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Inside This Issue:

A Message from the President

Spring is on the way - I can tell from the ice formations on the stream I have to cross to get to the little bucks. In the dead of winter the ice is thick and I cannot even hear the water. Now the ice patterns shift daily between the streaming waters. The little bucks greet me on the other side, checking to see if I bring them any evergreens. They are hoping for hemlock, but sometimes they get just pine or fir.

As you will see from articles in Hoof Prints, there is an increasing interest in using trees as animal fodder, particularly for small ruminants. This makes sense from the point of view of sustainability. Most of us don't have enough acreage to provide grass hay for our goats, and the hay we buy - how has it been fertilized? Possibly (or probably) by chemical fertilizers? But substituting leaf hay would take a lot of sheaves and a lot of work, unless somebody finds a way to mechanize it. Something to think about.

The board is making slow, but steady, progress on the data base/registry. We have been discouraged from tracking cosmetic data, like wattles, and been advised to concentrate on traits that increase the value of the animal, like muscle mass and fiber production. While the grown up part of me agrees

with this, there is a part that would like to track those blue-green eyes, the pink nose, the airplane ears, the Elvis Presley



pompadour on the little bucks - I could go on forever. The registry for cuteness. Alas, we are growing up as a cashmere industry, and we have to talk about profitable animals.

But let us never lose the lyrical aspects of raising cashmere goats!

Actually, I am not worried about it. The goats will not let us!

Happy combing and kidding!

Yvonne

DATABASE UPDATE:

The Board is moving forward with plans to launch a database for goats that qualify as a North American Cashmere Goat on their individual merit. The database will store conformation and fiber scores on individual goats and serve as a registry with pedigree information for those goats. Pertinent information, including proposed data fields and input options, has been given to several software developers. The database committee is collecting quotes from the developers for the cost of writing the database program that the CGA would own and operate. Some of you will recall earlier plans for a less robust approach. The scope expanded after one of the Board members identified a potential source of funding. If you are interested in this project and want more information, please contact our president Yvonne Taylor or committee chair Maryanne Reynolds.

TOP GOAT SPOTLIGHT



Tornado

Tornado (US0676) is our Tan Badger buck, born March 3, 2012. He is out of the dam Crocus (US0509/SGF25), who was First Place Does Born in 2005 at the 2006 Virginia State Fair. His sire, Ethan (TFC5059), was Reserve Grand Champion Buck at the 2010 Virginia State Fair. We are

very proud of him for his beautiful badger pelt of excellent quality, long length cashmere.

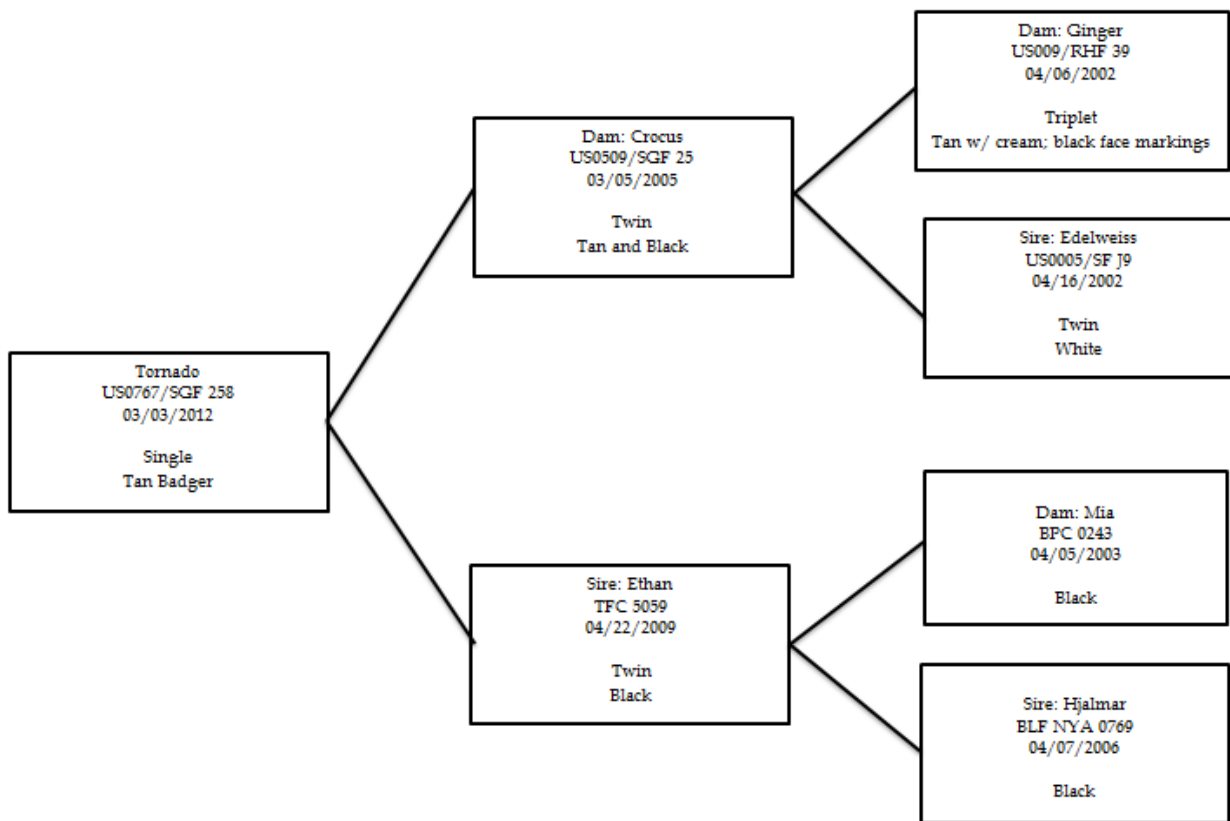
We are honored that Tornado earned Best in Show Fleece at the Canadian Cashmere Producers Association competition. Judges comments were "Gorgeous" "Excellent Style" and "Long Length".

Tornado is delightful to have on the farm. He has a wonderful disposition, being easy to handle, and easy to breed. His conception rate is 100%, and his offspring inherit his lovely fleece traits and good growth rate.

We are thankful to Jane McKinney of Spring Gate Farm for selling us this wonderful buck, as well as the Canadian Cashmere Producers Association and the Cashmere Goat Association for the opportunity to show with them.

Sadly for us, we are looking to sell Tornado to a good home, as there are too many does on the farm now related to him. He is healthy and current on all vaccinations. We hope he will be appreciated, admired and allowed to continue to upgrade future crops of premium Cashmere Goats at his new home.

Snowden Clarke
Orange Hill



CONCERNS ABOUT SANTA CRUZ BIOTECHNOLOGY, INC.

We are monitoring a developing story. The United States Department of Agriculture has filed an internal complaint alleging that “Santa Cruz Biotechnology, Inc.” a biotechnology company headquartered in Dallas, Texas, has willfully violated the Animal Welfare Act, 7 U.S.C. section 2131. The violations allege that the company is responsible for repeated failures to provide minimally-adequate and expeditious veterinary care to goats that it uses for research purposes. No final decision has been made. A hearing before a USDA administrative law judge is scheduled for April 2016.

