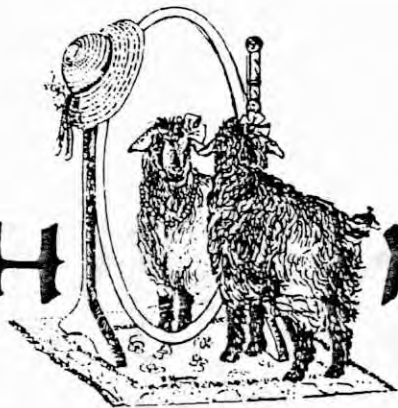


CASH MIRROR



VOLUME TWO, ISSUE TWO

NOVEMBER 1990

FORTE' ANNOUNCES 1991 CASHMERE PRICES

CASHMIRROR

REFLECTING THE CASHMERE INDUSTRY

REFLECTIONS

CashMirror Publications, 200 Larson Road,
Silver Creek, Wa. 98585

Judith Richardson, Publisher
Wendy Paulin, Editor

The entire contents of this newsletter are copyrighted. Reproduction in full or part, whether photograph, copy or sketch, is strictly forbidden unless written permission has been given by the Publisher prior to publication.

Opinions expressed in this magazine are not necessarily those of the Publishers.

Results published in the newsletter are from information supplied by clubs and organizers and no responsibility for complete accuracy can be taken.

The contents of the advertisements are the responsibility of the advertisers.

The CASHMIRROR welcomes contributions of articles and photographs. If possible type articles in double spacing on one side of the paper.

No responsibility will be taken for material while in transit or in this office, although it will receive maximum care.

WE INVITE ALL SOCIETIES AND
ORGANIZATIONS
TO SEND ARTICLES, INFORMATION
RESULTS
PHOTOGRAPHS, ETC. TO:

CASHMIRROR PUBLICATIONS
200 LARSON ROAD
SILVER CREEK, WA. 98585
U.S.A.

PHONE: 206-983-3154
FAX: 206-983-3676

Dear friends,

As you read this I will be on our big embryo implant trip that is part of our USDA-SBIR research project. It encompasses 15 test farms between here (western Washington state) and the coast of Maine. We will implant approximately 350 goats with twins. I will be gone from the office for approximately 50 days.

We do the actual implant in a modified 31 foot Terry trailer that is heated and air conditioned for the comfort of both the anesthetized goat and the implant team. The team consists of Dr. Paul Mennick a Californian veterinarian specializing in embryo transfer and artificial insemination of goats, sheep, horses and donkeys. Doug Gilbert from Killeen Texas is our embryologist. Doug has been working on goats and sheep in Australia for the past 4 years. The other two members are my husband, Duane, and myself. Also the test farmer is an integral part of this team. The test farmer does all of the programming of the does prior to our arrival and has a great deal of responsibility before, during, and after the implant.

We arrived home from our recent trip to Australia to find summer has turned to fall in our northwest corner of the country. Its a busy time for us as we try and get all of the hay loft filled and to get winters wood in. Though our mountain home is equipped with a modern day furnace, we prefer to heat with wood as much as we can.

Its also the time to get barns and goats all prepared for winter. It means making sure all goats are current on vaccinations and feet trimmed and everyone wormed and treated for cocci. This winter we are using a specially prepared grain pellet with Decox in it to lower the incidence of cocci. We are also using a salt block with Decox in it. I'm also attempting to have some blocks formulated with a wormer in it. While we would still worm the goats, it should cut down on the pasture reinfesting the goats. The drug, phenothiazine, is supposed to sterilize the eggs

that get dropped on the pasture. If I am successful at getting some type of block made or locating one already being formulated I will let you know in a future issue.

My next reflections will be written "on the road" and will let you know how our implant is going.

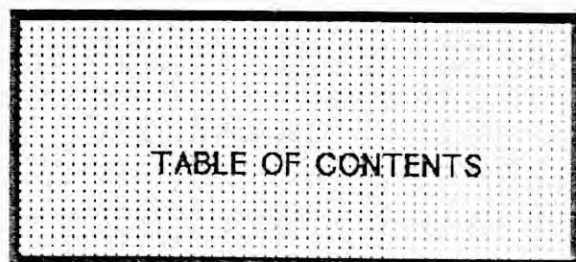
Cashmerely yours,



Judith Richardson - Haralson

WE MADE A MISTAKE!

You may have already noticed. You received two September issues. Sorry, the **BREEDERS SHOWCASE** was your October Issue.



Reflections.....	1
Judith Richardson	
Drench Resistance.....	3
T.G. Watson	
Coping with Drench Resistance.....	5
S.A. Bisset and A. Vlassoff	
WFTC.....	7
John Fitzgerald	
WhataWhata Fiber Testing Center.....	10
John Fitzgerald	
New Zealand Roundup.....	12
Reprinted "Goat Keepers"	
A Healthy Rumen Means a Healthy Goat.....	15
Reprinted "Town and Country Magazine"	
Feature Farmer of the Month.....	19
Blue Sky Cashmere	
Breeders Directory.....	24
Classified.....	26

FORTE' ANNOUNCES FIBER PRICES AT CAPRA ANNUAL CONFERENCE

Hugh Hopkins, General Manager of Forte' Cashmere Company announced the 1991 cashmere prices November 3, 1990. The announcement was made at the Cashmere Producers of America annual conference held this year in Tulsa Oklahoma.

1991 PRICES ARE:

16.5 micron or under	\$74.00
16.5 to 19 micron	\$58.00
19 to 22 micron	\$10.00
22 micron or above will be sent back.	

Look for further information on the Annual Conference in the December Issue of CashMirror.

BACK ISSUES OF CASHMIRROR

Volume One, Issues 1- 6
\$2.00 for one issue
\$1.50 for two or more

**CASHMIRROR
 PUBLICATIONS
 200 LARSON ROAD
 SILVER CREEK, WA 98585**

DRENCH RESISTANCE THREAT TO GOAT FARMING

Reprinted from "Fiber News" September 1990

Written by T.G. Watson, Parasitology Reserch Unit,
Raukura Agricultural Center, Hamilton New Zealand

Contrary to popular belief drench resistance has now become a major threat to both sheep and goat production in New Zealand. Crude estimates suggest that anywhere between 20 and 45% of sheep farms may already be experiencing some form of drench resistance at this time and the figures are rising extremely rapidly.

The situation is probably considerably worse on goat farms, particularly those relying solely on drenches to control parasitic worms. Farms where one type of drench is used year after year at monthly frequency are in the highest risk group.

