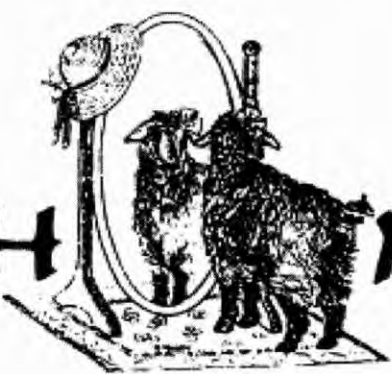




CASH MIRROR

Volume 9, Issue 3

January 1998

The monthly magazine devoted to cashmere goats and their fiber



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CASHMIRROR

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Legal Drivel

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The *CashMirror* welcomes contributions of articles and photographs. Submissions may be made by mail, fax or e-mail.

No responsibility will be taken for material while in transit or in this office, although we will certainly be real careful

Cover photo by Paul Johnson

Eight students proudly display their schoolwork (suitable for hanging on refrigerators everywhere) at Ann Dooling's October 1997 classing clinic, Dillon, Montana.



**Peanut stays high and dry at the Goulds' place
October Farm II, Baker, OR**

Drowning Alert for Kids (They can swim, but not for long!)

Watch out for young kids. Because of their precarious nature, they can easily get themselves into deep water. We've heard several stories over the years of kids getting into water over their heads, who drown because they cannot get out of the water.

Our first kidding season, we had a tall plastic water container in the pasture with the mothers and newer kids. The rim height of the container was twice the height of the tallest kid so I felt sure the kids could not get in. One day, from the house, I heard a doe calling frantically. I raced out and retrieved a kid swimming around in the water tub. The only way she could have gotten in was to have climbed on an adult doe's back. Once in the water, the kid could not touch the bottom of the container or make its way up the straight, smooth sides. If I had not been home, the kid would have surely drowned.

Last year, kids were playing near a deep, straight-sided trench which had been dug to bury water lines from the house to the barn. It had rained and the trenches had filled with water. After the water container incident, I was somewhat concerned, but felt that the trenches would not be a problem. Of course, the kids liked to play on the mounds of dirt adjacent to the trenches and one fell in the water and could not negotiate the slip sides of the trench to get out. Luckily Paul was outside to play lifeguard.

Another drowning hazard is a stream in a pasture, even a rather shallow stream, where does are likely to kid. If a doe gives birth near the stream, a new kid might easily roll into the water and drown before they find their feet.

The Latest Scoop on Terry Sim

Terry Sim, Australian cashmere classer/shearer is coming to the United States during February to conduct a series of Classing Clinics. He will also be available during his stay for on-farm shearing and classing.

He will arrive in Texas on January 30th. He will be shearing at the Three Mill Ranch in Mountain Home, Texas, on February 2nd.

Classing Clinics Scheduled for Oregon and Washington

Oregon: at Northwest Cashmere, Scholls (Newberg)
Saturday, February 14, 1998

Washington: at Glacier Valley Cashmere, Eatonville
Saturday, February 21, 1998

Call the contact people listed on page 23 to reserve your spot, get directions or more information.

Clinic time: 10:00 am - 4:00 pm

Cost: \$70 per person

Bring: brown bag lunch, fleeces to be classed

Terry available also for on-farm classing/shearing

Cost: \$170/day (\$150 + \$20 expenses).

Cost for a day may be shared among several farms.

Contact Terry to set up your schedule.

Cashmere Spinning Clinic with Bill Benham

Saturday, March 21, 1998
Hosted by Goat Knoll, Dallas, Oregon

Call Linda or Paul at 503-623-5194 to reserve your spot. Class size is limited. You will need to bring your own lunch, spinning wheel and dehaired fleece to spin.

You need to know how to spin, but you don't need to be an experienced spinner. No charge, but advance reservations are necessary.

Reflections

by Linda Fox

Take a Walk on the Wild Side

One thing we try to do when a goat's digestive systems seems upset is to give her more choices of food. Especially during the winter as their pasture food choices are pretty bleak. I feel that a goat will instinctively choose a natural "fix" if available. Nicole had diarrhea yesterday. It was likely caused by the overabundance of grain I fed her the night before when I combed her but, in addition to the antacid treatment (baking soda and water), I let her (and her sister for company) out in the driveway/yard area for a wider choice of food.

By mid-afternoon, her poop was heading toward normal, but it caused me to think, "Why not take all the girls for a walk for winter food treats?" It might provide me with story material for *Reflections* as well. A herd of goats in an unfenced area, a new puppy on a leash and a guardian dog looking for a snack — sounded like a potential adventure to me. So, I took the girls for a walk on the Wild Side.

The Wild Side is the west side of our property, beyond the confines of the securely-fenced pastures. It contains an uneaten supply of good brushy goat food and a variety of plants not found in the goat-manicured pastures. This time of year, an observant goat can find new shoots of grass, fallen apples which aren't yet rotten and various bits of dry twigs, tree bark and tasty dirt morsels containing who-knows-what.

I put the new Border Collie puppy, Jill, on a leash in order to monitor her contact with goats and the guardian dog and headed for the gate, down the hill, at the far end of the does' pasture. As I opened the gate, the herd thundered through, a gateful at a time. I barely saved Jill from death by trampling. Reminded me of a cattle roundup from the old western movies except goats are much shorter, of course, and there's no dust. No music in the background either.

As I watched the back of the herd run quickly up the trail, I realized that these were does with a mission. They had been cooped up too long in their eaten-down pasture. They were sick and tired of winter, the barn, bales of dry hay and the rain. Due to their advancing pregnancy, they were probably feeling a little fat and unloved as well. These does were ready to break out and rock! They were going to explore the brave new world, seek out new plants and boldly go where they hadn't been in a long time. I had to admire them — rushing out into a strange area with nothing but one guardian dog to protect them from the unknown.

to the herd. I shook a nearby apple tree, hoping to get their attention by providing them with fresh apples on which to nibble. Not one came back for the apples. These girls wanted to make their own adventure, not be dependent on some mere human for their entertainment! The girls were out of sight.

Jill and I worked on leash protocol as we followed the trail of goat hoof imprints through the woods in the soft dirt. You know the drill with leash training. You trade turns with the dog. Half of the time, you drag and dog and the other half, the dog drags you. The system was further complicated by the brush we were going through. Jill would choose one way and I, being well over one foot tall and a bit wider, was forced to choose an alternate path.

We followed the trail, without a goat in sight. The trail wound down into the draw and then back up the hill toward the barn. I couldn't see where the goats had stopped to eat, but I did find tufts of cashmere on the brush. We need to shear! I gathered the bigger cashmere tufts and stuffed them in my pocket as we climbed up the trail.

When we arrived at the top of the hill, I could see that the entire herd was standing by the fence looking over at the barn! After all my expectations, I saw that the girls just wanted to get to the other side of their fence. Obviously they had spent many hours standing by the barn side of the fence wishing they could just get to the other side. I was disappointed. Some mission this turned out to be.

I sat on a stump with Jill and watched them. They wandered a little, but never left the sight of the fence and the barn. They did gather a few shoots of grass, nibbled on some leafless twigs and ate a little dirt.

As I cleaned and hand-dehaired the clump of cashmere in my pocket, I admired the mix of colors. There wasn't much guard hair in the wad. Most of the picking was required for removal of lint and hay seeds which came from my pocket.

After an hour, I opened the gate by the barn, and the girls eagerly went back to their winter home. I carefully placed my beautiful wad of cashmere under my shirt to keep it clean until my return to the house, and Jill and I walked back down the hill to gather the apples that I had shaken from the tree at the beginning of our trip. No use to waste those.

The goats obligingly consumed the apples when I dumped them in their pasture. I learned two things from the day. Don't put cashmere next to your body and agitate — it felts. And next time I need a story idea, I think I'll go follow the pig.



