

#### Message from the President

This time we are just a whisper away from having the database completed! This will give us the opportunity to have our goats listed in the database and to provide ongoing information to CGA about the status of cashmere goats in North America. Not only their status, but also how many there are, and how incredibly beautiful they are, with excellent cashmere!

This is the time of year when I begin combing, as a few goats are starting to shed. Every year I try some new combing techniques and tools. Let us know of any tools and/or techniques that you have found useful. I also start to wonder just who is pregnant, sneaking up on them to check and feel if any udder is developing. They don't always appreciate that!

I am finding myself continually amazed by this organization. From the volunteer effort that is being put into the database, to producing outstanding issues of Hoofprints, to organizing different events, to managing the website and accounts; I'm so proud to be a member of the Cashmere Goat Association.

A dedicated group is finalizing plans for a symposium on goats in general and cashmere goats in particular. The dates are November 9<sup>th</sup> and 10th at Cornell University in Ithaca, New York. Mark those dates, you won't want to miss it!

Hoofprints is always looking for articles that would be interesting. I bet you have something to share...... With the database almost completed, and goats soon having the opportunity to be registered, we need to make a formal vote on whether or not we want the North American Cashmere Goat to be a breed. While some may have assumed that we are indeed already a breed, there has not been a formal vote, and there are differing opinions on the issue. There are a few letters from members stating their opinions and why they feel/think the way they do. They will make for interesting, thoughtful reading.

And the best to you for an excellent year,

Wendy Pieh, President

#### Inside This Issue:

- 1 Message from the President
- 2 Debating a cashmere goat breed
- 3 CGA Small Ruminant & Fiber Clinic
- **5** Database responsibilities
- 8 An interview with Giulia Pighi Guerra
- 19 Line Breeding
- 23 How to tube-feed a kid

Editorials on establishing a cashmere goat breed: pages 11,15, 25, and 26

#### IS IT TIME TO ESTABLISH A CASHMERE GOAT BREED?

Let the debate begin!

Welcome to our debate on the proposal to work toward having "North American Cashmere Goat" established and recognized as a breed! Now that we are registering goats in a database, the Hoofprints editors thought it would be valuable for us to bring this discussion into the open and do it justice. You will find several essays on the topic in this issue of Hoofprints and we hope that they will stimulate a discussion among members that will continue through conversations at meetings and through submissions for future issues of Hoofprints. It is a complicated question, and we need to share as many ideas as possible.

Although the CGA website acknowledges that cashmere goats do not represent an established breed, we have already allowed usage of the word to creep into announcements for our shows and into the label for our standards. This underscores the importance of agreeing upon the meaning and implications of the word 'breed'. So, those of us who agreed to record our thoughts on a breed for this issue tried to start the process by agreeing upon a definition. Ah – easier said than done! Our sense of the word may go to the heart of the debate.

I confess that I did turn to dictionary.com as a starting point for my essay. Here are the three definitions I found:

*Genetics* - A relatively homogenous group of animals within a species, developed and maintained by humans.

A group of organisms within a species, esp a group of domestic animals, originated and maintained by man and having a clearly defined set of characteristics

A group of organisms having common ancestors and sharing certain traits that are not shared with other members of the same species. Breeds are usually produced by mating selected parents.

The dictionary definitions – at least the first two - do not seem to conflict with a casual use of the term and its application to an open registry in which no animal could be called "purebred". Definitions on sites for dog breeds were more strict, and they tended to focus more on the reliability of breeding outcomes. (If you are in the mood to be totally intimidated, Google "How to create a new dog breed". It's not for the faint of heart.) Horse breeders face a more complicated environment. In an interesting article in Equus magazine, genetics expert Dr. Phillip Sponenberg concedes that the definition for "breed" can vary significantly in the horse world. Here's the link: <a href="https://equusmagazine.com/management/breed\_050903">https://equusmagazine.com/management/breed\_050903</a>

Ultimately, the authors of the essays herein that open our debate on a cashmere goat breed went forward without agreeing upon a definition. If the organization determines that we should support the establishment of a breed, then our first mission may be to agree upon how we will explain and define the term to the public when we use it.

Each of the essays on the proposal (on pages 11, 15, 25, and 26) reflects the opinion of the author. We hope you will find them thought-provoking and that you will be moved to send in a letter to the editor on the subject. (Letters and articles and suggestions for articles can be sent to Pam at <u>hermitpond@gmail.com</u> or to Maggie at <u>Constantine.maggie@gmail.com</u>.)

#### *Coming in November of this year:*

#### THE CGA SMALL RUMINANT AND FIBER WORKSHOP

Now is the time to circle November 9<sup>th</sup> and 10<sup>th</sup> on your calendars and find Ithaca, NY in your atlas. (Sorry – I meant on your map *app*.) Anyway, don't delay! Set aside some cash for a hotel room and arrange for a farmsitter for the weekend, because you will *not* want to miss this event. Christine McBrearty-Hulse is working with tatianna Stanton from Cornell University, Terry Gipson from Langston University, and a small committee of CGA members to plan a full weekend of stimulating classes and workshops that will broaden our knowledge of cashmere assessment and present the newest research on fiber production. There will be classes for new farmers and classes for experts, classes for fiber fanatics and classes for people who just want to make sure they can keep a small herd of goats healthy.

On Saturday, speakers will address issues common to all small ruminants, with Cornell's Dr. Mary Smith of Cornell speaking on herd health management, hoof problems, and skin problems. (Yes, she is the same Dr. Mary Smith who co-authored that big Goat Medicine volume that many of us pull off the shelf whenever medical mysteries appear in the barn.) Tatianna Stanton will present the latest research on parasites, and there will be a class on kidding and lambing concerns. In the afternoon, our own Wendy Pieh and Peter Goth will lead a workshop on conformation and teach the fine art of hoof-trimming, and Cornell professors will guide visitors through the challenges of evaluating hay and understanding the data on feed tags.



Cornell University, no amateur at hosting sheep and goat symposia, will provide lunch, during which attendees can choose between digesting what they've just heard, networking with fellow fiber producers and fiber artists, and learning more at informal presentations on guardian dogs and international textile production.

Sunday's classes will focus on fiber production, with Dr. Philip Spononberg of VA Tech speaking on color and genetics, Dr. Terry Gipson addressing basic genetic factors in cashmere production, and Dr. Chris Casey of Cornell speaking about nutrition and follicle development. In the afternoon, attendees can focus on cashmere in a fiber assessment workshop and/or attend classes on mill processing or product design and marketing.

It will be an intense couple of days. The schedule includes breaks for visits to a trade show, though, and we will collapse together for dinner at a nearby restaurant on Saturday. We may be able to plan for visits to nearby farms on Friday, too, and there is sure to be time to catch up with friends. Perhaps even a tour of the wineries in the Finger Lakes area? But most importantly – CGA is putting together an opportunity to hear renowned teachers from Cornell, Langston, and Virginia Tech and some of our own cashmere experts all in one spot! How could you miss it? The planning committee also wants to ensure that the clinic will be accessible to everyone financially, so they are hoping to hold registration costs to \$65 for the weekend for CGA members (\$80 for non-members.) Blocks of rooms at a reduced rate have been reserved at two hotels with prices from \$119 - \$139.

Keeping costs low will require support from sponsors, however. If you have ideas for sponsors who might pony up \$50 - \$500 in exchange for various perks, please let Christine know. Or become a sponsor yourself! You could bring along a display for the trade show and show everyone what you've been making with all that cashmere. Whatever you do – come!

### Sponsorship Opportunities

2019 Cashmere Goat Association Small Ruminant & Fiber Workshop \*November 9 & 10 \* Cornell University, Ithaca NY \*



Kid and Lamb Level

\$50.00

Recognition in all printed media, business card ad in program Opportunity for company booth in trade show



#### Fleece Level

\$100.00

Recognition in all printed media, ¼ page ad in program Signage at the event; Opportunity for company booth in trade show



#### **Skein Level**

#### \$200.00

Recognition in all printed media, ½ page ad in program Signage at the event; Opportunity for company booth in trade show



#### **Garment Level**

#### \$500.00

Recognition in all printed media, Full page ad in program Signage at the event; Opportunity for company booth in trade show

Sponsorship announced at the opening program







## THE CGA DATABASE AND CASHMERE GOAT REGISTRY

**OUR RESPONSIBILITIES....** 

Now that the software builders have corrected the last known issue and we are doing a thorough final review of the database interface, I will throw all caution to the wind and predict that the database will be ready for launch before Easter. And I'm a church organist by trade, so I know when Easter will be! And yes, I am talking about 2019.

We know you are all tired of hearing about this thing without being able to see it and we are sorry it has taken so long. It was a big undertaking, and we very much hope that you will find it to have been worth the wait.

Anyone who visits the site will be able to list farms and herd codes, find active farms nearby, learn about goats they have heard about, find goats descended from a goat, find registered goats with characteristics (like color) and qualities (evaluation scores) they specify, and list all the goats who have been registered in the database.