The journal Nature is also reporting that the goats are no longer at the company’s facility, but their whereabouts are unknown.

See “Thousands of Goats and Rabbits Vanish from Major Biotech Lab,” published at

<http://www.nature.com/news/thousands-of-goats-and-rabbits-vanish-from-major-biotech-lab-1.19411>

(Last accessed 02/28/2016)

An Interview with the President of the Australian Cashmere Growers Association

By Christine McBrearty-Hulse

As president of the Australian Cashmere Growers Association what topics are a concern for the growth of Australia's cashmere and who is the biggest buyer of Australian cashmere?

Our main work at the moment is to get our fibre flowing through the dehairing process and into product again. Australia has quite a good Cashmere dehairer at Cashmere Connections in Bacchus Marsh in Victoria, but they had some structural issues with their business, so we had a hiatus in being able to get our cashmere dehaired. Domestic dehairing is important for Australian Cashmere because we all shear our goats and as a result our fibre is a bit different to dehair than Cashmere that has been combed. We have long experience with dehairers in the UK, Europe and China, that it's really important to have the dehairer set up and calibrated appropriately for Australian fibre as otherwise it can get chopped up into short lengths, fail to be dehaired properly or have excessive losses.

How many cashmere goats are there in Australia and what is the annual production?

Is hard to say, but probably fewer than 10 000 goats producing less than 3 tonnes of dehaired cashmere a year.

What is the average yield per an animal?

The Australian flock is still very variable. People can bring in rangeland goats (that is the preferred name for feral goats), and call them Cashmere. Those animals tend to produce about 50 grams of cashmere at about 16 or 17 microns as adults. The best animals with 30 or 40 years of breeding

behind them are producing 500 to 800 grams of cashmere at 15 to 16 microns. Coarser animals will produce more and finer ones less.

What is the percentage of loss after dehairing and processing?

There are several test houses that will perform a yield test on a shorn fleece. So that is a measure of how much cashmere is in the fleece as a proportion of the total fleece by weight. The dehairer usually recovers 90 percent or more of the anticipated weight.

How much does dehaired spun cashmere sell per an ounce?

We look at the indicator prices on the Schneider's website for a price idea when negotiating prices in Australia. Smaller quantities to home users tend to be sold at higher prices and bale-lots to processors lower.

Is there a preference for color and value attached to color?

White usually commands a price premium of up to 50%. Although home spinners tend to prefer colour.

I was impressed with ACGA research efforts. What has been the biggest revelation that you have discovered about cashmere from research?

There has been loads of research done on Australian Cashmeres. Some really important work by Pattie and Restall in the early days established the genetics for Australian Cashmeres,

more recently work by McGregor established the processing characteristics of Australian Cashmere. McGregor found that our cashmere is actually softer than Cashmeres from traditional origins.

What is a service that your members look for with your associations membership?

Fortunately the Association is financially sound. At the moment we're working hard to get cashmere moving up the processing chain again, so the Association is funding a project to thoroughly document the process from the animals' back though to carded product. Buyers tend to be nervous of purchasing raw cashmere then having it commission dehaired because there are lots of steps and potential costly problems if they get a step wrong. So the council of the Australian Cashmere Growers Association set about getting an expert scientist to document the whole process in terms of how to do it, costs of each step and likely yields and qualities.

Do you have an advisory board of end users of cashmere?

No but we can talk directly to the past and present users. It's quite a small world.

What are you looking for in a quality animal?

I'm looking for maximum production and highest yield of white cashmere from a goat that stays around 15.5 microns for its lifetime.

What is the biggest mistake that you have seen cashmere producers make?

They fail to take advantage of the wealth of research information we have. People have made mistakes chasing long guard hair, extreme fibre curvature or letting their goats get too coarse.

Australia shears fleeces versus combing . What are the pros and cons of these processes?

Shearing is quick and inexpensive, but results in a fleece with higher hair content. So it is more expensive to dehair.

How can countries like Australia, the UK and even the U.S compete with China in the cashmere market?

Cashmere from new origins tends to have better tensile strength and is softer than Cashmere from traditional sources. We probably have better animal health and welfare compliance also. Those things are both tangible and marketable. We have to capture those advantages.

What is the biggest challenge and the biggest opportunity for growth?

I'm working toward a Cashmere with a fleece that doesn't need dehairing - a one-coat-cashmere-goat. That would revolutionise cashmere as the cost of dehairing would be removed and perhaps more importantly we would have much longer Cashmere. That's because dehairing is quite an aggressive process and tends to break the cashmere. Its been a bit of a change in thinking from a very heavy focus on the cashmere part of the fleece, to a focus that looks very hard at the hair component. I've been fleece testing every fleece every year since starting off, I have quite a deep history of fleece records, so I've been setting my mind to how to get to the single coat target.

How many cashmere goats do you have and what is your favorite thing about having them?

I've got about 300 & have enjoyed the cashmere improvement journey in my flock since founding it in 1982.

Introducing Andrew James Andrew

President of the Australian Cashmere Growers Association



Andrew James Andrew has nearly 30 years' experience in genetic improvement and management of Australian Cashmeres, he is the President of the Australian Cashmere Growers Association, editor of Cashmere Australia magazine and committee member of the Rare Natural Fibres advisory committee of the RIRDC. He also has experience in marketing and early stage processing of Australian Cashmere.

He runs a mixed farming operation, principally beef cattle and cashmere goats at Lowood in Southern Queensland but he is also a research scientist with CSIRO researching soybean improvement and improving adaptation of crops to challenging environments in Australia and tropical Asia.

Andrew has released eight soybean cultivars in Australia and contributed to the release of one in Thailand and three in Vietnam via collaborative work in those countries. Andrew also has experience with improvement and cropping of the Asian vegetables edamame and yardlong beans. Andrew is a founding member of the Northern Australia Soybean Industry Association the forerunner of Soy Australia, the peak industry body.

Support us by joining a committee. Contact the following Chairs to join:

Fundraising/Membership: Maggie Constantine – Constantine.maggie@gmail.com

Shows: Jane McKinney springgatefarm@gmail.com & Sister Mary Elizabeth- maryelizabethcsm@aol.com

Judging Clinics: Wendy Pieh – wpieh@lincoln@midcoast.com Archives: Ann Taylor- ataylor31@charter.net

Website: Jana Dengler- Jana@stoneharvestfarm.com; Meat & Coat Color: Becky Bemus- cashmere@rovingwindsfarm.ca

Database: Maryanne Reynolds- Maryanne@stoneharvestfarm.com

TREE FODDER FROM THE AIR MEADOW

By Shana Hanson

Thank you Becky Bemus (Volume 24, Issue #), for bringing attention to the resilient fodder opportunities offered by trees and bushes. You are in good company there in Ontario, as Michael Walder in Bancroft is starting to produce beautiful traditional tree leaf hay, pollarding his woodland for meat goats. See <https://www.youtube.com/watch?v=6E8MI7bcCvg&feature=youtu.be>

Fodder trees at 3 Streams Farm in Belfast, Maine (3streamsfarmbelfastme.blogspot.com), though never pruned before 2010, are a few years ahead of most such trees in the U.S. With Yvonne Taylor's fluency in Swedish (at Black Locust Farm, Washington, Maine) and my orchard background, we've sorted through two Swedish books plus some articles, to better inform the development of these trees. The hand-written 1756 Swedish script of Brauner (available on Amazon for \$20) especially gave us word and letter puzzles to crack. Morten Moesswilde, Maine state forester, translated German from a very helpful Austrian book (Machatschek, 2002). Plus credit must be given for 12 years of diligent tutoring by my queen doe Hazel in our woodland.