When Readers Talk...

Dear Paul and Linda;

Are you still in business or have the goats eaten up all the profits? We have not received our December copy of *Cashmirror*. Maybe one of Santa's Reindeer ate it.

We are getting geared up to start shearing this coming weekend. Our first kids are due the beginning of February so we want to get the pregnant does sheared before that happens. With any luck it might not even rain this weekend.

I have shearing stands available for sale again this year if anyone should ask. See you at the next fiber festival.

Sincerely,

Douglas Maier
Breezy Meadow Cashmere Farm
Bellingham, Washington

January 7, 1998

Subject: Goats' hearing range

Maybe you can help me. I didn't think this information would be this difficult to obtain. I keep a female cashmere or angora goat at my suburban house in Melbourne. She is wonderful with my grass and blackberries in the back yard and with the

compost stuff. Unfortunately cats and dogs roam the area and like to poo on my front lawn. I'm thinking of putting in an ultrasound signal to keep these strays out so she can eat unsoiled grass. It sends a 90 degree signal of 19 - 25,000 Hz at 140 db for a 50 foot radius.

My question is, will this unit stress out my goat if she's in the signal area? Can you tell me what the hearing range of goats is? If not could you possibly refer me to someone / an organization that can?

Thank you!

Sig Anderson
Melbourne, Australia
Phone: 61 03 9434 2669
Bus: 61 03 9436 7832
Fax: 61 03 9436 8016
Email: ando@c031.aone.net.au

January 22, 1998

I assume this is a serious request as the writer also e-mailed several universities with these questions. Does anyone know?--Ed.

Correction!

In the December 1997 issue of *CashMirror*, under the final photo on page 14, we included the following caption: "James Barton, Judge, doing a little fiber inspection: 'If it ain't crimpy, it ain't cashmere!'"

The quote "If it ain't crimpy, it ain't cashmere", is not a quote from Mr. Barton as we had made it appear.

Per Mr. Barton (and this is a quote), "Good cashmere has crimp. Less desirable does not."

We are sorry for any confusion this error might have caused.



Good Goat Movies to Watch For Cashmere Goats Hit the Silver Screen

Cashmere Contact

A scientist's travel to another planet finds a more intelligent life form which just happens to be cashmere goats—not one of whom has cashmere coarser than 14.9!—who for years have had cashmere observers on Earth pretending to be mere livestock. Dr. Pugnose is shocked to learn all this, but when the resident cashmeres discover that Dr. Pugnose's hair is not nearly fine enough to be considered cashmere in any planet's market (in fact they decided it was really even terribly coarse for guard hair), Dr. P. was sent unceremoniously off to the meat market before she could escape back to Earth and report.

The Big Spill

A story where the death of a well-liked buck causes a group of cashmere goats to gather, indiscriminately breed and get to know each other again while listening to some great old tunes.

Lethal Weapon

(X Rated) The story of an overly-horny buck who....

Stocky 7

The story of a genetically good, but terribly out of shape buck who gets back in shape to fight some other bucks, urged on by a puny, whiny, timid doe named Adrian.

The Good, the Bad, the Coarse

A bunch of bucks try to clean up evil in the pasture.

Breed Out at the OK Corral

A young buck's story who was rented out to breed some friend's does. When he got back he characterized the friend's farm as an "OK corral."

Wyatt Burp

The story of a herd of goats put out on lush pasture for too long a period of time in the early spring.

My Best Friend's Breeding

A "been around the fence a couple of times" doe tries to break up a planned breeding with her favorite buck and a new young doe.

First Does Club

A group of older does decide to terrorize the bucks they've "known" before.

Alien

The story of an unregistered Angora buck who makes his way into a pasture full of cashmere does.

Goat Trek (The series)

A story of a small, but genetically diverse group of cashmere goats who, for five years, go on a mission from pasture to pasture (stopping for an occasional love interest to keep the ratings up) going where no goat has gone before, seeking out other semi-intelligent life forms...

Annie's Hill

A charming but klutzy goat named Annie finds herself king of the hill after she dumps an older, nearsighted buck with numerous emotional hang-ups.

Scottish Cashmere Goat Breeding Programme Pays Handsome Dividends

by Angus Russel

Angus Russel reviews recent progress in Scottish Cashmere goat breeding

Scientists in Scotland have recently been reviewing the progress made in a breeding programme with Scottish Cashmere goats. The work has been carried out by Macaulay Land Use Research Institute on the Elite Herd at the Institute's Sourhope Research Station on a hill farm in the Scottish Borders.

Any work on animal breeding and genetics takes time to produce meaningful results, unless, of course, one is dealing with fruit flies, mice, or perhaps poultry. With goats, producing one kid crop per year, and not being mated for the first time until they are about eighteen months old, the research scientist just has to be patient and take a long-term view!

The first phase of the breeding work began in the late eighties when Scottish feral goats were crossed with stock imported as live animals, semen or embryos from Iceland, Tasmania, New Zealand and Siberia. The resulting progeny were then crossed again with one of the imported breeds, to give animals which all had one quarter Scottish feral ancestry, the other three quarters comprising either one or two of the "exotic" strains. This produced what must undoubtedly be the world's most widely-based cashmere goat genepool.

The second phase of the breeding work involved genetic selection within this broadly-based crossbred population. Two fibre selection lines were established in 1991. The first, known as the Value Line and comprising 190 does, was bred to achieve maximum financial return from fibre, combining both cashmere quantity and quality. The breeding objective in the second line of 95 does (the Fine Line) was to reduce fibre diameter, regardless of what happened to cashmere weight.

Because it was considered at the time

that changes in husbandry practices and management might have an effect on cashmere production, it was also decided to set up a Control Line of 70 does, against which the rate of progress achieved in the two selection lines could be measured.

This work was carried out in collaboration with a geneticist, Dr. Stephen Bishop of the Roslin Institute in Edinburgh. At a later stage a third selection line of 95 does (the Helminth Resistance Line) was established to breed for resistance to gastrointestinal nematodes, commonly referred to as "stomach worms". This part of the work was carried out in collaboration with Dr. Frank Jackson of the Moredun Institute, also in Edinburgh.

In the two fibre lines the bucks were selected on the basis of fibre evaluations made on samples collected in September when they were approximately five months old. In an ideal world these bucks would have been selected on the basis of their first full fleece at about ten months of age, but practical considerations, such as limitations on the number of kids which could be housed over winter, dictated that selection be made at an earlier age.

The main selection criterion in the Helminth Resistance Line was the number of worm eggs excreted per gram of faeces. Other studies on the animals from the same population has shown that those excreting fewer worm eggs also carry lower worm burdens.

The first kids in the fibre selection lines were born in 1992. The cashmere characteristics of the kids born in 1996 are summarized in the accompanying table of results. The estimated annual production (EAP) is, as the term implies, an estimate of the weight of cashmere expected to be produced in the first fleece; subsequent experience suggests that the formula

used to make this calculation from the weight of cashmere in the 10cm² sample and the kid's weight at five months of age, results in an overestimate of annual production. Nevertheless, this is still regarded as a valid means of ranking the kids according to their production. Mean fibre diameter (MFD) is the principal criterion of cashmere quality. The cashmere production index (CPI) is simply a number resulting from a formula which combines cashmere quantity and quality, and is related to the value of the fleece.

The results presented in the Table (on next page) show that the cumulative effects of selection in the Value Line increased the estimated annual production of cashmere by 104 g (50%). This large response was accompanied by an increase in fibre length of 7mm (16%) and an increase in mean fibre diameter of only 0.2 µm (1.4%). The cashmere production index increased by 75. This last figure represents an increase in fleece value of 35%, or 7% per year. Rates of response to selection for production traits in farm livestock, such as milk production or growth rate, are generally of the order of 1 - 1.5% per generation. An increase of 7% per year is very substantial indeed and must surely constitute something of a record!