Anyone with a herd code will be able to do much more – and that's where the "responsibilities" in the subtitle come into play. CGA has spent a bunch of money to have an extensive interface built, but it won't be worth a thing if we don't use it. Here are a few things to do right away after the launch:

- 1. Each farm owner should select the **Update Farm** option and make sure the information on the farm is up-to-date and complete. (The farm associated with your email address will automatically be selected.) You might need to add phone numbers or a website.
- 2. Each farm has one or two associated users. When you select **Update User**, the system will automatically bring up the information it has for you, based on your email address. You can change your password (maximum 10 characters) and your email address.
- 3. Check out the list of registered goats. It is sorted by herd code, so you should be able to find all the goats born at your place easily, then locate ones at your farm with other herd codes. For each registered goat <u>you own</u>:
  - a. Select Update Goat and review the characteristics, filling in and correcting elements, as needed. At the bottom of the Update Goat page, upload up to three photos of the goat. You can also update data for goats that are in the database just as pedigree entries, as long as they are either at your farm now or you are the last recorded owner. This is not essential to the integrity of the database, but it will help us all to have as much information as possible. Pedigree-only goats will not be in the "List All Registered Goats", but their names will be included in the drop-down list in the Update Goat function. If you have or had a good buck who shows up in multiple pedigrees, his picture should really be in there!
- 4. Consider adding goat records and goat evaluation records for competitions and goat shows and lab tests from years prior to 2017, if you have the supporting data for the event. The steps for recording this are the same as the steps for entering data for evaluations received this year (listed below), but there is one additional step to perform first: If the event does not appear in the drop-down list on

the Add Goat Evaluation page, contact Pam Haendle at <u>hermitpond@gmail.com</u> to have the event added to the database.



STC Rosebud – a future database entry?

The ongoing responsibilities for updating the database will probably be the most difficult for us to remember, but they are important. We don't want people to waste time tracking down a buck who sounds perfect for their herd, only to learn after contacting you that the buck died last year. We are also obligated to the USDA to do our best to use the registry to track the movements of our goats from one farm to another. If a goat is sick, the USDA wants to be able to trace its movements to limit the spread of disease – certainly a worthy cause!

So, going forward, we need to:

- 1. Use the **Update Goat** function to fill in a death date whenever a goat who is registered or listed in a pedigree dies. Please don't get hung up on the exact date! Getting the correct year would be handy in case anyone ever looks at life expectancies for our goats, but any date is better than suggesting that old Homer is still alive and available for stud duty.
- 2. If you sell a goat, please update its record with the herd code for the farm where he or she now resides. If the buyer has no herd code, we will need to assign them a bogus herd code and create a record for their farm. (Herd codes on the database can be up to 5 characters long, so we can assign codes like XX001, XX002, etc. without worrying about reducing our store of codes farmers will request.) Please contact Pam Haendle at <u>hermitpond@gmail.com</u> to have a bogus herd code added for your buyer if you find yourself in this situation.

Finally, there is a series of steps to complete when you have lab test results for a goat, or a goat has been evaluated in a show or through a fleece competition. This list of steps is stored in a PDF that will be available for download from the site.

- 1. If the goat in question is already on the database and you are just adding data on a new evaluation, skip to step 6.
- 2. Collect information on the goat's ancestors.
- 3. Use the **Search by Herd Code & Name** function on the CGA Database website to determine whether the goats in your animal's pedigree are already included in the database.
- 4. Use the **Add Pedigree Entry** function to add any goats in the pedigree that are not already on the database, starting with the grandparents. Include as many details as possible on the characteristics of your goat's ancestors.
- 5. Once all the ancestors (parents and grandparents) are on the database, use the **Add New Goat** function to add the descriptive information on the goat to be registered.
- 6. Use the **Add Evaluation Data** function to add the information from the competition, show, or lab test.
- 7. The system will add the evaluation data with its status set to "Pending Review". Notification will be sent to the registrar.

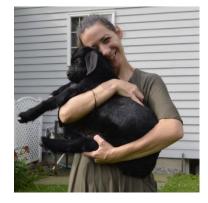
8. Send verification of the assessment (preferably a scan of the score card or lab report) to the registrar. Pam Haendle is currently serving as registrar. <u>hermitpond@gmail.com</u>

At this point, the system and the registrar will complete the process.

- 9. The registrar will compare the evaluation data entered with the validation data and will update the evaluation status with one of the following:
  - a. Reviewed but inconsistencies between submission and validation data were found
  - b. Reviewed and consistent but not qualifying, per the standards
  - c. Reviewed and certified as qualifying for registration.

If the evaluation status was set to "Reviewed and certified as qualifying", the registrar will ensure that the registration status on the goat record is set to "Registered". Otherwise, the registration status remains unchanged.

My apologies for the flood of words! Just one important final ongoing task for everyone using the database: If you are struggling with anything, please let me (Pam) know! I don't want anyone to give up on it, and there are sure to be things that need to be tweaked once it is live. I was a systems analyst for about 40 years, and I can't recall any system that was planned and implemented perfectly.



CGA represents <u>1,784 Cashmere Goats</u> in the United States and <u>64 Cashmere Goats</u> in Canada

You can find a fellow cashmere goat owner in the following states and provinces through our membership page:

Oklahoma Colorado Kansas Oregon Maine Massachusetts Michigan Wyoming California South Carolina North Carolina New Hampshire Connecticut Vermont Ohio Virginia New Jersey Wisconsin New York Pennsylvania Texas Ontario British Columbia

### AN INTERVIEW WITH A CASHMERE FARMER IN NORTHERN ITALY

By Elyse Perambo, VT and Giulia Pighi Guerra, Italy

One of the great opportunities of the International Cashmere Goat Conference in 2017 was meeting other Cashmere farmers from around the world. I got the chance to talk a bit with Giulia Pighi Guerra, a Cashmere farmer from Northern Italy. It was interesting to talk to another farmer who also has a smallscale farm producing its own products. Giulia graciously agreed to answer a few questions about her farming experience so that I could share with you.

#### How did you get into raising Cashmere goats?

It all started when my partner and I decided to move from the city of Genova to the hills between Piemonte and Liguria, where we found a ruin to renovate with 40 acres of fields and woods. We planned on having farm animals rustic enough to live outside a stable and able to graze on the lands and keep them clean.

We first encountered cashmere goats while researching on the web looking for fiber animals, as I've just discovered the fiber world and applied to a course of hand spinning in Genova. Being avid knitters, my partner and I thought we'd make the entire process by hand on our farm from the spinning to the knitting to selling accessories such as mittens, hats, shawls and scarves.

The first person who imported and selected cashmere goats in Italy is Nora Kravis, so we went to her farm for a brief workshop and the next summer I worked on her farm for a couple of months, willing to learn as much as possible about goats and cashmere fiber. She offered to pay me in goats and that's how we got our first seven goats (one buck, 4 does and 3 wethers). A few of months later we rescued 15 more wethers from a couple that couldn't take care of them anymore. That was 2015; right now we have a herd of 50 goats: 18 does (8 of which are pregnant), 7 bucks, and 23 wethers.

Could you share more about raising Cashmere goats in Italy, such as any predator problems, any feed issues, or major health challenges and laws pertaining to putting an animal down?

Our biggest issue when we started our farm was to make the local health authorities understand that our goats could live out in the pastures instead of the stables. This type of farming isn't really common in Italy and not familiar to the veterinarians.

The only feed issue we ever had was with the block of salt. We couldn't find a suitable salt for goats at the beginning and it led to some trouble with kidney stones, especially in wethers. They obstruct the urinary duct and you have to act quickly to dissolve them or the goat will die.

A couple of months after bringing home the rescued herd of wethers we realized some of them had Chorioptic mange. We were new to all of this and found a terrible vet who confused it with fungus and underestimated it, so by the time we treated them and isolated them, two of the goats had become chronic and there was no way of getting them back to normal. We tried every treatment possible (changed the vet and found a very capable vet who specialized in goats) but in the end there was nothing to do but put them down.

We knew from the very beginning that wolves might be around and that even if they weren't in our particular area, it would have been only a matter of time before they'd pay a visit to our farm, so we decided not to take any chances and installed electric fencing.

Usually we keep the goats on the land-near the farm, feeding them hay during the winter, but in spring we clean the perimeters of the fields and build the removable fences for the outer pastures. From April to October we bring the herd to abandoned or leased pastures to allow our soil to rest. Usually, we have them rotate into three pastures and at the end of the season when we bring them home, we remove all the fences.

To protect our goats, we also have 4 guard dogs: 3 Abruzzese Shepherd and one Tatra Shepherd; they work in pairs, two with the group of does and kids and two with bucks and wethers. All this protection costs us a lot in terms of time, energy and money, but it's worth doing it since we have captured video of wolves and seen many tracks around our fences, but they have never gotten inside fingers crossed.

In Italy you can't put down an animal by yourself, it can be done only by a vet under certain circumstances such as to put him out of his misery in case of illness or in case of a highly contagious illness that could spread to other farms. (In this case you have to report it to the authorities and the entire herd might be put down). You can only butcher certain animals by yourself like chickens and only two pigs a year for a family, and the vets biopsy the liver before they let you eat the meat. Other animals such as goats can never be butchered on your own. It is done a lot especially with kids or lambs for Easter in the countryside, but it's against the law.

In case of the death of an animal (be it -from natural causes or predation by wolf or bear) you absolutely cannot bury the body. You must call a certain company that picks it up and incinerates it. You have of course to pay for it, that is why farmers usually have annual insurance that covers it.

## What are the qualities looked for in your breeding decisions for your herd?

We've always loved brown cashmere and tried to have goats with colored cashmere. (I think it's beautiful both in natural color and lightly dyed). We recently bought a couple more does and a buck that have brown cashmere and we've started selecting to have more colored cashmere. From this year on we are fiber testing all does and bucks.

# How do you process your fiber? Do you use a mill for dehairing and getting it spun? Do you work with any fiber cooperatives?

The first two years we sent the fiber to a mill in Germany to have it dehaired and partly spun but weren't too happy with the results: some of the dehaired cashmere had some noils, some still had a lot of hairs in it, and the waste was around 48%. We didn't really have anything to compare it to until I saw a sample of dehaired cashmere from another breeder last November at the workshop in Tuscany.

