from just several dozen in the early eighties when the first importation of these fiber-producing animals began. With the value of Maine's herd estimated at over six million dollars, the Maine Alpaca Association is actively providing educational and marketing resources to inform the public and promote the expanding industry. Not only are the animals small in size, but so are most farms. The majority of Maine's 60+ alpaca farms have between 15-30 alpacas. There are just a few large breeders in the State with over 40 animals. And since you can raise five alpacas on one acre, the requirement for pastured land is very modest for the average Maine farm. This is one of the factors driving the red-hot demand. For many alpaca farmers, "Small is beautiful."

Alpacas are low impact livestock that go "lightly on the land". They are environmentally friendly, having soft, padded feet and only a set of bottom grazing teeth. Clean-up chores are made easier by their use of a communal dung pile. Most alpaca farmers have little or no heavy farm machinery and most do not hire outside help. The average alpaca requires just 20 small square bales of hay per year in addition to pasture and supplemental grain mix or free choice minerals. The animals require a simple three-sided shelter for protection from the elements, although many of Maine's alpacas are quartered in beautiful old barns or elaborately constructed new ones. Alpacas are very intelligent and can be easily handled and halter trained for transport. Many new alpaca breeders have no previous livestock experience. They look at the minimal land requirement and at the small amount of farm infrastructure such as fencing, mowers, buildings etc. and say, "Hey, I could do this!" So many of Maine's alpaca farms start small, with just a few bred females. As the herd multiplies, the investment grows.

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Free for the Taking: Nearly complete, ten year collection of *Alpacas Magazine*. Please contact Morelia at www.andesalpacafarm.com if interested.



FIBER SORTING CLINIC WINDSOR FIBER FROLIC

JUNE 1-3

by Claudia Raessler, Suri Paco,
www.suripaco.com

As many of you know, Suri Paco has been holding fiber buying days for more than three years both in and outside of Maine. On these days we collect, grade and purchase about 1000 pounds per day. This year, in addition to our own buying days, we are working closely with Alpaca United to expand this model to five pilot farms across the country. AU announced the dates and locations last month and will be posting updates every two weeks as to how these "Fiber to Market Days" will work. The first nationwide "buying day" is scheduled for July 28th at Pucara in Oregon.

One of the areas Suri Paco is responsible for is scheduling and selecting the production graders. To help with this process, we have hired Ruth Elvestad from the Olds College Natural Fiber Testing Center in Canada to teach production grading. The weekend of training will coordinate with the Fiber Frolic. Ruth will also staff a production buying day at the Frolic.

The schedule is as follows:

Friday, June 1 – At Suri Paco, Ruth will review the steps, set up and objectives for a production sort.

Saturday, June 2 – A production sort will be set up and held at the Fiber Frolic in Windsor, Maine. All Maine farms will be contacted and invited to sell their fiber at the Frolic.

Sunday, June 3 – This will be a follow-up day to evaluate the process, refine the procedures to be followed and do an in-depth question and answer opportunity in a very informal manner.

Ruth can train approximately 8-10 individuals who have some prior sorting experience even if the experience is limited to evaluating your own fleeces. We have open slots for anyone interested in the training. There is no commitment of any kind and the focus will be on production and commercial sorting skills.

Contact: Claudia@suripaco.com for more information.

Life's Simpler Pleasures....