These large changes in cashmere quantity and quality have been achieved in a comparatively short time because these characteristics are under very strong genetic control. Analyses of the data generated in the breeding research has provided much valuable information on the heritability of cashmere characteristics and of the genetic relationships between, e.g. cashmere weight and fibre diameter— but these are the subject of another article at another time!

Continued on next page

Scottish Cashmere Research
Continued from previous page

The results also indicate that resistance to worms is genetically controlled, although in this case the degree of control is not as strong as with cashmere characteristics. Nevertheless, substantial progress has also been made in this area. The selection for helminth resistance has not been operating for as long as that for fibre, but the most recent results show that the difference between the selection and the control lines in faecal worm egg counts in yearling goats was 29.5% in males and 35.6% in females. There is no evidence from the results to date of any adverse changes in the cashmere production or fibre characteristics of the animals bred for improved worm resistance.

The results presented here are by no means the end of the story. The research at Sourhope will continue and there is every reason to expect that further substantial progress will be made. This is, however, a time to take stock and review the programme. The results from the Value Line selection are, to say the least, most encouraging. Cashmere weight has increased by 50% with only a negligible increase in fibre diameter. A mean fibre diameter of 14.7 µm is considered to be highly satisfactory.

In view of the high quality of the cashmere produced by the Value Line animals, it has been decided to discontinue the selection for reduced fibre diameter in the Fine Line; the penalty in cashmere weight in this line is too great to justify pursuing this strategy any further. The results from this line have, however, been extremely useful in working out the relationships between such traits such as cashmere weight and fibre diameter but, having obtained this information, that line is now regarded as having served its purpose.

Similarly, it is also considered that sufficient baseline information has been obtained from the Control Line, and this too has been discontinued.

The herd at Sourhope has now been reorganised. The Helminth Line, with its

Mean values for estimated annual cashmere production (EAP), mean fibre diameter (MFD), cashmere production index (CPI) and fibre length (L) in the two fibre selection and control lines, and cumulative responses to selection.

	EAP (g)	MFD (µm)	CPI	L (cm)
Mean values				
Control line	207	14.5	212	4.5
Value line	311	14.7	287	5.2
Fine line	129	13.2	170	3.9
Responses				
Value line	104	0.2	75	0.7
Fine line	-78	-1.3	-42	-0.6

95 does, will continue as before, but the Value Line has been increased from 195 to 355 does, by culling those with the lowest performance and recruiting the best animals from the Fine and control Lines. This will allow an even greater selection pressure to be exerted in the future, and will help to ensure that the very substantial rate of progress achieved in the last five years is continued in the years to come.

For further information Angus Russel can be contacted at Newton Bank, Frankscroft, Peebles, EH45 9DX, UK (tel./fax: +44 1721 720583).



Oregon's 4th Annual 1998 Pygora Goat & Fiber Frenzy

The 4th annual Pygora Goat & Fiber Frenzy, held in Hillsboro, Oregon, January 10th, provided a showcase for the Pygora goat as a fiber producing animal. The event is held each year during the "prime" fiber season. Animals are in full fleece and in the best condition to demonstrate the unique quality of the Pygora.

As in past years, mature bucks were shown in all their aromatic glory and this year's show set a record for the number of bucks shown. There were also show classes for Junior and Senior does and wethers. A large number of young contestants demonstrated how easily these animals are managed in the ring. A huge turnout of individual Pygora breeders from Oregon and Washington came with their families to show their animals.

Vendors demonstrated and sold fiber processing equipment, crafts and fiber-related products. There were spinning demonstrations and a good chance for beginners to get acquainted with fiber and fiber animals.

Planning has already begun for next year's show. If you would like more information, contact one of the show coordinators at the addresses listed below. If you would like more information about the Pygora goat breed, write to the Pygora Breeder's Association, PO Box 51, Clackamas, Oregon 97015.

Fiber Frenzy Coordinators:

Jackie Liner
16725 Hwy. 22
Dallas, OR 97338
503-623-2376

Lisa Roskopf
51920 SW Dundee Rd.
Gaston, OR 97119
503-985-3331



Callie Liner waits patiently with her wether, Strider for the judge's decision. She didn't win first place here, but Strider won the award for best type A (mohair type) fleece.



Grand Champion Doe, Hawks Mountain Farm Sweet Cherry



The old pros do it again! Millers Farm Eyeore, owned and shown by Hawks Mountain Farm, won Grand Champion Buck award at the Fiber Frenzy for the fourth straight year!

Goat People

*Randy Baker
Randy Baker Excavating
Dallas, Oregon*



**Randy Baker gets acquainted with the girls.
Flour, Bunny and Buffy learn about heavy equipment.**

Randy Baker likes our goats. And our goats like his heavy equipment. When he dug trenches to run the utilities up to our new house, we offered to confine the goats to another pasture so they would be out of his way. He assured us that they were no problem and he enjoyed watching them while he worked.

The goats enjoyed climbing on the equipment and checking out the newly-dug ditches. Sometimes Randy would unearth delectable pieces of roots for afternoon snacks.

We were careful to count the goats after he left to make sure that he hadn't left any buried in the trenches.

Randy also became personally acquainted with our ram, Joe. Randy had accidentally uncovered a nest of baby bunnies with his equipment and came to the house to get something to cover up the nest while he worked nearby. Unfortunately, Paul gave him one of the plastic containers in which we feed grain to the goats and sheep. Joe saw the container as Randy walked back down the hill to the bunny nest and decided that he was to be fed. As large, ill-tempered Joe ran toward Randy, Paul shouted, "Throw the container! Throw the container!"

*Diane Cookingham
Hopkinton, Massachusetts*



**Diane Cookingham's prize-winning photo of
"Bonnie on her Roof"**

by Kathryn Cookingham

My daughter, Diane, age 15, has a 4H cashmere goat project. She goes to an agricultural high school and plans to be a vet some day, specializing in goats, sheep, and lately cows and pigs as well.

She asked me to send in Bonnie's picture. It won first place at her small 4H Worcester County Fair. I suggested she send the newspaper clipping of her spinning cashmere with her Turkish spindle and with her sister Joy dehairing fiber while they sat in the pen with her white cashmere kids at the Fair. But, she insisted I send "Bonnie on her roof."

Combing Tips from Pat Fuhr

Giant Stride Farm
Onoway, Alberta, Canada

Pat Fuhr, Giant Stride Farm, combed over one hundred goats last winter. She says that it really wasn't too strenuous. She enjoys it. She believes that the secret is not to waste your time—if the goat's cashmere isn't lifting out, just move on to the next goat. They all seem to follow their own shedding patterns and she's learned to identify the ones that shed early. Pat prefers the goats that shed the earliest (i.e., January) because she finds that she gets very little guard hair (maybe 5 to 10%). When she finishes combing, she goes through all her fleeces, grades them and sorts out which ones she'll keep and which she'll sell

Pat passes along the following combing tips to us:

Since this is January and our cashmere-bearing friends are beginning to toss their hair to the wind, we decided it would be worthwhile to cover some information about combing your goats. Although shearing is an option, it's not too realistic when the weather is hovering in the minus 30's. Combing enables you to collect the fibre and familiarize yourself with the quality of down each of your animals is producing. Since the animals are shedding the hair anyway, you are not creating any additional stress on expectant does by combing out the loosened down.

If you are combing any number of goats, it will be easier if you follow the steps listed below:

1. Get the fleece bags ready in advance. There should be a separate bag for each fleece and each one should be labeled with the tag number, name, sex and birth date of each goat and your herd prefix (if applicable). Extra large plastic freezer bags work well for this with the labeling information written on masking tape.