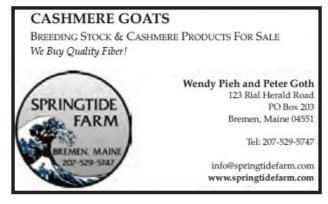
Regarding the 2-ply spun yarn they sent us back, it was a really bad job, for many parts were not spun properly or were twisted, so this year we decided to change mills and send it to another one in Belgium. We haven't seen the results yet. I've wanted to send it to some skilled mills in USA for quite some time now, but the prices are way too high for us at least until we find a market in which we can sell our cashmere for what it is worth.

I hand spin a part of the fiber myself with my spinning wheel. I usually card the cashmere in its natural colors with some dyed silk or Italian alpaca and wool.

We've been struggling to find people who understand the work and the value behind our small-scale production and our products since you can find cheap cashmere everywhere. That's the reason we started working with a small mill a couple of hours from us that blends and spins part of our cashmere. I then hand dye it or leave it in its natural colors and sell the skeins at yarn festivals in Europe. A big problem we had this year, and from what l've seen and heard happened in other countries like the US, is that goats started shedding 3 months earlier than usual because of the really warm weather we had (and are still having), with a yield that was 30% less compared to other years (the average is 300 gr per goat). It's too early to say anything for sure and we hope it won't repeat in the future although we think it is more than likely because of the climate change. That's why we thought we might have to look for cashmere goats that carry different genes from Europe in order to have a decent harvest regardless of the weather.



A few of Giulia's goats on a perfect hillside





## THE NORTH AMERICAN CASHMERE GOAT (BREED?) By Peter Goth and Wendy Pieh

This article is written in support of the North American Cashmere Goat being formally recognized by the CGA membership as a breed.

The Eastern Cashmere Association (now Cashmere Goat Association [CGA]) formally adopted the North American Cashmere Goat (NACG) Breed Standard in 2008, followed by the Northwest Cashmere Association (NWCA) also formally adopting it. A copy of the NACG Breed Standard is attached. We now (almost) have a database where goats can be registered if they meet the minimum requirements of the Breed Standard. Many members have assumed over the last several years that with the breed standard and database/registry we were establishing a livestock breed. While the CGA membership has supported the NACG Breed Standard and development of a database/registry, the membership has not formally voted on whether to approve the "NACG as a livestock breed." This final step must still be considered if we are to establish NACG as a livestock breed, with a breed standard and registry. Hence this discussion.

Why have a breed, or even a standard? Everyone at CGA recognizes that the NACG is a wonderful, multipurpose animal ideally suited for the small farm. But it takes a Breed Standard to define the specific traits that define these goats as wonderful. It also takes a Breed Registry to help both new and established breeders buy and sell quality animals, establish herd breeding goals, and protect the hard-won value and reputation of the NACG.

With the increase world wide of the demand for cashmere, concern developed that fiber that wasn't of at least a minimum quality would be put on the market. The Cashmere Camelid Manufacturers Institute (CCMI) was founded to be the "cashmere police," testing products that might not be cashmere. Additionally, legislation was passed in the USA that cashmere comes only from goats, requires a maximum mean fiber diameter (19 microns) and a uniformity (coefficient of variation or cv) of not more than 24%. This standard for cashmere has become internationally accepted.

Traditionally cashmere goats have been considered a "type," without a formal description or standard. However, the need for breeds internationally and regionally has been recognized as a way to protect and develop certain traits. Australia, a significant producer of cashmere, has developed a cashmere breed, called the Merrit Cashmere Goat. The Changthangi, "Changra" or Pashmina goat, is a breed of goat inhabiting the plateaus in Tibet, Nepal, parts of Burma and neighboring areas of Ladakh in Jammu and Kashmir, India. The Hexi Cashmere goat breed from desert and semidesert regions of the North Gansu province of China is used primarily for the production of cashmere fiber. Italy is working on developing a registry.

The NACG Breed Standard is what is being used in the database that the CGA has developed and where breeders and those who have goats can register their goats if they meet the standard. The NACG database being developed by CGA is considered an "open" registry. That means that any goat that meets the

requirements of the breed standard can be registered in the database and call itself a North American Cashmere Goat. This is very important, and very different from most registries that require both parents to be "purebreds." Cashmere fiber of offspring is not always the same quality as that of the dam and/or sire, so an open registry becomes crucial, insuring that only goats that meet the breed standard are registered. In addition, while the standard does adhere to the international standard for cashmere, NACG also requires a minimum staple length for the fiber. Shorter and shorter staple length is being used in many parts of the world, resulting in products that pill and do not last. Domestic designers are looking to purchase NACG fiber for this additional quality.

By formally adopting NACG as a breed, more quality cashmere will become available domestically and an increasing number of quality cashmere goats will become available as breeding stock. "Quality" will also be clear and transparent as defined by and listed by the NACG breed standard and registry.

We need more people raising cashmere goats, more people registering their goats, and an industry that can expand and have fiber that is in high demand both nationally and internationally. People are much more likely to join us if they know that they are registering as a formal breed, making their goats more in demand and commanding higher prices. This also gives the CGA, as a 501(c)3 organization, expanding opportunities in education and research, two of our founding core principles.

The North American Cashmere Goat deserves to have the recognition and appreciation that is conveyed by being a breed, recognized by the USDA as well as by ourselves.

Thank you for your consideration of our position,

Peter Goth and Wendy Pieh



Standing guard for Giulia in Northern Italy

### North American Cashmere Goat Breed Standard

#### **General Characteristics**

The North American Cashmere Goat (NACG) is a dual purpose animal, providing both fiber and meat products. Both FIBER and CONFORMATION traits are described and scored in this breed standard, with current relative assigned values of:

- 50% FIBER
- 50% CONFORMATION

#### **FIBER**

#### Diameter

Fiber diameter can be described as Mean Fiber Diameter (MFD). Fiber must be fine, with a histogram MFD of 19 microns or less.

#### Style

Style is defined as the crimp or curvature of the individual fibers, and is expressed as deg/mm (degrees of circular arc per mm). Individual fibers should exhibit three dimensional, irregular crimp along their entire length. Mean style measurements on the fiber scan should be no less than 45 deg/mm.

#### Length

Fiber length is measured in its relaxed (crimpy) state, and must be no less than 1.25 inches (32 mm).

#### **Uniformity**

Fiber should exhibit minimal variation in a given sample or "swatch," and transitional fibers should not be present. Uniformity is expressed as Coefficient of Variation (CV) and must be no greater than 24%.

#### Differentiation

Guard hair should be coarse enough to be easily differentiated from down fibers.

#### Total Down Weight (TDW)

The total amount of cashmere down that is obtained from the fleece of a single goat. Represented as Total Down Weight (TDW), it is measured after cleaning and processing, and should be no less than 2 ounces (60 grams).

#### Cover (only done on the goat)

All four harvest sites on the individual goat (neck, shoulder, side, hip) should produce cashmere fiber, and the down coverage at each of these sites should be <u>Complete</u> and <u>Consistent</u>. <u>Complete</u> Cover means that each harvest site actually grows cashmere. <u>Consistent</u> Cover means that the cashmere that is grown at each harvest site is of the same type and quality.

#### **CONFORMATION**

#### Head

Head should be well-proportioned to neck and body size. Horns may be of any style and shape that is functional and safe.

#### Teeth

Teeth should be flush with the dental pad. When viewed from the side, upper and lower biting structures should be symmetrical.

#### Forequarters

Neck should be well-proportioned to frame. Shoulders should be well-muscled and strong. Legs should be straight, strong, well-muscled, and proportional to frame. Shoulders, knees and pasterns should be correctly angled and strong. Forequarter movement should be free and correct.

#### Barrel/Back

Barrel should be long, broad, and well-muscled. Chest should be wide with ribs that are wellsprung, with adequate girth in proportion to frame. Back should be strong and straight from shoulder to rump.

#### **Hindquarters**

Rump should be broad, long, and well-muscled, with only a slight slope between hook bones and pin bones. Rear legs should be strong, well-muscled, and proportional to frame. Hips, hocks and pasterns should be correctly angled and strong. Hindquarter movement should be free and correct.

#### Feet

Hooves should be sturdy, broad, well-formed, and proportional to frame. Inter digital division should be adequate, and both sides of each hoof should be symmetrical.

#### Reproductive System

#### Does:

Udder should be round with good suspension, and with two teats that are functional and symmetrical. Vulva should be normally developed for age.

#### Bucks:

Two testicles should be present, smooth and symmetrical, and of adequate size for age. Any split in the scrotum should extend no more than one third total scrotal length. Two undeveloped teats should be present. Sheath should be normally developed for age.

#### ESTABLISHING A CASHMERE GOAT BREED -

#### **AN OPINION FROM SOMEONE WARY OF THE IDEA**

BY PAM HAENDLE

As I prepared to write up my thoughts on the proposal, I listed some questions that seemed relevant. I thought that if I tried to answer them, an essay on the subject would magically appear.

- 1. What benefits would an established breed provide, with respect to the following?
  - a. Improving the quality of cashmere goats
  - b. Improving the position of cashmere goats their recognition nationally and internationally
  - c. Goat owners current and prospective
- 2. Is the establishment of a breed an inevitable corollary to having a database that functions as a registry? What complications does an open registry present to a breed definition?
- 3. Do our goats logically represent a breed? Is this fundamentally appropriate?
- 4. Are our goats different from cashmere goats raised elsewhere? Is it advantageous (for us and/or for the goats) to promote the idea that they are?
- 5. Is establishing a breed unnecessary but harmless?