by Darlene Reardon, Full Moon Alpacas, www.fullmoonalpacas.com

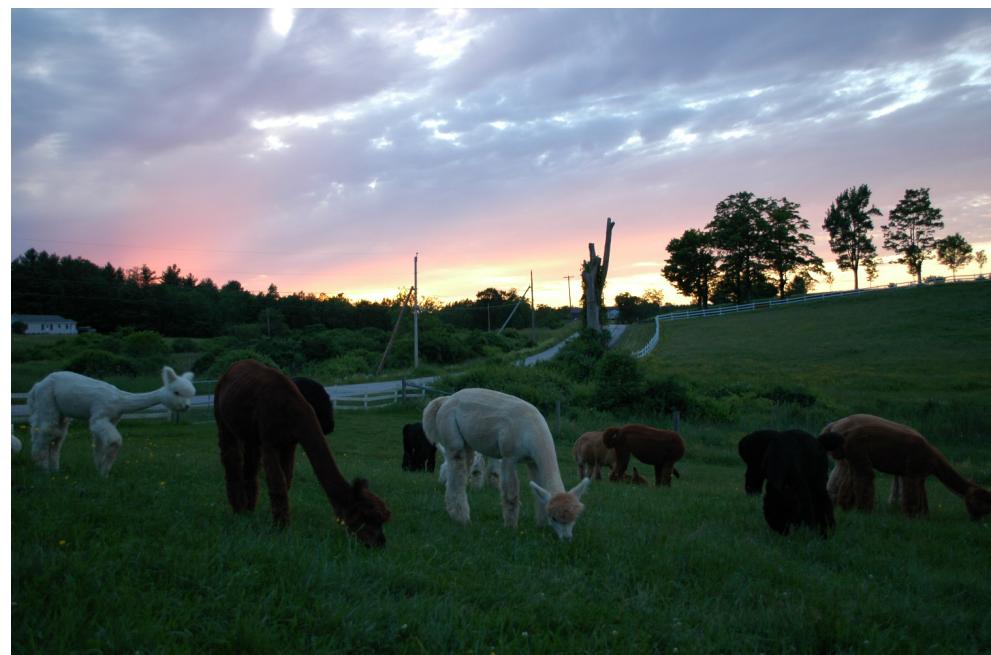
Full Moon Alpacas is home to 22 huacaya alpacas, four cats, and owners, Darlene and Michael Reardon. Our married life's journey has so far taken us from living on a boat, to now owning and operating our 26 acre alpaca farm, located in Auburn, Maine, 25 minutes north of Portland. Michael, a Project Manager for L. L. Bean by day, and an ex-bass guitarist in a local Boston band by night, hails from Bethlehem, NH. I am a former Corporate Travel Agent and world traveler from "Meffa", also known as Medford, MA.

A late night TV ad prompted my initial interest, and then researching on line excessively in the winter of 2001 further fueled my fire. Mike at first thought I was crazy and wasn't on board, until a co-worker called him as an April Fool's Day joke, advising him his two alpacas were being delivered. I had his interest. We began to attend shows and visit farms. Our boat was sold, and we took the proverbial plunge, purchasing several bred females, and 1/2 interest in a young male.

Our alpacas continued to be agisted until August of 2005, when we found just the right farm and land. The barns were built, fencing installed, pastures fertilized (we produce our own hay), and our first five alpacas arrived, under the light of a full moon, on November 5th, 2006.

The goal is to breed for superior genetics, with a focus on COLOR! We will allow these magnificent animals to positively impact our lives, and let our passion for the alpaca permeate through all aspects of our business. We find alpaca ownership to have many benefits. From the rewards of working with animals, escaping the "rat race", living a simple country life, and the daily physical workouts..aka the endless, but enjoyable farm chores!

And as Michael and I continue along our chosen path, we both find it delightful that the calling of the sea has ever so magically been replaced by the gentle humming of our alpacas.





FROM LOSS TO LUXURY: HARVESTING A CRIA PELT

by Pam Harwood, Longwoods Alpaca Farm, www.longwoodsalpacas.com

I don't know about you, but some of the things that attracted me to raising alpacas were:

1. we don't have to groom them daily,
2. we don't have to exercise them, and
3. we don't have to kill these fabulous animals for meat and pelts to make a return on our investment.

This is a sensitive subject, and I appreciate that some will opt out of this discussion right now. Believe me, I get it! Back in 2004, I attended a seminar given by Ian Watt that touched briefly on the need for a terminal market to absorb the excess of lower quality or non-breeding alpacas, providing an income from the meat and hides. Not having a traditional farming background, and in the midst of a booming market, I was relieved that I would not have to go down that path. With a focus on fiber rather than livestock sales from the very beginning, I set about making sure my herd would be able to pay its feed and vet bills when the market cycled downward, as all markets do.



Four years later, we lost a cria at birth. Our first death on the farm. I double-bagged his body in plastic, and my neighbor generously allowed me to keep him in her freezer until I could find a neo-natal seminar and wet lab that needed full-term cria. I found one, but the logistics of shipping in dry ice were insurmountable, so I ended up burying him in the compost pile, as the Department of Agriculture recommends. I kept thinking, "The Peruvians are right – this is a waste of a perfectly good and oh, so beautiful pelt!" I wasn't ready to do anything there and then, but I did vow that when the next time came, I would ask my neighbor, a deer hunter, to help me harvest the pelt.