2. Try to work through the whole herd once to see who's shedding and who isn't. Start with the longest and finest haired goats first as these are ones whose cashmere will mat if the shedding gets away on you.

3. Use a dog flicker to lightly comb over the surface of the fleece and knock off any surface vegetation and dirt. Soiled or stained fibre should either be discarded or kept in a separate bag.



Carol Spencer (left), Foxmoor Farm, demonstrates harvesting cashmere by combing the goat while Carrie Spencer observes.

4. Work over the coat using a comb which has a few, widely spaced teeth. The comb I use is wooden with a rounded head. It has 22 straight teeth that look like small, dull nails formed in two concentric, V-shaped rows. It is called a Heavy Duty Wood Rake and can usually be found with dog grooming products.

5. Don't waste your energy combing goats that aren't shedding—leave them and go back to them later.

6. Comb in the direction of the hair growth. Shedding seems to begin on the chest, along the belly and in the flank area. Don't comb over bony areas - i.e. the spine. Comb gently on either side of the spine and along joints.

7. Combing Bucks—usually anything other than young buck kids will be too dense and matted to comb. It's best to wait until the weather is milder

Continued on next page

Combing goats

Continued from previous page

and shear the bucks. If you aren't comfortable with shearing, then try to comb out a representative sample of the bucks fleece by taking equal amounts of hair from the neck, shoulder, mid-side and hind-quarters.

8. You will find that some goats are just like the rest of us—they have a good side and a bad side. While combing the good side, they'll peacefully ruminate with eyes half-closed. Touch the other side and they become the goat from hell - kicking, biting and walking over top of you. I've found the best way to immobilize them is simply to clutch the hind foot on the bad side while combing with the other hand.

9. While combing, make sure you kneel on soft straw or use cushioned knee pads.

10. Wear clothing which doesn't tend to create static. I find it best to wear a skidoo suit that has a slick nylon outer shell. The cashmere doesn't tend to stick to it like it would to wool or other natural fibres.

Combing allows you to handle and assess each animal in your herd as an individual— not only for fleece but for size and conformation too. It gives you an opportunity to check their body and skin condition to ensure that winter feed programs and mineral mixes are working effectively. It also substantially reduces your shipping costs since shorn fleeces generally contain about 65% guard hair compared to 10 to 20% or less in a combed fleece.

The growth and shedding of cashmere down follows the winter solstice and can best be summed up as follows:

1. Cashmere growth commences as the daylight hours begin to shorten.
2. Shedding begins when the daylight hours start to lengthen.
3. A flurry of final shedding activity always occurs as the UPS driver pulls out of your driveway with the current years clip.

Hope this is helpful. One thing about combing—it really puts you in touch with the quality of fibre each of your goats is producing.



Snowy hides in the brush in an attempt to keep her fleece.
Photo by Fran Mazzara, Dukes Valley Fiber Farm, Hood River, Oregon



Bad Boys!

These young bucks were jumping the fences and breeding without permission. They are now confined in the penalty box at Pioneer Mountain Farm, Dillon, Montana.

Rapid Manufacturing of Goat Milk Mozzarella Cheese

by **S. Steve Zeng, Ph.D.**

**Agricultural Research and Extension Program
Langston University
Langston, OK**

Mozzarella cheese is an Italian variety. Its popularity has been steadily increasing ever since pizzas were introduced into the United States. The finished product is an un-ripened and soft to semi-hard cheese. Mozzarella cheese possesses characteristic stretching quality and is usually consumed fresh. Traditional manufacturing of this cheese uses a thermophilic starter culture and requires 24 hours for acidity development before working the curd into cheese (i.e. stretching). For making Mozzarella cheese at home using surplus goat milk or for a pure hobby, a rapid method can provide a product you desire without all the hustle to keep starter culture available and without impairing its unique features.

The following rapid manufacturing procedure uses food grade citric acid to replace the thermophilic starter culture for acidity development. One gallon fresh goat milk is used for this step by step demonstration. It makes approximately one pound Mozzarella cheese, depending on goat breeds from which milk is obtained. This procedure takes approximately 5 hours from milk pasteurization to finished product packaging.

Pasteurize the milk at 145° (63° C) for 30 min in a stainless steel or enamel container sitting in a hot water bath.

Cool the milk to 86-88° F (30-31° C) in cold water.

Add 5 g (a full teaspoon) citric acid dissolved in cold water into milk and stir to mix. Alternatively, use 5-6 ml vinegar to replace citric acid.

Add 1.5 ml (approximately 1/4 teaspoon) liquid rennet which is diluted with clean tap water (1:40). Mix well with stirring for 15 sec. Do not prolong stirring as an excessive agitation will damage the curd formation.

Set the milk for 30 min while keeping the temperature at 86-88° F.

Cut the curd into 1/2 inch cubes with a long knife when

clean curd has developed.

Set the cubes for 5 min undisturbed.

Heat the curd to 98-100° F (37-38° C) in the hot water bath with gentle agitation.

Cook the curd at 98-100° F for 20 min with continuous slow stirring.

Drain the whey and put the curd in cheese cloth sitting in a perforated colander. After 5 min, tie up the cheese cloth and hang the curd in the room (in a cooler or a refrigerator during summer season) to continue draining for 30 min.

Cut the curd into strips or cubes and place them in 170-180° F (77-82° C) hot water (2:1 hot water to cheese ratio).

Stretch the curd with a pair of wooden spoons by pinching the strips together. Stretching is done when an elastic and shining mass forms. Usually it takes no more than a few min.

Work the cheese into a ball shape. Immerse the cheese in ice water immediately to keep it in shape.

Immerse the cheese in 18-20% cold brine for 2 hours. Wrap it in a vacuum pack or a zip-lock bag.

The cheese can be used fresh for up to three weeks if stored in a refrigerator. It can also be frozen for later use.

CRR Cashmere Goats & Alpacas

Goats, Alpacas and Fleece for Sale



Tia and Peter Rosengarten
Box 37, Weston, VT 05161

Tel. (802) 824-8190

Fax (802) 824-4072

Book Report

By Linda Fox

Musk Ox Babies of the Far North

by Helen von Ammon

The book, *Musk Ox Babies of the Far North*, written by Helen von Ammon, was delightfully illustrated by Erin Mauterer. The book is soft cover and 46 pages long. It is available from Doodlebug Books at 48 San Antonio Place, San Francisco, CA 94133-4054.

I've had this book for some time. It was sent to me by the author for review. I immediately read the book, admired the cute drawings of the musk ox babies and got sidetracked by other things. The book came to my attention again when I saw a review of it in the Fall 1997 *Black Sheep Newsletter*. Their reviewer noted that she felt the detailed description of musk ox breeding in the final chapter was too graphic for young children. I immediately located the book to re-read that final chapter in case I had missed something good.

Even though I didn't find the final chapter especially exciting, I don't think children will be learning any great secrets about sex from this chapter either. I doubt if they'd know (or care) what estrus means or find interesting why Mr. Horton put his back feet on Mama Chaun's back to "plant his seed."

I would recommend this book for reading to children or to bored adults. Adults might find the book interesting, for a look at musk ox behavior, heavily anthropomorphized of course. The author has spent time at the Musk Ox Farm in Palmer, Alaska and at the Large Animal Research Station in Fairbanks, Alaska, so she is certainly knowledgeable about her subject.

I find musk ox interesting for two reasons. Their undercoat of fine wool (called qiviut) is beautiful; it is a warm rich brown color and is one of the fine fibers often marketed as being "softer and warmer than cashmere." The second reason they are fascinating is because they are so large. As much as I like to spin qiviut, I'd much rather deal with a cashmere goat on a day to day basis.

If you want a few brief facts about musk ox, look in an encyclopedia. If you want a more leisurely stroll and aren't turned off when things are incessantly "cute", buy this book.

