



**E-newsletter  
March 2010**

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**A Few Words from the Board**

*Greetings fellow alpaca enthusiasts,*

*It is April already and I must say the first quarter of 2010 simply flew by! Since becoming part of the BOD in January, I have been impressed with the level of enthusiasm and motivation of my fellow board members. Our primary goal as a board is to encourage and support active participation within the membership. From that solid base, we will move forward in a unified fashion on the projects that the members value. We have employed SurveyMonkey questionnaires on several occasions so ALL members' voices could be heard. This is our way of reaching out to members who are unable to attend meetings but still want to participate in the decision making process.*

*To date the BOD has set into motion several new projects, the first of which is a web site committee with the task of entirely revamping the MAA web site. This will be a major undertaking that will take several months to complete.*

*The MAA booth now visits several venues annually and was in need of a classy, update. Steffi McKeith developed a stunning booth that she displayed at the March members' meeting. She incorporated a new concept of encouraging booth volunteers to bring a few high quality alpaca items from their farm to display (and casually sell). This will keep the display items fresh and revolving and provide some incentive to volunteer to staff the booth.*

*The Yahoo! group is a wonderful means of communication for MAA members that was originally developed as an avenue for providing support and exchanging ideas. However there was occasional debate as to what types of posts should and should not be allowed. To settle the debate, the board sought input from the members through a SurveyMonkey questionnaire and new guidelines were developed based on the members' feedback. Since then we have seen increased activity on the Yahoo! group that has been beneficial to all.*

*MAA is going to be more visible at the Northeast Livestock Expo (NELE) this spring. The members overwhelmingly supported having a manned booth for the entire weekend. Several breeders will also be displaying animals etc on an individual basis.*

*Most recently, MAA members can take advantage of free Classified Ads on the MAA web site. The BOD will be offering this benefit for the coming 6 months as an experiment. The specific guidelines and protocol are still being refined and will be sent out shortly. Lastly, the board has been investigating the possibility of MAA purchasing grain in bulk. We will be developing a SurveyMonkey questionnaire in the near future to obtain feedback from the members on this topic.*

*So, until I write again...happy spring to you all!*

*Dawn Brooker, President MAA*

### **2010 Board of Directors**

President: Dawn Brooker, [Dawn@fiberfields.com](mailto:Dawn@fiberfields.com)

Vice-President: Ginny Rebar, [vrebar@tds.net](mailto:vrebar@tds.net)

Secretary: Jill McElderry-Maxwell, [jillmcm1970@yahoo.com](mailto:jillmcm1970@yahoo.com)

Treasurer: Pam Drew, [pam@pamelamas.com](mailto:pam@pamelamas.com)

Director: Pat Houde, [alpacafields@earthlink.net](mailto:alpacafields@earthlink.net)

### **Welcome to New Members**

Over the past several months, a number of farms have joined the Maine Alpaca Association. Many of the new members listed below have already been introduced at a meeting, but with this new feature of the MAA Newsletter, we'd like to introduce and WELCOME all new members:

Pam and Dick LaHaye, Acadia Alpaca Farm, Belfast

Gail and Tim Moorhouse, Blackberry Lane Farm, Harrington

Hope and Steve Rowley, Blueberry Fields Alpaca Farm, LP, York

Carol and John Furman, Carrageen Alpacas, Gray

Lois and John Brace, Dream on a Stream Ranch, Mount Vernon

Jeannine Anderson and Eric Gaze, Gaze Acres Alpacas, Brunswick

Pam and Sam Flick, North Branch Farm, North Yarmouth

Virginia Rebar, OutBaca Alpaca, Harmony

Tami and Bob Wayboer, Shadow Hill Alpacas, New Gloucester

### **Maine Agriculture Trades Show, January 12-14, 2010**

Once again, thanks to an excellent response to the request for volunteers, MAA was well represented at the Ag Trades Show. This is a good opportunity to introduce the Association to people who are already involved with or interested in the agricultural trades, and allows us to "mainstream" the concept of alpaca farming.

A big "Thank you!" to Alan Russo, Claudia Raessler, Steffi McKeith, Colin McKeith, Darlene and Mike Reardon, Frank Gabriel, Connie Laliberte, Pam Harwood, Raini Perry, Karen Woods, Jill McElderry-Maxwell, Cindy Mingle, Abby Fitzgerald, Cindy Lavan, Terry Callery, and Ricki Waltz who staffed our booth and conducted seminars.

