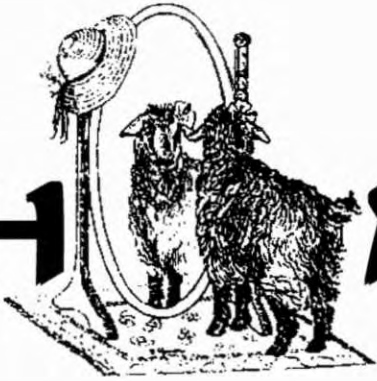


CASHMERE MIRROR

A black and white illustration of two goats. One goat is standing and looking into a circular mirror. The other goat is standing next to it, also looking towards the mirror. A hat is hanging on a stand above the mirror.

Volume 12, Issue 7

May 2001

The monthly magazine devoted to cashmere goats and their fiber



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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: Doug and Roberta Maier
Breezy Meadow Cashmere Farm, Bellingham, Washington
Bonnie—"Will grow cashmere for food."**

New Photography Contest for Readers!

Deadline for Submission: September 1, 2001

Summary of Contest: You send us photographs—any size, black and white, color, digital, we don't care—with a caption, if you want (not required). Tell us in which of the three categories you would like your photograph entered, or you can even let us decide. We'll either judge the contest ourselves or possibly hire/bribe a qualified panel of judges, depending on how ~~lazy~~ busy we are at the end of the contest.

Categories:

Smartest Goat: Your photograph will need to illustrate the superior mental capacity of your goat—which shouldn't be difficult. We all know that our goats are smart, but can we capture this on film?

Cute Kid Contest: This category is like the "Cute Baby Contests" of olden days; we're sure that our goat kids must be at least as cute as human kids. Submit a photo of a cute kid or a whole passel of cute kids.

Other: This is the category for that incredible photo that just doesn't fit in the first two categories. Anything will fit here.

Prizes: Grand Prize (Best of Show) - \$100 shopping spree at Caprine Supply! 1st prize for each category - One year subscription (or subscription extension) to CashMirror, 2nd prize for each category - CashMirror or MGM T-shirt (your choice), 3rd prize for each category - a copy of Linda Fink's new book, More Life in the Goat Lane. We're talking ten prizes up for grabs here! However, we're sure that, regardless of the prizes, you'll want to enter anyway just for the pure glory of winning.

Other Important Info: We'll return your photographs to you unharmed. So drag out those cameras, dust them off, buy some film and follow those goats around! Who knows what you'll manage to capture on film.

Go Forth and Photograph!



Smart Goats celebrating Christmas the old fashioned way—eating the tree.



Cute Kids—Fred and Barney looking for Wilma and Betty.



Other—Who needs a Harley?
(I'm going to die for this—Ed.)

Reflections

by Linda Fox

Raising Goats—With Style and Grace

Have you noticed how some people seem to just bumble on from one day to the next, existing without any particular thought to what anyone else thinks? Others seem more intent on exhibiting a sense of personal style and grace than they do about actually accomplishing anything. Most of us fall in the middle somewhere—we want to get things done that are important to us, but we would also like to be admired for living with style.

Of course, there are different views on what is stylish and what is not. Everyone would agree that living on a yacht sailing from tropical island to tropical island is living with a fair amount of style, and that tossing trash out of our car windows is on the tacky side, but there is a range in the middle that is defined mostly by the eye of the style critic.

At work recently, one of our auditors was complaining that her husband wanted to put a large wooden bear in their front yard—one of those rough-hewn ones created by artists with chain saws. The auditor didn't approve of the bear, thinking it was bit tacky, but thought she could live with it. Its purpose was to camouflage something to do with their utility hook-up.

The auditor's dilemma was that her husband, after consulting with the artist had ordered instead, a life-sized Rocky and Bullwinkle statue (also chain saw art). She was upset. She didn't want their classy house and front yard—their front door to the world's eye—marred by a tacky wooden cartoon duo. I quickly agreed that it certainly sounded awful to me and I wasn't sure how she was going to be able to continue to face her co-workers and neighbors.

Later in the day, pondering the Rocky and Bullwinkle problem, I realized that my husband and I have a pig living underneath our front porch. I wonder what the auditor would think of that. Mittens, our longtime potbellied pet pig is special. She used to have her own small shed next to our old house, which was somewhat rustic by anyone's standards. When we moved to our new house, we didn't think much about it; there was a nice sheltered area under the front porch, so we tucked Mittens' house back in the corner under it and she happily moved in. Visitors to our house often seem surprised when our rotund darling waddles out from under the porch to greet them, but I'd never stopped to consider that Mittens' living arrangement might be detracting from our stylish way of living.

I'll bet the chicken house within a stone's throw of the front door might not fit into the "House Beautiful" way of life either. Paul and I built the chicken house a couple of years ago using mostly wood salvaged from the deck of the old house. We built the house on stilts so that the dogs would have easy access to any mice or rats who might want to move in. It seemed that preventing rats would perhaps be more "graceful" than having to catch them with giant rat traps baited with gobs of peanut butter and bologna, like we used to in our previous chicken house.

I'm sure that some of you are thinking that even a chicken house free of rats can't be considered classy. However, I saw an article once featuring Martha Stewart and her chicken facility in her back yard, so I know that you can live with style and still keep a few chickens. Martha's chickens probably wore diapers, were given daily bubble baths and had their eggs polished to a perfect shine, but I figure we don't have to go that far to obtain the acceptance and admiration of our friends and neighbors.

The definition of style changes over time. Not that many years ago, it was acceptable to toss your trash in the low spots on your property—tin cans, bottles, old car bodies—anything the chickens wouldn't eat. The draw on our property has an assortment of leftovers from earlier days which weren't nearly as obvious before the goats cleared the brush. I hope nobody thinks that *we* put the trash there! We may have to clean it up just to live with style—or at least take the goats out of the draw so nature can re-camouflage our predecessors' sins. These days, just disposing of your trash in the designated spot—your curbside can or the county dump—is not as environmentally correct or stylish as finding a place to recycle it.

I guess before we start worrying too much about the trash in the draw, the chicken house convenient to our front door or the pig under the porch, we should come to grips with the fact that we raise goats. In many peoples' minds, goats—any breed, any condition, any care method—puts their keepers firmly in the no-style zone. Among many non-goat people, goats are just plain tacky. No matter how you slice them, goats don't make the grade of the well-groomed poodle or the Burmese cat. Probably not even close to a Jersey cow or a well-fed hog.

However, the good news is that since we will never make it to the ranks of those living with grace and style, we won't have to worry about changing anything else.



Evaluating Goats

(It's Not as Hard as You Think)

By Marilyn Ackley

Bessey Place Cashmere, Buckfield, Maine

Reprinted from the Winter 2001 Eastern Cashmere Association's Hoofprints newsletter.

Life was easy when Terry Sim was making his annual farm visits, bringing a mountain of evaluation forms and one pair of eyes that assessed animals from coast to coast. His comments were invaluable, but his evaluation sheets were a pain. With ten entries to a page, lots of code was tucked in very little space. Kris McGuire developed a much more comprehensive form for the Cashmere Wyoming project, a form which results in a total assessment that can be fed into a database. If we ever get a national goat registry, it will certainly be based on Kris's work.

Meanwhile Wes and I needed a form on which to create an annual report on our goats and fleece. We blended things from Terry's and Kris's forms and worked to make the evaluations readable. We came up with a form that really does work, and it has the advantage of being mostly compatible with Kris's database. Although it isn't quite like having one pair of eyes moving from farm to farm, it does allow people in various places to use a consistent set of measurements. My plan here is to define the measurements item by item. If I manage to write helpfully and accurately, and you are willing to spend some time practicing, we will be able to compare goats that never will stand side by side. To become an evaluator, photocopy a supply of the form printed on the next page, invest in a retractable ruler (fabric rather than a carpenter's metal rule) and a handy six-inch ruler, and head to the barn.

One bit of explanation before you put on your barn coat. People familiar with Terry's forms will be surprised that the Ackley forms are based on three gradations per category. We used threes to correspond with the Cashmere Wyoming system in which a goat with lots of three ratings would be indexed as a superior goat by the computer. Some people will miss the legendary Style Four rating for fleece; however it must be noted that Terry added that fourth step grudgingly and in truth, awarded very few Style 4's. He preferred to use a 3+ for excellent style. Similarly his Frame 4 was huge, and Condition 4 was fat. Except in rare situations, he did just fine with threes. We are following suit, and using pluses and minuses where needed to distinguish among goats.

FILLING OUT THE FORMS

Farm/evaluator/date

Judging from the life span of Terry's evaluations, many of which are still floating about, your sheets may pass from farm to farm, especially if your champion buck is included. It is important for anyone who picks up a sheet to know that the evaluation happened at your farm, that you are the evaluator, and when the evaluation was done. Even if you never share the information with anybody, you will find it valuable to have the heading correct. At the very least it will fend off family arguments about who decided that a certain goat had such great fleece two years ago.

Name/tag number

Even if you consider it barbaric to tag or tattoo your goats, you really do need a numbering system. Ten years from now you will have a devilishly difficult time with your goat genealogy if you can't identify the animals by number as well as name.

Sex

Putting bucks, does, and wethers on separate sheets is helpful.

Age

If you live in ECA-land, you probably know to the minute when most of your goats were born and can confidently insert "8 months" or "3 years." The important thing is to state whether you are referring to months or years or teeth. If you see "6" in the age box, it could mean 6-tooth goat, typically about three years old. Be thoughtful about what you record; you may refer to years now but count teeth in the future. If you have goats of various ages, it is a good idea to group goats of one age on one sheet or sequentially. The sheets allow us to compare goats quickly (a good thing); but it is important to avoid the bad thing of comparing kids with older goats.

Hearth girth

Time for the measuring tape. Wrap the tape around the goat's body just behind the front legs. Avoid wandering off on an angle. You will find that there is a pretty natural place for the tape to rest, well in front of the area where a belly full of hay could affect the measurement. You actually can use this heart girth measurement to determine the goat's weight. Do not use the Caprine Supply tape which was developed for long-legged dairy goats. The June 1998 issue of *CashMirror* includes a chart, developed in Australia, which works for our cashmeres. I am looking at the

Continued on page 7

CASHMIRROR

Farm _____ Evaluator _____ Date _____

Name/tag number		Sex	Age	Heart girth	Length/back	Height/withers	Color gh & d
Back	Horns	Teeth	T&T	Feet/legs	Cover: 1=poor, 2, or 3=good	Frame: 1=small, 2, or 3=large	Condition: 1=pr, 2, 3=gd
Fleece:	Neck	Shoulder	Midside	Rump			
Length					Comments:		
Micron							
Style							

Name/tag number		Sex	Age	Heart girth	Length/back	Height/withers	Color gh & d
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Length					Comments:		
Micron							
Style							

The Ackley's non-patented Cashmere Goat Evaluation Form.
 "To become an evaluator, photocopy a supply of this form, invest in a retractable ruler and a handy six-inch ruler, and head to the barn."