Photographs at right by Dorothy Luttrell, Redmond, Oregon, who took them on her 1997 trip to Alaska which included a tour of the Musk Ox Farm in Palmer, Alaska.

Page 14, January 1998



Musk ox are big. I don't know if this one is a male or a female or if it is in good humor or not. The photographer certainly wasn't going to get any closer to check.



Musk ox may be smart. This one soaks her feet in the water tub when it gets hot.

Goats, Fleeces and Lemon Meringue Soup

by Linda Fox



Tom and Ann Dooling in their kitchen. Tom does all the cooking. How does Ann stay so thin!??

Eight eager students representing five states and two countries attended the fiber classing clinic at Pioneer Mountain Farm in Dillon, Montana from October 27th through October 29th. Students arrived the day before the clinic and were assigned rooms and roommates in Tom and Ann Doolings' bed and breakfast facility. We toured the Doolings' farm along with the PCMA conference participants Sunday afternoon. We then settled into our digs and were introduced to Tom Dooling's excellent cooking that evening.

The class came to two quick conclusions at the end of Sunday evening. We were going to have a good time and our walks around the ranch, to look at goats, visit the ranch office and the Montana Knits' factory were not going to be enough exercise to compensate for the calories consumed in Tom's meals.

During the next two and one half days, we individually graded 76 fleeces and looked at numerous others—on and off goats. We were introduced to classing terms including style, MFD, crimp, color, run out and cashgora. And we traded stories and experiences with one another, often long into the night.

Our instructor, Ann Dooling was excellent. She has probably, over the years, looked at as many or more individual cashmere fleeces than anyone else in the United States. As a cashmere goat breeder from the beginning of the industry in this country and as

a designer and manufacturer of cashmere garments, she has a good overall view of cashmere on and off the goat. She knows what needs to be produced on the goat to enable the creation of a marketable garment. We deluged her with questions and looked at cashmere until we could even see cashmere when our eyes were shut.

In learning to class cashmere, nothing substitutes for simply looking at a lot of it. We looked at piles of it, sometimes, without our knowledge, looking at the same fleeces more than once. By the end of the class, even though not yet feeling competent to go out and class the world's goats, we had a much better understanding of what classing cashmere was all about.

In Ann's classing system, a fleece is classed using four characteristics—diameter, style, yield and color. Of course to qualify as anything, the fleece must first have an adequate length. If you have sent fleeces to Pioneer Mountain Farm for sale and asked Ann to class them, you would have noticed these categories on your classing sheet.

In this clinic, we learned to subjectively measure these four attributes of cashmere. Growers can also objectively obtain measurements for all attributes except style. However, on a working farm or ranch, a grower needs to make decisions sooner and more often than objective measurement often allows. Being

Continued on next page



The class attempting to grade yet another roomful of fleeces

CASHMIRROR

Classing with Ann

Continued from previous page

able to quickly estimate the attributes of our goats' cashmere is a valuable tool.

We learned when classifying a fleece, the first test is to feel the fiber. A cashgora fleece will often be slicker feeling than a cashmere fleece. A cashmere fleece should feel "cottony." A cashgora fleece also often has a shine to it (luster) that will not be present on a cashmere fleece.

After the look and feel tests, several small samples are pulled from the fleece in order to pull apart and look at individual fibers, for length, for style and for color. It helps to have natural light for this examination although we found that too much light of any kind shining through our small, thin samples can be a problem for close scrutiny of individual fibers. It is important to look at several different samples, as the fleece may vary.

A further definitive test is to observe which fleeces the barn cats choose for their naps. Discriminating Dooling cats have seen these fleeces before and know where the softest ones are located.

Continued on next page



"Is this white or not?"

Debra Leunen (left) and Janet Hanus inspect fleece.



Jake, the Border Collie, keeps an eye on Sheba, the cat.
Which fleece will Sheba choose for her nap?

Grading Options

<u>Fleece characteristic</u>	<u>Grading choices</u>
Diameter	Fine Medium Coarse Cashgora
Style	Excellent Good Marginal Cashgora
Yield	The percent of cashmere in the fleece in relation to guard hair, by weight
Color	White cashmere Gray cashmere Brown cashmere White cashgora Colored cashgora

Classing with Ann

Continued from previous page

A fleece's diameter is classified as fine cashmere, medium cashmere, coarse cashmere or cashgora. A fleece categorized as "cashgora" can be classified thus due to its diameter (too coarse for cashmere) or due to its lack of style (crimp).

The style of a fleece is categorized as excellent, good, marginal, or cashgora. An excellent style fleece has the most crimp, while a cashgora fleece lacks adequate crimp to be considered cashmere.

By cashmere standards, a cashgora fleece needs to have some cashmere in it to be classified as cashgora. If all the down in the fleece lacks adequate crimp and/or is too coarse, it isn't even cashgora. A cashgora fleece might have a quite nice crimp, but its diameter might be too coarse to be considered cashmere. A cashgora fleece can be very fine, but have a poor style, or it can contain some cashmere fibers with a good style and some straighter fibers.

Fibers can have good style along some of their length and become straighter toward the end, a condition referred to as "run out." "Run out" on a fiber for 1/4 to 1/3 of its length will cause an otherwise nice-styled fiber to be classified as cashgora. Run out at the very tip is not as much of a problem. This can be caused by weathering of fibers which extend beyond the guard hair of the goat.

Yield is expressed as a percentage. This percentage represents the estimated amount of cashmere which will end up in the finished cashmere product. The yield is the estimated cashmere percentage, by weight, left after the fleece is washed, dehaired and spun into yarn. Per Ann, she has come to the conclusion over the years that the yield percentage is not important. What is important is the amount of cashmere obtained from the goat. As long as the yield is high enough that the cashmere can be effectively dehaired, the yield percentage, alone, is not an important number. A goat with a 1,000 gram fleece with only a 10% yield would produce the same amount of cashmere as a goat with a 500 gram fleece with a 20% yield.

By multiplying the yield percentage by the total weight of the goat's fleece, an estimate of the total cashmere produced by the goat can be obtained. Per Ann, the Australians have a method of estimating yield



The boys round up yet another wad of goats for the class to yank out their cashmere and grade. Why are these goats not too eager to come to us?



Julie Becker (right), a visitor from Nebraska and Ann Dooling check out the cashmere on Pantaloons. She's loaded with fuzz, but they were concerned that her fiber might not have enough style to avoid the dreaded cashgora category. Everyone in the class would have adopted Pantaloons in a second, regardless of the classification of her crimp.

Continued on next page

Classing with Ann

Continued from previous page

based on the ratio of the guard hair length to the down length. She doesn't believe this method is very accurate as it would assume that S/P ratios are the same for all goats. The S/P ratio is the ratio of the number of secondary hair follicles on the goat (where the cashmere comes from) to the number of the primary hair follicles (which produce the guard hair)

Color seemed like it would be the easiest category, but it proved more difficult than we thought. Fleeces are classed into the colors of white, gray, brown, white cashgora and colored cashgora. A fleece which includes white cashmere or cashgora and colored guard hair will be considered a gray fleece. Determining between gray and brown is often difficult. I had difficulty deciding whether the fleece color was a brownish gray or a grayish brown. In my classification of colors on our farm, I push any fleece I can into the brown pile because I prefer brown to gray, but for the clinic, I tried to be more traditional in my color classifications.

In Ann's classing system, fleeces are separated for classing into only five cashmere/cashgora lines: white cashmere, brown cashmere, gray cashmere, white cashgora and colored cashgora. The classifications for diameter and style may be important for breeding decisions, but when fleece is purchased by Montana Knits, the decisions are only two:

Is it cashmere or cashgora?
What color is it?