Three years after that first loss, I found a five week old cria lying peacefully on his side, dead. Franklin was perfectly bouncy with his buddies the afternoon before, when I showed him off to some farm visitors. What happened? It was a Friday, the day before we were heading out of town for 2 weeks, so I didn't schedule a necropsy. My neighbor was at work; I was on my own. I left Franklin with his mama, and took several deep breaths, recognizing the time was at hand. I went inside to Google "how to prepare a hide for tanning". I came up with The Icelandic Sheep Breeders of North America website, which had an article written by Lee Bates, *Preparing Your Sheepskin for Tanning* (<http://www.isbona.com/vol8no1win04.html>). It was so compassionately written, that I had no problem following the instructions! I harvested

Franklin's beautiful little pelt, salted it in the shed to cure, and then with thanks and reverence, buried him in the compost pile. A few weeks later, we lost another cria at birth, this one belonging to friends, so with their permission, I harvested Summer Safari's tiny hide, and cured it, too.

With all the summer humidity, it took longer than 2 weeks to dry the pelts, and in fact, I ended up putting in a fan to help with air circulation. While the pelts cured, friends on Facebook recommended several tanneries which accept alpaca hides. I called Sivko Fur in Canisteo, NY (www.sivkofur.com). They are a "Full Service Tannery for the Taxidermy Industry providing the following services: USDA certified for safaris, wholesale fleshing, wet and dry tanning, and rugging." Prices depend on the type of tanning required and the size of the pelt. Adult alpacas range from \$125 – 175. I estimated that Franklin's pelt was 2 sq.ft., which cost \$30 plus shipping to tan, and Safari's was 1 sq.ft., which cost only \$20. I brushed off as much salt as I could and wrapped the pelts in a plastic bag before boxing them up – apparently the Post Office still gets upset when white powdery substances are found leaking from packages!

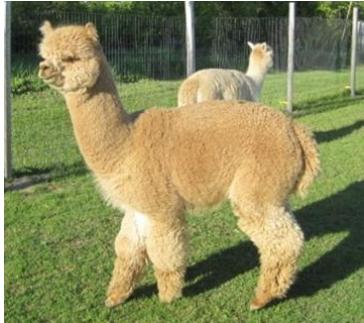
A few weeks later I received my tanned hides. They were absolutely beautiful, but now what? I was thinking of making a muff with the fiber side in and knitting an outer cover, or making a ski band or a ruff for a knitted hat...I kept coming back to my knit-fur coat made of rabbit, and wondered if we could do the same thing with alpaca. After some research, I found two Canadian companies that take mink, beaver, fox, coyote, or rabbit pelts and cut them into one thin, continuous strand of "yarn" which can be knitted into coats, vests, hats, scarves – whatever! What I like most about "knit-fur" is the fur or fiber is on both the inside and the outside of the garment, so you don't need a liner. They will also repurpose mink or beaver coats.

My new hat and scarf arrived in the mail the other day. It is a perfect fit, and a warm reminder of a sweet little alpaca named Franklin.





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Deadline for submissions and advertisements is June 20, 2012. Email materials to Jill at bagendsuris@roadrunner.com

Polioencephalomalacia and Thiamine Depletion - What Every Alpaca Owner Needs to Know

by Jill McElderry-Maxwell, Bag End Suri Alpacas, www.bagendsuris.com

OVERVIEW

The vitamin thiamine plays a critical role in alpaca health. Thiamine depletion can happen rapidly from a large number of causes and will lead to death unless promptly remedied by the immediate administration of injectable thiamine. Thiamine is inexpensive, but only available by prescription – and every camelid owner should have a bottle from their vet on hand at all times.

Any time an alpaca shows signs of lethargy, low appetite or neurological impairment, a shot of thiamine is a worthwhile precaution: "Thiamine is a safe and useful therapy any time we suspect neurological insult" (Evans, p. 39). It can never hurt, and it may help save your animal's life.

RUMEN FUNCTION AND THIAMINE PRODUCTION

A ruminant's digestive tract is an amazing system. Breakdown of a ruminant's diet begins in the mouth, where it is mixed with saliva and given a preliminary, brief chewing before being swallowed down to the reticulum, the first of a series of stomachs. After being later brought back up and chewed leisurely as cud, masticated food finally ends up in the rumen, or second stomach.

Continued on page 6

SMALL IS BEAUTIFUL...continued from page 2

For the last decade, prices for alpacas have been fairly stable, with most high quality bred females selling in the range of \$8,000 - \$15,000. Demand is fueled by the many tax benefits of alpaca ownership such as depreciation and capital gains...as well as by a very strong national association which promotes alpaca ownership in print advertising, on television, at shows and on the web. Alpaca breeders benefit from a slow and steady herd growth, that is limited by the fact that alpacas have just one birth each year with a long gestation period of eleven and a half months. In addition, the supply of alpacas is limited because registration is closed to new imports. Much like thoroughbred horses, alpacas are microchipped and a national registry records each animal's lineage and bloodlines.