Evaluating Goats

Continued from page 5

evaluation of an eight month old doe. Her heart girth measured 28.5 inches, and she weighed 60 pounds on our hanging scale. According to the Australian chart, she should weigh about 63 pounds. Other goats on my list actually weigh a bit more than the heart girth measurement would indicate. Even with a few pounds of variation, the Aussie weight tape seems adequately validated by our hanging scale.

Length/back

We learned this technique from Kris. Find where the goat's shoulder blade meets the spine and place the end of the tape there. Then extend the tape diagonally to the opposite hipbone. Repeat on the opposite diagonal and average the two measurements. You will compensate for the inevitable pretzel shape which the goat will assume.

Height/withers

This is another trick from Kris. Place the end of the tape on the goat's backbone between the shoulder blades and just behind the neck. Stretch the tape to the ground beside the front foot. If you haven't already decided to come in out of the snow, you will quickly realize that this height-at-withers measurement can only be done accurately on a level surface.

Color, guard hair and down

Unless you plan to go into classing cashmere as a career, you probably only need to note the obvious color of the guard hair. If a goat looks white, call it white, and let the folks in the classing room decide if there are too many ginger hairs for the fleece to be WW (white down with white guard hair). Noting that a goat is white, black, or black with white trim is enough to make the sheets helpful to you later. Do be



She's cute, but rates a MC (mixed color) on the chart.



This kid rates mommie's horns as a 3+ and a perfect tool for reaching that difficult to scratch spot on the nose. Photo by Marilyn Ackley.

Back

A strong, level back is important. Probably your herd is mostly does who spend a good part of each year carrying a baby load. A strong back is essential for the comfort of a pregnant quadruped. A goat built like the old nag in cartoons gets a 1. A straight back earns a 3. If there is more to say, note it in the comments space.

Horns

Ideally they should flare quickly so that they don't trap legs of goats that they fight or play with. They should also be strong and dense rather than brittle and flaky (although many kids seem to go through growth spurts when there just isn't enough calcium for their body growth and good horns). Horns that rate 1 or 1+ would be hazardous or extremely weak. Add an explanatory note in the comment space to clarify.

Teeth

If you haven't looked in a goat's mouth, head out to the barn and look right now. It is an engineering marvel. In the back there are molars that can grind through almost anything. In front there is a curved dental pad on top and an age appropriate row of teeth below. To earn a 3 rating, the teeth should conform tightly around the edge of the dental pad. Unless you plan to distribute little bowls of oatmeal to your goats

Continued on next page

CASHMIRROR

Evaluating Goats

Continued from previous page

for each meal, they must have strong teeth and a good bite. Grazing and browsing require the best equipment, so keep looking in those mouths to learn what "good" looks like.

T&T

If the boxes were bigger this heading would be Teats and Testicles, but T&T works. If a doe has bad udder attachment or a long pendulous udder that could easily get injured as she moves through rocks, her T&T rating should be low. If her teats flare, so that they seem inappropriate for nursing tiny mouths, she gets 2-. Being a mother is her most important job, so look carefully to see if she has the traits that you want her to pass to her daughters. Forked or extra teats are highly heritable traits; rate those 1 or 1+. If the goat in question is a buck, be sure that he has two full-sized testicles and that the scrotal sack is not significantly divided. If you really get into buck evaluations, you could include a measurement of scrotal circumference, the traditional technique for identifying the most masculine livestock.

Feet/legs

To earn a 3 in this box, a goat has to pass lots of inspection. The legs and feet should look strong and designed for walking. Viewed from the bottom, the hoof cloves should be broad rather than skinny or crescent-shaped. The pasterns



should be nearly vertical—but not quite; a slight angle works like a shock absorber as the goat walks. Viewed from the back, the legs should drop straight rather than folding inward in the knock-kneed stance known as "hocky." Some Texans maintain that slight hockiness is necessary for good jumping. In fact excessive concern about hockiness usually comes from dairy goat owners who want don't want legs getting in the way of an enormous udder. If a goat knees in slightly but still puts weight evenly on her hooves, she probably is not inappropriately hocky. Viewed from the side, the goat should show adequate angulation in the front and rear. Angulation is the shoulder to leg and hip to leg angles that allow a four-legged animal to stretch out and run. Because a goat bounds along rather than galloping, it won't have the extreme angulation of a racehorse or a German shepherd. But the legs should not just drop straight from point of

attachment to the ground. If anything seems to inhibit the goat's ease of movement, drop down from a 3 rating and note the problem in the comments box.

Cover

The goal is to grow full length (at least 1.25" after shearing) cashmere over as much of the body as possible. If full length cashmere comes up the neck, down the legs, and down toward the belly, the rating is 3. If it comes up the neck and down the legs but stops on a line well above the belly, it is a 2. If the goat lacks cashmere or has really short fiber on neck, legs, and belly, it is a 1.

Frame

Frame is the hardest category to define and the hardest to assess consistently. A tall goat isn't necessarily big-framed; nor is a long, lanky body or a chubby body. For goats, "big" refers to the space for carrying meat, fiber, and kids. The most reliable measuring tool is the human hand. Place your hand over the spine of a goat, just behind the last rib, with your thumb on one side and your fingers on the other side. You are trying to find a big barrel. A large level space on top contributes to "big." Distance for your four fingers behind the last rib and the beginning of the hip contributes to "big." Good breadth across the front of the chest contributes to "big." Joe David Ross is fond of saying there should room for a soda can to fit lengthwise between the front legs.

Remember that age is very important in frame assessments. A yearling or a two year old should never be compared with a mature animal. Really large goats may or may not be a goal in a fiber goat herd, but a goat should be robust enough to succeed without pampering. A delicate-looking animal should receive a 1 rating.

Condition

Terry always stressed the importance of this category. If a goat is fine-fibered but skinny, its cashmere is likely to coarsen when the groceries are more abundant. The good news is that it is easy to do the assessment. Condition 1 is poor. The backbone will rise above the back, and the ribs will easily be felt. Condition 2 is lean. The backbone will be covered but still raised, and it will be easy to feel the ribs under a light covering of meat. Condition 3 is prime. The goat will have a moderately rounded appearance. The backbone and ribs can be felt, but the body is smooth rather than angular. A fat goat gets a 3+. The backbone and hip bones are smooth and can barely be felt. A 3+ in condition is too much of a good thing.

Continued on next page

Evaluating Goats

Continued from previous page

Name/tag number	Sex	Age	Heart girth	Length/back	Height/withers	Color gh & d
999 Xerves	M	1 YR	36	20	27	Black
Back 3	Horns 3	Teeth 2-	T&T 3	Feet/legs 3	Cover: 1=poor, 2 or 3=good	Frame: 1=small, 2+ or 3=large
Fleece:	Neck	Shoulder	Midside	Rump	Condition: 1=pr 2 3=gd	
Length	1.5	2	2	1.25	Comments: Teeth flare at side - watch	
Micron	F/M	F	F	F	LGH - leg 5	
Style	2-	2	2	2+	Great Brisket	
						394 g.

Most meat buyers want lean goats; and excess fat can adversely affect both the fiber and the health of the goat.

Fleece!

Kris introduced the great idea of including assessments at four locations: neck, shoulder, midside, and rump. Keeping track of fleece characteristics at four locations is very important when it is time to choose a herd sire. If your evaluations indicate that your does have coarse necks or short fiber on the rump or that the style changes from one end of the goat to the other, look for a sire who is good where your goats are deficient. As you take plucks of fiber at the four locations, get in close to the skin so that you pluck the whole sample rather than breaking it off. Be consistent in your sampling locations: neck is on the side not far below the ear. Shoulder is on the side, sort of high on the "bicep." Midside is on the side, midway between shoulder and hip. Rump is on the side (not top) of the thigh.

Fleece length

The easiest way to measure is before you pluck. Part the down and insert the ruler to the skin level. Be sure you are measuring down rather than guard hair, and be sure that the down is in its relaxed (not stretched) state.

Fleece micron (diameter)

The easiest code here is F for fine, M for medium, and C for coarse. Fine, usually the easiest to label, is under 16.5 microns. Medium is 16.5 to 18 microns, and coarse is anything over 18 microns. It would be worth the investment to send a sample of your finest fleece (usually a kid) to Yocom-McColl for testing along with a sample from one of your coarser goats. If your fine sample doesn't result in a 15 to 16 micron result, ask somebody for a tested sample of fine fleece. Seeing samples is the only way to learn micron.

Fleece style

The style definitions that Terry used in his 1992 classing guide still work. Style 1 is poor, cashgora type. Style 2 is average, cashmere type. Style 3 is excellent,

cashmere type. Don't be afraid to use pluses and minuses. Many of our selected Australian and Spanish goats will be Style 2. Distinguishing among them will be easier if you work to differentiate Style 2-, 2, and 2+. Style 1 will look wavy. At the other end of the spectrum, Style 3 will have busy little crimps, approximately, three full squiggles per 3/8". Remember that most goats grow a mix of styles—even in one pluck. Your sheets will be most helpful to you if you note mixes of style. Each space is wide enough to accommodate several ratings, if that is what you find in one pluck.

Comments

This is perhaps the most important box, the one that will help you remember why you gave the grades you did. Comments might include: watch pasterns or slightly hocky or LGH (long guard hair) or LGH on legs or sheds early. If the guard hair looks too soft for a dehaire to distinguish from the down, note that. You could write the weight of the shorn fleece (as I do) or the weight of the goat (I do that on kids). Add whatever you need to have helpful sheets that can guide you in your breeding decisions. The process will take some time, but I promise it will pay off. And it is a good excuse to spend some extra time with your goats.

A totally, fictitious evaluation of an equally fictitious goat is included above as inspiration and a form to copy is on page 6.

BEETHOVEN LLC-CC35 4/29/91	
2ND generation derived from LADAKH CONSORT "RON"	
	1994 SAFF ECA Show, B. Schutze Judge: Best of Show
	1996 VA State Fair ECA Show, J.D. Ross Judge: 1st place fleece
	1998 VA State Fair ECA Show, B. Schutze Judge: 1st place fleece, Rating: Fine; STYLE 4
	2000 VA State Fair ECA Show, C. McGuire Judge: 1st place fleece
Now is Herdsire at:	
FARM	
vailles, 1506 Sangers Lane, Staunton, VA 24401	
540-885-1261	crrvailles@cfw.com

CASHMIRROR

We'll bet you thought that the first cashmere goats were imported here relatively recently? So did we. However, per this old article from the Philadelphia Ledger newspaper, Volume 50, Issue 641, September 6, 1856, cashmere goats were here in 1856! We were wondering what happened to them. Paul thinks that since this was Civil War time, they probably were eaten. Expensive steaks.

The Cashmere Goat and Shawls

It is not as yet generally known that the Thibet goat, from whose wool the famous Cashmere shawls are made, has been introduced successfully into the United States. This enterprising undertaking was achieved a few years since, after many difficulties, by Dr. J. B. Davis, of Columbia, S. C., at that time employed by the Ottoman Porte, in experimenting on the growth of cotton, in the Sultans dominions.

Dr. Davis succeeded, at vast expense, in securing eleven of the pure breed, which, on his way home, he exhibited in London and Paris. Since that period, the goat has been introduced from South Carolina into Tennessee, where it is said to thrive.