Here's what I've learned: More tree leaf hay was stored than grass hay in Europe, until about 1900, and starting over 6,000 years ago. Goats, sheep, cows, pigs, and horses all had their preferred tree-based winter foods. Sheep were fed only leaf hay, to avoid intestinal parasites. Cows and pigs needed leaves cooked in water or made into silage; horses specifically ate poplar but received grass hay and grain straw as well. Goats of course are happy not only with leaf hay, but use the fresh twigs and bark of trees pruned in winter, as well as various evergreen foliages.

When hay meadows and pastures were 'cleared,' many trees and bushes were not felled. Instead, tops of trees and shrubs were pruned to bring the fodder in reach of farmers but out of reach of the grazing animals. Linnaeus (b. 1707, created our Latin taxonomy, lived in Sweden, and fed his sheep only basswood in winter) listed numerous species of trees and bushes present in a hay meadow. Our 1756 reference tells us that farmers could not often afford scythes, so used sickles primarily to cut grass. Bushes and trees were easy to avoid, and provided welcome shade which varied with pruning cycles.



Pictures of how to carry twig leaf sheaves from Slotte, 2000, and Carlsson, 2013, left to right

Not only did the autumn leaf fall feed the pollard-filled hay meadows; when a tree is heavily pruned, the roots die back to match the top, and nitrogen is released to the soil. Ingild Austad, biologist in Norway, says that one brief spring graze was the only manure necessary, to support one late cut of grass hay each year, and the 3 to 8 year cycles of pruning for leaf fodder. The trees and bushes were key to sustaining soil fertility.

There are very old pollards (often now untended, but starting to be restored), in Europe, as trees so pruned live much longer, sometimes twice as long as a standard tree of full height. Here in the U.S., we can start with young trees, and with medium age trees whose branches remain reachable to climb. Trees need at least one third of the day of sunlight to grow vigorously enough to heal wounds and be productive fodder trees. Young wood with smooth bark sprouts best, and initial cuts ideally should be no more than 3" in diameter - small enough to close completely over with new wood before funguses start to enter. Resistance to fungi of course varies with species and hardness of wood.

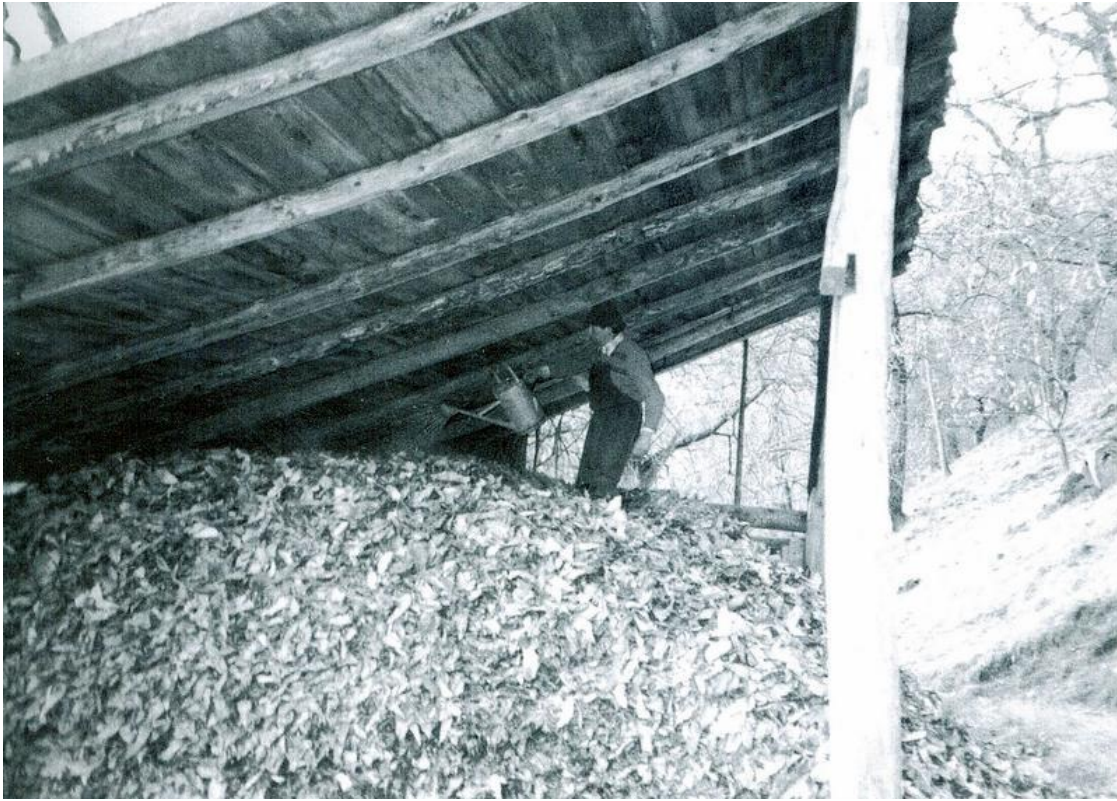
On a young tree, one starts at about 8 years old, when the tree is tall enough to hold foliage out of reach of browsing animals (here in Maine remember that moose are tall on snow). 15 years of pruning are aimed at forming the tree's shape and developing a "rich crown" (Machatschek, 2002). After that, one develops the knuckles, heads or bolls, where the tree begins to form concentrations of sprouting buds. At each pruning cycle, (3 to 8 years depending upon size of branches desired for fodder and richness of the site), new sprouts are cut leaving collars of the new wood each time. In this way, the wood of these bolls is layered so as to easily compartmentalize any fungus that enters.



Many shapes of tree are possible. “Candelabra” ash trees above line a roadway for easy transport of fodder (picture from Read, 2003). “Shredded” trees are tall with all branches and top removed, for new sprouting all along the trunk. Most often shreds are pruned in three year cycles to avoid large knots, because after maybe 90 years they are felled as saw logs! On the other extreme, Linnaeus’s 100 basswood pollards (which provided the only winter feed for 12 sheep) gave 80 to 100 sheaves each when pruned (also in 3 year cycles); these must have been very wide old trees with many bolls. Each sheep ate 10 sheaves per week (Read, 2003). Species of tree vary in their traits of resilience; tops of birches and poplars must be thinned rather than cut all at once; evergreens need either the top third left or a third left by thinning. The health of the tree and the soil also affect re-growth ability, plus change the nutritional value of the fodder. A tree next to a compost pile will hold its leaves a week or so longer in fall than it’s relatives nearby! So once trees are large enough, bring your animals to the harvest, so they may leave their gifts.