#### 1. Benefits of a breed

It may be easiest to think of benefits that an established breed would provide to goat owners, but I hope that, as members of a non-profit organization dedicated to education and to improving the quality of cashmere goats, we will not consider these benefits to be the primary factor in our decision about a breed. If we accept the CGA mission, then we should seek a path that will best serve the animals and support our work toward a population of genetically diverse, healthy, high-quality animals who produce the most glorious cashmere imaginable.

Would defining a breed foster improvements in cashmere goats? CGA has educational projects to help producers improve quality and CGA uses shows to help members recognize quality. CGA has invested a good bit of time and money in a database that may contribute to improvements in quality **if** it is used widely over a long period of time. It may help people find good quality goats and it may help researchers draw conclusions about correlations between goat characteristics and – potentially, with expanded data collection – correlations between cashmere production and goat management. I don't think a breed appellation adds anything to this process.

Would defining a breed enhance the position of cashmere goats and get them better recognition by government agencies here and abroad? Perhaps, but only if we look far ahead to a time when the database has attracted thousands of entries. For the foreseeable future, we would be slapping a prestigious-sounding label on a set of goats that represent a tiny fraction of the cashmere goats raised in North America. Would we then ask the U.S. government, for example, to record our tiny number of registered goats as the recognized North American Cashmere Goats and have them either ignore the far larger number of unregistered cashmere-producing goats in the country – or count them separately as less worthy animals? I think defining a breed adds unproductive complications to our drive to have our goats recognized in the U.S.

Earlier conversations with the USDA had indicated that establishing a breed would confer a benefit on current goat owners with respect to the use of microchips for identification, but in recent conversations we have learned that only an official registry is needed. (We also saw that the USDA agricultural experts struggled, as we had, with the meaning of "breed"!) And then there's that elephant in the room: the often-unspoken notion that referring to a goat as registered in a "breed" could add to its sale price. It would, of course, not add a thing to its true value. The vast majority of high-quality goats would not be registered in the breed and the buyer of the goat would not be guaranteed that the goat's progeny would be qualified for registry. We would be inflating prices artificially, I think, and that makes me think about the crazy things alpaca owners tried to do. I don't want to emulate that.

Of course, I wish one could make money raising cashmere goats. Perhaps we should talk about the financial aspects of our passion in another Hoofprints series. Meanwhile, however, I think we would be unwise to do anything to imply that a given goat – whose annual cashmere production does not pay for her upkeep and who does not automatically produce "purebred" offspring – is worth vast amounts just because she is in a registry with a breed name attached to it.

#### 2. The database and its relationship to a breed

The CGA Cashmere Goat database will be used as a registry for goats meeting the standards set for what are often called "North American Cashmere Goats". Just as the founders of ECA took great care to forbid the use of the term "purebred" in the by-laws, CGA members agreed that our registry would be an open one. No goat will be registered simply because of its pedigree.

Registries are not always associated with breeds, and the CGA database/registry can serve its purpose well without NACG being established as a breed. Animals can belong to more than one registry but are associated with just one breed. Horses of varying breeds, for example, can be included in a registry for palominos or pintos. Their entry into the latter registries signifies that they have certain characteristics (color, in this case). I think our registry is a good fit for this sort of role – signifying that an animal in the registry has been certified as exhibiting the qualities required in the CGA standard for cashmere goats. This way, there would be no conflict or confusion about a registered Kiko, Pygora, or Boer goat that produces qualifying cashmere, and we could welcome them into our registry.

Maintaining our registry without an associated breed designation is in keeping with its designation as an open registry. To do otherwise could easily lead to misunderstandings, given the public's perception of the word "breed". Even assigning the name "North American Cashmere Goats" to our animals can be risky. (The Canadian Cashmere Producers also refer to their standards as a "breed" standard, but they do not use a label like North American Cashmere Goat, which carries the subtle implication of a breed.) Transferring the NACG label from the standards to our goats could further mislead members and individuals purchasing our goats. Now that we will be justified in calling goats "registered" if they are certified as such in the CGA database, it would be easy for a buyer to misinterpret the label and assume that they have purchased a "purebred" animal guaranteed to produce offspring of the same breed.

We should remember, too, that we have set up our registry to certify goats as registered based only on their fiber qualities. To do otherwise would limit entrants to the small (and shrinking) number of goats who participate in live goat shows. This does mean, however, that our registry is inherently limited. It fails to represent the opening sentence in our standard, which states that conformation represents 50% of values on which our goats are judged, and the rules do not prevent us from registering a goat with significant conformation flaws based solely upon its fleece.

#### 3. The suitability of cashmere goats as a breed

Typically, new breeds are developed by crossing animals from two existing breeds and following the consistency of their offspring over multiple generations. We can't do that and would instead be defining a breed based on a set of characteristics that could be displayed by representatives of many existing goat breeds. I think one only has to look around at a CGA show to see the challenges we would face in making a case for a breed. Our goats come in assorted colors and sizes, have solid coats and badger patterns, long guard hair and short guard hair, and their ears and horns present distinct variations. Two white goats can produce a black kid. It's one of the things I love about cashmere goats.

#### 4. "Our" goats vs. cashmere-producing goats everywhere

I know that much has been made of the fact that the CGA standard includes a third element – fiber length – not specified in the standard for cashmere that is accepted internationally and used by the CCMI. It's a valid distinction, but I don't think we should suggest that the goats in our registry are superior to cashmere goats around the world. The "North American" label seemed logical, perhaps, when the standard was being documented, but will Nora Kravis (a long-time CGA member living in Italy) feel welcome to submit lab test results on her goats and have them become North American Cashmere Goats? Do we want to exclude people outside of North America? Our small numbers already make it difficult to ensure genetic diversity, and I fear that further isolating ourselves from goat genetics around the world is counter-productive. Admittedly, the U.S. government already makes it darn hard to expand our gene pool. I think we should be fighting that, however, rather than reinforcing our limitations by labelling our animals as representatives of a unique breed.

#### 5. The risks of defining a breed

Since the establishment of a breed (and the identification of our database as its official registry) is appealing to many, I have to anticipate the question, "But what's the harm?". Some aspects of having a breed may seem benign, but I think the risks outweigh the benefits. We should consider that CGA's sponsorship of a breed creation could endanger our current claim that we are primarily an educational organization and therefore eligible for 501©3 status – not necessarily a problem, but a consideration that might require organizational changes. The public perception of breed terminology could lead to false expectations and misunderstandings, since the vast majority of breed registries are closed registries. Let's continue to focus on improving our animals, teaching people about them, and helping new producers find good stock. We don't need a breed label for any that.

Is your Keurig machine self-cleaning? Becky Bemus seems to have found a perfect service for her machine, thanks to RWF Onyx.



### CHANGING OF THE GUARD ON THE HOOFPRINTS STAFF

Somehow, I doubt that I need to inform everyone that there has been a change in the "editorial staff" for Hoofprints. Happily, Maggie is still running things as editor-in-chief, but Becky is taking a well-deserved break from her role as co-editor and layout specialist. I joined them last year to help review submissions, and now I am taking over responsibility for the HP layout. Becky and Maggie have taken Hoofprints to a new level in the last few years, and I am thoroughly intimidated at the prospect of taking over any part of their work.

So bear with me, please, as I learn to use new software, and I hope you will join me in thanking Becky for her work. She likes to remain below the radar, I know, so there won't be any balloons or fancy cakes or fireworks in her honor, but we owe her some serious gratitude for her role in keeping Hoofprints going and making it absolutely gorgeous. How far we have come from our early days!

By the way, collecting and reviewing content for a newsletter works best when it is a group activity, with multiple points of view and multiple sets of eyes to catch typos. If you are interested in working with Maggie and me, please don't be shy.



#### Hulse Hill Farm Authentic Farm Stay Experience



Hike with cashmere goats Harvest farm fresh vegetables and eggs for meals April/May help comb out cashmere goats Assist with morning and evening farm chores





Visit us at **hulsehillfarm.com** Private suite/bath with views of the farm Located in the Leatherstocking Region

Live, Laugh & Love on the Farm



HPF Quandary posing in better weather

#### Support us by joining a committee. Contact the following chairs to join.

Membership: Christine McBrearty-Hulse <a href="mcbrearty3@yahoo.com">mcbrearty3@yahoo.com</a> Jana Dengler <a href="mailto:Jana@stoneharvestfarm.com">Jana@stoneharvestfarm.com</a>Fundraising: Christine McBrearty-Hulse <a href="mcbrearty3@yahoo.com">mcbrearty3@yahoo.com</a> Show: Sister Mary Elizabeth: <a href="mailto:maryelizabethcsm@aol.com">maryelizabethcsm@aol.com</a>Judging Clinic: Wendy Pieh <a href="mailto:wpieh@lincoln.midcoast.com">wpieh@lincoln.midcoast.com</a> Archives: Ann Taylor <a href="mailto:astraylor@charter.net">astraylor@charter.net</a>Website: Noreen Rollins <a href="mailto:nikkinomar@yahoo.com">nikkinomar@yahoo.com</a> Coat Color: Yvonne Taylor <a href="mailto:yvonne.tayor@mygait.com">yvonne.tayor@mygait.com</a>Meat and Database: Maryanne Reynolds <a href="mailto:maryanne@stoneharvestfarm.com">maryanne@stoneharvestfarm.com</a>

## A BRIEF OVERVIEW OF LINE BREEDING AND WHY PEDIGREES ARE IMPORTANT

By Maggie Porter

NB: This is not a technical article, however, a basic understanding of Mendelian inheritance would be helpful. Genetics terms are defined in the glossary at the end.