The value of a flock may be estimated from the fact that no real Thibet goat has ever been sold for less than a thousand dollars. This enormous price, moreover, is not a speculative one, for no fleeced animal has wool of such fineness, softness, and durability. The wool of all the Thibet goats in Tennessee, for example, has been engaged, at New York, this year, at eight dollars and a half per pound, the purchasers designing to send it to Paisley, in Scotland, in order to be manufactured into shawls.

The prices paid for the real Cashmere shawls, or those woven in India, have sometimes been almost fabulous. A full sized shawl, such as is called in America a long shawl, ordinarily commands in Paris or London from five hundred to five thousand dollars, according to the quality. Scarfs and square shawls, being smaller, sold for less.

It is a mistake, however, to suppose that all these shawls are manufactured in India, in the shape in which they are sold here. Generally, indeed, the centres and borders come out separately, and are put together afterwards in sizes, and often patterns, to suit purchasers. Moreover, a large portion of the shawls sold as real India ones are actually made in France, for the Thibet goat was introduced into that country more than thirty years ago, and the Cashmere shawls imitated with considerable skill. Judges of the article pretend to say, however, that the real India shawl can be detected, by its having a less evenly woven web, as also from its brighter colors. It is likewise said, that the border of the genuine Cashmere shawls is invariably woven in small pieces, which are afterward sewed together, as the whole border is subsequently sewn on to the centre. But other authorities deny that the skill of India is insufficient to broche a shawl; in other words, to weave the border and centre in one piece, or run the pattern of the former over the latter.

Notwithstanding the successful imitation of these shawls, fashion and luxury still prefer the apparently ruder

original. Just as laces, woven by hand, bring a price more than five times as great as the same pattern woven by machinery, so a Cashmere shawl, known to have come from India, will fetch vastly more than the cleverest imitation.

Probably, however, this is not all. Persons familiar with both the article and the imitation, assert that the former is softer than the latter, and that this softness arises partly from the way the thread is spun, and partly because the Thibet goat, when exported from its native hills, sensibly deteriorates.

There is also a shawl known popularly as the French Cashmere, which is an imitation of the imitation but this has none or very little of the wool of the imported Thibet goat.

The animal from which this valuable fleece is taken is a hardy creature, at least in its original locality; and their fine curled wool lies close to the skin, just as the under hair of the common goat lies under the upper hair. Eight ounces for a full-sized goat is a large yield, but the yearlings, from whom the best wool is taken, give less. About five pounds is required to make a shawl of the largest size and finer quality; but three or four pounds is sufficient for an inferior one.

Cashmere Goat and Fleece Prices are Way Down (Since 1856)

Did you notice the prices for cashmere goats and fleece in this last story? Per this old newspaper article "no real Thibet goat has ever been sold for less than a thousand dollars" and the fleece of these goats was sold "at New York this year, at eight dollars and a half per pound."

Does the cashmere goat sound expensive in 1856? It is--after adjusting for inflation, this cashmere goat would have cost them \$17,831.67, in today's dollars. However, after adjusting for inflation, they did get \$151.57 per pound for their cashmere. How did the 1856 return on investment compare when looking at only the sale of cashmere (and ignoring all costs except purchase price)?

	1856	Today
One cashmere goat	\$1,000	\$400
One lb cashmere	\$8.50	\$34.00
Annual cashmere harvest:		
8 oz/goat—per this article	\$4.25	\$17.00
Annual return on investment	1 1/2 %	4-1/4%

Things are looking up!

Nitrates

In Livestock Feeding

Nitrate poisoning in cattle occurred long before the use of nitrogen fertilizers. In the late 1800's there were reports of cornstalk poisoning in Nebraska, and nitrate poisoning from oat hay in North and South Dakota and from weeds in the high-organic matter soils in Florida and Wisconsin. Nitrate concentrations in feeds for livestock depends more on plant species and environmental conditions prior to harvest than on the amount of available nitrogen in the soil.

What is Nitrate Toxicity?

Nitrate is not always toxic to animals. Most forages contain some nitrates. When feeds containing nitrates are consumed by ruminants, nitrates are changed in the rumen to ammonia that is, in turn, converted by bacteria in the rumen into microbial protein.

Nitrite is one of the intermediate products in the breakdown of nitrate and is the cause of nitrate poisoning. Some nitrite is absorbed into the bloodstream. Nitrite in the bloodstream changes hemoglobin to methemoglobin.

Hemoglobin carries oxygen from the lungs to other tissues but methemoglobin is incapable of carrying oxygen. Thus, nitrates become a problem when enough methemoglobin is produced that the oxygen carrying capacity of blood is reduced to a critical level. If enough methemoglobin is produced (more than 80 percent of the total hemoglobin) the animal will die.

The toxic level depends both on the amount of nitrate in the feed and how fast the feed that contains nitrate is consumed. For example, it takes about twice as much nitrate to kill a ruminant when the nitrate comes from forages that are eaten over a long period of time compared to a supplement or a drench that is consumed quickly.

Symptoms of Nitrate Toxicity

Brownish discoloration of the blood, due to the presence of methemoglobin, is evidence of nitrate poisoning. Besides the chocolate-colored blood, other physical signs of nitrate poisoning include difficult and rapid breathing, muscle tremors, low tolerance to exercise, incoordination, diarrhea, frequent urination, collapse and death.

Nitrates in blood also cause blood vessels to dilate and are responsible for peripheral circulatory failure. Lack of oxygen to the fetus probably causes abortions that sometimes occur following nitrate poisoning. Abortion due to nitrate is *accompanied or preceded by some evidence of nitrate problems in the*

adult animal, including chocolate-colored blood and bluish discoloration of unpigmented areas of the skin or mucous membranes.

Reporting Nitrate levels

Methods of reporting nitrate values in feed are shown in Table 1. The amount of nitrate in water usually is expressed as parts per million (ppm) of nitrate nitrogen (NO_3N) or nitrate ion (NO_3^-).

Table 1. Methods of Reporting Feed Nitrates Concentrations (Dry Basis).

	Potentially Toxic Amounts	
	(%)	(ppm)
Nitrate nitrogen (NO_3N)	Over 0.21	2,100
Nitrate (NO_3^-)	Over 0.93	9,300
Potassium nitrate (KNO_3)	Over 1.5	15,000

Formulas for Converting Methods of Reporting.

Potassium Nitrate = Nitrate Nitrogen X 7.22

Potassium Nitrate = Nitrate X 1.63

Nitrate = Nitrate Nitrogen X 4.43

Nitrate = Potassium Nitrate X 0.613

Nitrate Nitrogen = Potassium Nitrate X 0.139

Nitrate Nitrogen = Nitrate X 0.226

Both nitrate nitrogen (NO_3N) and nitrate ion (NO_3^-) will be used to evaluate and discuss nitrate concentrations in feed and water in this article.

Deaths have been reported when nitrate content in the overall diet contained as little as .21 percent NO_3N (.93 percent NO_3^-). Rations containing substantially more than .21 percent NO_3N have been fed without harm. One such instance was reported from Missouri where researchers fed rations containing .28 to .33 percent NO_3N from sudangrass hay. Steers were slowly adapted to the high nitrate feed and performed satisfactorily.

Recent research indicates that beef heifers can safely graze sudangrass that contains high levels (.21 percent NO_3N) of nitrates. Sudangrass can contain up to .65 percent NO_3N (28,690 ppm NO_3^-), but cattle grazing these pastures tend to selectively graze the leaf portion of the plant that is not high in nitrate, and slowly adapt themselves to feeds that may be high in nitrate. If stocking rates are heavy for a pasture suspected of high nitrate concentrations it may cause cattle to consume plant parts such as stem bases that are high in nitrate, increasing the possibility of nitrate poisoning.

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Nitrates

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Causes of High Nitrates in Forage

Nitrates taken up from the soil by plant roots normally are incorporated into plant tissue as amino acids, proteins and other nitrogenous compounds. The primary site for converting nitrates to these products is the actively growing green leaves. Nitrates accumulate in the stalk or stem of plants when factors interfere with normal plant processes.

All plants contain some nitrate, but excessively high amounts are likely to occur in forages having been grown under stress conditions such as:

1. shading or low light intensity;
2. detrimental weather, including drought, frost, hail, low temperatures;
3. herbicide applications;
4. diseases.

The amount of nitrate in plant tissues also will depend on:

5. plant species;
6. stage of maturity;
7. part of the plant;
8. nitrogen fertilization.

Shading

Conversion of nitrates to amino acids and proteins is linked closely with photosynthesis. Light is the energy source for these activities, so shaded plants or lower leaves may be higher in nitrates than plants grown in full light. Tall forages planted at high plant populations, coupled with good soil fertility and adequate water, will create shade and may contain high nitrate concentrations.

With normal growing conditions, nitrate content will be slightly higher in the morning than in mid-afternoon, and may be higher on cloudy days than on sunny days. For example, oat hay harvested after cloudy weather is likely to be much higher in nitrate content than oat hay harvested during sunny periods.

Weather

Not all drought conditions cause high nitrate concentrations in plants. Some moisture must be present in the soil with nitrate for absorption and accumulation. If the major supply of nitrates for the plant is in the dry surface soil, very little nitrate will be absorbed by plant roots. In plants that survive through drought, nitrates often are high for several days following the first rain.

Frost, hail and low temperatures all interfere with

normal plant growth and can cause nitrates to accumulate in the plant. Frost and hail may damage, reduce or completely destroy the leaf area of the plant. A decrease of leaf area limits the photosynthetic activity of the plant so nitrates absorbed by the roots are not converted to plant proteins and instead are accumulated in the stem or stalk.

Most plants require temperatures above 55°F for active growth and photosynthesis. Nitrates can be absorbed quickly by plants when temperatures are low, but conversion to amino acids and protein occurs very slowly in plants during times of low temperature.

Herbicides

Herbicides, such as 2, 4-D, tend to disrupt normal plant processes and can result in temporary high nitrate content in plants. However, spraying pastures and silage crops to control weeds actually may reduce the nitrate hazard of these feeds, especially when weeds high in nitrates are killed.

Disease

Plant diseases interfere with normal growth and development. This can cause nitrate to accumulate by interfering with nitrate reduction, protein synthesis or manufacture and translocation of carbohydrates.

Plant Species

Plants vary in the amount of nitrate that accumulates in various tissues. Certain weeds, such as pigweed, kochia, puncture vine and lambsquarter, often are high in nitrate. Oats and millet cut for hay at an immature stage often have high nitrate concentrations. Sorghum and sudangrasses often store high amounts of nitrates. Brome and orchard grass store very little nitrate under normal growing conditions. Legumes generally do not contain high nitrate concentrations. The nitrate content of some representative forages sent to the University of Nebraska during the early 1970's for nitrate analyses is shown in Table II on the next page.

Stage of Growth

Stage of growth markedly changes the nitrate content of forages. Nitrate concentrations usually are higher in young plants and decrease as the plant matures. However, plants grown in soils with excessive nitrates or grown under stress may be high in nitrate content at maturity.