Go across the back yard and over the little bridge...to the office for Montana Knits and Pioneer Mountain Farm.

If a fleece makes the grade for cashmere, it is either white, brown or gray. If it is cashgora, it is either white or not white. Per Ann, a country needs a greater quantity of cashmere than the United States currently produces to justify additional classification categories for cashmere.

As an aid to fleece classification back on our individual farms, we created a fleece sample chart using only black construction paper, scotch tape and wads of cashmere from various fleeces.

Samples were taken from fleeces which had been sent out for objective testing, so in addition to our visual conclusions, we were able to add the samples' actual diameter as measured by a testing lab. Samples include fine, medium and coarse cashmere of various colors, white and colored cashgora, a sample of a fleece with "run out" and the "fleece from hell", a fleece that was so varied that three samples taken delivered three different classifications.

In addition to looking at a million or so fleeces, when our eyes needed a break, the class toured the Montana Knits knitting factory. Ann gave us an overview of their process for designing and creating cashmere products. Several employees were hard at work on knitting machines turning her visions into reality.

Continued on next page



Ann Dooling's Classing Class of '97 proudly display their schoolwork. From left to right: Back row: Christi Erickson (Roundup, Montana), Debra Leunen (Lancaster, Missouri), Janet Hanus (Monmouth, Oregon), Diana Hachenberger (Hamilton, Montana), Linda Fox (Dallas, Oregon), Josie Baine (Eatonville, Washington). Front row: Betsy Wahl (Clancy, Montana), Ann Dooling, and Cherie Thompson (Whitehorse, Yukon Territory, Canada).

FORAGE AND RANGE RESEARCH LABORATORY**Classing with Ann**

Continued from previous page

A favorite stop for students in the knitting factory tour was the stop by the inventory room. We admired many styles and colors of sweaters, robes, socks, hats, scarves, dresses and blankets created on the machines in the rooms next door.

Montana Knits' products are created from cashmere which is commercially dehaired and spun into yarn. The yarn is then knit on machines in their factory on the farm, dyed in the factory kitchen and shipped to eager consumers. In addition to the Montana Knits inventory of products, they also do a business in custom orders. We looked at a sweater which a customer had mailed to the company. The man wanted a cashmere sweater made similar to the style of the one he had sent.

About the lemon meringue soup. One late afternoon Tom made a lemon meringue pie. I believe it was intended to be consumed the next day, but diligent class members saw him making it and the "herd" could not wait. After dinner, everyone refused to leave the dinner table until the pie was produced. Tom's resolve to hold the pie until it was properly cooled was no match for nine slobbering females. The pie was served. It was runny, but we didn't care; we served it in bowls.



The class eats again—another of Tom's delicious meals. Grading fleeces is grueling work requiring frequent replenishment of energy.

Agricultural Research Service
United States Department of Agriculture
In Cooperation
With Utah Agricultural Experiment Station And
Utah State University

Research efforts of the Forage and Range Research Laboratory are focused on broadening the genetic base of rangeland and pasture plants and providing an array of improved grasses, legumes, and forbs for upgrading private and public lands in the western United States. Improved plant germplasm is developed to meet the specific needs of conservation, restoration and reclamation efforts, and recreational and forage-animal production purposes on semiarid lands of the Intermountain West.

An extensive germplasm base has been established that serves as a gene pool for genetic improvement. Significant broadening of the genetic base continues to occur through interspecific and intergeneric hybridization efforts and unique germplasm collection trips, both domestic and foreign. Plant materials are screened for tolerance to environmental stresses, including moisture, salinity, cool temperatures, and resistance to pathological factors such as nematodes. Selected genotypes are incorporated into breeding programs. Cytogenetic evaluations and characterizations of existing germplasms increase the utility of the plant collection and enhance the efficiency of the breeding efforts.

Physiological studies provide critical information about nitrogen uptake and metabolism, plant growth in cool weather, and on plant adaptations to water deficits. This information expedites the development of improved germplasm. Advanced techniques in molecular biology including genetic transformations, polymerase chain reaction technology, random amplification of polymorphic DNA and DNA sequencing are used to define and broaden the genetic base and to enhance biodiversity of plant materials available for use on semiarid lands.

The FRRL welcomes feedback as they try to keep you up-to-date on research activities at FRRL. General questions and comments about FRRL may be directed to: Dr. N. Jerry Chatterton, Research Leader, USDA,ARS,FRRL, Utah State University, 695 N. 1100 E., Logan, UT 84322-6300, phone 801-797-2249, Fax 801-797-3075, email njchatt@cc.usu.edu.

The above information is from the FRRL's internet pages at <http://www.forages.css.orst.edu>

THE GOAT SKELETON

The following information is summarized from the Extension Goat Handbook via their internet page.

About one third of the weight of bone consists of an organic framework of fibrous tissues and cells. This organic matter gives resilience and toughness to bones. The remaining two-thirds of the weight of bone consists of organic salts (largely calcium and phosphorus) deposited within the organic framework. These salts give hardness and rigidity to bones.

Classification of Bones

Long bones are greater in one dimension than the other. Long bones function chiefly as levers and aid in support, locomotion and prehension. The best examples of long bones are found in the limbs.

Short bones are somewhat cuboidal, or approximately equal in all dimensions. Short bones function in absorbing concussion, and are found in complex joints such as the knee or hock where a variety of movements, as well as absorption of shock are required.

Flat bones are relatively thin, and expanded in two dimensions. They function chiefly for protection of vital organs (e.g. brain, heart, lungs, pelvic viscera), but also provide large surface area for muscle attachment.

Sesamoid bones resemble a sesame seed and are developed along the course of tendons to reduce friction or change the course of tendons. The patella (knee-cap) is the largest sesamoid bone in the body.

Pneumatic bones contains air spaces that communicate with the exterior. Found in the skull.

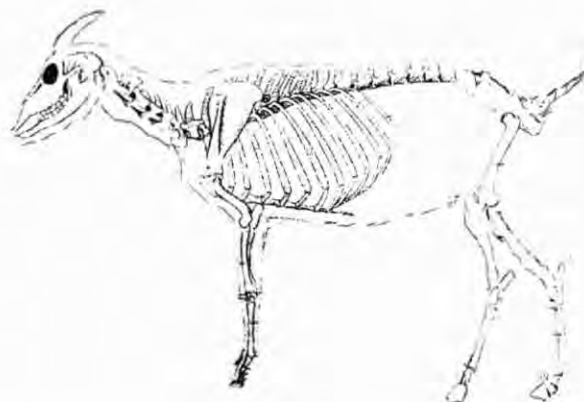
Irregular bones are unpaired bones located in the median plane, e.g. vertebrae and sternebrae, etc. Irregular bones are important for protection, support and muscle attachment.

Function of Bones

Some common functions are:

- Give rigidity and form to the body.
- Provide protection.
- Act as levers.
- Store minerals, especially calcium and phosphorus.
- Provide a site for blood formation.

The Skeleton consists of two parts—the axial skeleton, including the skull and the vertebral column (sternum, ribs) and the appendicular skeleton, includ-



ing the fore-limbs and hind-limbs.

The Axial Skeleton includes almost all bones, except those of the limbs. It consists of four parts:

1. Skull is that part of the skeleton which forms the basis of the head. It functions in protection of the brain, supports many of the sense organs and forms passages for the beginning of the digestive and respiratory system. The skull is composed of a large number of bones which are joined together by joints called sutures. The large number of bones, and their slightly differing shapes and sizes in various animals accounts for the difference in the shape of heads of individual animals.

2. Vertebral Column is composed of irregular bones called vertebrae. There are five different regions of the vertebral column.

3. Sternum forms the base of the chest cavity (thorax). The sternum consists of small bone segments, called sternebrae, which tend to fuse together as age advances. The goat has 7 sternebrae.