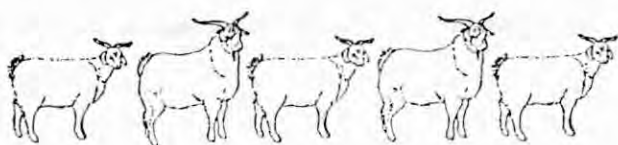
Accurate figures are not available but it has been estimated that as much as 1/3 of sheep and considerably more goat production in New Zealand is dependent on effective drenches to kill internal parasites.

Resistance to drenches in worms has become of paramount importance to all goat farmers. As responsible producers it is your responsibility to ensure that the development and spread of resistance is delayed and stopped where possible.

Considerable confusion exists that continues to assist expansion of resistance across the nation and farmers must accept that it is not just the neighbors' problem. It threatens all sheep and goat production sectors since both species act as hosts for the same internal parasites.

DRENCHES AND "ACTION FAMILIES"

One of the major problems is the lack of understanding of what drenches are and what makes up an "action family". Simply, drenches are chemicals formulated to kill the different worm parasites that commonly infect domestic grazing stock. These fall into 3, so called, "action families". These are the White, Clear and Ivermectin families. Herein lies the first point of confusion. Not all clear drenches are clear. Therefore you must read the label and identify the active ingredient of each. Various members are highlighted below:



MODERN DRENCHES AVAILABLE TO FARMERS

WHITE:

ALBENDAZOLE
CAMBENDAZOLE
FEBANTEL
FENBENDAZOLE
MEBENDAZOLE
OXFENDAZOLE
OXIBENDAZOLE
PARABENDAZOLE
FICOBENDAZOLE
THIABENIDAZOLE
THIOPHANATE

CLEAR:

LEVAMISOLE
MORANTEL

AVERMECTIN

IVERMECTIN

Members of each family use very similar methods of activity to kill worms. Therefore, when the effectiveness of any member of any particular family or families is lost it is lost to all members of the family(ies).

WHAT IS DRENCH RESISTANCE?

In any population of worms that has not been exposed to drenches there will be a very small number of individuals that are not killed by the dose of drench that has been determined by the manufacturer to be effective. These individuals are defined to be resistant to the drench. Prolonged use of members from one "action family" naturally helps increase the numbers of resistant individuals in any population. This selection pressure equates to animal breeding where animals are selected and culled for various production traits. Gradually the numbers of resistant individuals exceeds those that are killed. The consequences may be illthrift, failure to thrive, lost production and death even through correct dose rates are applied.

By definition, DRENCH RESISTANCE has occurred when less than 90-95% of mean worm and/or egg counts are

Drench resistance.....Con't

removed subsequent to a drench being delivered accurately and correctly. Single resistance means that resistance has been confined to any member of 1 "action family". Dual resistance means that resistance has developed to 2 of the 3 "action families". Multiple resistance means that members from all 3 "action families" no longer effectively kill internal parasites.

PUBLIC AWARENESS

There are a number of misconceptions that continue to mask the impact and reality of the situation in this country:

1. It is important to recognize that once resistance has been established it may be on the farm forever. There is little evidence that worms become susceptible to the drench at some time in the future once resistance has developed. Recently, in New Zealand, resistance in *Haemonchus contortus* to white drenches was rediscovered almost 10 years after white drenches were last used. It only took 2-3 applications to purify the strain in grazing lambs with disastrous consequences. **YOU MAY NEVER BE ABLE TO GO BACK TO ANY MEMBER OF AN "ACTION FAMILY" ONCE RESISTANCE HAS BEEN CONFIRMED.**

2. The farming community as a whole has the view that there will be new "action families" in the near future. There is no evidence that this is the case. In fact manufacturers are putting their efforts and finances into novel and more effective systems designed to deliver the existing products.

3. Both single and dual types of resistance have been confirmed in both sheep and goats. The goat industry must now accept it has the added burden that resistance to the 3rd action family, represented solely by Ivermectin, has been confirmed recently in at least 3 locations involving both research as well as commercial flocks. It involves one species of worm which will readily transmit to sheep.

In situations of multiple resistance there will be no modern drench control option left for effective parasite management. Containment must be regarded as the first priority to protect both sheep and goat producers.

TESTING FOR RESISTANCE

A drench test performed at least once but preferably twice annually (spring and autumn) is very cheap investment (\$20-\$30 per test). The procedure is simple. It involves

collecting dung samples before samples before and 7-10 days after drenching approximately 6 animals and having egg counts performed. High numbers of eggs in both samples may indicate resistance. Certainly such a result should be investigated further in consultation with your veterinarian or animal health advisor.

THE FUTURE

As responsible farmers it is your duty to delay the development of resistance on your properties and reduce the likelihood of spread of resistance to other farms. Already there are cases where farmers have brought stock and resistance onto their properties. It is your responsibility to confirm that your drenches are being used correctly and are providing the control for which they are designed. It is equally important for farmers to keep infected stock off their farms by drenching animals before they arrive and are turned out to graze.



A Newsletter discussing

Cashmere

and the U.S. Cashmere Industry

12 ISSUES - \$15.00 DOLLARS

CASHMIRROR PUBLICATIONS
200 LARSON ROAD
SILVER CREEK, WA 98585
U.S.A.

PHONE: 206-983-3154

FAX: 206-983-3676



COPING WITH DRENCH RESISTANCE

Reprinted from "Fiber News" September 1990

Written by, S.A. Bisset and A. Vlassoff, MAF-Wallaceville Animal Research Center, Upper Hutt.

The cost/effectiveness, safety and convenience of modern drenches has supported an increase in stocking rates but also encouraged many New Zealand farmers to forego traditional livestock grazing management practices once relied on to minimize worm problems in young stock.

Many farmers now rely almost entirely on heavy drench usage for dealing with worm problems. Goat farmers have been amongst the worst culprits. However, the days of being able to rely so heavily on drenches are numbered.

The outcome of over-reliance on drench treatment for worm control on sheep and goat farms, is that serious drench resistance problems are now emerging in roundworm parasite populations throughout the country, more particularly in the North Island.

Many of the most serious drench resistance problems in New Zealand have arisen on goat farms. With only 3 broadspectrum drench families available (see article by Tom Watson), cases of simultaneous resistance to 2 and even all 3 families have been reported over recent months. Initially most such cases occurred on dairy goat farms. More recently however, they have been arising in fiber-breed flocks also.

Changing drench families may once have seemed a simple solution to the problem. We now know that this is unlikely to be anything other than a short term answer - drug resistance is emerging faster than new products are being developed to cope with it.

WHY GOAT FARMS?