Plant Parts

Plant parts closest to the ground contain the most nitrate. Leaves contain less nitrate than stalks, and

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the seed (grain) and flower usually contain little or no nitrate. Most of the plant nitrate is in the bottom third of the stalk.

Nitrogen Fertilization

Nitrates in the soil are the source of nitrate in plants. While a positive relationship exists between soil nitrates and nitrate in the plant, the effect of nitrogen fertilization appears to be less important than the conditions listed previously in causing high nitrate content in forages.

Table II. NO_3N Content of Feedstuffs, Dry Basis.

	Number of Analyses	Average NO_3N %	Range in NO_3N	
			Low %	High %
Alfalfa				
Dehy	430	.055	.014	.191
Hay	56	.055	.014	.136
Silage	13	.027	0	.082
Beet pulp	2	.082	.068	.083
Corn				
Green chop	11	.177	.027	.395
Silage	66	.109	0	.600
Stalks	12	.273	0	.818
Kochia (fireweed)	4	.055	0	.082
Oats				
Hay	11	.177	0	.545
Silage	3	.123	0	.272
Pasture				
Bluestem	6	.014	0	.027
Bromegrass	19	.109	.014	.300
Clover	3	.068	.041	.109
Pigweed	7	.600	.055	1.091
Prairie hay	22	0	0	.014
Sorghum				
Stalks (milo)	11	.055	0	.368
Silage	40	.068	0	.020
Sudangrass				
Green chop	16	.355	.027	.655
Hay	12	.068	0	.450
Silage	2	.041	.027	.055
Potentially toxic amounts		.21		

Harvest Methods Affect Nitrate Levels

Harvest as Silage

Ensiling tends to reduce the nitrate content of forages. Forages high in nitrate can lose from 40 to 60 percent of their nitrate content during fermentation.

Harvest forages suitable for silage at the stage of maturity where forage quality and quantity are optimal. Excessive nitrate in forages will not always be reduced to safe values during ensiling. If silage is suspected to be high in nitrate, analyze the feed for nitrates before feeding. The analysis will help in designing rations to prevent livestock losses from nitrate poisoning.

Harvest Near Maturity

Crops normally have lower nitrate levels at maturity, so crops such as corn or sorghums silage should be harvested as near maturity as possible. If the corn or sorghum field being harvested as silage has been identified as or is suspected of having high nitrate concentrations, raise the cutter head to selectively avoid stalk bases that have the highest nitrate concentration.

In crops such as oats for hay, it may be wise to harvest the crop at a more mature stage than desirable for maximum yield of digestible nutrients.

Harvest as Green Chop

Some forages are harvested in an immature stage and fed to cattle in the form of green chop. Green chop, high nitrate feeds that are piled in mounds and allowed to heat before feeding, are especially dangerous to feed to livestock. Heating causes the conversion of nitrate to nitrite, making the feed about 10 times as deadly. An analysis of nitrates will help in designing feeding programs to prevent livestock losses from nitrate poisoning.

Managing High Nitrate Feed

Forages that contain high nitrate levels can be diluted in the diet with grains or with other forages low in nitrates and then can be fed safely. This can be accomplished easily in feedlot rations where grain is fed and forages are chopped and mixed as a complete ration. Feeding grain in combination with high nitrate feeds helps reduce the effect of the nitrate content. Energy from the grain apparently helps complete the conversion of nitrate to bacterial protein in the rumen.

Frequent intake of small amounts of a high nitrate feed increases the total amount of nitrate that can be consumed daily by livestock without adverse effects, and helps livestock adjust to high nitrate feeds.

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Feed long stem forages such as wheat, oat and cane hay that contain high amounts of nitrate in limited amounts several times daily rather than feeding large amounts once or twice daily. In addition, long stem hays suspected of nitrates can be fed in combination with hay low in nitrate with little risk of nitrate problems.

Livestock should have access to clean water at all times. Follow sound management practices conducive to a successful feeding program when high nitrate feeds are fed.

A balanced ration tends to reduce problems from nitrates in the ration. The adverse effects of feeding livestock feeds that have high nitrate concentrations appear to be greater if the ration is not properly balanced. When feeding feeds that are high or suspected to be high in nitrate, make sure the ration is balanced nutritionally for vitamins (A and E), macro minerals and trace minerals.

Allowing livestock to graze pastures suspected of having high nitrate levels is not without risk. Implementing one or more of the following management practices will reduce the risk of livestock losses to nitrate toxicity:

1. Don't overstock suspected pastures.
2. Don't strip-graze suspected pastures.
3. Provide other feeds that contain little or no nitrate during grazing.
4. Graze suspected pasture during the day and remove at night the first week to reduce the amount of pasture consumed and to acclimate cattle.
5. If possible, don't graze suspected pasture until one week after a killing frost.

Observe livestock frequently when they begin grazing a new pasture that is suspected of nitrates to detect any signs of nitrate toxicity.

Do not feed hay, straw or fodder suspected of being high in nitrate when it is damp. Damp feed seems to be more toxic because some of the nitrate already has been converted to the more toxic nitrite before being consumed.

Using feeds that contain high nitrate concentrations is not without risk, but feeds high in nitrate can be fed successfully. Use the management practices mentioned above to reduce the chance of animal loss. Extensive losses can occur when non-acclimated, hungry livestock are permitted unlimited access to high nitrate feeds.

Nitrate in Water

Mature livestock can tolerate higher concentrations of nitrate in their water supply than can young livestock. In the case of calves, however, much of their fluid intake is derived from nursing and very little nitrate is secreted in milk.

Livestock drinking well water are not likely to experience nitrate toxicity. Nitrate toxicity from water is more likely to occur when livestock drink water from ponds, road ditches, or other surface impoundments that collect drainage from feedlots, heavily fertilized fields, silos, septic tanks or manure disposal lagoons.

As with feed, frequent intake of water containing nitrates appears to increase the total amount of nitrate that can be consumed daily without harmful effects. However, when evaluating possible toxic situations, the nitrate in both the feed and water must be considered because they are additive.

Nitrate toxicity is not likely to occur from water containing less than 100 ppm NO_3N , provided animals are fed a balanced ration that is not high in nitrate, and sound feeding, watering and management practices are followed. When elusive nutrition or disease problems appear, a hasty implication of nitrate in water should not be made, even though water may contain more than 100 ppm NO_3N .

Treatment

Nitrate poisoning can be rapidly fatal. When nitrate is suspected, remove the contaminated feed and provide a high energy feed such as corn. A veterinarian should be called immediately to confirm the tentative diagnosis. Because death is a result of oxygen shortage, handle cattle as little and as quietly as possible to minimize their oxygen needs.

Administer a four percent (4%) methylene blue solution intravenously at a dosage rate of 4.55 mg per lb of body weight to treat cattle with nitrate poisoning. Treatment may have to be repeated every six to eight hours because the rumen may be full of forage or feed that contains nitrate, and nitrites will continue to move from the rumen into the blood stream. Mineral oil may be given orally to protect the irritated mucous membranes.

When many animals are affected, additional methylene blue is available and can be obtained from the three University of Nebraska veterinary diagnostic laboratories in Lincoln, North Platte and Scottsbluff.

Sampling and Testing Feeds for Nitrates

Feeds can be tested for nitrate levels. When sampling suspected silages or green chop for nitrates, take

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representative grab-samples from six areas of the feeding face of the pit or mound. Mix the grab-samples and sub-sample an amount to fill a plastic bag that can be sealed at the top. Compress the air out of the bag and seal. The sample is now ready to send to the laboratory for analysis.

For suspected forages being put into an upright silo, take grab-samples for three successive days, then sub-sample and transfer to a plastic bag as mentioned above.

Long hay should be sampled using a hay probe. Sample those bales or stacks that represent the suspected hay. For baled hay, probe about 20 different bales and for hay stacks, sample each stack in six different areas to obtain a representative sample. Transfer the sample to a plastic bag, and compress the air out and seal before sending the sample to the laboratory.

It is difficult to obtain a representative sample from pastures suspected of nitrates that cattle are grazing. Cattle are selective in the plants and plant parts they consume, and a clipped sample will not represent what is actually being consumed. It is recommended you not test grazed forages for nitrate, but manage the grazing of such forages to reduce the problems due to nitrates, as mentioned above.

Most commercial feed laboratories will analyze feeds for nitrates. Contact your local extension agent to obtain information regarding laboratories in your area that test feeds for nitrates.

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Linda Cortright's goat considers nitrates.

September 22, 2001— NWCA Presents:

A seminar by Christopher J. Lupton, Ph.D.

Professor, Department of Animal Science, Texas A&M University

Chris Lupton is Project Leader for animal fiber research conducted at the Research and Extension Center in San Angelo. He is a member of the Animal Nutrition Section in the Department of Animal Science and of the Graduate Faculty of Texas A&M University, Angelo State University and Texas Tech University. He earned his bachelor's degree and doctorate at the University of Leeds, England, in the field of textile chemistry.

Dr. Lupton plans and conducts a research program dealing with wool, mohair and cashmere that provides information as an aid in improving fiber production, quality, value and marketing. Because the Wool and Mohair Research Laboratory in San Angelo has unique capabilities for evaluating animal fibers, his research addresses areas of high national priority and involves cooperation with USDA and scientists from universities across the United States.

Dr. Lupton will be speaking at the Oregon Flock and Fiber event in September for NWCA. This seminar will focus on fiber analysis (cashmere) as well as the recently concluded Latitude Study, where cashmere and angora goats were divided into three test herds, in Montana, south Texas, and Alaska. The three year project was designed to study the effects of climate differences on fiber growth. The seminar is offered free to NWCA members, \$10 for nonmembers. Mark the date on the calendar—Saturday, September 22nd, 6:30pm - 8:30 pm, basement of Main Pavilion, Clackamas County Fairgrounds, Canby, Oregon.

Latch-Key Goats

By Linda Cortright

Grumble Goat Farm, Union Maine

I don't know when the expression Latch-key children came into use. I'm certain it was beyond the time that was relevant to my upbringing. I always thought latch key children was a euphemism for get-home-from-school-and-eat-45 Oreos-while-watching Gilligan's Island—such were the rewards of an unsupervised childhood.

However this privilege was usually the by-product of a working mom. And in those days, often the result of some marital dissolution as well. I confess, I envied those latch-key kids as cookies were hard to come by in my house and television even scarcer.

Now, twenty years later, I have my own latch-key kids. The guilt is overwhelming. I have had to abandon my parenting duties for the sake of steady employment. Yet I can't even put my kids on the company health plan. How will I ever afford braces for those embarrassing overbites?

It was casually mentioned in the last *CashMirror*—about as casually as Monica Lewinsky talked with Linda Tripp—that my whereabouts were in question. Perhaps I had truly made a bazillion dollars in the cashmere industry and had run off to Bora-Bora with a fiber tycoon. (Has anyone ever met a fiber tycoon?)

No, the sad and mundane truth is that I've been working in an office. The kind where you show up five days a week, sit down at a desk for eight hours, quietly swap politically incorrect jokes in the lunch room and every two weeks they hand you a check and say, "Keep up the good work!" All of this so I can carry a little white card that has 26 numbers, lists my PCP (Primary Care Physician) and my \$10 co-pay for generic drugs. I make this sacrifice knowing that my kids are at home splurging on brownies and rompin' around the field to MTV.