Elm is said to have the longest period of high nutrition (Austad, 1998), though if one considers shrubs then Glossy Buckthorn is also highly rated by my goats with an even longer window. Ash (pictured in the hay bag made by my neighbor who knits lobster trap heads) was the staple for Austria (Machatschek, 2002), oak for the Mediterranean countries (Watkins, 2015). Basswood is highly valued where present; willows are particularly pollarded in the Netherlands. White birch was plentiful in Scandanavia but less nutritious and mostly reserved for sheep. Our yellow birch is very nutritious and stays sweet throughout the growing season. Many other tree species were utilized; even freshly fallen leaves could be raked and packed with proper moisture to become more digestible as silage (picture from Machatschek, 2002).



Most leaf hay was harvested in late August, when trees had fully recovered their stores of nutrients. If the trees re-sprouted in the same season, the sprouts had time to harden off before winter. Old Swedish farmers told Håkan Slotte that they could taste when the leaves were ready to harvest.

Sheaves were tied with their own twigs, sometimes stacked tightly on racks in order to dry slowly with a slight fermentation (Machatscheck, 2002), sometimes dried completely and formed into beautiful haystacks supported by a center pole with spruce boughs beneath (Slotte, 2000). Certain species travel well dried (Michael Walder says hornbean) and others must be carried to the barn fresh, as they shatter. (3 pictures below from Slotte, 2000.)





Leaf fodder was also fed fresh, starting with the stripping of leaves in spring. For us beech and white birch are spring fodders; the goats stop eating them once summer sets in. A healthy tree can give up all of its foliage through hand stripping and then leaf out a second time in spring, so long as it's left alone for a couple years before the next such harvest (Slotte, 2000). One can prune branches off in spring, in the usual 3 to 8 year cycle, so long as one leaves a substantial amount of foliage, as on the small white birch hiding behind the Lombardi poplar below. The branches stuck into the brush pile all just came from that small tree.



Just before leaf fall, I pop off the now loosened leaves of my young black walnuts and other related nut trees. I hang them in bunches in the barn, then in winter can give the goats a couple free-choice feedings of this dark green vermifuge in their manger.

Deer, goats, and probably humans, house intestinal microbes to digest specific foods. When seasons and diet change, microbial populations must shift accordingly. Last fall the goats became accustomed to eating green oak leaves from a large tree that I was pollarding. As the tree's leaves turned, they continued to accept this fodder. The Lombardi poplar next to their house is so well fertilized that it stayed green well into fall. I climbed it to prune soon after this picture was taken.



In winter, I prune fruit trees plus am pollarding red maples (shown stripped below); the goats eat these barks thoroughly, as they would black locust if we had it. They will eat bark of ash if they are not spoiled on apple and red maple. This year they are stripping more bark of hemlock and balsam fir than usual, in addition to eating some greenery; maybe these trees grew to have better-than-usual nutrition in our particularly dry-but-lush 2015 growing season. (I am concerned about the quality of our rain. The trees seem to have **liked** not having rain.)



Goats at 3 Streams Farm have me especially trained to carefully climb and thin mature white cedar. This highly nutritious fodder is unique to North America. My 4 years of cedar pruning show good epicormic sprouting and re-growth. Its wonderful smell is enough to entice one to nibble some, as the aroma wafts up from the munching goats (and sow) beneath.



References:

- Austad, I. & Losvik, M.H. (1998). Changes in species composition following field and tree layer restoration and management in a wooded hay meadow in Nordic Journal of Botany 18(6) pp. 641-662.
- Brauner, J. (1756). Tankar wid skötseln och nyttan af boskap och fjäderfä, med botemedel i vanlige och mäst tillfällige siukdomar, samt skogars bruk och missbruk I alla derå grundade hushållsmål. Stockholm
- Carlsson, Åke. Lövtäkt i Västergötland; Bondedagböckerna berättar.

(Emailed to me by Mark Krawczyk, 12/3/13).

<http://www.ksla.se/anh/files/2013/07/7.-L%C3%B6vt%C3%A4kt-i-V%C3%A4sterg%C3%B6tland.pdf>

Read, Helen J.(2003). A study of practical pollarding techniques in northern Europe; Report of a three month study tour, August to November 2003. Sent on CD by the author. 226pp.

Slotte, Håkan (2000). Lövtäkt i Sverige och på Åland; Metoder och påverkan på landskapet. Doctoral Thesis, Swedish University of Agricultural Sciences, Uppsala. Forward plus English summary, 41pp.; Lövtäkt i Sverige 1850-1950, (1999) 248pp.,ill.; Lövfoder förbrukningen i Sverige, 21pp.; Hamlade träd (pollard age) i Ire och Steneryd i Blekinge; trädens ålder och tillväxt, 16pp. ill.; Hamling (pollarding) – historisk tillbakablick och råd för naturvårdare, 21pp. ill.

Machatschek, Michael (2002). Laubgeschichten (foliage stories); Gebrauchswissen einer alten Baumwirtschaft, Speise – und Futterlaubkulture. Wien, Böhlau. 542pp., ill.

Watkins, Charles (2015). Pollards; In an extract from his new book, Charles Watkins explores the social and cultural history of pollarding. In Living Woods, July/August 2015, pp. 54-59.

Shana Hanson will be offering a week long Tree Fodder Seminar, with one and two day options, July 10 - 16, at 3 Streams Farm in Belfast, Maine. \$150 suggested tuition covers instruction and room or camp site plus meal ingredients (we'll generally cook together). \$35 and \$55 are suggested tuitions respectively for one and two day options. Call her at (207) 338-3301 FMI and to register.



GOAT MEAT VOCABULARY

By Maryanne Reynolds

Many of you have come across people who adore cashmere but have no idea that cashmere comes from goats. There is another knowledge gap when it comes to our dual purpose animals. The English language lacks a well-developed vocabulary for goat meat.

“Chevon” is the word usually associated with goat meat in the US, but “Cabrito,” “Capretto,” and “Chivo” are also used, especially in ethnic communities. Americans know that pork comes from pigs, lamb or mutton from sheep, and veal or beef from steers or cows. Even when people know that Chevon refers to goat meat, there is still confusion about whether this word connotes a young or mature animal or a buck or a doe.

The conventional wisdom is that customers find goat meat more appealing when there is a special name for it, just as is done for other meats. Those of use with herds that produce cashmere and meat would benefit by adoption of standard terminology that transmits appeal and useful information.

Many cashmere producers provide meat from animals that have already provided one or more fleeces. The palatability of meat from older animals is an area to be better understood. Shirley Richardson recommends taking a look at Adam Danforth’s 2015 James Beard award winning book, “Butchering Poultry, Rabbit, Lamb, Goat and Pork: The Comprehensive Photographic Guide to Humane Slaughtering” (pages 199, 200 and 202). Richardson’s goats

are harvested when about 110 pounds, and between 1 ½-6 years of age, and sold to up-scale restaurants in Boston, New York and Providence.