### **Member Meeting, Saturday, March 27, 2010**

Following the business meeting, our guest speaker was MAA member Matt Townsend, DVM, of Dirigo Farm Alpacas. With the assistance of MAA's Vet Education Fund's tuition reimbursement program, Matt attended the 2010 University of California at Davis Camelid Owner and Veterinarian Symposium this past January. Matt's presentation focused on 3 speakers: Pam Walker, DVM (Basic Herd Health, Vaccine Protocol, Drug Dosages, and Intestinal Parasites), David Anderson, DVM (Tooth Root Abscesses), and Jane Vaughn, MACVSc (Interesting Presentations on Advanced Repro Techniques).

## **How to Collect Fiber for Processing** by Pamela Harwood, Longwoods Alpaca Farm, Cumberland

We all have our systems for collecting fiber on shearing day: big plastic bags, large leaf bags, cotton sheets, plastic tablecloths, cardboard sheets, etc. The following system has been designed to minimize cross-contamination while collecting fiber. Whether for skirting, sorting, or showing, proper collection of your fiber as it comes off the alpaca will make your life MUCH easier and will increase your yield.

### **Supplies needed:**

1. 55 gallon clear plastic bags (U-line sells them by the box at [www.uline.com](http://www.uline.com)) – *cut the bottom of the bag, then cut down one side making a large flat piece of plastic*
2. Small clear plastic bags for neck fiber
3. 30 gallon clear plastic bags labeled with owner's name (if multiple farms), alpaca name and color
4. Thick black permanent marker (retractable Sharpies are great!)
5. Master shearing list posted by scale so weights for blanket, neck, and leg/belly/chest may be written down. This is your annual harvest!

### **Method:**

1. **Place the cut plastic 55 gal. bag under the alpaca before shearing begins.** You can roll the alpaca slightly away from you and easily slip the bag under it. Once the shearer has the blanket on the plastic, slide the plastic out from under the alpaca towards you. Wrap the top and bottom edges over the fleece so it meets in the middle, making sure the plastic covers the entire fleece. Fold in sides of the plastic and gently roll the fleece into a tight "burrito". The roll can be secured with a piece of tape. Place the roll on the scale and record blanket weight, then slide it into the properly ID'd clear plastic 30 gallon bag. A little judicious skirting of any obvious "yucky stuff" just prior to rolling is encouraged to minimize fiber contamination.
2. **Collect neck fiber in the small plastic bags, making sure to push aside short cuts from the lower jaw, and any hairy areas (brisket/chest).** *Please note: if you inadvertently include all the "garbage", the usable fiber will be contaminated, resulting in higher loss.*
3. **Weigh the neck fiber, record it on your master shearing list, and put the small clear bag in the larger marked bag containing the rolled blanket.**
4. **Collect the remaining leg, belly and chest fiber in another small clear plastic bag, weigh it, record it, and then dump it into a larger bag, by color.**

**Don't bother to collect fiber that is spit-, urine- or manure stained, and if you can skirt out the crias' "bird's nest" before it ever gets in the bags, your fiber processor will thank you!**

**Proper shearing and fiber collection are the keys to maximizing your annual harvest. While good shearing will not improve your alpacas' fleece, poor shearing and improper collection can ruin it!**

*Please note that fiber stored in plastic cannot breathe. A few poked holes will help. This system is best used when skirting or sorting the fiber will be done within a few days. Many fiber sorters will charge the lower "live sort" price for fiber that has been collected using this method and shipped to them immediately for sorting "out of the bag".*

## **A Review of the Published Literature on Meningeal Worm with Implications for Alpaca Owners** **Part 1 of 3, Introduction, Life-cycle, and Distribution**

by Jill McElderry-Maxwell, Bag End Suri Alpacas, Benton ME

### MENINGEAL WORM: AN INTRODUCTION

Meningeal worm (*Parelaphostrongylus tenuis*) is a parasite of special concern for many alpaca farmers. Carried by white-tailed deer (*Odocoileus virginianus*) and intermediate slug and snail hosts, “m-worm”, as it is commonly known, lives and reproduces in the deer. Although the deer are generally not adversely affected by the parasite, any other animal ingesting an infected slug or snail is usually killed by the activity of the parasite as it travels through the nervous system.

Preventing infection in our alpacas is a critical part of husbandry for alpaca breeders anywhere white-tailed deer are prevalent, as prevention using monthly injections of avermectins is easy – but a cure is often impossible. Even when an infected animal’s life can be saved, lingering neurological deficits are common.

### MENINGEAL WORM LIFE CYCLE

*Parelaphostrongylus tenuis* is a common parasite of white-tailed deer (WTD) and white-tailed deer only. Even other cervids such as mule deer, fallow deer, moose and elk are aberrant hosts for the parasite, which has been a factor affecting the reintroduction of elk to the east coast [Bender, et al., 2005; Larkin et al., 2003]. The expansion of meningeal worm into historic caribou ranges is considered to be the primary factor causing the decline of caribou in areas where ample suitable habitat remains [Anderson, 1971].