I know this is an invitation for trouble. It is only a matter of time before someone gets pregnant. And like other parents, I fear genetic testing may be the only way to establish true paternity. Now that I'm away from the home I notice that the kids fight more, they're inviting friends over to visit (they think I don't know about sneaking them through the hole in the fence). I have had to put a block on certain cable channels and I'm sure it won't be long before they start surfing the net for a little kid-porn.

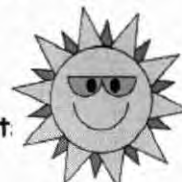
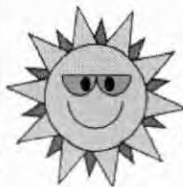


Linda Cortright and the "missing" goat.

Unlike earlier latch-key children, my employment was not the result of a domestic split—marriage being something of an antiquated term... No, I got an offer I simply couldn't refuse—but don't tell the kids, they think I'm working to pay for their college education.

Ten Reasons why Summer is a Good Deal

Goats are eating free food (pasture).
 Cashmere is starting to grow.
 You can evict a howling gray cat from the house with less guilt.
 Heat bill is lower.
 Sunshine makes you happy.
 Garden is growing.
 Less barn chores.
 Barbecues!
 Real fresh fruit.
 it away the barn boot.



Effect of Sex and Phenotypic Correlations Among Fibre Traits in Crossbred Goats

M. Koyuncu and E. Tuncel

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Summary

Research was conducted to determine the characteristics and yield of fibre production in F₁ goats, resulting from the crossbreeding of Angora and Hair goats when they reached one year old, before shearing. The fibre production was found to be an average 346.7 ± 11.03 g. For the samples collected on the ribs, fibre diameter and length and the ratio of medullated and kemp hair was determined as 19.1 ± 0.21 μ m, 8.4 ± 0.26 cm, 6.8 ± 0.41 % and 8.4 ± 0.44 % respectively.

INTRODUCTION

Turkey plays an important role in the development of goat fibre production. In addition, goat production is an important agricultural enterprise in Turkey. There are, however, regional differences in goat number, goat types and fibre production (Koyuncu, 1994).

Coarse hair production is about 450g per head. A small proportion of this shorn fibre is likely to be cashmere (down). Coarse fibre is not harvested separately in some areas because of low value or difficulties of combing and herding operations (Tuncel, 1989). Down production from Turkish native black goats is about 50 - 100g per head of combed fibre which is usually combed in the middle of the spring. The other down hair product (cashmere) is produced unknowingly as a natural consequence of goat keeping by some hair goat breeders. A part of the down product is used to make some handmade articles while the rest is exported at very low price.

Cashgora is a type of crossbred fibre that joined the world fibre market relatively late. But these meth-

ods are not new. These methods are not dramatically different from those employed by Polonceau nearly 170 years ago when he crossbred Kirghiz goats with Turkish Angoras in France (Ryder, 1987).

Cashgora is formed from crossbreds of long hair goats with Angora goats. Besides its name reminds of this crossbreds method. The crossbred method is aimed at increasing the amount of down hair obtained from goats. But in this state, both hair amount and hair diameter are increased. With cashgora the average fibre diameter is 19 - 23 μ m and fibre length is 7 - 9 cm (Couchman, 1987).

Cashgora fibre has a colder handle or feel than cashmere but warmer than mohair. This fibre type with a main fibre diameter characteristic forms a fibre that is between cashmere and fine kid mohair. At the same time, similar products are processed with as kid mohair (Shelton, 1986). Cashgora has no consumer loyalty, it is generally unknown by the public. Trade barriers still remain in place. The International Wool Trade Organisation (IWTO) has recognised cashgora but at this time the EC has not. (Couchman and Tuncel, 1993). The number of studies on goat hair (coarse hair, cashmere, cashgora) in Turkey is limited. Most of them are summarised in the reviews by Altinbas (1976), Tuncel (1982) and Koyuncu and Tuncel (1992). This paper on the crossbred fibre (cashgora) is the first such work in Turkey.

MATERIAL AND METHODS

The aim was to supply crossbred

material. Ninety-four heads of female Angora goats of different ages (3, 4, 5 and over years) were mated with 3 heads of Black Bucks. The material of this study were 70 crossbred female and male goats from the above matings. Shearing operation of the crossbred animals was done in April using a shearing machine. Fibre samples were taken from the side (rib) to analyse the characteristics such as fibre diameter, fibre length, ratio of kemp and medullated fiber.

A microscope method was used to measure fibre diameter and nearly 150 hairs were measured (Sonmez, 1959). During diameter measurement, kemp and medullated fibre were recorded and the ratio of kemp and medullated fiber to all measurements were determined as percentages of kemp and medullated fiber. About 50 fibers were taken from each sample to measure fiber length. In addition statistical analysis was done (Duzgunes et.al, 1983).

RESULTS

Crossbred goats were combed in April when they were about one year old. Live weight of goats after combing was 21.3 ± 0.54 kg. See results detailed in Table 1, on the following page.

Down weights of the goats were highly variable changing between 182.0 and 592.0 g. The difference between sex was significant ($P < 0.01$) as was the difference for fibre diameter ($P < 0.05$). 74.3 % of all fibres measured were 18-21 micron with 14.3 % 17-18 micron and 11.4 % 22-24 micron.

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Table 1.
Fibre weight, diameter and length in F₁ Angora x Hair crossbred goats.

	Goat number (head)	Down weight (g) **				Fibre diameter (μm) *				Fibre length (cm)			
		X	± Sx	Min.	Max	X	± Sx	Min.	Max	X	± Sx	Min.	Max
Male	28	393.3	± 18.18	236.0	592.0	19.7	± 0.44	17.2	23.4	8.6	± 0.38	6.6	11.0
Female	42	322.4	± 11.82	182.0	450.0	18.8	± 0.21	17.0	21.6	8.3	± 0.23	6.1	11.4
Total	70	346.7	± 11.03	182.0	592.0	19.1	± 0.21	17.0	23.4	8.4	± 0.26	6.1	11.4

** : P<0.01 , * : P<0.05

There were no significant differences between sex with respect to fibre length. The length of 48.6% of all fibres were 8-10 cm ; 38.5% 6-8 cm ; 8.6 % 10-11 cm and 4.3% 11-12 cm.

The ratios of kemp and medullated fibres are given in table 2, at right.

There was not any difference between sex with respect to ratio of kemp and medullated fibres.

The phenotypic correlation coefficient among live weight and fiber characteristics studied are shown in table 3, at right.

There were significant positive relationships between live weight and fibre weight ratios of kemp and medullated fibre (P< 0.01), while there was a negative and significant relationship between fibre length and the ratio of kemp and medullated fibre (P < 0.01, P< 0.05). All the other coefficients calculated were not significant.

CONCLUSION

The fibre from crossbred material is more lustre than Chinese cashmere. This feature may be due to the influence of Angora blood in feral goats or because of harvest techniques. While Chinese fibre is combed after moulting, fibres are sheared with shearers in Australia and is a living fibre at the time of harvest (Couchman, 1987).

Table 2.
Kemp and medullated hair ratio in F₁ Angora x Hair goats (%).

Goat number (head)		Kemp hair ratio				Medullated hair ratio					
		X	±	Sx	Min.	Max.	X	±	Sx	Min.	Max.
Male	28	8.7	±	0.95	2.6	14.6	6.2	±	0.25	2.5	10.9
Female	42	8.2	±	0.46	2.4	12.2	7.1	±	0.52	2.9	13.2
Total	70	8.4	±	0.44	2.4	14.6	6.8	±	0.41	2.5	13.2

Table 3.
Phenotypic correlation between live weight fibre yield and fibre characteristics in F₁ crossbred Angora x Hair goats.

Characters	Down Weight	Fibre Diameter	Fibre Length	Kemp Hair Ratio	Medullated Hair Ratio
Live weight	0.55	0.20	0.15	-0.13	-0.07
Down weight		0.13	-0.18	-0.07	0.06
Fibre diameter			-0.06	-0.01	0.02
Fibre length				-0.37	-0.27
Kemp hair ratio					0.36

$r \geq 0.23$ P<0.05, $r \geq 0.30$ P< 0.01

Both diameter and length value of crossbred fibres are intermediary between cashmere and angora since a natural result of crossbreeding is higher kemp and medullated hair ratios. The negative correlation between kemp ratio and almost all the other fiber characteristics makes selection easy to breeders. In this study the correlation between kemp ratio and fibre length was negative and that between kemp ratio and ratio of

medullated fibre was positive, both being significant (P<0.01). Live weight was also significantly correlated with fibre production as found in most related studies. On the contrary the results of this study showed that fibre production increases with an increase in live weight without any change in fibre diameter. Secondly the significant correlation between medullated

Continued on next page

Fiber Traits-Crossbred Goats

Continued from previous page

and kemp fibre ratio implies the possibility of reducing or increasing both characteristics.

ACKNOWLEDGEMENT

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REFERENCES

- ALTINBAS, E.T., 1976. A Research on Some Technological Characters of Down Fibres That is Obtained from Kilis Goat. Ankara University, Agricultural Faculty. Publication No: 598.
- COUCHMAN, R. C., 1987. Cashmere Production and Utilization (A World Overview). Proceeding of The IV International Conference on Goats. 1: 153-167.
- COUCHMAN, R. C. and E. TUNCEL, 1993. Opportunities for Cashmere Production. Production of Hides, Skins, Wool and Hair. Proceedings of The Joint EAAP. CIHEAM, EC, CUZF and Mafra (Turkey), Symposium 2-6 November 1991, Adana-Turkey. EAAP Publication No: 56, 128-134.
- DUZGUNES, O., T. KESICI and F.GURBUZ, 1983. Statistically Methods I. Ankara University, Agricultural Faculty. Publication No: 861.
- KOYUNCU, M. and E. TUNCEL, 1992. The Relationship Between Hair Characteristics with Body Weight and Measurements in Hair Goat Raised in Village Conditions. Uludag University, Institute of Science. Scientific Reports Series No : 20.
- KOYUNCU, M. 1994. Production Angora in The World and Turkey. Yarn & Fabric Forming. Textile - Technique Magazine, November, Issue : 117, 26-30.
- RYDER, M.L. 1987. Cashmere, Mohair and Other Luxury Animal Fibres. Itchen Printers Ltd. Northom, Southampton, 24p.
- SHELTON, M., 1986. Breed Use and Crossbreeding in Goat Production. Proc. 3rd. World Congress-Genetic Applied to Livestock Prod. Nebraska, U.S.A. 523-532.
- SONMEZ, R., 1959. Examination and Grade of Wool Uses Many Methods and To Compare Itself. Ankara University, Agricultural Faculty, Publication No : 151.
- TUNCEL, E., 1982. The Relationship Among Some Hair Characteristics, Body Weight, Body Measurements and Hair Yield in Kilis Goats. Ankara University, Agricultural Faculty. Publication No : 831.
- TUNCEL, E., 1989. Skin and Fibre Production. Course on Goat Production. IAMZ, CHIEAM Zaragoza-Spain, (Unpublished Course Notes).