People are beginning to find that age is a bias and that other factors are equally or more determinative, such as how the animal was raised and processed. Potentially, based on some customer inputs, the breed of goat could also matter. Consideration might be due for the adoption of a word unique to the meat of a cashmere goat. Shirley Richardson adds that in taste tests with New Americans – those who know, understand and love goat meat – it has been found that they were not able to distinguish differences in the meat of young versus older goats, the breed of goat, its gender, or whether it is was a dairy or meat goat. It seems likely that a cashmere goat would not taste differently from any other goat.

The CGA meat committee is a group that can explore these issues. All members are welcome to join by contacting president Yvonne Taylor or committee chair Becky Bemus.



Goat... it's the new Kale!



INTERNATIONAL CASHMERE GOAT WORKSHOP

Chianti Italy 2017

Saturday, November 3th– Saturday, November 11th

Mission: Gather together as many cashmere goat breeders from as many diversified countries worldwide to explain, compare, evaluate and exchange ideas on: genetics, fiber characteristics, preferences for short or long hair, for combing or shearing, favorite color, harvesting tools, as well as examining the future of cashmere production on small and large scale production. We will be emphasizing the sustainability of our cashmere production vs. Mongolia and China. We are planning to have people from those countries, as well as other cashmere experts from around the world.

Workshop Itinerary will include :

- ❖ Presentations on current global research of genetic development for color, fiber quality, and resilient animals (Mongolia, Australia, China ,USA, Italy)
 - ❖ Cashmere product designs and promotion
 - ❖ Sustainability practices for your farm
- ❖ Cashmere farm management , tools and equipment , yearly time table and effective farm management techniques
- ❖ International trends and research based outlook about the future of cashmere

Excursions to include

Visit one of the oldest textile /fiber museum, local artisans who are spinners/weavers /dyers, local farms , Italian goat registry headquarters for a presentation, and much more!

Please contact Christine McBrearty–Hulse to register at mcbrearty3@yahoo.com

Visit www.chianticashmere.com for a sneak peek of the adventures to come !

WEAVING GUARD HAIR THE OLD-FASHIONED WAY

By Maggie Constantine Porter
Turkish Translation by Lynne Sasmazer

Author's note: If "a picture is worth a thousand words" then "a video is worth a million words" - even if that video is in Turkish and rather slow-moving. If your computer is up and running, please click on the YouTube links given below. They show Turkish villagers using a Rube Goldberg-esque method of spinning goat guard hair into a tough, resilient textile.

Most North American cashmere producers toss out guard hair, finding no commercial value in it. Unlike the goat's soft undercoat, guard hair is rough, more worthy of a medieval hairshirt than an elegant garment. Its presence in cashmere fleeces is akin to bits of burdock or other vegetative debris.

It's impossible to avoid guard hair, even if you hand comb your herd the minute the goats begin shedding. These coarse, medullated fibers must be separated from the precious cashmere, either by hand - a painstaking and time-consuming activity - or sent to a mill with specialized de-hairing equipment.

A more positive view of guard hair emerges when looking back in time. Evidence exists of nomadic shepherds in the 13th century in the Taurus Mountains (modern-day Turkey) fashioning tents, tent ropes, saddlebags and crude clothing from black goat guard hair. Likewise, the Bedouins of Syria, Kurdistan, Iraq, Jordan and the Arabian Peninsula harvested their goats' guard hair, spun it into fiber, and then wove it to create what was historically known as the "black tent."

Desert landscapes of Asia and Asia Minor were speckled with thousands of these mobile homes, held up by poles and pinned to the ground with pegs, protecting inhabitants from wind, sun and inclement weather. Given how

dependent these nomads were on adequate shelter one could surmise that the goats' guard hairs were more valuable to them than the goats' cashmere.

Unbelievably, even in this age of smartwool and self-driving cars, there exists a tiny subculture of people in Kizilca Koyu, a village in Turkey, that continues to spin and weave goat guard hair into traditional tents (yurts). Although these villagers use electricity to power some of their equipment, their goat hair weaving is otherwise true to an ancient method of creating a strong, practical textile.

Here are two YouTube videos that capture this process:

www.youtube.com/watch?v=fxfbHp1SFYw

www.youtube.com/watch?v=uefFQZomc5g

The videos are in Turkish, so the audio component is incomprehensible to non-Turkish speakers. Fortunately, my sister has a friend, Lynne Sasmazer, who speaks Turkish fluently and who generously translated the first video cited above. Fast forward to the 12:00 minute and 23:00 minute marks if you want to see the best "action." Note the incredible spinning machine, with its **50 meter spinning path**.

1. In the first part of this video, women take freshly sheared goat guard hair, divide it into white/light and black/dark and then spread it on a road to dry. The women say the newly cut hair is damp, so it's left on the road for one day in the summer, or two days in the winter. In the winter the hair is cleared to the side of the road and re-spread the following day. It's OK for cars and tractors to drive over the hair; it helps soften it.



Nearly a kilometer of the road is typically covered by **1.5 – 2 metric tons of raw fiber in this way!**

After the guard hair is dried, it's gathered up, cleaned, combed and then spun into thread/yarn.

Note: The second video listed above proves that guard hair yarn is extremely tough – it's used as warping material, therefore can withstand a lot of tension. For those of you who weave, or who have woven, you will enjoy seeing how tent panels are created before your eyes as a handweaver passes a guard-hair-filled shuttle over and under the guard-hair warp.

The women say the work is dusty (note the kerchief covering the woman's face in the first illustration, above), and that they work hard for little pay. They earn about 1 million Turkish Lira (TL) for one kilo of spun yarn, but they do this while the kids are in school, and they appreciate being part of a traditional craft.

2. In the second part of this interview, an older woman and her husband, plus a younger woman, talk about their thread spinning. The older couple say the work is enjoyable and keeps them young, as it's good exercise.



The younger woman adds that she walks more than 3 kilometers each day, back and forth along the 50 meter length of the spinning path. The pack she carries holds approximately two kilos of hair; on a good day she can spin five of these, ten kilos total, and earn about 10 million TL each day. Women in the village do not do this work anymore, as they can earn more doing other jobs.

The second (untranslated) video provides a clearer picture of how the spinning "wheel" works. Here is a very rough drawing of it:



While it is difficult to imagine the Cashmere Goat Association suddenly embracing the idea that perhaps guard hair isn't so bad after all, it might behoove us to consider ways to work with it. Why not? I challenge any reader who has gotten this far in the article to create something (holiday ornament? Fly fishing lure?) with a fistful or more of guard hair. We are

already relatively insane combing a herd's worth of cashmere – why not go full in? Even better, maybe we can figure out how to make a goat hair tent of our own! Seriously! Think booth at the Rhinebeck Fair....