The life cycle of the parasite has been long studied and is generally well known [Anderson, 1972]: WTD harbor adult worms, usually only a breeding pair, in the subdural spaces of the brain. The adult parasites either lay eggs on the dura matter of the brain or deposit them directly into the circulatory system. In the first case, young larvae hatch and penetrate small blood vessels of the brain in which they are carried by the bloodstream into capillaries within the lungs. Those eggs laid directly into the circulatory system are caught up in the capillary structure of the lungs, where the larvae hatch. The L1 larvae in the lungs migrate into the bronchioles and are coughed up, or else they migrate directly into the throat. In both cases they are swallowed by the deer, pass into the digestive system and ultimately out in the feces.

WTD feces have a mucous coating that many species of slugs and snails find appetizing, and the meningeal worm larvae are found in this coating. As slugs and snails pass over the infected deer feces feeding, the L1 larvae burrow into the feet of the gastropods. Although some species of aquatic snails have been experimentally infected with m-worm, no infected snails have been collected from aquatic environments. It is hypothesized that the mucous coating containing the larvae breaks down too rapidly in water for the larvae to be easily found and consumed by mollusks, as the larvae are washed away when the coating dissolves [Anderson, 1972; Lankester and Anderson, 1968].

Once within the slugs and snails, the L1 larvae continue to develop over the course of several weeks into L3 larvae, which are infective to deer and other mammals. It is believed that L3 larvae live as long as their gastropod hosts, but survival outside the intermediate host is apparently brief [Anderson, 2002]. Although mollusk slime trails could theoretically contain infective larvae, it is unlikely that slime trails serve as a significant reservoir for infection.

If a gastropod infected with L3 larvae is ingested by a WTD, the normal life cycle of the parasite continues, with the larvae entering the bloodstream through the digestive tract walls and from there migrating into the central nervous system (CNS) of the host. In WTD, the larvae spend only a short time within the spinal cord itself before moving into the space surrounding the cord and migrating into the subdural regions of the brain where they mature into adults.

For unknown reasons, in species other than WTD, the meningeal worm does not reach adulthood nor reproduce; it is possible that some chemical signal is missing that triggers these events in the WTD. The larvae continue to migrate throughout the spinal cord and nervous system, causing lesions and other damage to the CNS. Although WTD sustain some damage during the migration of the m-worm larvae, their neural parenchyma apparently regenerates quickly, with no lasting signs of the worms' presence [Ekroade, et al., 1970]. Other species sustain more extensive damage that is not repaired.

#### MENINGEAL WORM DISTRIBUTION

Given that meningeal worm is a common parasite of WTD, it is possible for meningeal worm to exist anywhere WTD and appropriate secondary gastropod hosts are found. A WTD range map ([www.whitetailsunlimited.com/i/p/bk\\_distribution.pdf](http://www.whitetailsunlimited.com/i/p/bk_distribution.pdf)) shows that white-tailed deer are more widespread than commonly realized, with recognized subspecies inhabiting almost the entire North American continent. Thankfully, not all subspecies appear to be infected by meningeal worm at the same rate as the common eastern subspecies, and indeed, many subspecies are uncommon and seldom encountered.

For these reasons, meningeal worm has historically not been considered a parasite of concern west of the Mississippi. Likewise, the parasite is less common in the coastal plains of the southeastern United States, where habitat for the intermediate hosts is more widely distributed and difficult to find. Although the parasite occurs there, its distribution is patchy and tied closely to appropriate secondary host habitat.

A study of *P. tenuis* infection of WTD in Oklahoma showed that the parasite was common in and near wooded areas, while grassland areas showed little infection [Kocan et al., 1982]. Alpaca farms located in grassland areas may have less of a problem than areas where woodland tracts are prevalent. However, the authors of the study noted that suitable hosts were available even in areas where meningeal worm was not detected. The open grasslands of Manitoba have apparently historically served as a barrier to the spread of meningeal worm, but there is concern that aspen parklands, particularly in association with human habitation, may permit the translocation of the parasite to the western areas of North America [Anderson, 1972].

In addition, translocation of infected deer has apparently carried meningeal worm to some areas where the parasite had not historically been found [Kocan, et al., 1982]. In short, presence or absence of meningeal worm depends on a number of factors, including human propensity for relocating livestock and wildlife, and historical absence of the parasite is not a guarantee of continued absence.