Most evidence suggests that the problem is particularly severe on goat farms because of the high frequency of drench usage. Compared to sheep and cattle, most adult goats tend to remain relatively susceptible to infection with roundworms. This means that on goat farms all animals tend to be treated, not just young stock as would be more usual on sheep farms. Secondly, goats of all ages can shed large numbers of worm eggs onto the pasture, whereas in the case of sheep, contamination of pasture is mainly due to the lambs. Farms grazing predominantly goats, therefore tend to have few areas of pasture

which remain uncontaminated. The result is more reliance on drenches.

In addition to this some farmers have apparently been advised to drench their goats as soon as the average faecal egg count (FEC) reaches 200 eggs per gram. In some cases this has meant drenching virtually every 3 weeks. This practice has done nothing but exacerbate the problem!

To delay the emergence of drench resistance, the most important step most goat farmers must take is to minimize drench usage as far as possible. If this is not done resistance will rapidly reach a point where productivity is seriously compromised. A further threat is that as sheep and goats share essentially the same range of roundworm species, the spread of multiple resistant worms into sheep flocks may jeopardize that industry also.

WHAT ARE THE OPTIONS?

While MAF researchers are examining, as a long term option, the possibility of selectively breeding for increased resistance to worm infection in goats, the most practical suggestion at this stage involves using sound grazing management practices to minimize worm intake and thereby reduce the need to drench as often. This approach will require a degree of planning and record keeping although it is quite simple in principle.

The first step is to ensure that your farm is adequately subdivided to allow enough flexibility in grazing management to avoid grazing goats on heavily contaminated pasture at critical times of the year (particularly autumn).

A well planned grazing rotation should make it possible to keep a bank of fresh pasture (6-10cm high) ahead of the goats. This will help decrease their intake of worm larvae. Most worm larvae are found in the bottom 2-3cm of the pasture. Grazing goats on very short pasture over summer and autumn, which is often difficult to avoid under set stocking systems, is likely to result in a substantial increase in the number of worm larvae picked up.

PROVISION OF "SAFE" PASTURE

While subdivision and rotational grazing will help they are unlikely to provide effective control by themselves. In most cases this will only be achieved by also ensuring that "safe" pasture is available at strategic times of the year (particularly late summer and autumn) for all susceptible stock.

Coping.....Con't

"Safe" pasture is pasture with too few worm larvae to be harmful for goats and may be any one of the following:

1. Hay or silage re-growth
2. New pasture or fodder crops
3. Pasture which has been spelled from goats and lambs for at least 2-3 months but grazed by cattle and/or nonlactating adult ewes over that time.

MIXED GRAZING WITH CATTLE

It appears unlikely that long term farming of goats by themselves will be viable, due to the difficulties of providing safe pasture, particularly in late summer/autumn, when roundworm numbers on pasture are likely to be accumulating (highest numbers are normally present in April), is to incorporate cattle into the grazing system. In many cases this may mean reducing goat numbers to accommodate the cattle. Few of the major nematode species present in goats are shared with cattle. Thus the system relies on the fact that goats will pick up few worm larvae from pasture grazed exclusively by cattle for the previous 2-3 months.

A grazing interchange system is currently being investigated, with very promising results, at MAF's Wallaceville Research Center. In this system cattle and goats at equivalent stocking rates are rotationally grazed (set stocked during kidding) within separate areas for approximately 3 months during spring. This creates safe pasture onto which the goats can be moved following drenching in early December. The cattle are then grazed for 10-12 weeks over summer on the area vacated by the goats. This in turn creates safe pasture onto which the goats can be moved again after drenching in early autumn before worm numbers on pasture become too high. A third move (again accompanied by a drench treatment) at the end of the autumn (April-May) will allow the goats to graze minimally infested pasture over early winter.

In this system the cattle can be grazed relatively hard but there needs to be adequate time allowed for good regrowth of pasture before the goats are moved onto it.

The higher the proportion of cattle to goats the easier it will be to achieve adequate control because of the greater area of safe pasture which can be created. The ultimate system would be where goats could be regularly moved onto areas on which only cattle had grazed since spring.

****MONTHLY NEWSLETTER****

Subscriptions: \$12.00 per year
Breeders' Listing Free
Advertising: BUY, SELL, TRADE
.15 cents per word
25 words/\$3.75 min.

GOAT NOTES AND NEWS
BETTY HINES, ED.
RR 6, BLOOMFIELD, IA 52537



Are you interested in goats?

Then you need all the
latest information on the industry.

Goatkeeper's Magazine

brings this to you six times a year as well
as all you need to know about husbandry,
management, health, sales information
and show results.

An international magazine covering dairy,
fleece, meat, commercial, stud and hobbyfarmer.

Subscribe today

and be sure of your copy

Subscription \$32 (surface) \$41 (airmail)

Sample \$4 (surface) \$7 (airmail)

Name.....CM

Address.....

.....Post Code.....

Mastercard welcome. Expiry Date.....

No.....Signature.....

Post to:- P.O. Box 333, Forth, Australia 7310

WFTC...in there for the long haul

"We are in there for the long haul."

That's how the manager of the Whatawhata Fiber Testing Center (WFTC), John Fitzgerald, describes the center's attitude to the goat industry.

It's probably just as well because if a hard-nosed business decision was made on the current level of fiber testing the center would probably close its doors.

The current number of fiber tests coming from New Zealand producers is 12,000 to 13,000 just over half the number two years ago. The center needs about 15,000 tests to be viable. Active international promotion over the past 18 months has addressed this situation, and the future is by no means bleak.

In the first year of operation in 1987/88 WFTC put through 20,000 fiber tests. In 1988/89 this fell to 15,000. As part of a long term overseas promotional objective WFTC manager Fitzgerald put some feelers out while attending the 1989 International Cashmere Conference in Melbourne. His marketing attempts were so successful that several thousand tests have since come across the Tasman sea.

Fitzgerald said that although many people saw WFTC as a part of MAF they didn't appreciate that it was a separate entity in terms of financial accountability. Under the re-structured MAF separate business's such as WFTC had to pay their way to survive, and that includes a return on investment.

And when you look at the several hundred thousand of dollars invested in sophisticated testing equipment you realize that it has considerable overheads to cover.

Fitzgerald said the center had been trimmed back to minimum staffing levels to reduce costs and was in a good position to expand when the demand for fiber tests increase.

About 50% of the reduction in tests is attributable to mohair and with the introduction of imported genetics WFTC is optimistic that the number of mohair tests will pick up. Currently about 80% of the tests going through are cashmere.

WFTC's business objectives are:

- *Develop for the industry objective measuring techniques appropriate for testing animal fleeces and bales for export.
- *Operate on a cash recovery basis including a return on capital.
- *Operate on a cash recovery basis including a return on capital.