Cattle Guards Government in Action

For those of you who have never traveled to the West, cattle guards are horizontal steel rails placed at fence opening on highways to prevent cattle from crossing. For some reason the cows will not step on the guards (no problem for goats, however), probably because they fear getting their split hooves caught between the rails.

President Clinton received a report that there were over 100,000 cattle guards in Colorado. Because Colorado ranchers protested his proposed changes in grazing policies, he ordered Secretary of Interior Bruce Babbitt to fire half of the guards immediately. Before Babbitt could respond, and presumably straighten him out, (former) Colorado congresswoman Pat Schroeder intervened with a request, that before any were fired, they be given six months of retraining...

Note: We'd like to say that we had a really authoritative source for this story, however, it just arrived on one of those spam emails from a relative, so if you're the type who needs firm facts to enjoy an amusing story...never mind. We certainly don't intend to contribute to the hoard making our prior chief executive look silly! He doesn't need our help with that.



Got any Goat Recipes?

Do you have any recipes for goat meat you'd like to share?

If so, we'd like to hear from you.

Paul's No Brainer Goat Chops

One of our favorite simple and delicious recipes for goat chops or steaks is to simply cook them on a grill—an outdoor barbecue or an inside Jenn-Air type grill. We season them with a little garlic salt and lemon pepper after turning them. When we serve goat chops and lamb chops on the same platter, the goat always disappears first!

V.E.T.T. to the Rescue Of Animal Health in Oregon

Veterinary Emergency Team Trailer (V.E.T.T.) became operation in August 1999, to be used in the event of animal disease outbreak. This event may have seemed less important when announced, but its existence today, in light of the FMD disaster in other countries, seems vital to livestock protection in Oregon.

August 11, 1999...The potential scenarios are downright scary to livestock industries and animal health officials alike. From bio-terrorism to an unintentional and accidental spread, the prospect of a deadly foreign animal disease reaching the United States is real. It sends a shudder through State Veterinarian Andrew Clark of the Oregon Department of Agriculture. That's why he has prepared the VETT.

The Veterinary Emergency Team Trailer is now fully stocked and operational, carrying everything from protective clothing for workers responding to a major animal disease outbreak to chains and padlocks that keep outbreak areas off limits. Combined with a portable corral and a portable "squeeze chute" for handling infected animals, the VETT is ready to roll. Officials, though, hope they don't have to use it.

"We're not talking about treating a disease, but eradicating a threat," says Dr. Clark. "VETT will deal with cases of emergency disease where we have to destroy a herd. We're talking about euthanizing the animals involved in the initial outbreak."

That's a responsibility and obligation Clark does not take lightly. Depopulating herds of animals is necessary when a disease is so "hot" that it could easily spread to other herds in rapid fashion and cause a severe economic or health threat.

"It is imperative we deal immediately with the first diagnosed case," says Clark. "If we can get that first herd, we can stop the disease before it becomes an outbreak. The idea of VETT is to have everything we need so we can deal with it very quickly."

Foot and Mouth Disease, African Swine Fever, and Rinderpest are just some of the unwanted and unthinkable diseases found elsewhere in the world that could paralyze the U.S. livestock industry.

"If we get an emergency animal disease call, we can simply back a vehicle up to the trailer and immediately go wherever we need to in Oregon," says Clark. "Within a matter of hours, we can have all of the equipment we need on site to do the job."

VETT sounds like the title of a new medical drama coming to network television this fall. In fact, the trailer's contents aren't necessarily flashy, but are

essential. There is personal protective gear: disposable coveralls, rubber gloves, galoshes, respirator masks, ear plugs, and safety glasses to name a few. There are personnel disinfection items: scrub brushes, portable shower, foot bath containers, plastic buckets, and fingernail clippers. There are animal movement control items: chains, padlocks, quarantine signs, wire, hammer, and nails. There are premises decontamination items: backpack sprayer, shovel, lime, and disinfectant. There are office supplies for documentation. The agents of euthanasia are not kept in the trailer but are available: stun guns, euthanasia solution, syringes and needles. The portable corral and squeeze chute are intended to prevent animal handling facilities on the ranch or farm from becoming contaminated with the disease in question.

Clark and others don't want to wait until an exotic disease shows up.

"California did a risk assessment on the cost of delay in dealing with an outbreak of Foot and Mouth Disease," says Clark. "All told, each day of delay—which would mean a spread of the disease—would cost about one billion dollars. It's those billion dollar days that we are trying to prevent."

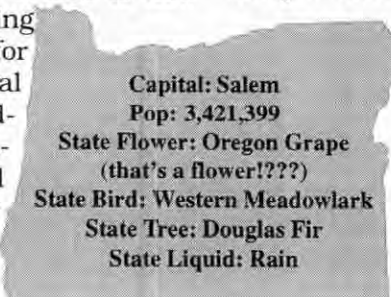
The cost of VETT including the portable corral and squeeze chute, comes to about \$5,500. The chute and corrals are about the same, for a total of about \$11,000. Clark says that is a good investment to prevent the billion dollar days.

Utilizing VETT isn't a matter of protecting what some people may perceive as the narrow interests of the cattle or sheep industries. All ruminant animals in Oregon are susceptible to Foot and Mouth Disease, including deer and elk. Although it doesn't necessarily kill the animals, this dreaded virus reduces production. With 85% of Oregon's cattle production being exported out of the state, the presence of Foot and Mouth Disease would cripple the economy of many communities. Rinderpest is another disease of concern. Clark says it could cause 95% mortality in U.S. cattle.

"Chances are the export of livestock and meat products from the entire U.S., not just Oregon, would cease due to the presence of diseases like these," says Clark. "The economic ripple effects would be tremendous."

Intercontinental travel is becoming more common. Millions of people travel to and from the U.S. every year. Each could unwittingly bring back a souvenir, a food item, or other materials that might carry an exotic pathogen. Those people and items could easily come in contact with animals on U.S. soil.

"Last year, about a million pounds of materials were confiscated by customs agents as people came



Capital: Salem
Pop: 3,421,399
State Flower: Oregon Grape
(that's a flower!???)
State Bird: Western Meadowlark
State Tree: Douglas Fir
State Liquid: Rain

Continued on next page

Food-And-Mouth Disease Update

Why more on Foot and Mouth? Because, according to the experts at USDA, it's a matter of when, not if. Government officials at USDA are studying all aspects, including such things as wind vectors in relation to the location of livestock farms, and reimbursement to infected farms (see below).

VENEMAN SAYS VIGILANCE KEEPING FMD OUT OF U.S. AND ASSURES CONGRESS COMPENSATION WOULD BE AVAILABLE IN CASE OF EMERGENCY WASHINGTON, April 26, 2001—In testimony before the House Agriculture Appropriation Subcommittee, U.S. Agriculture Secretary Ann M. Veneman said today that USDA would be prepared to compensate farmers fair market value for livestock losses should there ever be a foot-and-mouth disease outbreak.

Veneman said that increased vigilance by federal and state agencies, particularly since recent outbreaks of FMD were discovered in Europe, has been successful in reducing the risk of entry and keeping it out of the country for more than seventy years.

"We are making every effort to reduce the risks so that FMD will not enter our country," said Veneman. "However, we must always be on guard. It is responsible to plan and prepare in case there ever were an emergency. That is why our agency has been increasing our vigilance in the areas of prevention and preparedness."

While Veneman said details of a compensation program are still being prepared, she stressed that this was part of ongoing efforts to review programs and ensure the U.S. has the adequate resources to respond if there ever were an emergency situation.

Stringent measures taken to reduce the risk of FMD entering the U.S. includes prohibiting shipments of products from high risk countries; increasing personnel at ports of entry; tightening regulatory enforcement; increased surveillance of incoming passengers and cargo; enhanced monitoring and surveillance of domestic livestock; strengthening federal, state and industry coordination; implementing public education campaigns; and dispatching experts to the United Kingdom to assist in containment efforts.

This year, USDA has begun hiring 400 new inspection personnel and doubling the size of its canine inspection teams. Secretary Veneman also authorized an additional \$32 million to hire 350 more inspection personnel and reassigned 200 inspectors to critical ports of entry.

Uruguay Confirms Case of FMD U.S. Announces Import Restrictions.

On April 25, Uruguay confirmed two cases of FMD in cattle just west of the city of Palmitas in the Department of Soriano. Based on this information, USDA is prohibiting importation of susceptible animals and their products (primarily cattle, swine and sheep) from Uruguay produced on or after March 23. Products already enroute to the United States will be held at the port of entry where they will either be re-exported or incinerated. Uruguay has been notified of these new regulations, which apply to all countries affected by FMD.

FMD is a highly contagious and economically devastating disease of ruminants and swine. The United States has been free of FMD since 1929, and USDA's Animal and Plant Health Inspection Service continues to be vigilant in its efforts to protect against the introduction of the disease, which exists on four of the seven continents.

Travelers wanting to learn of steps to take before leaving and entering the United States should call 1-866-SAFEGUARD. Current information on foot-and-mouth disease is available on the Internet at: <http://www.usda.gov>

V.E.T.T.

Continued from previous page

from overseas," says Clark. "Officials figure they get about one-tenth of what should be confiscated."

Then there is the unfathomable. Agricultural terrorism could cripple agriculture without directly hurting humans.

"It would not be terribly difficult for someone to intentionally start an epizootic of animal disease," says Clark.

VETT isn't going to save the world. But it is another Oregon pioneering effort in being proactive instead of reacting after something bad has happened. Neighboring states are watching and VETT is ready to respond outside of Oregon if needed.

"I would hope fervently that the trailer will sit and rot into the ground, never needing to be used," says Clark. "We've been very fortunate so far. Most animal disease experts agree it isn't a matter of if, but a matter of when a foreign animal disease will hit. Our job is to be prepared for when it happens."

For more information, contact Dr. Andrew Clark at 503-986-4680.

Lupton Current Research

ACCESSION NO: 0184987
 SUBFILE: CRIS PROJ NO: TEX08764
 AGENCY: CSREES TEX
 PROJ TYPE: SPECIAL GRANT PROJ.
 STATUS: NEW
 CONTRACT/GRANT/AGREEMENT NO: 00-34148-9006
 PROPOSAL NO: 2000-03710
 START: 01 SEP 2000
 TERM: 31 AUG 2001
 GRANT YR: 2000
 INVESTIGATOR: Lupton, C. J.
 PERFORMING INSTITUTION: SAN ANGELO-TAMU AGR
 RES CNTR TEXAS A&M UNIV COLLEGE STATION,
 TEXAS

ANIMAL FIBER RESEARCH TO INCREASE PRODUCTION, QUALITY, AND VALUE OBJECTIVES:

1. Develop and evaluate near infrared spectroscopy and automatic image analysis for rapid, objective evaluation of wool, mohair, cashmere, and other animal fibers
2. Use objective measurements to improve fiber and/or meat production; quality; and income to producers through improved selection, nutrition, management, and marketing efficiency.

APPROACH:

For objective 1, near infrared spectroscopy will be further evaluated for predicting yield, moisture content, fiber diameter, medullation, and cashmere mechanical yield. Automatic image analysis will be evaluated for measuring snippet curvature and uniformity.