Thus, with a sound business plan and the high value of alpacas, a Maine alpaca breeder can generate substantial income on small acreage. Alpacas are becoming an alternative to traditional livestock, much in the same fashion that winter hearty garlic and specialty herbs have become higher value per acre alternatives to corn and potatoes. Reaping \$12 per pound for his crop, a garlic farmer reflects the same "small is beautiful" philosophy and approach that alpaca farmers have embraced.

While sheep's wool is sold in the \$2-4 per pound range, alpaca farmers in the state report getting \$25 per pound for their fine fleeces - they may shear five to eight pounds per animal each spring. Alpaca fleece is almost as fine as cashmere, has no lanolin, is hypoallergenic for most people and is thought to be warmer than sheep's wool, ounce for ounce. Alpaca fiber comes in 22 natural colors that include rose gray, true black and maroon-red, so most alpaca is sold to hand spinners, knitters and weavers naturally colored, although it can be dyed. Some alpaca fleece is being custom processed at "mini-mills" here in Maine that often run just one fleece at a time, cleaning, carding and spinning it into yarn. Again, the "small is beautiful" approach applies to this growing cottage industry. Maine has more "mini-mills" custom processing alpaca, angora, cashmere and other specialty fibers than anywhere else in the United States.

With its abundance of old fields and farmland and its farming tradition, Maine is the perfect place for these hearty animals.



POLIOENCEPHALOMALACIA AND THIAMINE DEPLETION...continued from page 5

The rumen is a large organ that serves essentially as a fermentation vat. Much of the plant material eaten by ruminants consists of cellulose. Surprisingly, mammals are not capable of breaking down cellulose – at least, not on their own. Instead, a ruminant gets a little help from a diverse collection of microorganisms, including bacteria, protozoa and even viruses and fungi, that lives in their gut.

These microorganisms break down cellulose and other plant fibers and make their energy available to their host ruminant. The microorganisms also produce a number of substances critical to their host's survival and well-being, including the vitamin thiamine. Under normal conditions, a ruminant is able to synthesize all of the thiamine it needs for daily function without supplemental sources.

Thiamine is a B vitamin (B1). It is water-soluble and is manufactured constantly in the ruminant gut, as it is being continually depleted in turn. Thiamine plays an important role in energy metabolism for all body cells, but it especially critical in brain and heart cells. Without an adequate supply of thiamine, the brain ceases to function properly and actually begins to physically deteriorate.

Thiamine migrates from the gastrointestinal tract into the circulatory system via cellular mechanisms that are not fully understood. However, it is known that the half life of thiamine in sheep's blood is very short, typically under ten minutes (Harmeyer, 1989). Turnover in brain tissues is less rapid, but it is clear that a continuous supply of thiamine is necessary if the body's cells are to function properly.

WHAT HAPPENS WHEN THIAMINE LEVELS ARE LOW

In ruminants, the collection of symptoms brought on by low thiamine is called polioencephalomalacia (PEM). Symptoms are largely neurological in nature, as PEM results first in brain tissue swelling, and then in softening of brain tissue and the growth of brain lesions (it is also called cerebrocortical necrosis [CCN] in cattle and sheep). An animal with an advanced case of PEM will actually have holes in their brain visible upon necropsy.

Thiamine can be depleted in a myriad number of ways, and alpacas are much more sensitive to low levels than are cattle or other ruminants. They can also deplete their body's supply of thiamine much more rapidly than cattle, sheep or goats. While cattle may take weeks to show symptoms of PEM after a sudden feed change, alpacas can develop symptoms in as few as two (Evans, 2005). Why this is true is not known, but it is critical to be aware of this peculiarity. Veterinarians only familiar with PEM in cattle or other livestock may fail to appreciate just how quickly PEM can bring about the death of an alpaca without prompt and appropriate intervention. Although many cases of PEM in alpacas happen quite rapidly, prolonged periods of low thiamine availability can also lead to PEM, with animals exhibiting subtle signs of deficiency over an extended period of time. There are many, many potential causes of thiamine deficiency. Some of the microorganisms in the ruminant gut make enzymes that break thiamine down, called thiaminases. An imbalance in gut flora may lead to a proliferation of these organisms beyond normal levels, with a resulting drop in thiamine availability to the alpaca host. Antibiotics and some wormers (levamisole, thiabendazole [Evans, 2005]) can cause rumen imbalances, as can the ingestion of feeds rich in carbohydrates. Animals experiencing lactic acidosis from eating too much grain or pelleted feeds frequently also suffer from PEM.