Work already undertaken by WFTC includes looking at the best sampling sites on the animal and looking at developing the most appropriate machinery for measuring fiber including projection microscope and FDA equipment. It has also worked on developing the best method of communicating tests back to farmers.

But WFTC is not trying to convince farmers to test all the goats on their properties. It realizes this is just not economically viable so it is pushing for more on farm objective testing to encourage greater adoption of objectively based on farm decision making.

The center is helping to promote research into ways of achieving better fiber assessment on the farm. Currently this has a two-pronged approach looking at ways of improving visual assessment and looking at new testing equipment that could be used on-farm.

WFTC policy board chairperson, Terry Parminter, says the cashmere industry has come a long way in educating producers to assess micron and downweight.

WFTC has assisted other scientists working in this area, including Annette Litherland and Murray Bigham with work on:

- estimating downweight by fiber length.
- use of fleeceweight to predict yield.
- the relationship between visual assessment of kemp and test results.

And although it is the largest fiber testing center in New Zealand WFTC doesn't see this as a privileged position.

Fitzgerald says the center has more experience in fiber testing than almost any other lab in the world.

Because of this it feels it has an obligation to the industry to share this information. To this end WFTC has always maintained an open door policy with producers and other test houses.

The lab did not receive an IMA accreditation this year even though the South African Mohair Board has become the first lab to have an FDA approved. Ironically, it is the mohair testing work that WFTC has been sending to the IMA for the last few years that have helped accreditation of the FDA.

Fitzgerald candidly admits that the reason they did not apply for IMA accreditation was one of not placing a high

WFTC.....CON'T

enough priority on it. In hindsight he says it was a mistake and WFTC will be rectifying it this year.

Considerable media attention has been placed on fiber diameter measurement in recent months and in particular the area of measurement calibration. When the center was setting up in 1986 it was all geared to calibrate on wool tops, which had been used for many years in the research programme conducted at Whatawhata, but the cashmere industry representatives made it very clear they wanted testing aligned to the AWTA which was then using cashmere tops.

Whatawhata went along and aligned their testing with AWTA. Parminter said WFTC did not have to apologize for aligning with a lab with the international reputation that AWTA has.

Now AWTA has announced it is moving to wool tops and claim the difference in the results will be up to a micron at the coarser end with only a fraction of a micron at the fine end. Whatawhata is still using cashmere tops and has not made a decision to move to wool tops. This decision will be made within the next few months and the implications of the decision will be communicated to producers.

He said the main difference between the two different top materials was that wool tops were prepared to a much greater level of homogeneity and the results derived from large numbers of laboratories, and so were more reliable than the small runs of prepared cashmere tops available.

The testing differences are now being discussed in a joint approach between labs, the warehouse and processors. The first meeting to get an internationally recognized formula for down fiber testing was held last month. The target is to get an internationally recognized set of guidelines by the end of the year.

Although the fiber testing differences are what get all the publicity (differences that are not unique to goat fiber testing) it is a sound quality control programme that is the key to any laboratory's ability to deliver.

Over the past three years Fitzgerald has developed a quality control system that will eliminate almost all errors that can creep in during testing. Quality control is more than just inspection of the final product, although this is still important. It has to be incorporated into the measurement procedure from the outset. Inspection picks up outlying measurements; high or low values for a trait which may be real or not. However, this is a

biased subsample of rechecks. On top of these rechecks must be incorporated a random series of checks.

Checks incorporated into the system include:

Regular checks of down separator performance between Shirley Trash Separator Machines using random samples.

The use of 'blind' samples to assess and help operators attain consistency during the measurement of kemp and medullation using projection microscope systems.

Testing of standard samples on an hourly basis during the operation of the Fiber Diameter Analyzer (FDA), and a comprehensive monitoring process of all components that contribute to the performance of the FDA.

A comprehensive data management package allows results to be analyzed at the end of a day or the end of a run. Where manual data entry is required a recheck procedure is built in. Increasingly direct data capture from the various measurement systems is being developed to save time and eliminate transposing error.

Finally, all WFTC clients have played, and will continue to play, a role in developing a system which best meets their objectives. This contribution is balanced against WFTC's obligation to remain an independent testing authority. Continued evaluation and development of the testing system, the regulation and operating controls to achieve that, and assessment of industry requirements are all equally part of the WFTC quality assurance programme.

And of course clients who are unhappy with the tests can always ask for re-tests. However, Parminter points out that the percentage of re-tests that show any change is very small.

WFTC does not claim 100% accuracy; current goat fiber testing protocol does not allow that. It is all about getting a high level of precision at a reasonable cost.

**I hope this article written by the manager of Whatawhata will dispel any myths that*

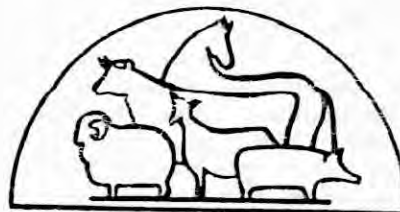
WFTC...Con't

developed as a result of an article written, and widely published in the U.S.A. in the last two months by a New Zealand cashmere grower. The article would have you believe that the AWTA was not a reliable testing facility and that New Zealand goats are finer in micron than Australian. **CASHMIRROR** was also asked to print this article. After researching the information presented, and consulting with both Whatawhata and AWTA, it was decided the article was incorrect and biased in content and therefore we did not print it.

Judith Richardson
Publisher

CASHMERE PRODUCERS OF AMERICA
*****MEMBERSHIP*****

For information about your growers
organization, please write:
CaPra
P.O. Box 443
Longmont, Co 80501



**The American Minor
Breeds Conservancy**

Join the effort to preserve breeds of domestic livestock threatened with extinction in North America. Over 80 breeds imported before the turn of the century, many unique to America, are now in danger. Annual membership of \$20 includes bimonthly AMBC News.

AMBC
Box 477
Pittsboro, NC 27312 USA

FORTE CASHMERE COMPANY, INC

148 HAMLET AVENUE, WOONSOCKET,
RHODE ISLAND 02895, U.S.A.

Tel: (401)762-2000 Fax: (401)769-9645

CASHMERE
The New American Challenge

For information regarding
producing and selling Cashmere contact:

Hugh Hopkins, General Manager
Forte Cashmere Co., Inc.