For objective 2, 5 experiments will be conducted including: performance and progeny testing with sheep and Angora goats; development of a production system for exceptionally high value wool, mohair, lamb and goat meat; effects of latitude on fiber production by Cashmere and Angora goats; development of an electronic marketing system for animal fibers; and, effects of twice-a-year shearing on productivity of ewes in a hot climate.

NON-TECHNICAL SUMMARY: Animal fiber and meat production by sheep and goats in the U.S. are only marginally competitive (with products produced in other countries) and marginally profitable. This project examines several approaches to making the U.S. sheep and goat, wool, mohair, and cashmere industries more competitive and more profitable.

PROJ. CONTACT: Name: Lupton, C. J., Phone: 915-653-4576, Fax: 915-658-4364, Email: c-lupton@tamu.edu

Hint: You can ask him about this project when he visits Oregon this fall—see page 15, this issue.

Australian Headlines

Locusts Now Under Control

On December 20, 2000, AGWEST (Agriculture Western Australia) and the Agriculture Protection Board announced the close of their locust control campaign. Agriculture Protection Executive Director Rob Delane said that as predicted, the outbreak was at least twice as large as the last significant locust outbreak in 1990.

New Meat Market in US and Canada (For Australia?)

A December 13, 2000 headline announced the identification of a promising new opportunity for Western Australia to increase its share of the American goat meat market.

This announcement followed the completion of an international study tour of goat production in South Africa, United States and New Zealand, run by Agriculture Western Australia. AGWEST project manager Tim Johnson interviewed importers in the US and Canada to determine their present and future plans for goat meat.

"Importers from the US want whole carcasses within a weight range of 7 kilograms (15 lb) to a maximum of 18kg (40 lb)," he said. "The consumers are mainly ethnic groups, for example Chinese, Mexicans and Muslims."



"Little Bit" and "Snowflake" delight visitors at the fair.

Photographs by Chris Westvig, Mountain Center, California.

Suitability of Dahlem Cashmere Goats Grazing in Conservation Areas

S. LAMMER, Institute of Animal Science

Endenicher Allee 15, 53115 Bonn, Germany

A. VALLE ZÁRATE, Institute of Livestock Production in the Tropics and Subtropics, Garbenstraße 17, 70593 Stuttgart, Germany

SUMMARY

Sheep and goats are known for their ability of preserving and restoring conservation, the latter being of increasing importance throughout Europe. Therefore goats of the Dahlem Cashmere breed have been tested for their suitability of grazing in conservation areas. The results are promising in regard to their integration in extensive production systems. The goats contributed to the cleaning of the bushy vegetation. Some of them were insensitive to all kinds of weather and maintained a good health. As an added value product considerable amounts of high quality fibre could be harvested.

INTRODUCTION

From the beginning of this century, pastures in low-mountainous areas in Germany, which were developed by grazing with small ruminants, have largely (70% (Schubert 1994) to 78% (Böttcher et al. 1992)) been overgrown by bushy vegetation. For preserving the species diversity and restoring of traditional landscape it is necessary to keep this biotopes open. This has been pursued mechanically or by application of herbicides, both methods bearing economic and ecological risks. An alternative is the utilisation of sheep and goats. The suitability of sheep for preserving conservation areas is well studied; whereas that of goats is still discussed. In Germany a new goat breed, Dahlem Cashmere, has been developed, which combines meat and fibre production. The aim of this study was to examine if this breed can be used for preserving biotopes while fibre production may provide an additional value.

MATERIAL AND METHODS

The Dahlem Cashmere, a multipurpose goat breed for production of milk,

meat and fibre, consists of about 50% Angora and 50% dairy breeds mainly of the German White with a small influence of the German Fawn and Anglo Nubian. Two groups of five Dahlem Cashmere female kids were integrated during summer 1997 in two sheep flocks grazing in the Eifel low-mountain region (mid-west Germany). There are dry limestone soils, which have been grazed by sheep during the last centuries. One of the flocks was housed during the lambing season in winter, while the other one was kept outside all year. A questionnaire given to the shepherds and regular inspections were used to check the possibility of integration of goats into the sheep

flocks, focussing on grazing behaviour, ability of coping with the climate and healthiness.

Midside fleece samples were collected from the right flank of yearlings. Afterwards, animals were shorn and fleece weights recorded. The fleeces were subsampled according to the method DIN 53 811 (1970). The subsamples were dehaired by the method of COUCHMAN (1986). Down weights of the fleeces were estimated by the yield of down in the subsample after dehairing with the Shirley Analyser.

The fibre diameter has been measured by projection microscopy ($n=300$). Down fibres were defined as fibres with a diameter of $\leq 30 \mu\text{m}$ (ASTM 1986). Quality parameters considered were the down diameter and its standard deviation.

Continued on next page



Dahlem cashmere goat, Germany. Photograph provided by Sigrid Lammer.

Dahlem Cashmere Goats

Continued from previous page

RESULTS AND DISCUSSION

According to the shepherds, the goats integrated well into sheep flocks and preferred browsing the bushy vegetation. The ability of coping with the climate was reported differently. One group seemed to avoid rain and wind and stopped browsing under bad weather conditions, while the other proved insensitive against precipitation, even snowfall. All goats maintained a good health condition.

In this study the extent of clearing bushy vegetation could not be measured. Eckert (1993) and Schubert (1994) showed that a percentage of 4% respectively and 10% of goats in a sheep flock did not reduce bushy vegetation, while Riehl (1996) pointed out that a high percentage of goats combined with sheep in two grazing periods was successfully controlling bushy vegetation. The overall effect depends on small ruminant stocking rate, the percentage of goats in the flock, the type and state of vegetation as well as the grazing period and frequency.

The tolerance of harsh weather conditions is observed and discussed. In the majority of our own experiences, Dahlem Cashmere goats, which were sold for preserving a conservation area, stopped browsing during rainfall. In the literature it is generally assumed (e.g. by Lutz 1992), that goats need a shelter.

The mean fleece weight was 425 ($\pm$ 204) g and the down weight 231 ($\pm$ 136) g. The fibre traits showed a mean down fibre diameter of 18.9 ($\pm$ 4.0) μ m, the mean standard deviation 3.7 ($\pm$ 0.7) μ m. On average 89% of fibres measured by projection microscopy had a diameter below 30 μ .

The results show that the Dahlem Cashmere goats are suitable for preserving conservation areas in mountainous regions and that this breed can be integrated into sheep flocks easily. The goats may adapt to harsh climatic conditions, however, a shelter will be of advantage. The extent of reduction of the bushy vegetation must be quantified in further studies. There are further economic prospects through the fibre production.

ACKNOWLEDGMENT

We express our thanks to EFFN, to MLURI for placing at disposal the Shirley Analyser for the analyses, and finally to Hilary Redden for supervising the fibre analyses at the MLURI.

ASTM Standards D 2816-76 (1986): Annual Book of ASTM standards, section 7, textiles

Böttcher, H., Gerken, B., Hozak, R., Schüttpelz, E. (1992): Natur und Landschaft 67 (6):276-282

Couchman, R. (1986): Journal of the Textile Institute, 77 (4): 255-262

DIN 53 811 (1970): Deutsches Institut für Normung e. V., Beuth-Vertrieb GmbH, Berlin

Eckert, G. (1993): Der Ziegenzüchter 2:2-7

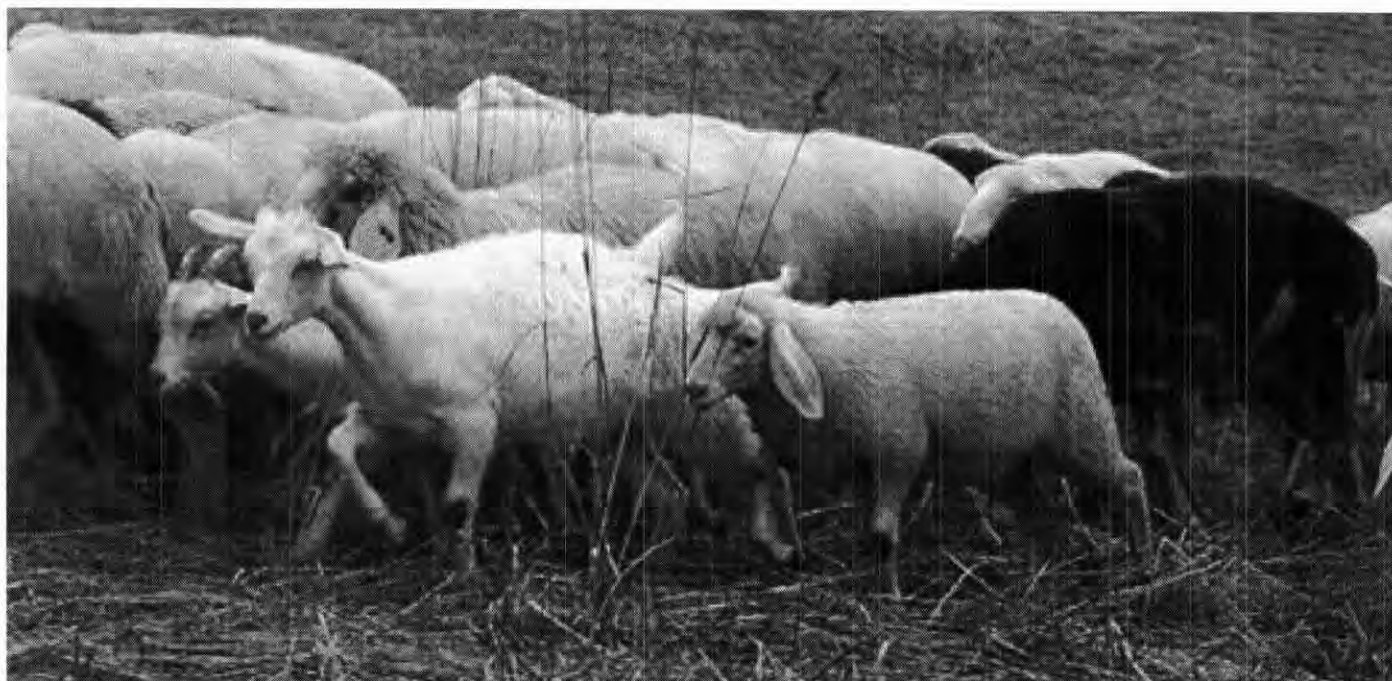
Glavac, V. (1983): Naturschutz in Nordhessen 6:25-45

Lutz, J. (1992): Agrar-Übersicht 1:74-75

Pott, R., Hüppe, J. (1994): LÖBF-Mitteilungen (3): 10-16

Riehl, G. (1996): Naturlandstiftung Hessen e.V. (1996), S. 36-47

Schubert, W. (1994): LÖBF-Mitteilungen (3):48-51



Dahlem Cashmere goats with sheep. Photograph provided by Sigrid Lammer.