PLAYING BY THE RULES

By Maggie Constantine Porter

In a moment of weakness, I volunteered to review and revise our organization's by-laws. They haven't been overhauled since 1992, and are now obsolete: they don't reflect our name change from the Eastern Cashmere Association to the Cashmere Goat Association, and there's no mention of email whatsoever even though our Board of Directors depends heavily on Skype and electronic mail for board meetings, to send notices to members, and to distribute our publication, Hoof Prints.

By-laws help ensure that an organization's assets are properly invested or spent, and to the extent possible, that the Board of Directors acts in the best interest of the membership. By-laws ought to state the procedure whereby one becomes a member of the CGA board and, if one is an officer, what one's responsibilities are. [CGA by-laws can be found at www.cashmeregoatassociation.org]

Some of our current by-law provisions are puzzling to me. Why so much verbiage re: Revocation of Membership, especially since the provision for removing a Director – a position with more fiduciary duties than rank and file membership – is only one paragraph long? I understand removing an officer who runs away with the CGA's bank account; but what does a member have to do to trigger a \$25 fine, a written complaint, perhaps even service of legal

writs, and ultimately, revocation? Do we want our by-laws to anticipate judicial recourse and lawsuits?

Furthermore, why is there no mention under the by-laws section, "Duties of Officers," as to whose job it is to file state and federal bureaucratic paperwork (annual reports, IRS forms, etc.). The Treasurer generally does this, but if a non-profit's by-laws are to serve as the official rules, then there should be one officer specifically designated to perform "regulatory compliance" tasks.

There are several other by-laws that need clarification and/or editing. Revisions require a 2/3 majority vote of the membership "by mail vote or at any regular meeting of members." While I am marking up our current by-laws with the goal of mailing proposed edits to the membership 30 days before our next annual meeting, I suggest that any member with an interest in board governance look over the by-laws, too, and send me your ideas as to how to improve them. Email me at: constantine.maggie@gmail.com



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SAVING CHILLED NEWBORN ANIMALS

written by Dr. Frank E. Woodson, DVM, West Virginia University

reprinted from GoatKeeper magazine, February 2016 issue (www.goatkeeper.ca)

Chilling is the excessive loss of body heat resulting in reduced body temperature. It is a major cause of death in newborn animals. Animals are born with very little reserve energy, and only limited ability to regulate their body temperature. Heat needed to maintain body temperature is produced by muscular activity and the digestion process. The newborn must eat quickly in order to survive. Nature's feed for the newborn, colostrum, is both high in energy and highly digestible.

The wet haircoat of the newborn allows body heat to be lost rapidly to the surrounding air. The colder the air temperature, the more rapidly heat is lost. Wind increases the loss of heat. Quick drying of the newborn's haircoat and protection from wind are important conserving measures.

It is commonly recognized that chilling can occur in severely cold, or cool and wet, weather, especially if it is also windy. However, fewer livestock producers recognize that chilling can also occur in mild, fair weather. If a newborn is too weak to nurse, or if its dam has no milk or abandons her offspring because of poor mothering instinct, the newborn will suffer from starvation and chilling, even if the weather is mild.

Successful revival of the chilled newborn depends upon providing sufficient heat to raise body temperature to normal and assuring the intake of colostrum. The first step is to determine how much heat is needed. Most livestock producers know that a newborn is chilled if its mouth feels cold to a finger stuck in it. However, this method does not determine how chilled the newborn is and often results in insufficient heat being applied to overcome the chilling.

Use of a heavy-duty veterinary rectal thermometer is a quick, easy way to accurately determine the appropriate actions needed to save the chilled animal. Normal body temperature for a kid ranges from 101.5 to 104 degrees Fahrenheit; a lower temperature indicates chilling. As body temperature decreases, so does the newborn's ability to use

feed nutrients. This ability essentially stops at 96 degrees F. At this point it is useless to force feed the chilled animal unless the temperature is raised first.

A body temperature between normal and 99 degrees F. indicates mild chilling, which can be reversed quickly by rubbing the newborn vigorously with a sack or towel to dry it off and stimulate muscular activity, and by assisting it to nurse. If the newborn refuses to nurse, it can be fed by stomach tube. Mild external heat such as a heat lamp can be used.

A body temperature of 97 to 99 degrees F. indicates moderate chilling, which can often be overcome as above for mild chilling, plus by applying a source of moderate heat (110 - 115 F) such as a heat lamp, a radiant electric heater, or by placing the newborn in front of a heating stove. Assist the animal to nurse; if possible, otherwise force feed it by stomach tube. Recheck its body temperature every thirty minutes. If the temperature fails to rise, change to a source of higher external heat as outlined below for severe chilling.

Severe chilling is indicated by a body temperature of below 97 degrees F. Most severely chilled newborn animals are unable to nurse or walk and will almost always die without rapid application of a source of high heat (115 - 120 F.). Most of these severely chilled newborns can be revived successfully - even when the body temperature is well below the lowest reading (94F.) on the rectal thermometer. DON'T GIVE UP! Persevere! In very severe cases it has taken up to four to six hours of high heat to restore normal body temperature.

How much heat is needed? Only a high heat of 115 to 120F. will penetrate the animal's haircoat quickly enough to warm the chilled body. The heat source must feel hot to the hand, but not too hot to continuously hold your hand directly in the heat. There are two methods for providing this degree of heat. Livestock producers have long used immersion in hot water. This method is very effective and quick, because the wet heat

rapidly penetrates the haircoat and is absorbed by body tissues. Add more water to maintain water temperature. Immersion in hot water does have disadvantages. It requires someone's constant presence to prevent the animal from drowning. Also, soaking the newborn in hot water removes its natural odor, and it may be disowned when returned to its dam. Special care must be taken to dry the animal when it is taken from the hot water or else body heat will be lost as the haircoat slowly dries.

An effective alternate method of applying high heat is to place the chilled newborn in a small enclosed space and direct hot air into the space. This concentrates the heat, directly surrounding the body of the animal. A cardboard box can be used as a temporary enclosure, or a permanent box can be constructed of plywood. The box must have a small opening so that the animal's head will stick out and breathe fresh, unheated air. A portable hair dryer is an excellent heat source. Cut a hole in the box to insert the nozzle of the dryer. The medium or low setting of the hair dryer will usually maintain the heat needed. Test this by hand to make sure that the heat is enough but not too hot. Turn, rub, exercise the legs, and take the animal's temperature every thirty minutes. When the body temperature rises to 97 to 100F, force feed the animal and then maintain heat until its temperature rises to normal.

Newborn animals which cannot or refuse to nurse can be force fed by a tube much more quickly than by any other method. Many young animals are inadvertently killed by drowning or pneumonia from attempts to force feed by nipple or by pouring colostrum down the throat. Force feeding by tube is not difficult. Those who have tried this method swear by it.