4. Ribs form the lateral walls of the chest cavity (thorax). Usually the number of pairs of ribs equals the number of thoracic vertebrae, e.g. goat has 13 thoracic vertebrae and 26 ribs usually.

The Appendicular Skeleton is made up of the bones of the limbs.

The outline of the goat, or its basic conformation, relates to its bone-framework, or skeleton. The stature of an animal, its body capacity, legs, feet, etc. are directly associated with the skeleton.

A sound knowledge of these anatomical basics is a must to the breeder, who takes interest in an animal's conformation, and tends to breed a more productive animal.

NEW GOAT URL'S

(In no particular order)

by Paul Johnson, Resident Nerd

Farm Journal Today

<http://www.farmjournal.com/>

Excellent resource for ag-news (Spiro?) and events in US.

International Goat Association

<http://www.elsevier.nl:80/estoc/publications/store/8/09214488/> (whew!) Summary of article, titles only, from Small Ruminant Research, published by IGA.

Animal Diseases

<http://www.mic.ki.se/Diseases/c22.html> Karolinska Institute Library, Sweden—links galore all over the world on animal diseases. A good one.

University of Milano, Italy

<http://www.unimi.it/engl/inglate.html>

Anyone know Italian for "goat" and "cashmere"??

Animal Cartoons: Fun With Fur and Feathers! <http://www.borg.com/~rjgtoons/fun.html>

Cartoons by Randy Glasberger. Didn't see any on goats, but still worth visiting.

China Network Center

<http://www.xanet.edu.cn/xjtu/newxjtu/xjtu/network/network.html>

China Northwest Regional Network Center(CNRNC), which is responsible for connecting universities and research institutes in Northwest China into the national backbone network. CNRNC is one the 9 regional centers of the China Education and Research Network (CERNET).

Shanghai Institute of Domestic Animal Parasitology, Chinese Academy of Agricultural Sciences

<http://www.ihep.ac.cn/ins/ANI/ani.html>

USDA Crop and Animal Systems

<http://www.ussl.ars.usda.gov/CAPS/caps2ga.htm>

National Research Program—links are good, but technical.

DAD-IS

<http://dad.fao.org/dad-is/links/index.htm> Domestic Animal Diversity Information System, Food and Agriculture Organization of the United Nations. Links are concerned with animal genetic resources management.

Binas Online: Search

<http://binas.unido.org/binas/exsearch.html> Biosafety Information Network and Advisory Service (BINAS) is a service of the United Nations Industrial Development Organization (UNIDO). BINAS monitors global developments in regulatory issues in biotechnology. For the truly gifted (or disturbed)

nerd.

Getting Your Goat

<http://redfrog.norconnect.no/~rgs/goatlnk.html> Everything You Ever Wanted To Know About Goats But Didn't Know Who To Ask. (Their title, not mine.) Has good North American links to supply houses, newsgroups, and other good goat stuff.

Farmers' Links

<http://www.farmwide.com.au/nff/TFGA/links.html>

Links to Australian Farm sites.

Agricultural Science

<http://babel.its.utas.edu.au/docs/agsci/agscience.html>

Home page of the Department of Agricultural Science at the University of Tasmania.

Heifer Project International

<http://www.heifer.org/>

also at <http://www.intellinet.com/Heifer/Animal.html> (See article page 11 this issue.)

Rolig Goat Ranch

<http://www.pagosasprings.net/cashmeregoats/>

Steven and Ellen Rolig's page from Pagosa Springs, Colorado. Love the picture of cashmere goats in the snow.

Cyber Goats

<http://www.cybergoat.com/>

Really worth a visit!!! Be sure to have your CD on pause. Free Breeders Directory listing! Very nice page.

AGBRIEF

<http://www.inventas.co.nz/agbonline.html> New Zealand Agricultural and Farming News

Laboratory Animal Care Information Sites & Resources

<http://ianrwww.unl.edu/ianr/anisci/Beck/animalcare.htm>
Just what it says, LINKS to animal care sites.

Agricultural Conferences, Meetings, Seminars Calendar

<http://www.agnic.org/mtg/98l.html>

1998 animal events, mostly scientific, but give it a look.

Nerd World : AGRICULTURE

<http://www.nerdworld.com/users/dstein/nw508.html>
Good links of various Ag stuff.

Homestead Sheep and Fiber Products

<http://doorcounty.org/mkt/homestead/homestead.html>

And there's yet more (yawn!) on the next page...

URL's

Continued from previous page

Nora and Jim Ahlen's Homestead Sheep & Fiber Products, Door County, Wisconsin, USA. It's a wool deal mostly, although they have cashmere goats.

BTTG home page
<http://www.bttg.co.uk/>
BTTG, the former Shirley Institute.
UK textile industry's research institute.

European Fine Fibre Network
<http://www.mluri.sari.ac.uk/~mi573/>
Thematic network of European researchers, producer organizations and textile manufacturers engaged in research and development on the production and processing of high quality animal textile fibers of European origin. Includes cashmere herd and research.

The German Wool Research Institute at the University of Technology Aachen (DWI)
<http://www.rwth-aachen.de/dwi/>
I don't remember enough German to advise on this one.

Goat Sucker / Chupacabra
<http://www-user.cibola.net/~rmedrano/>
Is this dastardly, dreaded, desert-dwelling goat-eater myth or fact? Not for the timid! Will keep you up nights, and cause you to buy more (many more) guard dogs.

Steve Hachenberger's venture into the Internet
WWW.HTTP.1-800-Goat-FMR.COM. @Castle.Crags.Kis.Goat/on/Lps./Comm./@Fiberon Bed W//Steve.Comm
Steve claims to have a home page at this address but so far I haven't been able to get it to work. Steve?

4-H Cashmere Goat Project
[http://www.tri-lakescashmere.com/4h.htm#Cashmere Goat Handbook](http://www.tri-lakescashmere.com/4h.htm#Cashmere%20Goat%20Handbook)
4-H Cashmere Goat Project, Monument, Colorado.

Wool and Mohair Research Laboratory
<http://agweb.tamu.edu/sanangelo/WMRL/index.htm>
Texas A&M Lab, home of Dr. Christopher Lupton, noted researcher and Mild Goat Men member!

Animal Science's Home page
<http://www.chonnam.ac.kr/~as/eframe.htm> Department of Animal Science, the College of Agriculture, Chonnam National University
Kwangju, Korea. Didn't see any goats, but interesting.

GoatWeb—Symbolic Goats
<http://www.goatweb.com/myth.html>
Page 22, January 1998

Goats in mythology, religion, and folklore. Also, entry to THE web site dedicated exclusively to GOATS! This one is REALLY worth a look! Very nice list of goat-need supplies, and more.

Sandhills Cashmere
<http://members.aol.com/fibergoats/homepage.html>
New page by Mark and Karen Crouse, Nebraska. They have the Northwest Stock Show cashmere goat winners already listed and information about the show.

If you have an interesting goat site, e-mail Paul at goatknol@teleport.com
If you are as lazy as Paul, have him e-mail this article to you so you can just click on the address!!



Waiting for the graphics to download...

Calendar of Events

Association Contacts

February 14, 1998

Terry Sim Classing Clinic
Glacier Valley Cashmere, 9817 381st St. E., Eatonville, WA 98328, contact Jim and Josie Baine at 360-832-4442, for reservations, directions, more information.

February 21, 1998

Terry Sim Classing Clinic
Northwest Cashmeres, 19025 SW Hillsboro Hwy., Newberg, OR 97132. Contact Paul Johnson or Linda Fox at 503-623-5194, for reservations, directions, more information.