Pertinently, in most areas studied, WTD numbers are increasing, and eastern subspecies carrying meningeal worm are moving west. Given that meningeal worm causes mortality in other cervid species, tracking the spread of the parasite has been of great concern to fish and wildlife organizations [see for example Whitlaw and Lankester, 1994; Lenarz, 2009]. Numerous studies of hunter killed WTD have been carried out, and the spread of *P. tenuis* has been documented by actual observation of the adult worms in the meninges of dissected WTD.

In the United States, meningeal worm has long been recognized as a parasite in the northeastern regions. By the 1960s, meningeal worm was well documented in many southeastern states as well, including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Tennessee, Virginia and West Virginia. One 1969 study found almost 50% of deer examined to be infected [Prestwood and Smith, 1968]. Oklahoma WTD populations showed evidence of infection by the 1970s [Carpenter, et al., 1972].

In more northerly regions, m-worm has been found west of the Mississippi in North Dakota, South Dakota, and western Nebraska [Oates, et al., 2000]. Meningeal worm was found in WTD in Manitoba [Bindernagel and Anderson, 1972] as early as the 1970s, and had reached eastern Saskatchewan by the early 2000s [Wasel, et al., 2003]. This appears to be the current westward limit of meningeal worm range at this time, but continued westward spread of the parasite is likely.

*Please stay tuned for Part 2, Meningeal Worm Vector Control and Prevention in the June 2010 issue MAA's e-newsletter, and Part 3, Meningeal Worm Symptoms, Treatment, and Vaccine in the September 2010 issue. Thank you, Jill, for your exhaustive research and willingness to share this information! For the list of references, go to [www.bagendsuris.com/?page\\_id=269#references](http://www.bagendsuris.com/?page_id=269#references)*

### **Upcoming Events** (events in Maine in **bold type**)

- \* April 1 - 3, 2010 North American Alpaca Show, Springfield, MA [www.naalpacashow.com](http://www.naalpacashow.com)
- \* April 18-19, 2010 The Futurity, Oklahoma City, OK [www.celebritysales.com](http://www.celebritysales.com)
- \* April 23 - 25, 2010 MAPACA Jubilee [www.mapaca.org](http://www.mapaca.org)
- \* May 1-2, 2010 North East Alpaca Expo, Syracuse NY [www.nealpacaexpo.com](http://www.nealpacaexpo.com)
- \* May 1-2, 2010 Buckeye Alpaca Show, Columbus, OH [www.alpacawebsite.com](http://www.alpacawebsite.com)
- \* May 7, 2010 New England Hands On Alpaca Fleece Off Fleece Show at NEAF [www.neaoba.org](http://www.neaoba.org)
- \* May 8-9, 2010 NEAOBA New England Alpaca Fest (NEAF) at New Hampshire Sheep & Wool [www.neaoba.org](http://www.neaoba.org) and [www.nhswga.com](http://www.nhswga.com)
- \* May 21-23, 2010 AOBA National Show, Fort Wayne, IN [www.alpacashows.com](http://www.alpacashows.com)
- \* **May 21-23, 2010 Northeast Livestock Expo, Windsor, ME** [www.northeastlivestockexpo.com](http://www.northeastlivestockexpo.com)
- \* **June 5-6, 2010 Maine Fiber Frolic (10th anniversary!)** at Windsor Fairgrounds [www.fiberfrolic.com](http://www.fiberfrolic.com)
- \* **July 25, 2010 Maine Open Farm Day** [www.getrealmaine.com](http://www.getrealmaine.com)
- \* **August 21-28, 2010 Union Fair**
- \* **August 29 - September 6, 2010 Windsor Fair**
- \* **September 2-6, 2010 Blue Hill**
- \* **September 12-18, 2010 Oxford County Fair**
- \* **September 24-26, 2010 Common Ground Country Fair, Unity**
- \* **September 25-26, 2010 Maine Alpaca Open Farm Weekend**
- \* **September 26- October 2, 2010 Cumberland Fair**
- \* **October 3-10, 2010 Fryeburg Fair**
- \* October 23-25, 2010 Empire Alpaca Extravaganza Show [www.nyalpacas.com](http://www.nyalpacas.com)
- \* November 5-7, 2010 Green Mountain Spectacular Show [www.vtalpacashow.com](http://www.vtalpacashow.com)

*The next issue of this e-newsletter will come out in June 2010. If you have any births to report in our new "Criations" section, please submit them before June 15<sup>th</sup>. Your name, Farm name, cria's name, color, DOB, dam's name and sire's name. We are always looking for interesting news of what's going on in Maine's alpaca community, as well as articles about husbandry, marketing, fiber and fiberarts. Submissions should be emailed to Pam Harwood at [pdh@longwoodsalpacas.com](mailto:pdh@longwoodsalpacas.com).*