For kids, a disposable human female urethral catheter (obtainable from a hospital and most pharmacies) or a 15" length of 1/4" to 5/16" (outside diameter) pliable polyethylene tubing, rounded and smoothed on one end, serves as the stomach tube. Also needed is a large (40-60 cc) syringe or plastic squeeze bottle, or a small funnel to attach to the stomach tube for holding colostrum. (*Editor's note: goat and farm supply companies also sell "weak kid syringes."*)

Before inserting, lubricate the feeding tube lightly

with colostrum or cooking oil. Open the animal's mouth and pass the smooth tip of the tube back along the roof of the mouth to the center of the throat. With very gentle pressure on the tube, it can be felt to enter and pass down the esophagus. Only one-half to two-thirds of the 15" length of tube needs to be inserted. It is possible, though it rarely happens in weak animals, for the tube to enter the trachea (windpipe). To make sure it is not in the trachea, hold a tiny wisp of wool or cotton at the open end to detect air movement from breathing. Any movement of the wisp in or out indicates that the tube is in the trachea. In this case, remove the tube and try again. When no air movement is detected, attach the colostrum container and squeeze or allow colostrum to flow into the animal's stomach. Remove the tube. This safe, lifesaving feeding method is more simple than it sounds. Try it!

Questions often arise as to what, how much and how often to feed newborn animals. Overfeeding and feeding the wrong kind of milk are frequent causes of digestive upsets. For the first two feedings, there is no real substitute for colostrum. It contains, in concentrated form, all the nutrients - energy, protein, vitamins, and minerals - needed by the newborn, and it is the only source of specific antibodies to protect the newborn animal against disease until it can build its own lasting immunity. Milk colostrum directly from the newborn's dam and feed it. Many producers find it handy to milk excess colostrum from dams and freeze it in single feeding quantities (4 oz. for kids) for quick use when needed. In an emergency, cows' colostrum will serve for kids. Avoid the use of lowfat milk and milk replacers until the animals are about a week of age.

Quantities to feed newborn animals are dictated by their weight. Kids need 12 to 15% of their own weight daily. For example, a ten pound kid needs at least 19 ounces per day. Feeding too much at once is overfeeding. For the best results, the correct daily quantity should be divided into four to six feedings for the first day of life. If subsequent hand feeding is necessary, feeding frequency can be decreased over a period of days to two feedings daily.

If you are serious about saving animals, make the effort to make these tips work for you.

FROM THE ARCHIVES

THE PENNY MAGAZINE

OF THE

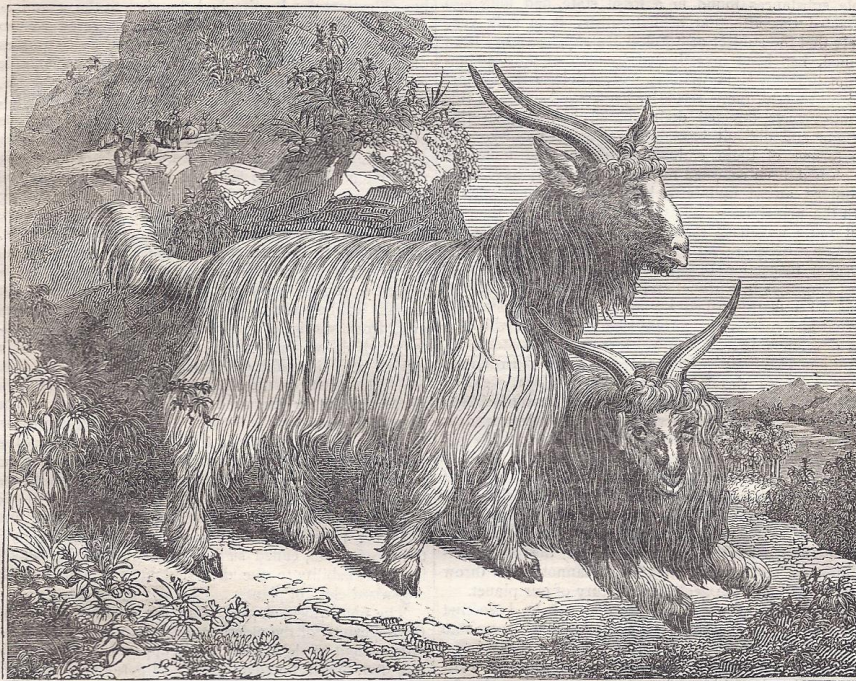
Society for the Diffusion of Useful Knowledge.

94.]

PUBLISHED EVERY SATURDAY.

[SEPTEMBER 21, 1833.]

THE CACHEMIRE GOAT.



[Cashmere Goats.]

THE above representation of the Cashmere Goat is taken from the fine work of F. Cuvier and G. St. Hilaire, on Mammiferous Animals. The specimen, in the Jardin des Plantes at Paris, of which that work contains a portrait, was sent from Calcutta, having been obtained from the menagerie of the Governor-General of India, where it was born of a couple that came direct from Cashmere to Bengal. The wool of this goat appears, by a scrupulous comparison, to be quite as delicate as the finest brought from Thibet. Cashmere, however, contains several breeds of goats with fine wool; a specimen was recently sent to England, which differed from that in France by having longer ears. But they all yield, apparently, the same produce; for the fineness of the wool is occasioned by the influence of the climate.

There are two sorts of hair which nature seems to have furnished, more or less, to every quadruped: the one, fine, curly, generally grey, and imparting to the skin a down more or less thick, as if to guard it against cold and damp; the other, coarse, flat, giving a general colour to the animal, and appearing in numerous instances to be an organ of sensation.

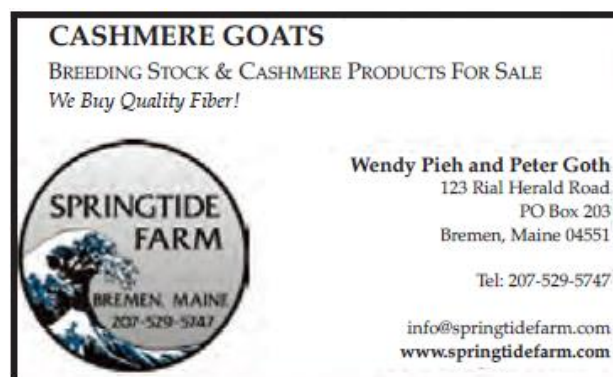
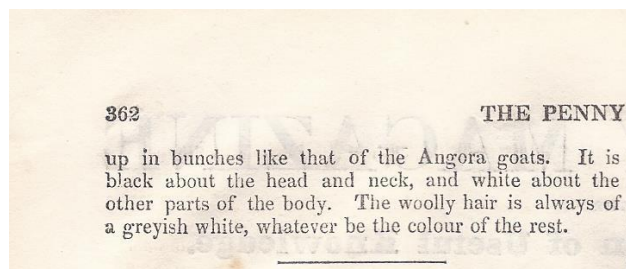
These two sorts of hair generally become thicker, according to the degree of cold to which they are exposed; and the frizzled hair becomes gradually finer

as the cold increases in dryness. It is this frizzled hair of the Cashmere goat which renders these animals so valuable; for to this we owe those delicate shawls which are so deservedly esteemed for a variety of qualities found in no other article of clothing.