Calendar of Events

June 2-3, 2001

Big Sky Fiber Festival, Ravalli County Fairgrounds, Hamilton, Montana. Theme: "Back to the Barn, Info: Deb Essen, 406-642-6424, email: deb@eccmontana.com

June 14-17, 2001

Estes Park Wool Market, Estes Park, Colorado. Workshops/seminars—June 14 - 15 (pre-registration required), demonstrations/competitions/displays—June 16 - 17. For more info: 970-586-6104, email: events@estes.org. Website: <http://www.estesnet.com/events/woolmarket.htm>

June 22-23, 2001

Black Sheep Gathering, Lane County Fairgrounds, Eugene, Oregon. Demonstrations, classes, exhibits, vendors. Info: 541-343-6596, internet: www.blacksheepgathering.org

July 22 - 24, 2001

Goat Producers Gathering, YO Ranch Resort Hotel, San Antonio, Texas. Organized by the Texas Agricultural Extension Service. Presentations and demonstrations by industry leaders. Activities include industry trade show and concurrent session on basic management procedures. Also Cabrito Cuisine cook camps, live animal evaluation, goat showmanship, update on goat meat industry, health management and predator control. More information: Dr Rick Machen 830-278-9151, email: r-machen@tamu.edu

September 22-23, 2001

Oregon Flock & Fiber Festival, Clackamas County Fairgrounds, Canby, Oregon. Vendors, exhibits, classes, demonstrations. Info: www.flockandfiberfestival.com

August 11-12, 2001

Llama Show and Fiber Arts Show, Evergreen State Fairgrounds, Monroe, WA. Featuring sheep, goats, llamas, alpacas and rabbits. Animals and fleece for sale, fiber judging, classes, seminars, demonstrations, gift and craft vendors. **The NWCA fleece competition will be held here. Exact time and judge to be announced.** for more information: Sandi Cash, ALSA Show Chair 360-659-9551, casharosa@mindspring.com, Pat Skelton, Fiber Chair 360-445-5262 hbskeltn@gte.net For more information about NWCA fleece competition, contact NWCA.

October 2-3, 2001

ECA Fleece Competition (2nd) and Goat Show (3rd) at the State Fair of Virginia, State Fairgrounds, Richmond, Virginia. Judge, Joe David Ross, Texas.

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Colorado Cashmere and Angora Goat Association (CCAGA)

Carol Kromer, Club Contact, 719-347-2329

Eastern Cashmere Association (ECA)

Gloria Rubino, President
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Mild Goat Men

Steve Hachenberger, *Acting* President. What? You don't think Steve *acts* like a President? File a complaint. Where do you file the complaint? How should we know? Won't help anyway, but it might make you feel like you actually have input in MGM affairs.

406-961-3058, email: cashmere@bitterroot.net

North West Cashmere Association (NWCA)

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Foreign Agents

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the 1970s at laboratories in California, Montana, and Italy. Since then, ARS, APHIS, and foreign cooperators have discovered, imported, and released 12 natural enemies. The stars so far have been a group of four related flea beetles from Eurasia that belong to the genus *Aphthona*. The beetles have rapidly expanded from some areas. At one site in North Dakota, where 77 beetles were released, about 2 million were harvested in 1999 for distribution to other spurge-infested areas. The young beetles burrow into the weed's roots. Adults feed on the leaves. In addition to harming the plant directly, this feeding allows invasion by disease-causing fungi or bacteria and impairs its reproduction.

"There is no question that biological control will be a key to long-term control of leafy spurge," says Neal R. Spencer, an entomologist who leads research at ARS' Northern Plains Agricultural Research Station in Sidney, Montana.

To demonstrate biological control and other integrated pest management (IPM) techniques for leafy spurge, ARS formed The Ecological, Areawide Management (TEAM) Leafy Spurge project in 1997. ARS and APHIS coordinate the project, with participation by dozens of other federal, state, and local organizations and ranchers.

TEAM Leafy Spurge is the third in a series of ARS-funded, 5-year IPM projects but the first to target a weed. Researchers examine biological, cultural, and chemical methods individually and in combination to manage the weed. The goal is to find the best tools, from an environmental and economical standpoint, so ranchers and land managers can reclaim rangeland lost to the weed and slow its further spread.

"So far, the project has been a big success," says Spencer.

Last summer, TEAM Leafy Spurge distributed for release more than 22 million flea beetles to 206 ranchers and land managers from 50 counties in 7 states. The *Aphthona* beetles will soon be joined by a gall midge, *Spurgia capitigena*. Unlike flea beetles, the midge prefers moist, shady areas. That will give TEAM Leafy Spurge another tool to slow spurge growth in areas where beetles, grazing sheep and goats, or pesticides aren't effective or practical.

Rouhollah Sobhian, an ARS entomologist, has located a good natural source of the midge in southern France. Scientists in Europe and Montana have studied the midge, and Spencer has already obtained a release permit from APHIS.

Chinese Beetles for Saltcedar Control

Landowners in the western United States brought in bushy, deciduous saltcedar (*Tamarix* spp.) trees for erosion control in 1837. Since then, saltcedar has crowded out native trees like willows and cottonwoods along parts of nearly every western river. In 1987, ARS launched a project to use biological control against the weed. ARS researchers, along with cooperators in China, France, Israel, Kazakhstan, and Turkmenistan, began plant studies and identified potential natural enemies.

A leaf beetle, *Diorhabda elongata*, and a mealybug, *Trabutina mannipara*, were shipped to ARS quarantine labs in Albany and Temple for further study. Last summer, the beetle was approved

as the first biological control agent for saltcedar. The adults and young feed on saltcedar leaves, repeatedly defoliating the tree and depriving it of nutrients.

Normally, control agents are approved for direct release into target areas. But this time, researchers faced a unique complication. "Saltcedar replaced native willows that an endangered bird—the southwestern willow flycatcher (*Empidonax traillii extimus*)—relied on for nesting," says ARS entomologist Jack DeLoach. "The bird has since adapted to nesting in saltcedar, so we have to ensure that the beetles won't remove the weed faster than we can reestablish native plants for the birds." DeLoach is in the ARS Grassland Protection Research Unit at Temple.

To protect the bird while controlling the weed, the scientists implemented an extra step, in concurrence with APHIS and the U.S. Fish and Wildlife Service: a 3-year experimental phase that begins with the beetles in cages. This will allow scientists to monitor the rate at which the beetles damage the saltcedar before the insects are relocated to other critical habitats.

A consortium of experts from more than two dozen federal, state, and local agencies, universities, and conservation organizations meets periodically to develop monitoring protocols, review progress, and address concerns. Despite the endangered species concerns, scientists are confident that the biological control approach is the right choice for managing saltcedar.

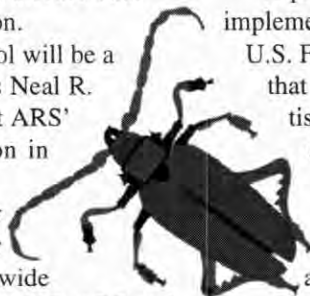
"Saltcedar is an Old World plant with no close native relatives here," says ARS entomologist Raymond I. Carruthers. "More than 200 natural enemies of saltcedar have been found in China and the former Soviet Union. Insects like the *Diorhabda* beetle feed exclusively on saltcedar, making them ideal for biological control." Carruthers leads the Exotic and Invasive Weed Research Unit at Albany.

The next likely candidate will be a weevil from France, China, and Kazakhstan, belonging to the genus *Coniatius*. Like the *Diorhabda* beetle, the larvae eat the foliage. But young *Coniatius* pupate on the tree before they emerge as adults, while *Diorhabda* fall to the ground to pupate and can be drowned in wet areas. Both the leafy spurge and saltcedar projects are using high-tech tools such as aerial photography, remote sensing, and geographic information systems (GIS), to map the weeds over vast areas. ARS ecologist Gerry Anderson in Sidney and ARS rangeland scientist Jim Everitt at Weslaco, Texas, coordinated some of the mapping.

"It is often difficult to determine the extent and distribution of weed populations on rangelands because of the expanse and inaccessibility of these areas," Anderson says. "These technologies will provide a comprehensive way to measure the rate at which the weeds spread and the long-term effectiveness of biological control over wide regions."

Showing Promise for Water Weeds and Melaleuca

Foreign aquatic plants have also invaded and become weeds. ARS began its search for biological control agents of water weeds by establishing laboratories in Florida in 1959 and Argentina in 1962. Water-hyacinth was one of the original targets and remains



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Foreign Agents

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a high priority today. By 1992, water-hyacinth had invaded hundreds of lakes and streams throughout the South and parts of the West and Hawaii. The weed impedes water's natural flow and can destroy native communities of aquatic plants and animals. Biological control has already greatly reduced water-hyacinth in Florida, Louisiana, and Texas, but more agents are needed. ARS researchers here and abroad are discovering and testing what they hope will be a new South American team of natural enemies.

Also under way is a promising project to curb melaleuca, *Melaleuca quinquenervia*. A tiny, grey-brown weevil called *Oxyops vitiosa* is now thriving in at least 50 sites in south Florida, thanks to more than a decade of work by ARS scientists there and in Australia. Researchers hope the leaf-eating *Oxyops* will stop the spread of melaleuca, a fast-growing tree that crowds out native vegetation and is threatening to take over Florida's Everglades. Both melaleuca and *O. vitiosa*, the melaleuca leaf weevil, are native to Australia, but neither is a pest there. ARS scientists turned the 1/4-inch-long weevil loose at 13 melaleuca-infested sites in Florida in 1997, after exhaustive greenhouse testing and investigations by colleagues in Australia showed the insect would not attack other plants.

"Although it's too early to call the weevils a success," says ARS entomologist Ted D. Center, "all indications are that they are doing great. One site where we originally released 3,300 weevils," he says, "now has about 80,000. We collected about 20,000 weevils there and relocated them to 30 new sites. That means we've now placed weevils throughout melaleuca's entire Florida range."

"In general," Center says, "the weevils have done well at sites that are dry or only seasonally wet. But at permanently inundated areas, they may drown when trying to find soil in which to pupate."

Other biological control agents that might thrive at those soggy sites could be waiting in the wings. After all, the melaleuca-munching weevil was only one of more than 450 plant-eating critters that scientists at the ARS Australian Biological Control Laboratory in Indooroopilly, near Brisbane, found feeding on melaleuca. Today, the team is focusing its melaleuca research on six of the most promising agents—some of which have already been shipped to Gainesville, Florida, for quarantine scrutiny by a team of ARS scientists led by entomologist Gary Buckingham.

"Our ongoing field research in Australia ensures that ARS scientists in Florida have the widest possible array of biological control agents to work with," says entomologist John A. Goolsby, director of the ARS Australian Biological Control Laboratory. "This dual-continent approach," he says, "invites success."

This research is part of Crop Protection and Quarantine, an ARS National Program described on the World Wide Web at <http://www.nps.ars.usda.gov/programs/cppvs.htm>. Scientists mentioned in this story can be contacted through Kathryn Barry Stelljes, USDA-ARS Information Staff, 800 Buchanan St., Albany, CA 94710; phone 510-559-6069, fax 510-559-5882.



Note: The bugs used for illustration here have no relationship to any actual insects featured in this story. They are merely images of various bugs the Editor captured in the CashMirror office and flattened on the scanner for amusement.

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