Scientists and farmers have tinkered with genetics and selective breeding programs for centuries, to create better corn, dairy cows, laying hens and so on. Many times farmers succeed, with observable improvement in the trait(s) they're selecting for. For example, the amount of milk dairy cows produce today dwarfs the production of 100 years ago. Much of this is due to a better understanding of bovine genetics and artificial insemination. Breeding dairy cows is so advanced that dairy farmers can purchase bull semen on-line, in the comfort of their homes, selecting for particular traits such as health, fertility, udder capacity, milk production, or milk fat, to name a few.

Artificial insemination is rare among cashmere goat farmers, but this past year at least one CGA member imported buck semen from Australia and New Zealand. This may well lead to improved genetics in US cashmere goats while avoiding issues of intense inbreeding. Most of us, however, work with the genetics carried by our own animals, using some form of linebreeding. We identify traits to improve upon, and then pen closely related individuals together in hopes of achieving our breeding objectives.

Sometimes, unfortunately, selective breeding backfires: there are, to cite one example, downsides to superabundant milk production from one cow. Her lateral and medial suspensory ligaments groan under the weight of a grotesquely large udder. Fertility can be impacted, because so much of the cow's energy is devoted to making milk - there's nothing left over for ovulation and embryo growth. Playing with genes, in short, is more complicated than it might appear. An understanding of how genes "work," as well as an awareness that unintended consequences can arise, is helpful before selectively breeding one's animals.

Most of us have heard of Gregor Mendel, the 19<sup>th</sup> century monk who discovered the fundamental laws of inheritance by experimenting with sweet peas. Another lesser known, but important, contributor to animal genetics is Jay Laurence Lush, considered the father of scientific animal breeding, His 1937 book, <u>Animal Breeding Plans</u>, is a must-read for those interested in the history of breeding and can be downloaded free off the Internet.

Central to Lush's work is the proposition that farmers not breed based solely on how an animal looks (its phenotype), but on what is known about its family and, by extension, its genes (its genotype). Genotypes can be extrapolated from pedigrees and quantitative statistics. It's not an exact science - there's never 100% certainty of outcome – but the closer a farmer comes to pinpointing her animals' genotypes the better chance she has of successful breeding regimes.

|                   |                  |                   | Willa<br>xx<br>pp |                |
|-------------------|------------------|-------------------|-------------------|----------------|
|                   |                  | Sally<br>Xx<br>Pp |                   | Mo<br>Xx<br>Pp |
|                   | Lois<br>Xx<br>Pp |                   | Mo<br>Xx<br>Pp    |                |
| Olive<br>Xx<br>Pp |                  | Mo<br>Xx<br>Pp    |                   |                |

The pedigree above, with the example given below, illustrates why Dr. Lush advised against breeding animals based primarily on what they look like.

Example: a cashmere goat farmer wants her entire herd to have white guard hair. She decides to duplicate the linebreeding pedigree above. Her buck, "Mo," has white guard hair, so she breeds him to "Olive," a doe with white guard hair. The farmer has no information about Mo's or Olive's forebears with regard to coat color or any other trait.

Mo and Olive are put in a stall together, and come spring Olive produces "Lois" a healthy doeling with white guard hair.

The farmer, following the pedigree chart, next breeds Lois to Mo, Lois' own father. And voila! Come spring a robust "Sally" pops out of Lois.

Finally, the farmer breeds Mo to Sally, his granddaughter. This time little Willa is born – with red guard hair and a parrot mouth.

#### What just happened?

When Mo and Olive were originally bred, they could've produced a red, parrot-mouthed Lois right off the bat. They also could have produced a redcoated Lois without the parrot mouth, or a parrotmouthed Lois with white guard hair. Likewise, the Mo/Lois union could've produced a red, parrotmouthed Sally, or a red, normal-mouthed Sally or a parrot-mouthed, white Sally. The farmer got lucky with Lois and Sally in that the recessive genes for red guard hair and parrot remained hidden (and theoretically could've remained hidden for many more generations).

How did Willa's phenotype (red guard hair and parrot mouth) come about? Two sets of recessives genes passing down from the original Mo/Olive union were in play. Consequently, poor Willa inherited a recessive gene for red guard hair – which some goat farmers exploit because they want red coated animals - from each parent, along with a recessive gene for parrot mouth from each parent.

Animals have chromosomes carrying genetic information in the form of genes. During conception, a goat embryo inherits two copies of the same gene for each heritable trait: one copy comes from the doe, the other from the buck. The competing genes are called "alleles." Only one allele for a given trait will be expressed when the kid is born (a goat can't have both wattles and no wattles). The unexpressed allele doesn't vanish; it remains part of the goat's genome and can be passed on and expressed in future generations if conditions are right.

Because Mo and Olive have white coats, but ultimately produced a great- granddaughter with a red coat, we know with some certainty that they are both heterozygous (Xx) for coat color. If either Mo or Olive were homozygous for red (xx), then he/she would have red guard hair. But they have white guard hair, so we know they both have to carry an X allele.

If either Mo or Olive were homozygous for white coat color (XX), and the other heterozygous for white coat color (Xx), then there couldn't have been a second "x" to pass on to Lois to pass on to Sally who, in turn, passed it on to Willa.

An identical analysis can be made with regard to Willa's parrot mouth. Mo and Olive are more likely than not to be heterozygous for the pronounced overbite trait, as is their daughter, Lois, and granddaughter, Sally.

Similar "bad" results may occur again on this farm, given that the farmer lacks pedigrees for her herd. Breeding animals based on physical appearance can be compared to the captain of a seafaring ship not understanding that 90% of the iceberg on the horizon is actually under water. If the farmer could go back five or six generations she might discover the parrot mouth and/or red guard hair traits, which might lead to a wiser breeding plan.

The science of genetics is based on math and probability. Close linebreeding without pedigrees is a chancy business. Even with pedigrees, there are still "wild cards" in breeding that are difficult to control: the rare mutation can pop up; pleiotropy (when a single gene produces two or more unrelated effects) can be in play; or epistasis (the suppression of one gene by another) can also be a factor.

This article, as stated earlier, is not comprehensive. There will be more articles on breeding in future Hoof Prints, delving into more nuanced aspects of livestock genetics. Questions, comments or experiences readers have regarding breeding would be of interest to all of us. If you are willing to share, please send your story to Maggie Porter at constantine.maggie@gmail.com

GLOSSARY - definitions from the Merriam-Webster Dictionary

**Inbreeding** - the interbreeding of closely related individuals especially to preserve and fix desirable characters of and to eliminate unfavorable characters from a stock — compare linebreeding, outbreeding.

**Linebreeding** - the interbreeding of individuals within a particular line of descent usually to perpetuate desirable characters

**Phenotype** - the observable properties of an organism that are produced by the interaction of the genotype and the environment

**Genotype** - all or part of the genetic constitution of an individual or group

**Chromosome** - any of the rod-shaped or threadlike DNA containing structures of cellular organisms that are located in the nucleus of eukaryotes, are usually ring-shaped in prokaryotes (such as bacteria), and contain all or most of the genes of the organism

**Gene** - a specific sequence of nucleotides in DNA or RNA that is located usually on a chromosome and that is the functional unit of inheritance controlling the

transmission and expression of one or more traits by specifying the structure of particular polypeptide and especially a protein or controlling the function of other genetic material

Allele - any of the alternative forms of a gene that may occur at a given locus

**Genome** - *broadly* : the genetic material of an organism

**Homozygous** - having the two genes at corresponding loci on homologous chromosomes identical for one or more loci

**Heterozygous** - having the two alleles at corresponding loci on homologous chromosomes different for one or more loci

**Pleiotropy** - the phenomenon of a single gene influencing two or more distinct phenotypic traits **Epistasis** - suppression of the effect of a gene by a nonallelic gene

eve (ashmere (eals: Show the \*\*rld \*\*th (() merch. A percentage of every item purchased through our online CASHMERES Zazzle shop goes directly to CGA programs. As a volunteer-led organization... we are so grateful for your support! 

22

If it cannot swallow, though, then tube-feeding is essential. It is a scary situation, especially the first time around, and we should all have the equipment, knowledge, and confidence needed to save a kid in this condition. When I first encountered the problem, I found an article in Meat Goat News that was reassuring, giving me lots of things to double-check during the process. The author, Dr. Coni Ross, gave us permission to reprint it in Hoofprints in 2002, and I think another run of the advice might be handy now, with the kidding season just around the corner for most of us.

> How to Tube Feed a Kid Goat **Bv** Coni Ross

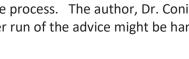
Supplies: Feeding tube and 60 cc syringe with irrigation tip or a 50 cc bulb syringe One cup warm water Colostrum, formula, or electrolytes, as needed

**Tube-feeding a Kid** 

- 1. Measure from the kid's nose to the center of the ear, to the chest floor in the front, with the tube. Mark the tube from the tip (the end you insert), as this is the maximum depth you may insert the tube.
- 2. Hold the kid securely, wet the tip of the tube with water, then insert from the center of the kid's mouth, over the tongue and down its throat to the mark.
- 3. Check: If the kid is awake, it should be able to cry around the tube. If it can cry as you insert the tube, you are probably in the esophagus and not the trachea (windpipe). If the kid can cry and suddenly can't as you are inserting the tube, withdraw the tube until it can cry, and reinsert to the mark.
- 4. Put the syringe fitting end of the tube in the cup of water. If you blow bubbles, start over you are in the trachea. If no bubbles appear, proceed to the next step.
- 5. Smell the end of the tube. Unless the kid is a newborn, you should smell rumen odors.
- 6. Listen! Do you hear breath sounds through the tube? If so, withdraw it and start over.
- 7. Fit the syringe to the tube and put 3-5 cc of water in the syringe. If the tube is in the trachea by mistake, the kid should cough.