Thiaminases may also be ingested by an alpaca. Here in the United States, bracken fern (*Pteridium aquilinum*), prostrate pigweed (*Amaranthus blitoides*) and horsetails (*Equisetum spp.*) are common in many pastures and contain high levels of thiaminases (*Merck Veterinary Manual*). Thankfully, these plants generally taste bad and have low palatability. Alpacas will seldom graze them unless there are few alternative food sources available, as may happen when pastures are overgrazed or in early spring when perennials emerge before grasses. In Australia and New Zealand, the Nardoo and rock ferns are of similar concern.

Thiamine may also be depleted by excess sulfates or sulfides in the diet. Possible sources of excess sulfur compounds may be well or untreated water (especially in times of drought), concentrated feeds (particularly grain by-products such as distillers grains) and some plants under particular growing conditions.

Another common cause of PEM in alpacas is coccidiosis, as coccidia rely on thiamine to reproduce and in doing so, reduce the amount available to the infected animal. Amprolium (Corid), frequently used to treat coccidiosis, is a thiaminase and its use may precipitate PEM unless supplemental thiamine is provided via injection into the blood stream. The alpaca has access to the injected thiamine but the coccidia in the gut do not. Clostridium and Streptococcus bacteria are also known producers of thiaminases (Harmeyer, 1989).

Finally, PEM may be caused by a change in an animal's ability to absorb thiamine from the gut, or by the too rapid removal of thiamine from the body. Possible causes for metabolic disruption along these lines may include changes in the weather, forages and stress levels. In short, it sometimes seems like almost anything can cause polioencephalomalacia in an alpaca.

POLIOENCEPHALOMALACIA AND THIAMINE DEPLETION...continued from page 6

SYMPTOMS OF POLIOENCEPHALOMALACIA

Animals with PEM may have diarrhea, are typically at least somewhat listless or lethargic and exhibit unusual neurological symptoms. Signs of subacute PEM may be subtle, but often include

- decreased appetite;
- staggering or unsteady gait;
- head or ear twitching;
- failure to remain with herdmates;
- elevated head or stargazing;
- excess salivation and drooling.

The acute stage of PEM is typically characterized by

- increased severity of symptoms seen in subacute PEM;
- grinding teeth;
- seizures and muscle spasms;
- blindness;
- opisthotonus (spasming or arching of the back and neck – the “death arch”);
- recumbency and failure to rise.

Untreated acute PEM will lead to coma and death. Untreated subacute PEM will result in animals that fail to grow and thrive, and may also ultimately progress to death.

There are a number of other conditions with symptoms similar to PEM. While PEM should always be suspected and thiamine administered if any of the above symptoms are seen, breeders should also consult with their veterinarians in order to rule out additional potential diagnoses.

Conditions that may produce symptoms similar to PEM include, but are not limited to:

- listeriosis
- rabies
- lead or heavy metal poisoning
- ryegrass staggers
- heat stress
- grain poisoning
- tetanus
- vitamin A deficiency
- meningeal worm parasitism

Reviewing an animal's recent history and environment may be helpful in ruling the above conditions in or out. In all cases where neurological symptoms are seen, aggressively treating with thiamine while pursuing a definitive diagnosis is recommended.

TREATMENT OF POLIOENCEPHALOMALACIA

Any alpaca breeder suspecting that one of their alpacas may be suffering from PEM should immediately reach for the bottle of thiamine that absolutely should be in their medicine cabinet at all times. Thiamine is unfortunately a prescription item that must be sourced through a veterinarian – it cannot be obtained at the feed store when an emergency arises. The standard B complex vitamins available over the counter are not an adequate substitute for pure thiamine, preferably the 500mg concentration if possible.

Since thiamine is a water soluble vitamin, it is essentially impossible to overdose when given by injection, as the alpaca will simply excrete anything it does not need. For this reason, there is no need to be precise in dosing as long as the required minimum dose is met – “too much” is as good as “just enough”. Dr. Evans recommends 6-11mg/kg (3-5mg/lb) every 8 hours for 24 hours in his Field Manual. Other veterinarians have recommended a wide variety of treatments ranging from 10mg/kg (4.5mg/lb) every three hours until symptoms are gone to 5mg/kg (2.25mg/lb) every six hours for 24 hours (Jensen, 2006).