OR

The Secretary, CaPra
P.O. Box 443
Longmont Co. 80501

FORTE

Foundation Member Cashmere Producers of America

WHATAWHATA FIBER TESTING CENTER NEW ZEALAND

Situated 12 miles west of Hamilton, New Zealand, the Whatawhata Fiber Testing Center originated as a small testing unit, providing the objective measurement requirements of research flocks of cashmere and mohair goats. As part of the Whatawhata Research Center Campus, the Center has been able to draw on the expertise of researchers and technical staff who have specialized in natural fiber physiology of measurement techniques for more than 20 years. The Whatawhata Research Center farm is approximately 2000 acres in area and extends into the hills surrounding the fertile Waikato basin, running mainly crossbred sheep, beef cattle and goats.

In 1987 in response to a requirement for a New Zealand based goat fiber metrology laboratory that provided a measurement service for all the important fiber traits, the Whatawhata Fiber Testing Center (WFTC) was established. Our dual goals are to provide the raw material with which farmers can make selection decisions to optimize genetic gain in their flocks and to establish a business structure that allows investment in future research commitment and technique development. These benefits are passed on to all our clients, through the development of cost-effective testing and a comprehensive quality assurance programme.

Since 1987, WFTC has tested approximately 15,000 samples annually, providing a nationwide service, and increasingly, an international service with clients in Australia, Great Britain, the United States, and Europe. Since February 1990, WFTC has provided the testing service for the New Zealand Mohair-Cashmere Warehouse, which handles all export fiber. In anticipation of securing this valuable testing contract, considerable investment was made in establishing standardized testing procedures for bale line and lot testing and precision levels have been defined for our testing protocols. Allied to these research commitments, the Center is also a member of Intermohairlabs and Interwoollabs. Full accreditation with these international bodies is an integral part of the Center's quality control programme.

OUR SERVICES

Cashmere testing

Random subsamples are dehaired using the Shirley Trash Separator for determination of down yield. The resulting down is randomly minicored and fiber diameter is determined using the Fiber Diameter Analyzer (FDA). A 1000 fiber count provides mean diameter and fiber diameter distribution statistics. The FDA is calibrated using IWTO interwoolabs wool tops and regular validation runs (hourly) are carried out using a range of wool and cashmere tops of known value.

General

Our full testing service is available to clients worldwide. We require one 20g random fleece sample for cashmere. With each sample include all details including: Tag number and/or name, fleece weight(s), shearing date(s), sex, age and optionally down length, that you would wish to be included on the test report. Growers may wish to combine their consignments for posting, but there is no minimal number of samples that you can send at one time.

WFTC holds a multiple entry permit for goat fiber and this certificate (which you can obtain from us) is appended to the outside of your consignment with customs declaration material. This certificate states that the fiber requires fumigation, which occurs when it reaches New Zealand. It is advised that consignments are airmailed. This may prove a little more expensive, but this service has been very reliable. Long delays and a number of hidden costs have been encountered with some international freighting firms.

WFTC operates a turnaround time of between two and four weeks depending on the time of year, but will provide a rapid turnaround at no extra cost if you have a specific deadline to meet. Results are presented in two formats; a full test report for each animal, which incorporates all client-supplied information, diameter distribution histogram, and statistics; and sorted lists on any or all variates - fiber diameter, down yield, down weight. Examples of these formats are available by writing to us.

Whatawhata....Con't

Results can also be faxed or sent on disk at no extra cost. We can also graph results in a number of ways for sale or catalogue purpose.

Please enclose payment in NZ\$ with your consignment. There will be no other costs other than if you wish fiber to be returned to you.

1990 Price List

Cashmere Yield and Diameter	\$17.75
Cashmere Yield only	\$13.50
Cashmere Diameter only	\$ 8.50

NB 1. Fiber diameter = 1000 fibers, full histogram, MFD, SD and COV.

John Fitzgerald
Manager
Whatawhata Fiber Testing Center
MAF Technology
Private Bag 3089
Hamilton
New Zealand

Phone: (071) 298400
Fax: (071) 298871

**You must go to a bank that is capable of writing a draft in foreign dollars. Send that draft with your fleece sample. Send all samples airmail.*

\$16 yr US
\$22 yr Canada
\$30 yr Others
Digest
Bi-Monthly



Promoting:
Industries,
Proliferation, &
Government
Appreciation

Serving *The American Exotic Animal-Bird Society*
Exotic & Indigenous Breeds
Dept 1 • Rt.3 Box 65 • Chandler, OK 74834
Ronald McGuffee-Editor 405-258-1173

*****SUBSCRIBE NOW*****

I would like to subscribe to CASHMIRROR

Name _____

Address _____

City _____ State _____

Zip _____ Phone _____

Subscription rate: \$15.00 per year
(12 issues)

\$40.00 for Canada &
all international
subscriptions

CASHMIRROR PUBLICATIONS
200 LARSON ROAD
SILVER CREEK, WASHINGTON 98585



NEW ZEALAND ROUNDUP
REPRINTED FROM GOAT KEEPERS JULY/AUGUST 1990

CASHMERE DEAL

One of New Zealand's major cashmere buyers, the US Forte' Cashmere Company, has negotiated a five year contract with the industry.

For the past four years Forte', which dehairst cashmere, has bought New Zealand cashmere under a development contract to research the way the fiber handles and to find downstream customers.

Of the 37 tones of cashmere down the New Zealand industry expects to produce this year Forte' will take 11-12 tones, general manager Hugh Hopkins says.

While the company has bought predominantly brown and grey fiber in the past, he says Forte's customers are now asking for the full range including white. About 70% of the company's weaving grade cashmere business uses colored fiber.

New Zealand's white clip is outstanding, Mr. Hopkins says. It is produced from goats which are drenched and inoculated so scurf, which dehairing does not remove, is not a problem.

The development of a sizeable goat fiber industry in the past decade has provided New Zealand with a by-product which, marketed imaginatively, some believe could match the success of Kiwi fruit on the world's dining tables.

But promotion efforts so far have been a resounding flop and recently a proposal to float a public company, NZ Chevon, failed through lack of investor interest.

Hong Kong provides an example of the problems facing the industry - and possibly the potential.

Michael Duck, Hong Kong Refrigerating Co. Ltd, the main and possible only importer of goatmeat into Hong Kong, says the market in this prosperous community is very small.

"The Chinese here don't eat goat, a small number of Moslems and Gurkhas (troops from Nepal who garrison Hong Kong) take some which mainly comes from China."

"This goatmeat has skin on and the carcasses have a black finish," says Mr. Duck. "They are small and are half the price of goatmeat from New Zealand. We have done trials to try to encourage bigger imports without success."

"The tonnage remains infinitesimal 600-700 tones a year."

Yet Taiwan, with the same ethnic

background, largely populated with Chinese from the mainland, is quite a big consumer of goat meat, which seems to indicate skilful promotion may be the key to bigger sales.

Taiwan and Malaysia offer promising outlets. The meat is not allowed in Korea and Japan, says Mr. Duck.