\*\* Note: The completely flat, comatose kid may not cough or cry out at all. This kid is in imminent danger of dying. His reflexes may not work at all. You should still be able to check for bubbles and listen for breath sounds.





Anyone who raises goats will eventually be faced with a newborn kid who cannot nurse. If the kid can swallow, then milking a little

colostrum out of the mom and squirting it down the kid's throat is an easy solution.

When you have completed your checks, pour five cc of water in the tube and observe for coughing again. The water should flow in. If it doesn't, withdraw the tube about two inches, then check for flow. Sometimes the tube is just kinked or up against the wall of the stomach. Reinsert to the mark, and check. If the water flows, then pour 2 - 3 ounces of the intended fluid into the syringe and permit it to "gravity flow" in, then rinse with 10 cc of water. Withdraw the tube. Never withdraw the tube without rinsing, or you may cause the kid to aspirate milk. A little water won't hurt, it will be absorbed. Milk will cause pneumonia. Put the kid in an upright position, not flat on its side.



Mom and healthy kid bonding on Giulia's farm on an Italian hillside

## Welcome New CGA Members !

| Michael & Laurie Abbatello | Patriot Ranch       | Wyoming                |  |
|----------------------------|---------------------|------------------------|--|
| Afton Forred               |                     | Harper, Kansas         |  |
| Mary Marchewka             | Dough Haven Farm    | Schaghticoke, New York |  |
| Karen Hein                 | Goat Heaven         | Jacksonville, Vermont  |  |
| Liz Gustafson              | Twin Oaks           | Pryor, Oklahoma        |  |
| Michael Pierce             | Ramshorn Farms      | Allenwood, New Jersey  |  |
| Diana Thomas               |                     | Emmaus, Pennsylvania   |  |
| Ruth Terry                 | Lost Marbles        | Billings, Montana      |  |
| Lorelle and Chris Wood     | Copperwood Cashmere | Kansas                 |  |
| Kathy and Francis Ashland  | Hens and Hounds     | Efland, NC             |  |

### **THOUGHTS ON THE BREED ISSUE**

**BY YVONNE TAYLOR** 

In pondering the breed issue and clicking on keys I have come to the conclusion that anything that can be registered can be called a "breed". A lot of terms are thrown around - breed type, true breed, pedigreed breed, and then there are color breeds, at least in horses. The color breeds are defined by their color, not surprisingly, and you would not expect them to have to prove that their ancestors were this or that. The concept would be similar to that of our registered Cashmere goats - as long as they carry cashmere and are of good conformation, they are included in the registry, and can therefore be called a breed.

The only color breed that pays no attention to pedigree is the Palomino, and that is only in the older of the two Palomino registries, the Palomino Horse Association. The newer registry, Palomino Horse Breeders of America, requires the Palomino to also be registered with a "recognized" (another term!) horse breed, for example the American Quarter Horse. The Pintos come close to being a non-pedigreed color breed, but it is complicated. For miniatures, ponies, geldings and mares just about anything goes - except no draft horse characteristics, please! The miniature stallions, however, have to belong to one of a number of recognized breeds.

See what I mean, when I say that anything that can be registered can be called a breed!

As far as I can tell, the other color breeds (Paints, Appaloosas etc.) have to be cross registered with a recognized breed. One has the impression that the color breed designation is a bit inferior to the other breed designations, because in the latter the horses "breed true" (until they get into trouble with inbreeding). They are "pure bred", and this has a certain snob value. Cashmere Goat breeders have no need for this snobbishness - we already know that if a goat qualifies for our registry, she is a fabulous creature, arguably producing the finest fiber in the world.

If somebody is concerned about whether their recently acquired goats will "breed true", that is, produce good cashmere, they can make sure, via our excellent registry, that the ancestors of their goats also produced good cashmere.

So I am suggesting that the North American Cashmere Goat is a breed, since the goats can be registered with certain characteristics. They are probably different from Australian goats, who are often bred for absence of guard hair, and from the various Asian goats, who have been bred in relative geographical isolation.

The question is: Would an Australian Cashmere Goat, who met our criteria, be accepted into our registry? Fortunately, the prospect of this issue arising is rather slim.

## IS THIS THE RIGHT TIME TO ESTABLISH A NORTH AMERICAN CASHMERE GOAT BREED?

By MAGGIE PORTER

I am opposed to the CGA forming a "North American Cashmere Goat" breed at this point in time. I am concerned that by giving North American cashmere goats official breed status people might take up cashmere goat farming thinking one can easily recognize a return on one's financial investment. Otherwise, why the fancy label? Farming is a difficult, labor-intensive endeavor, with narrow profit margins. Cashmere farming is more so, given that even the best animals only produce 4-6 ounces of ready-to-sell fiber. It further troubles me that such status might give cashmere goat sellers a reason to charge more money for their animals.

Our cashmere industry is not as evolved as Australia's. We don't have a fraction of the cashmere bearing goats found in countries such as China or Mongolia. North America has relatively few cashmere goats, spread over a very large geographical area, and even fewer affordable dehairing/spinning facilities. If we want to attract new cashmere goat farmers we need to find a way to reduce the sticker shock that some (most?) of us experience when we first learn how much mills charge to process raw fiber.

I've raised cashmere goats in New Hampshire for over a decade. It has been rewarding, because it's a hobby and my livelihood doesn't depend on it. Realistically, it has been an economic train wreck. Producing cashmere is tricky because there's no inexpensive way of dehairing or spinning it into skeins (hand dehairing for most of us is not an option). Were we to have reliable and affordable mills that processed fiber in a timely fashion I might think differently about this "breed/no breed" question. Unfortunately, it seems as if the number of mills that dehair fiber is dwindling, exacerbating the situation (I welcome news to the contrary), and few, if any of us, can afford to purchase and operate our own mini-mill.

I've never seen another cashmere farmer's books, but I'd be surprised if the numbers – in terms of percentages - were radically different from mine. For example, in 2017 I sent 7.9 pounds of raw cashmere to a mill on the east coast of the US. The mill charged \$672.00 dollars to wash, de-hair and skein the fiber. I received – over one year after sending my fiber to the mill! – 4.2 pounds of processed cashmere in return.

While waiting for the mill to return my yarn, the goats needed to be fed and cared for: hay came to \$1,460.00; grain, CDT serum and de-wormers added another \$250.00 or so. In addition, I spent countless hours on daily animal husbandry chores, pasture maintenance, stacking bales of hay, combing fleece, trimming hooves and so on; were I to hire someone to do all this my operation would be further under water than it already is.

Note that I don't include among my expenses the original cost paid for my animals, the purchase and installation of pasture fencing, the stock pump in the barn, or any other depreciable expenses. There were no goats slaughtered on our farm in 2018, so there was no abattoir expense or, by extension, any meat or pelt sales to offset the slaughterhouse fee. As an aside: the profit margin for goat meat production is better than that for cashmere production, but the slaughterhouse expense is still a considerable expense. Profit margins per goat can be improved by exploiting its dual-purpose nature. Encouraging as many people as possible to put their animals into the database can help identify superior genetics, so that our goats might one day be a sustainable commodity.

There are further monetary expenses, but my point can be made without them. Basically, to end up with 4.2 pounds of skeined yarn in 2018 I had to fork out over \$2,382.00.

Assume that cashmere yarn sells for, on average, \$30/ounce. My cashmere came to 66 ounces, so the expected revenue from selling would be \$1,980.00.

Simple arithmetic shows us that \$2,382.00 (expense) - \$1,980.00 (revenue) yields a net loss of \$402.00.

Some proponents of creating a new breed claim this could lead to higher sales prices for our goats. Given the rudimentary financial statement above, with the high cost of sending fiber to a mill, do we really want to make animals more expensive for people just getting into cashmere goat farming? To have a fighting chance of making money one needs more, rather than fewer, goats. If a farmer purchases ten "official" North American Cashmere Goats for \$10,000 (\$1,000 each), she can anticipate 60 ounces of dehaired and spun fiber after a year or so (this is an optimistic projection - some animals have "off" years in terms of fiber volume and/or quality). The farmer then needs to pay the mill for dehairing and skeining; let's say this comes to \$300. So the cost of goats (\$10,000) plus the cost of the mill (\$300) plus her other costs (see above) will completely outweigh the \$1,800 her yarn might fetch.

Because the CGA is a nonprofit entity, we can't officially discuss how to make money for personal gain – but it is on our minds, so I mention it for the sake of complete transparency.

The second problem I have with creating a new breed is one of timing (it's too soon) as well as logistics: how would the CGA go about persuading cashmere producers throughout Canada or the US who are unaffiliated with the CGA or NWCA that creating such a breed is a smart idea? How do we even find out who these unaffiliated producers are? There are large cashmere goat ranches throughout Canada and Texas and California and Colorado (to name a few places) that must have gorgeous animals. How can the CGA, with a straight face, announce the formation of a new breed without the input of these other farms?