Many experienced breeders feel that these amounts are all too low, particularly if given SQ. If at all possible, the first dose of thiamine should be administered IV, but since this is beyond the reach of many breeders, increasing both the amount of thiamine and frequency of dosing may be enough to compensate. Note that the *Merck Veterinary Manual* recommends for cattle:

Therapy must be started early in the disease course for benefits to be achieved. If brain lesions are particularly severe or treatment is delayed, full clinical recovery may not be possible. The dosage of thiamine is 10-20 mg/kg, IM or SC, tid. Initial treatment may be administered IV.

If we double Dr. Evans' dose recommendation to 20mg/kg (9mg/lb) to match the higher end of the Merck recommendation, and give the thiamine twice as often (every four hours for 24), the dosages for a 100 pound alpaca are:

- 4.5 ml of 200mg concentration thiamine or
- 1.8 ml of 500mg concentration thiamine to deliver 900mg of thiamine



POLIOENCEPHALOMALACIA AND THIAMINE DEPLETION...continued from page 7

Contrast this with the amount of B complex that would be required, using Agri-Labs products from Valley Vet for an example. The same 100 pound alpaca would need:

- 72 ml of B complex or
- 9 ml of fortified B complex to deliver 900mg of thiamine

Fortified B complex is seldom sold at farm stores and generally must be ordered. Clearly, given the volume of B complex required to administer the necessary thiamine dose, it makes sense to obtain a bottle of pure thiamine from your vet before an emergency arises.

Oftentimes, if an animal just seems slightly "off," one or two SQ injections of thiamine over the course of a day will be enough to bring the animal back into balance. Some animals seem more prone to thiamine depletion due to stress, and an injection of thiamine prior to or just following a stressful event such as shearing may prevent greater problems later.

In summary, alpacas are extremely sensitive to changes in thiamine availability and can deplete their body's resources rapidly. The potential causes of PEM are almost infinite, and any time an alpaca exhibits neurological symptoms, the possibility of PEM should be considered. Immediate administration of thiamine is easy, inexpensive and appropriate any time an alpaca seems "off," and while a more definitive diagnosis is sought.

REFERENCES CITED

- "Plants Poisonous to Livestock," Cornell University, Department of Animal Science, <http://www.ansci.cornell.edu/plants/toxicagents/thiaminase.html>
- "Polioencephalomalacia," 2011, *Merck Veterinary Manual*, Merck, Sharpe and Dohme: Whitehouse Station, NJ
- Burgess, B., 2008, "Polioencephalomalacia," *Large Animal Veterinary Rounds*, 8(3)
- Evans, C. Norman, 2005, *ALPACA Field Manual*, 2nd edition, Able Publishing and Ag Press, Inc.
- Harmeyer, J. and U. Kollenkirchen, 1989, "Thiamin and Niacin in Ruminant Nutrition," *Nutrition Research Reviews* (2), pp. 201-225
- Himsworth, C., 2008, "Polioencephalomalacia in a llama," *Canadian Veterinary Journal*, 49(6), pp. 598-600
- Jensen, James, 2006, *Camelid Drug Formulary*, Game Ranch Health: San Antonio, TX
- Parish, J., J. Rivera and H. Boland, 2009, "Understanding the Ruminant Digestive System," Mississippi State University Extension Service, publication 2503
- Rachid, M, E. Filho, A. Carvalho, A. Vasconcelos, P. Ferreira, 2011, "Polioencephalomalacia in cattle," *Asian Journal of Animal and Veterinary Advances*, 6, pp. 126-131

I SURVIVED SHEARING, OR, WHAT DO I DO NEXT?

Here are a number of links compiled by the Fleece and Fiber Focus Group that may prove helpful as you skirt through your fiber harvest and try to determine what your next steps will be. Included are links to a list of mills, an explanation of histograms, some suggestions for end uses, a discussion of the various coops available and AOBA's guide to shearing day itself.

<http://mainealpacaassociation.com/MAAmilllist.pdf>

<http://mainealpacaassociation.com/histogramfibertesting.pdf>

<http://mainealpacaassociation.com/whattodowithfiber.pdf>

<http://mainealpacaassociation.com/processingyourfibergrouporcoop.pdf>

http://mainealpacaassociation.com/Shearing_Day_White_Paper_by_the_AOBA_Raw_Fiber_Committee_v2.pdf