**CASHMERE FACES A BIG
MARKET HURDLE**

Iranian and Chinese cashmere stockpiles are making negotiations with New Zealand's major customers difficult.

A supply agreement, which ran out last February with major buyer, Dawson International, has not yet been renegotiated.

Cashmere markets are more difficult than they have been for over 30 years, retiring Cashmere Producers (CAPRONZ) vice president, Kevin Were, told the organizations' annual conference recently. Prices are expected to drop during the next 12 months.

During the last 12 months, he says, the most dramatic change that could be envisaged has occurred. Cashmere was in extremely short supply during 1987 and 1988 which resulted in substantial US dollar price increases. But consumer resistance and reduced demand followed. At the same time, traditional suppliers, Iran and China, increased supply.

Dawson and the US Forte' Cashmere Company fund 70% of the newly-established Cashmere Development Board which employs a full time cashmere development officer, John Fegan. Mr. Were believes the processors are still committed to working for a cashmere supply course in New Zealand.

"The opportunity and challenge facing New Zealand cashmere producers is to ensure that cashmere is a premium product in the international market. We have achieved this with our weaving grade cashmere. But unfortunately we have not done so at this stage with our fine cashmere."

Quality of fine fiber produced in New Zealand is another sticking point in the present negotiations with Dawson.

Processing New Zealand fine cashmere is difficult because it is at least one micron coarser than Chinese cashmere, which affects the way products handle in a New Zealand and Chinese blend.

CAPRONZ members passed a remit during the conference asking the Mohair Cashmere Warehouse Company to pay producers on a continuous curve price per kg

NZ Roundup....Con't

to mean fiber diameter relationship. The present single 38% price step at 16.5 micron is regarded as inequitable because it doesn't reward producers at the very fine end of those who produce cashmere in the narrow 16.5 to 17.5 micron range compared with those who produce a wider range of 15.5 to 16.5 micron or over 17.5 micron cashmere.

Hybrid fibers, which are of similar micron to cashmere down, are also being found in dehaired New Zealand cashmere. The hybrid fibers affect the dyeing qualities of the yarn produced from fine New Zealand cashmere.

However, New Zealand coarse cashmere is becoming recognized as better quality than Iranian coarse cashmere. Nearly all New Zealand coarse cashmere is weaving grade and Mr. Were believes with time and marketing effort, New Zealand should be able to establish significant premiums over Iranian and Afghanistan prices.

the weaving shed

ITEMS MADE TO ORDER



3121 DOELL HWY., MOOD RIVER, OR 97031 503-354-1963

Aires Livestock Insurance
Dealers in Insurance since 1884

U.S. and
Lloyd's of
London
Companies



Mortality
Named Perils
Trip Insurance

Your Protection is our Future

(417)395-2184 . 800-641-2072

RICH HILL, MISSOURI 64779
FAX: (417)395-2232



5271 N. Wenas Rd. Selah, WA 98942
(509)-697-6378

VITAMIN PRODUCT	SIZE	PRICE EACH	SHIP	COST
Horse	3 lb.	10.95		
	10 lb.	27.95		
	25 lb.	56.35		
Calf	10 lb.	27.95		
	25 lb.	56.35		
Regular Dog	4 oz.	2.95		
	3 lb.	11.15		
Working Dog	10 lb.	27.25		
	25 lb.	59.40		
Zoological	3 lb.	9.95		
	25 lb.	36.75		
Livestock	25 lb.	42.50		
Septic Tank	12/1 lb.	44.00		

Please check one: With Added Selenium _____
Regular Vitamin _____

Please add \$2.00 per container for C.O.D. orders _____

Enclosing check _____ or Money Order _____ for \$ _____

Name _____

Ship to: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Prices subject to change without notice. 11-1-88

The JUMPING POUCH

Newsletter

6 Issues A Year

Subscription - \$12.

Back Issues \$2.00

On WALLABIES,
KANGAROOS,
WALLAROOS.

Jumping Pouch

RR 9—Box 47, Bloomfield, IA 52537

Ph: 515/722-3374





"AMERICAN GOATHIC"

BREEDING STOCK AVAILABLE

NORTH AMERICA

JUDITH RICHARDSON
200 LARSON ROAD
SILVER CREEK, WA 98585
(206) 983-3154

AUSTRALIA

JENNY EDDINGTON
RSD ROSS DHU
SELBOURNE, TAS 7292
61-03-966-162

A HEALTHY RUMEN MEANS A HEALTHY GOAT

By Martin F. White

"Town and Country Farmer" Autumn '90 Vol 7, No 1

Our property of 250 acres, north-east of Perth in the Huon Valley, has its own natural beauty. It is partially hilly and partially rolling, and is varied in aspect from arable, through open lightly forested parkland, to natural bush. It soon became apparent to us that such terrain was very close to the natural habitat of goats, and that our aspirations to farm the land could be somewhat satisfied by bringing in these animals; angoras to start with. Anyone who has dabbled in goats will appreciate the joys and frustrations associated with these intelligent and independent animals.

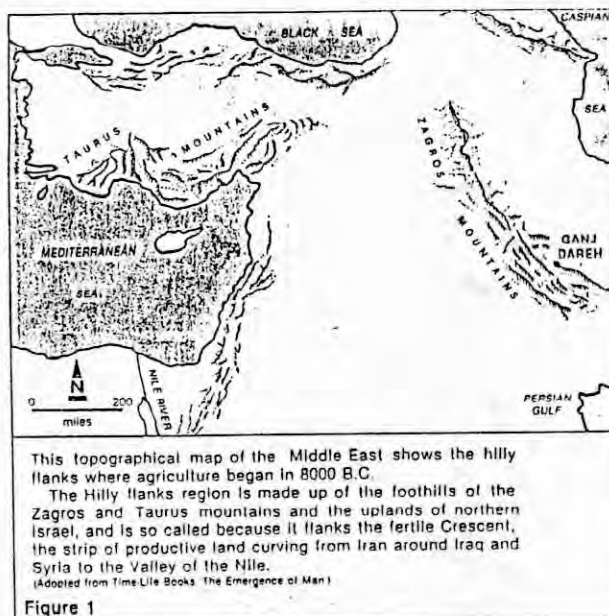
To enhance our knowledge of goats I enrolled in a course on their husbandry, and the following ideas evolved from that study. In essence, it comes down to the concept that if you understand how the animal obtains its nourishment you can look forward to a relatively trouble free time. The key with goats is that they are ruminants.

Yet, to fully understand the ruminant digestive system of the goat requires an understanding of how its digestive tract differs from other animals, such as sheep, cows, and horses. In a sense, the differences are related to the food that it prefers, and this in turn has been governed by its historical environment of habitat.