My suggestion would be to put all talk of a new breed on hold. Figure out an affordable way to scour, card, dehair and skein our fiber. We could also switch from being a nonprofit, tax-exempt organization to a producers' association, especially if the majority of CGA members favor the creation of an official North American Cashmere Goat breed and want an association to back up their profitmaking and marketing endeavors. Finally, let's aggressively seek out non-CGA and non-NWCA cashmere goat owners and have them enter their goats into our soon-to-be-on-line database. This will give some idea how serious other North American goat owners throughout our country and Canada are about registries and pedigrees. Let's create the best possible data set first, and have the conversation about an official breed at a later time.

If Providence did beards devise, To prove the wearers of them wise, A fulsome goat would then, by nature, Excel each other human creature"

Thomas D'Urfey







### WILLIAM WINDSOR II

William Windsor II is the current mascot of the Royal Welch Fusiliers. The Fusiliers began parading a goat in 1777. Then, in 1844 Queen Victoria gave the unit its first "royal" goat. William II is not from the "royal" herd in Whipsnade Zoo in Dunstable, Britain, rather he hails from the Great Orme at Llandudno, a mountainous region in northern Wales.

Check Wikipedia for "William Windsor (goat)" for more history about this wonderful military tradition, including a wild goat's appearance at the Battle of Bunker Hill....

Of especial interest is William II's predecessor's demotion due to inappropriate behavior during Queen Elizabeth's birthday celebration while he was on active duty in Cyprus. You can't make this stuff up!



RWf Oscar helping out in the kitchen – chiefly by "kneading" an already baked loaf of bread.....



Wondering about the proper feed ration for your does as they approach parturition?

The issue came up recently on the list-serve maintained by Cornell University, and respondents noted that overfeeding in late pregnancy can result in overly large, difficult-to-deliver kids. Feed requirements do go up in the last month or two, but not as much as they do when the mom begins lactation. If we boost rations too soon, the extra nutrition will go primarily to the fetus. While we do need to take care to prevent ketosis, we can encourage exercise for those lumbering mothers, keep a close eye on them, and offer them less bulky food that is high in fermentable fiber. Langston University has a Goat Ration Balancer we can reference at http://www.luresext.edu/?g=content/nutrient-requirement-calculator-and-ration-balancer



Save the Date !

2019 Northwest Cashmere Association & Cashmere Goat Association

North American Cashmere Goat Fleece Show Wendy Pieh, Fleece Judge October 4, 2019

in conjunction with the

2019 Cashmere Goat Association New England North American Cashmere Goat Show Wendy Pieh, Show Judge October 5-6, 2019 at the Vermont Sheep and Wool Festival Tunbridge VT

All qualifying fleeces eligible for entry in the CGA database. Details about show and fleece submission available soon.

Yes, we know you've been busy, and dealing with online forms can be a pain, but please don't hide your head. Not a good long-term solution. Quite a few of our 2018 members have not yet renewed their memberships for 2019, although we do have some great *new* members. C'mon - it's not hard and you don't want this to be your very last issue of Hoofprints, do you?



If you can't remember whether you've renewed, please check with Christine McBrearty-Hulse, our secretary and membership chairman. Unfortunately, the list of members on our website is out of date, so please don't count on that.

If you are debating the value of a membership.... Please consider:

- Hoofprints!
- A ready cadre of willing and supportive cashmere goat farmers, many with decades of experience
- Having a voice in important decisions supporting cashmere goat farming in the U.S. and Canada
- Attending valuable clinics and workshops at reduced rates
- Having a front-row seat on the development of the CGA Cashmere Goat Database and registry, with reduced registry fees in the future

## Farms and Herd codes.....

### Can you help us identify some lost folks?

Everyone probably knows now that the CGA database is serving as the repository for herd codes, and new herd codes can be requested through a note to <u>hermitpond@gmail.com</u>. Those of us who have been reviewing the farm list option on the interface to the database have noticed that many of the herd codes and farms have an unknown status – neither active not inactive. We would like to identify all of the active farms and label them appropriately, so letters are being sent to any farm for which we have an address. The herd codes with no associated address are listed below, with whatever farm names or owner names we have for them. If you can identify any of them as active or inactive, please send the information to <u>hermitpond@gmail.com</u>, and the database will be updated. Thank you!

| AA   | AUBERGINE ACRES                            | COLLEEN             | MACE                      |                  |    |
|------|--|---------------------|---------------------------|------------------|----|
| ABC  |  | J or V              | FUNDERBURG                | CAMPWOOD         | ТΧ |
| AMC  |  | EDDIE               | MARQUARDT                 | KALISPELL        | MT |
| ANI  |  | BAZIL               | ANDERSON                  | WESTBY           | MT |
| AOK  |  | ROBERT              | SUMMERS                   | BULVERDE         | ТΧ |
| BBF  |  | KIMBERLY            | RORSTROM-<br>WITTIG       |                  |    |
| BCR  |  | BEA                 | ROBERTS                   | Jefferson        | CO |
| BDD  |  | BOB                 | DILLARD                   | Refugio          | ТΧ |
| BES  | BESCO                                      | ROBERT              | STONE                     | Zephyr           | ТΧ |
| BFF  | BLUEFIELD FARM                             | JOY                 | MACY                      |                  |    |
| BFS  |  | BERNARD             | SYFAN                     | Mountain<br>Home | тх |
| BMC  | Blue Mountian Cashmere                     | MISSY               | SCOTT                     | Fork Union       | VA |
| BRF  |  | JUDIE               | HANSEN                    |                  |    |
| ССВ  |  | PAUL                | SHELLEW                   | LEBANON          | СТ |
| ссс  | CASCADE CASHMERE COMPANY                   | JUDITH              | HARALSONand<br>RICHARDSON | Silver Creek     | WA |
| CCG  |  | CHARLIE             | GRAHAM                    | Eden             | ТХ |
| ССР  | C+C CASHMERE PRODUCERS                     | HAMEL and CHANTAL   | SISSON and<br>CHERYL      |                  |    |
| CDC  |  | CAROLINE            | DOWELL                    | Austin           | ТΧ |
| CDLF | CLAIR DE LUNE FARM                         | ELIZABETH           | SCOTT                     | Larkspur         | CO |
| CFI  | CORNERSTONE FARM<br>INTERNATIONAL CASHMERE | CHRIS and CHRISTINA | SILVER                    |                  |    |
| CFR  |  | JOANNE              | LEIGH                     | Gresham          | OR |
| CGM  |  | CHRIS               | MAURER                    | Dutton           | MT |
| СНС  | CHAMPAGNE CASHMERE                         | HOCHEE              | FAULKNER                  | Bend             | OR |
| CLC  |  | CAROLINE            | CHURCHILL                 | League City      | ΤХ |

| CMFF | CASH MEARS FARM FIBER    | MARY             | MEARS       | Delphi      | IN |
|------|--------------------------|------------------|-------------|-------------|----|
| CMM  |                          | GEORGE           | WOOD        | Ten Sleep   | WY |
| COR  |                          | RANDY            | HARTMAN     | Grandisland | NE |
| CWC  | CANYON COUNTRY CASHMERE  | CYNTHIA          | WALTON      | Naturita    | CO |
| CWL  |                          | CARROLL          | LOONEY      | Menard      | ТХ |
|      |                          |                  |             | Dripping    |    |
| CYF  |                          | KAREN            | YEAMAN      | Springs     | тх |
| DCC  | DAKOTA CASHMERE          | NANCY            | SHOWALTER   | Pasco       | WA |
| DDD  |                          | JOSEPH           | DURBIN      | Grandview   | ТХ |
| DLF  |                          | DAVE             | MCADOO      | Alvarado    | тх |
| DLG  |                          | DON              | HUSS        | Menard      | ТХ |
| DOD  |                          | DENNIS A.        | DODSON JR.  | Bigalow     | MO |
| DRA  |                          | MARGARET         | DRAKE       | Glen Rose   | ТХ |
| DSH  |                          | MARNIE           | BRODERICK   | Mt. Horeb   | WI |
| DVFF | DUKE'S VALLEY FIBRE FARM | JOE and FRAN     | MAZZARA     |             | OR |
| DWR  | DEVINE WEST RANCH        | JAMIE and MARGOT | ROODE       |             | NB |
| ECF  | E. C. FARM               | CARROL and LIZ   | HILL        | Galax       | VA |
| ELK  |                          | RUSS             | NELSON      | Larkspur    | СО |
| FBF  | FOGGY BOTTOM FARM        | MARILEE          | WILLIAMSON  | Buchanan    | VA |
| FES  |                          | BEVERLY          | FESENMEYER  | Longmont    | СО |
| FQC  |                          | CYNTHIA          | ROSS        | Falkland    | BC |
| FRM  |                          | SANDRA           | СОХ         | Barnsdall   | ОК |
| FSF  |                          | WAYNE            | BUTLER      | Bangor      | PA |
| FTM  |                          | SANDRA           | COX         | Barnsdall   | ОК |
| FUZ  |                          | FUZZY            | HARMON      | Marshall    | ТХ |
| GFC  |                          | MONTE            | GRIFFIN     | La Mesa     | ТХ |
| GMF  | GOLD MOUNTAIN FARMS      | SANDIE           | CLARK       |             |    |
| HAV  |                          | JOHN             | ROSE        | Linden      | MI |
| HCC  |                          | ROSEMARY         | PATTERSON   | Silt        | CO |
| HCF  | HILLCREST CASHMERE FARM  | PEPPER and TERRY | FEWEL       | Zillah      | WA |
| HHC  | HEIDI HILLS              | PRISCILLA        | MARTIN      | West Salem  | WI |
| HMS  |                          | HARRY            | STRUDWICK   | Nevada City | CA |
| IGV  | NEW ZEALAND              | GARRICK          | BATTEN      |             |    |
| JBR  |                          | ROCKY            | CASTLEBERRY | Lampasa     | ТХ |
| JBT  |                          | JOE AND FRAN     | TIPTON      | Menard      | ТХ |
| JCG  | BEST RANCH               | JOACHIM          | GREVEL      | Mullin      | ТХ |
| JDN  |                          | JANET            | JORDAN      | Mason       | ТХ |
| JDW  |                          | JOHN             | WINGFIELD   | Terrell     | ΤX |
| JKC  |                          | RED              | NYLAND      | Denison     | ΤX |
| JOR  | Coal Creek Ranch         | Michelle         | Jordanov    |             | BC |
| JPH  |                          | JIM              | HALE        | Brownfield  | ΤХ |
| JRB  |                          | ROCKY            | CASTLEBERRY | Lampasa     | ΤХ |
| JZC  |                          | ZANA R.          | CROSBY      | Ocala       | FL |