February 20 - March 8, 1998

Houston Livestock Show
713-791-9000, www.hlsr.com

May 1-3, 1998

Fiber in the Forest VI, Roseburg, Oregon. Workshops in spinning, hand weaving, basketry, felting
For information contact Marlena Nielsen
2841 Nelqua Rd, Roseburg, OR 97470

May 2-3, 1998

25th Maryland Sheep & Wool Festival
Howard County Fairgrounds, West Friendship, Maryland. For information contact PO Box 99, Glenwood, MD, 21738, phone 410-531-3647

June 4-7, 1998

Estes Park Wool Market & Fiber Animal Show
Estes Park Fairgrounds, Colorado. For information contact Estes Park Wool Market, Fairgrounds, PO Box 1967, Estes Park, CO 80157
Phone 970-586-6104

June 6-7, 1998

Big Sky Fiber Arts Festival
Ravalli County Fairgrounds, Hamilton, Montana, Animals shows, demonstrations, workshops, vendor booths, For information contact Diana Hachenberger, 406-961-3058.

June 19-21, 1998

Black Sheep Gathering, Lane Country Fairgrounds, Eugene, OR

American Meat Goat Association

W. E. Banker, President, 512-384-2829

Cashmere America Co-operative

Joe David Ross, Manager, 915-387-6052
fax 915-387-2642
Wes Ackley (Maine) 207-336-2948
Marti Wall (Washington) 360-424-7935

Cashmere Producers of America (CaPrA)

Marilyn Ackley, President
Phone/fax 207-336-2948
ackley@megalink.net
CaPrA office: 512-452-5205, fax 512-452-5521

Colorado Cashmere and Angora Goat Association (CCAGA)

Carol Kromer, Club Contact, 719-347-2329

Eastern Cashmere Association (ECA)

Ray Repaske, President, 540-436-3546
cashmere@shentel.net

North West Cashmere Association (NWCA)

Pat Almond, President, 503-632-3615
razberi@teleport.com

Professional Cashmere Marketers' Association

(PCMA), Tom and Ann Dooling
406-683-5445
knits-pioneer@worldnet.att.net

Texas Cashmere Association

Ruben Ortegon, President
915-646-1055

Western Prairie Cashmere Association

New contact not yet known

Wild Goat Women

Debbie Walstead, Chairperson
719-495-2962

BREEDERS DIRECTORY

ARIZONA

CAPRON COUNTRY CASHMERE

Gabriele M. Drewry
35039 N. Central Ave.
Phoenix, AZ 85027-7481
602-780-9704
Fax: 602-780-9715
email: GDrewry@aol.com

RANCHO VERDE

Christine Acridge
15419 E Rio Verde Drive
Scottsdale, AZ 85255
602-471-3802

CALIFORNIA

Sherry McVickar

1662 Dwight Way
Berkeley CA 94703-1804

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Steamboat Springs, CO 80477
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email: bert@cmn.net

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Mary Hotko
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Moores Hill, IN 47032
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email: ackley@megalink.net

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Washington, ME 04574
207-845-2722
email: Lance@airs.com

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CASTLE CRAGS RANCH

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894 Pheasant Run
Hamilton, MT 59840
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Fax: 406-961-4770

PMF CASHMERE COMPANY

Tom and Ann Dooling
3299 Anderson Lane
Dillon, MT 59725
406-683-5445
Fax: 406-683-5567, email:
knits-pioneer@worldnet.att.net

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Fax: 406-466-5951

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Cozad, NE 69310
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308-623-2627
email: ajbecker@PrairieWeb.COM

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Gardnerville, NV 89410
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Fax: 702-265-1814
email: cashmere@sierra.net

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937-568-4994
email: annwood@erinet.com

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ABORIGINAL FIBRE

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503-373-9724
Fax: 503-362-8323
email: eric@hiffly.com

BLAUW DAK RANCH

Bill DeJager
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Birkenfeld, OR 97016-7226
Voice & fax: 503-755-2005
pager: 503-229-2776
email: blauwdak@3dwave.com

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Pat Groves
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Oregon City, OR 97045
503-631-7806
email: pgroves@europa.com

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21605 McCormick Hill Rd.
Hillsboro, OR 97123
503-538-9791

FOXMOOR FARM

Carol J. Spencer
1178 N.E. Victor Point Road
Silverton, OR 97381
Phone: 503-873-5474
Message: 503-873-5430

GOAT KNOLL

Paul Johnson/Linda Fox
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Dallas, OR 97338
503-623-5194
Fax: 503-624-1704
email: goatknol@teleport.com

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Guy and Karen Triplett
63300 Silvis Road
Bend, OR 97701
541-388-8992

HAWKS MOUNTAIN PYGORA'S

Lisa Roskopf & George DeGeer
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Gaston, OR 97119
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Fax: 503-985-3321
email: hawksmtm@aol.com

HOKULANI FARMS

Cynthia and Karl Heeren
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Bend, OR 97701
541-388-1988
email: hokulani@bendnet.com

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Monmouth, OR 97361
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email: janhanus@open.org

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Newberg, OR 97132
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Baker City, OR 97814
541-523-9859
Fax: 541-523-9436

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95150 Turnbow Ln.
Junction City, OR 97448
541-998-3965
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Sweet Home, OR 97386
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email: cashmere@proaxis.com

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Central Point, OR 97502
541-855-7378
email: brimble@cdsnet.net

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Salem, OR 97302
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Ashland, OR 97520
541-890-1998

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PHEASANT HILL FARM
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New Hope, PA 18938
215-598-7627
email: phcashme@voicenet.com

TEXAS**BAR Y RANCH**

James Barton
PO Box 915
Sonora, TX 76950
915-387-5284

UTAH

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Heidi J. Smith
7980 Long Rifle Road
Park City, UT 84060
801-649-3856
email: heidi.smith@genetics.utah.edu

VERMONT**CRR CASHMERE**

Tia and Peter Rosengarten
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Weston, VT 05161
802-824-8190
Fax: 802-824-4072

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CASHMERE GOATS/SHETLAND
SHEEP
RR 1, Box 200
Cavendish, VT 05142
802-226-7324
Fax: 802-226-7750

VIRGINIA**STONEY CREST FARM**

Anne and Roy Repaske
570 Paddy's Cove Lane
Star Tannery, VA 22654
Phone/fax: 540-436-3546
email: cashmere@shentel.net

WASHINGTON**BREEZY MEADOW CASHMERE FARM**

Douglas and Roberta Maier
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Bellingham, WA 98226
360-733-6742

BROOKFIELD FARM

Ian Balsillie/Karen Bean
PO Box 443
Maple Falls, WA 98266
360-599-1469

GLACIER VALLEY CASHMERE

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Eatonville, WA 98328
360-832-4442

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Naches, WA 98937
509-658-2502

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Twisp, WA 98856
509-997-2204/509-421-3107
email: dmullins@methow.com

SUNNYHILL CASHMERE

Coleen McCrory/Paul Washington

Continued on next page

Breeders Directory
Continued from previous page

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Lummi Island, WA 98262
360-758-2927
Fax: 360-758-7101

WALLFLOWER FARM
Dan and Marti Wall
1667 Beaver Marsh Road
Mt. Vernon, WA 98273
360-424-7935
Fax: 360-428-4946
email: cashmere@sos.net

CANADA

GIANT STRIDE FARM
Pat Fuhr
RR #3
Onoway, Alberta TOE IVO
403-967-4843
email:103600.1332@compuserve.com

TRAILTREE FARM
R.R. #1
Woodville, Ontario KOM 2TO
1-705-374-5527

MEXICO

EL MORO
Fidel Florez B.
Tecnologico #58 - APDO. #31
Parral, Chih, Mexico 33800
Phone: 3-062

Note: Don't forget that all the breeders above are also listed on the internet at:
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From this internet site, you can link directly to the breeders' email, for those who have email. There is also a direct link to the home pages of any breeders above who have them.



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