Ganj-Dareh, a small mound in the Zagros mountains of Iran (Figure 1), marks the site of an early neolithic settlement that flourished around 7000 B.C. What startled and delighted the archaeologists from the University of Montreal who first investigated the site was the unmistakable hoofprints of goats or sheep. Bones of both animals had already been found in other early Middle East villages, but there had always been debate over whether they represented wild or protected animals; but in Ganj-Dereh there was no doubt.

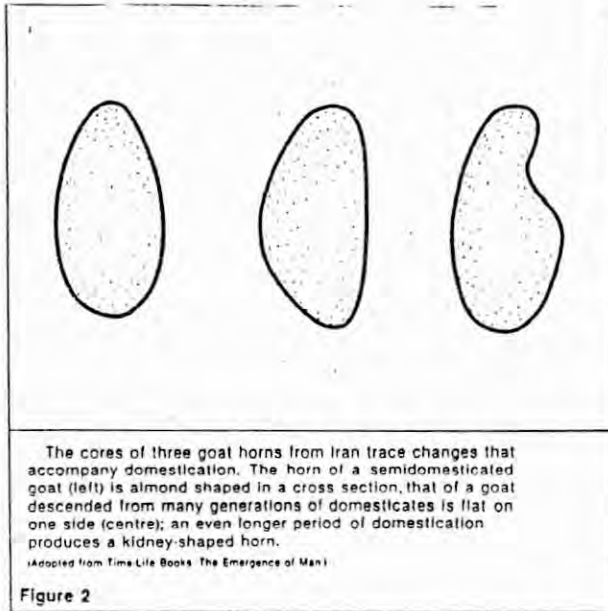
The above, and other less definitive evidence, implies that the beast now known as the goat became domesticated by the people of the Middle East around 8,000 B.C. It seems that the goat roamed wild over the area called Turkey to eastern Afghanistan. The terrain was mountainous, inhospitable, and less than verdant in terms of its natural vegetation.

Fossil evidence suggests that goats and sheep originated from a common ancestor. However, it is also true that they are

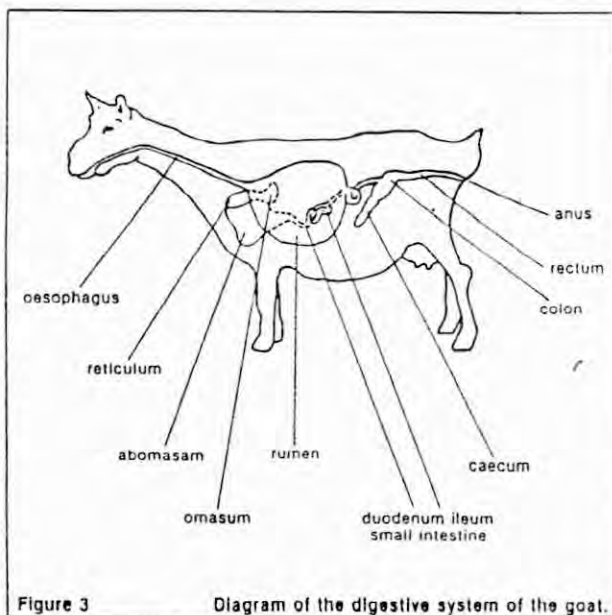


individual beasts today, and it is entirely possible that generations of selective breeding progressively separated one from the other. The horn cores of goats gradually lost their quadrilateral cross-section and became more oval. Externally, the shape also changed with continued domestication (see Figure 2), and they started to twist into the corkscrew shape so noticeable today. The horn cores of sheep, on the other hand, became less flattened in front. Why this happened is unknown, but perhaps the early farmers wanted the high milk yield of the "goats" and the woolliness of the "sheep", and bred accordingly; thereby giving rise, inadvertently, to the changes in horn shape.

Over the ensuing millennia, the goats maintained their preference for rugged terrain, while sheep tended to move preferentially to lower pastures and became grazers rather than browsers. The goats retained the ability and preference to eat leafy bushes and climb trees to nibble twigs. In their own ways, each co-existed by finding a compatible ecological niche. Few animals can directly digest such marginal plant material, but these had each developed a large pouch in the digestive tract, now known as a rumen, which had the ability to assimilate and break down such cellulose-rich food. This was largely achieved by the action of swarming



bacteria and other micro-organisms which make the cellulose soluble and also use it to nourish themselves. In turn, their growth is stimulated by urea, a waste product of the blood which is recycled in the rumen and helps to form protein. With this as a background it becomes easier to understand the internal metabolic workings of the modern goat. The digestive system is partitioned into four sequential units: the "rumen", the "reticulum", the "omasum", and the "abomasum" (see Figure 3).

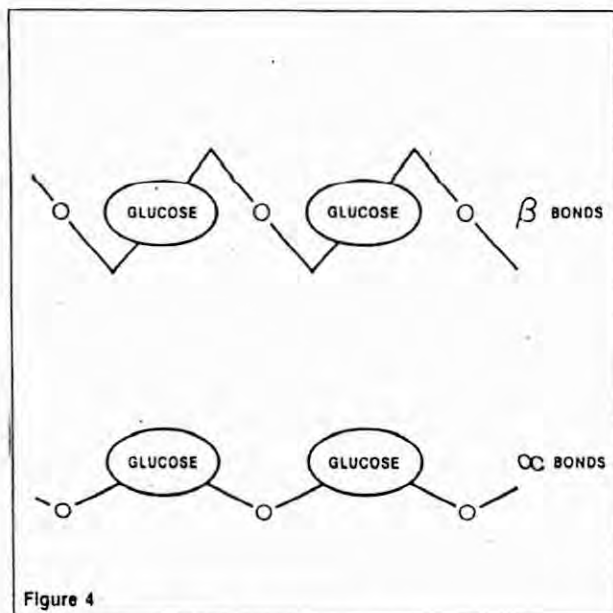


The rumen occupies around 80% of the volume of the digestive system, and is situated on the left-hand-side of the animal's body. Although the four components contribute to the overall digestion of food, the rumen is the most important as it dictates the initial mechanism for conversion of food intake into body-building protein. While in most mammals, digestive absorption starts with salivary action in the mouth and continues in the stomach, the rumen is essentially nothing more than a large fermentation vat; absorption only begins in the next chamber.