The French have attempted to introduce this breed of goats into their own country; but the success of the experiment seems somewhat doubtful. It is, however, singular, as observed by Messrs. Cuvier and Hilaire, that no European has yet availed himself of the wool produced by most of our domestic goats, which, though less delicate than the Thibet, would undoubtedly have yielded a web far more fine and even than the most admired merino sheep.

The male goat, in the Menagerie of the Jardin des Plantes, is admired for his symmetry, his graceful motion, and his quiet temper. But he has a much greater distinction—he is free from smell; whereas nearly all European goats are known to emit a strong, unpleasant odour. The Cashmere goat is of middling size; two feet high at the neck joint, and two feet ten inches from the snout to the root of the tail; his head from the snout between the horns is nine inches, and his tail five. His horns are erect and spiral, diverging off towards the points. His silky hair is long, flat, and fine, instead of gathering

3 A



October 1 & 2, 2016 at the Vermont Sheep and Wool Festival

2016 Cashmere Goat Association Fleece and Goat Show
We are combining our shows...save the date!
Tunbridge, Vermont
Judge: Jayne Deardorff of Colville, Washington

October 15, 2016 at the Woodstock Fleece and Fibre Festival

2016 Canadian Cashmere Producers Association Fleece Competition
Woodstock Fair Grounds
Judge: TBA

Education and Manuals

Online Training Program for FAMACHA Certification Available

We are pleased to offer an **online training program for FAMACHA® certification** as part of new Northeast SARE Grant (LNE15-342). Visit our website for detailed instructions including contacts for more information, <http://web.uri.edu/sheepngoat/famacha/>

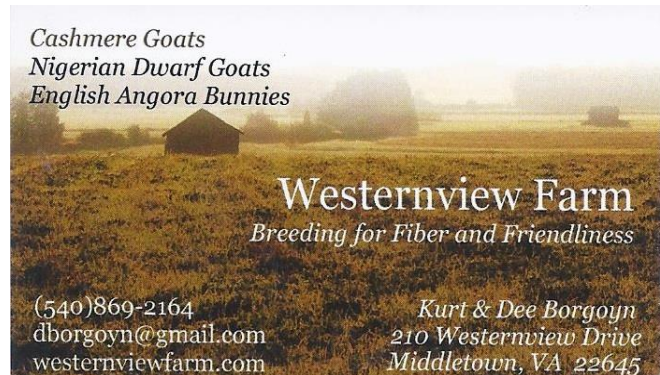
FDA Finalizes Guidance on Animal Feed Safety

The Food and Drug Administration this week posted a final guidance outlining ways for producers to keep animal feed safe on the farm. The 15-page document, known as Guidance #203, recommends that

farmers handle and store feed properly, keeping it away from stored pesticides or other agricultural chemicals, to prevent contamination. It also recommends producers get their feed from "safe and reliable sources" and keep track of where their feed came from in case there is a recall.

Guidance #203 is available at

www.fda.gov/downloads/AnimalVeterinary/GuidanceComplianceEnforcement/GuidanceforIndustry/UCM438641.pdf



AMERICAN GOAT FEDERATION MEMBERSHIP

The CGA Board of Directors is poised to join the American Goat Federation (AGF). This organization, formed in the early 2000s by the American Meat Goat Association and the American Dairy Goat Association, seeks to achieve "a unified voice for all elements of the goat industry in public policy, education, research and marketing of goat products."

The AGF promotes all breeds of goats, whether they are raised for dairy, meat, fiber or silvopasturing. AGF board member, Anita Teel Dahnke, passed on the following information:

Benefits of an AGF "Organization Membership" include receiving its newsletter; receiving copies of governmental surveys and any research that the AGF is conducting; and having input regarding what issues should be brought up when AGF delegations make their annual visits to Capitol Hill or the Department of Agriculture's Planning Sessions or the USDA. Our organization would also be permitted to submit upcoming cashmere goat events for publication in the AGF newsletter. Note that all publications/documents that the organization receives can then be forwarded to CGA association members.

If a CGA member is interested in discounted rates for AGF seminars, then she/he ought to purchase a \$20 Individual Membership. Unlike the Organization Membership, however, individuals cannot weigh in on policy issues.

For more information see www.americangoatfederation.org



Return Completed Form with payment to:

American Goat Federation
2781 Klondike Rd-B
West Lafayette IN 47906

You can also use a credit card at:
www.AmericanGoatFederation.org

☐ **Renewal** ☐ **New Member**

Name _____ Organization _____

Address _____ City _____ State _____ Zip _____

Phone _____ Email _____ Website _____

CHECK ONE

- ☐ **Individual \$30.00** Includes individuals, sole proprietorships, llcs, partnerships, privately-held corporations, family farms or ranches.
- ☐ **Affiliate \$100.00** Includes agribusiness, commodity organizations, individuals, universities or agencies.
- ☐ **Supporting \$500.00** Includes any of the above wishing to contribute extra to support AGF activities.

Organization Membership fees are based on the number of active members in the organization on the date they join, or the date of renewal, and are due and payable with the application.

ORGANIZATION Number of Members _____

- ☐ Level 1 – Less than 100 members \$150.00
- ☐ Level 2 – 100 – 249 members \$300.00
- ☐ Level 3 – 250 – 499 members \$600.00
- ☐ Level 4 – 500 – 999 members \$850.00
- ☐ Level 5 – 1000 plus members \$1,200.00

Members of the organization may join AGF as individual members at a reduced fee of \$20.00 for an annual membership. Each member who wishes to join AGF needs to fill out a membership application and submit it along with their membership fee.

SUPPORTING ORGANIZATION Number of Members _____

- | | | | Sub Total | TOTAL |
|--|------------|---------------------------|-----------|-------|
| <input type="checkbox"/> Level 1 – Less than 100 members | \$100.00 | plus \$10 for each member | _____ | _____ |
| <input type="checkbox"/> Level 2 – 100 – 249 members | \$250.00 | plus \$10 for each member | _____ | _____ |
| <input type="checkbox"/> Level 3 – 250 – 499 members | \$500.00 | plus \$ 5 for each member | _____ | _____ |
| <input type="checkbox"/> Level 4 – 500 – 999 members | \$750.00 | plus \$ 5 for each member | _____ | _____ |
| <input type="checkbox"/> Level 5 – 1000 plus members | \$1,000.00 | plus \$ 5 for each member | _____ | _____ |

Members of Supporting Organizations automatically become individual members of AGF.

Please check all that apply: ☐ Dairy ☐ Meat ☐ Fiber ☐ Show ☐ Other

List my name in the Member Directory on the AGF website: ____Yes ____No

If you are interested in serving on an AGF committee, or have experience in any of the following and would be interested in acting as an advisor to AGF, please check the corresponding items.

- ☐ EDUCATION ☐ MARKETING ☐ ADVISORY
- ☐ RESEARCH ☐ PUBLIC POLICY

Area of Expertise for Advisory _____

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Revised: 4/17/2015



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letters, pictures or news
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HOOFPRINTS

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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 or \$50 for two years.

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.

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