www.cashmeregoatassociation.org

| ккк  |                           | KARLOS            | KOTHMAN        |               |    |
|------|---------------------------|-------------------|----------------|---------------|----|
| KOV  |                           | PAUL              | KOVAR          | Dallas        | ТХ |
| LPC  | L&P SHEEP & GOAT COMPANY  | PLOCHER           | LANDBURG       | Friday Harbor | WA |
| LSC  |                           | ROY               | LARGENT        | Fort Davis    | ТХ |
| MAG  |                           | RANDY             | DUTIEL         | Brandon       | MS |
| MBC  | MILLIKEN BROOK FARM       | LORNE             | BUSH           | S. Acworth    | NH |
| MED  |                           | RAY               | DOIG           | Converse      | ΤХ |
| MGF  | MORGANDALE FARMS          | TRICIA            | PARKS-HOLBROOK | Snohomish     | WA |
| MGR  |                           | FELICIA           | CHEATAM        | Roseburg      | OR |
| MHP  |                           | MATTHEW and HOLLY | PANKRATZ       |               | ON |
| MMC  |                           | JANET             | COMEAU         | Brownfield    | ME |
| MSF  | MOONSHADOW FARM           | LISA and JERRY    | ZIETZ          | Banks         | OR |
|      | CONNER LITTLE FOUR BEAR   |                   |                |               |    |
| NCC  | RANCH                     | CONNER            | NICHOLSON      | Thermoplois   | WY |
| NVC  |                           | JESSIE            | QUAM           | Lovelock      | NV |
| 000  | OREGON CASHMERE COMPANY   | JOYCE             | RUFF           | Yamhill       | OR |
| ODC  | OCEAN DREAM ACRES         | CHRIS and AMANDA  | DAWE           |               | AB |
| OWF  | Ol West Farm              | Barb              | Brooks-Worrell |               | WA |
| PAN  |                           | Tamara            | Stevens        | Hantsport     | NS |
| PBP  | PEBBLEBROOK PASTURES      | SCOTT             | RECORD         |               |    |
| PCC  | LITTLE PUDDING CREEK FARM | PHIL and NANETTE  | MARTIN         | Salem         | OR |
| PFC  | PRINCESS FARMS            | SMITH and MARK    | HARRIS and JO  | Calgary       | AB |
|      |                           |                   | FLAMENT and    |               |    |
| PHF1 | PREFERRED HOBBIES FARMS   | VAN EEDEN and VAN | SANDRINE       |               |    |
| PMA  |                           | PAM               | ΕΝΚΟ           |               |    |
| PMT  |                           | PAUL              | TURNEY         | Eagle Pass    | ТΧ |
| PSV  |                           | LYNN              | HOPKINS        | Bedford       | WY |
| PUR  | Chevrerie Pur Cachemire   | Sara              | Patenaude      | Havelock      | QB |
| RBC  |                           | MARY              | GEHLING        | Walla Walla   | WA |
| RBF  | RED BRIDGE FARMSTEAD      | AMELIA            | BARTO          | Wyomissing    | PA |
| RCC  |                           | GRETA             | KETTLEKAMP     | Pueblo        | CO |
| RCG  | ROYAL CASHMERE GOATS      | Eileen            | Cornwell       | Gardnerville  | NV |
| RDK  |                           | Craig and Lucy    | Raney          |               |    |
| RDR  | RODEO DRIVE RANCH         | LINDA             | HAMMONDS       | Salem         | OR |
| REO  |                           | RIGHARD           | OLIVER         | Kileen        | ΤХ |
| RHR  |                           | MIRIAM            | JONES          | Santa Ynez    | CA |
| RMA  | Red Moon Acres            | Daryl and Kelly   | Murray         | Barriere      | BC |
| RMC  | ROCKY MOUNTAIN CASHMERE   | JOANNE            | GRIFFITH       | Collbran      | CO |
| RR   | RAINBOW RIDGE             |                   |                |               |    |
| RSF  | RAINSHADOW FARM           | MARCIA            | ADAMS          | Kingston      | WA |
| RTF  | RABBIT TREE FARM          | MARILYN           | MERBACH        | Saxonburg     | PA |
| SAB  |                           | SUSAN             | BLOODWORTH     | Sonora        | ΤХ |
| SDR  |                           | JIM               | FISH           | Boone         | IA |

| SGC  |                            | TONIA                   | HOPKINS   | Bedford      | WY |
|------|----------------------------|-------------------------|-----------|--------------|----|
| SOF  |                            | RENATA                  | POPE      | Bangall      | NY |
| SPF  |                            | Keith                   | Roig      | Dalmatia     | PA |
| SRC  |                            | MELODY                  | DRISCOLL  | Blocksburg   | CA |
| SRF  |                            | KEITH                   | ROIG      | Dalmatia     | PA |
| SSC  | SOMERSET CASHMERE          | JULIE                   | BRIMBLE   | Gold Hill    | OR |
| SSR  | Stony Ridge Farm           | Shawn                   | McClellan |              |    |
| STO  |                            | JOHN                    | STOWE     | Belen        | NM |
| STX  |                            | LARRY                   | GRIFFIN   | Roswell      | ТΧ |
| SWC1 |                            | JUDY                    | SCOTT     | Fruita       | CO |
| SWR  | SIERRA WILLOWS RANCH       | LLOYD                   | KIRCHNER  | Reno         | NV |
| TAN  |                            | PAT                     | GERDES    | Duluth       | MN |
| TLC  |                            | MARNE                   | BRODERICH | Horeb        | WI |
|      |                            | DEVENNEY and            |           |              |    |
| TRBS | THREE RANCH BREEDING STOCK | WEGRICH                 | BURBANK   | Grants Pass  | OR |
| TRC  | TAMARACK RANCH             | Ann                     | Wood      | South Vienna | OH |
| TSF  | TREESONG FARM              | PAUL                    | LLOYD     |              | BC |
| UHO  | JOANNE LISA-STRAUCH ?      |                         |           |              |    |
| VSS  |                            | VICTORIA                | PACE      | Burnet       | ТΧ |
| WDC  |                            | LORI                    | BIALIC    | Oroville     | WA |
| WF   |                            | Linda                   | Parry     |              |    |
| WHC  |                            | DEAN                    | JOHNSON   | Stockbridge  | MI |
| WSF  |                            | SALLY                   | FLOCKE    | Morrill      | ME |
| WTC  |                            | LARRY                   | КОҮМ      | Paso         | ТΧ |
| WWR  | WILLOW-WITT RANCH          | SUZANNE and LANITA WITT | WILLOW    | Ashland      | OR |
| XX   | XX Cashmere                | Debbi                   | Walstead  |              |    |
| YBAR | Ybar Ranch                 | James                   | Barton    |              | ТΧ |
| ZOAR | ZOAR FARM                  |                         |           |              |    |

COMING.... In the next issue of Hoofprints:

..... Thoughts on lab testing

- ..... A proposal for consolidating CGA submissions for lab testing
  - ..... Your responses to the breed debate
    - ..... Details on the classes to be offered at the clinic in November
      - ..... Information on the Fleece competition and Goat Show
        - ..... A feature article on your farm ???

## HOOFPRINTS

Editor: Maggie Porter <u>constantine.maggie@gmail.com</u> Layout: Pam Haendle <u>hermitpond@gmail.com</u>

*Hoofprints* is the official newsletter of the Cashmere Goat Association. It is published 3 times per year and sent to all members. If you have comments about articles you've seen in *Hoofprints*, any farm tips, or personal experiences you'd like to share, please send them to us. Please note that Hoofprints is sent electronically.

#### **CGA MEMBERSHIP**

Full individual membership is \$30/year Junior (under 18 years) membership is \$15/year (non-voting)

If you have not filled out a membership application for a year or two, it would be helpful to the association for you to do that. The application can be found under contact information at our website: www.cashmeregoatassociation.org

Send membership and advertising information and checks to: Jana Dengler, 60 Hardwick Road, Petersham, MA 01366. Make checks payable to Cashmere Goat Association or CGA.

#### **CGA Officers:**

President Wendy Pieh 123 Rial Herald Road. Bremen, MN, 04551 wpieh@lincoln.midcoast.com

Secretary Christine McBrearty-Hulse P.O. Box 190 Fly Creek, NY 13337 Mcbrearty3@yahoo.com Vice President Elyse Perambo East Meets West Family Farm 112 Coy Rd Richford VT eastmeetswestfamilyfarm@gmail.com

Treasurer Jana E Dengler 60 Hardwick Road Petersham, MA 01366 jana@stoneharvestfarm.com

Masthead designs provided by Ryan Sweeney, UK - HelpX helper at Roving Winds Farm in May of 2014