The rumen is actually a large oesophageal pouch which receives material before reaching the true stomach system. It is in the rumen that the initial and most profound breakdown of the cellulose begins; this is accomplished through the action of a complex mixture of microscopic bacteria (single celled plants) and protozoa (single celled animals), generally in the approximate ratio of 9:1. While both act on the cellulose matter, the 100 or so species of protozoans - largely ciliates - also live off the bacteria. The bacteria and ciliates not only break down the cellulose and other polysaccharides, but also synthesize proteins by using ammonia and urea as nitrogen sources.

To fully understand ruminant digestion, this whole process of cellulose breakdown is worthy of further inspection. Cellulose is a long-chained polymer consisting of glucose units connected by beta bonds, and glycogen is a similar polymer connected by alpha bonds (see Figure 4). All animals possess enzymes for carbohydrate breakdown which act on compounds with these alpha bonds, eg. alpha amylase enzyme in the saliva; most cannot cope with the cellulose based material, and it passes through the digestive system as "roughage". Only in ruminants is there the capacity to attack the cellulose, using an enzyme called "beta-cellulase" which can disrupt the cellulose beta bonds. Although invertebrates, such as snails and silverfish, can make their own cellulase, vertebrates rely on a symbiotic relationship with bacteria and protozoa (mostly ciliates) to facilitate this process. The bacteria and protozoa actually possess the beta-cellulase and use it to digest the cellulose as their own food; in so doing, amino acids and other compounds are created which then can be utilized by the goat for cell replacement and general bodily nourishment.

Bacteria are small organisms (in the range 0.5-8.0 micrometers) in which there is no nucleus; reproduction is by binary fission which can



take place every 20 minutes. Protozoa are unicellular animals which reproduce, also by binary fission, several times a day. They are classified into three Classes (see Figure 5):

***Rhizopoda** (includes amoeba);

***Mastigophora** (flagellates or spindle-shaped protozoa, which are generally in the order of 30–300 micrometers across); and

***Ciliata** (the most highly specialized and complicated protozoa of which 7200 species are known; they are on average around 240 micrometers across).

Most bacteria require only carbon dioxide as their source of carbon, and are known as autotrophs. Animals, in this case protozoa, require a more reduced form of carbon to function such as sugars and other carbohydrates (eg. cellulose), and are known as heterotrophs. The latter depend on autotrophs for their organic form of carbon, which they use as both a carbon source and an energy source.

Thus, it can be seen that there is a highly complex inter-relationship between the food which enters the goat's system, the organisms which contribute to its chemical breakdown, and the environment in which all this takes place. Another complication is that this environment must develop correctly in the first few weeks of the animal's life in order to provide an adequate transition from milk-based food to a vegetable diet. It is therefore important to understand how this system is established before going on to see how it works.

The new-born goat enters the world devoid of these microbial inhabitants. In the

first few days of life, the licking and nuzzling action of the mother allows entry of the first bacterial population; these of course breed in the warm, moist climate of the rumen. Additional species invade the rumen as the infant goat nibbles on nearby plants, and ingests soil as part of the early investigations of its environment.

While this internal habitat is being developed as the animal grows, a singularly interesting parallel digestive system has been in operation. The largest part of the digestive system at this time is the abomasum, and it is this section which is largely operative in the early days. The rumen and the reticulum are bypassed due to a reflex action which causes the oesophageal groove to curl over and form a tube; this tube connects the gullet with the omasum. Thus, milk from the mother is channelled directly down the throat into the omasum, and thence into the abomasum where digestion occurs.

It is important that this process functions well as otherwise the delicate floral and faunal balance which is being developed in the rumen can be upset badly by the introduction of milk. This consists of soluble protein and carbohydrates and its introduction into the rumen would result in the bacteria there producing lactic acid. As the bacterial environment is alkaline, any decrease in the pH value from the 5.6 to 7.0 range caused by the lactic acid build-up would be extremely detrimental to the efficient functioning of the rumen.

Assuming all has gone well in the early weeks of the young goat's life, and the correct relationships of the four chambers of the digestive system have been established, the process which occurs is essentially as follows:

*Along with a good supply of food, which should be in the proportions around 50–60% trees/bark/shrubs, around 20% grasses, and around 20–30% deep rooted weeds and thistles, the animal requires a plentiful supply of water. The water is necessary to produce saliva as goats use 6–10 liters of saliva per day to assist in digestion; the rumen produces no digestive juices of its own to aid in the production of saliva. The saliva is rich in bicarbonate and phosphate, both of which act as chemical buffers against any lowering of the pH caused by the production of volatile fatty acids, such as acetic acid, propionic acid and butyric acid. Any fatty acids produced are broken down in the liver.

*The ingested material finds its way into the fermentation environment of the rumen. The structure of the rumen is such that the muscular walls create a cement-mixer

action which continually and methodically churns the contents, thereby speeding up the natural microbiological breakdown.

*Like most tanks of impure liquid, the lower layer in the rumen is a layer of sludge. Naturally, too high an intake of fine food material will add to this layer, and, in excess, will bog the system down. Above this is the main rumen liquor where the bacteria/protozoa population carries on its work of cellulose fermentation. Above this again is a layer of lighter more recently ingested coarse material. The whole liquid contents are surmounted by a volume of gas-by-products of the fermentation process. The gas is composed chiefly of methane and carbon dioxide. In order to help maintain a constant volume and pressure in the rumen, the goat is continually belching up any excess. A sudden increase in gas, as perhaps caused by a large intake of overly green and lush feed, can result in exceptional pain for the animal, and, if untreated, even possible death (the condition known as "bloat").

*The chemical action of the bacteria and protozoa is assisted by recycling up the oesophageal tract. The process of regurgitation into the mouth and "chewing the cud" further pulverize the material from the rumen before swallowing with additional saliva.

*One of the more important suite of products in the rumen are the B vitamins, although there needs to be cobalt in the diet to allow the synthesis of B12; vitamin K is also produced. Absorption of products from this part of the digestive system is minimal but some nutrients such as glucose and salt are taken up. Part of the ammonia and urea synthesized in the rumen is absorbed and eliminated as urine.

Whereas much of the excess gas is vented by burping, the increasing volume of liquid due to the fermentation conversion slops over into the reticulum. As a proportion of the bacterial/protozoan population is also carried over, the pH in the reticulum should be similar to the rumen for optimum functioning. Less absorption of nutrients occurs from the reticulum due to its honeycombed internal structure, but there is a substantial eradication of water. A band of muscle at the exit to the reticulum prevents the passage of insufficiently chewed food and any foreign matter or articles into the next chamber, the omasum. Although obviously a protection mechanism, it does have major disadvantages as a result of body geometry; the reticulum lies very close to the left lung, and any sharp objects which the goat has swallowed, such as wire, can penetrate the

wall of the reticulum and pierce the lung.

*Upon entry into the omasum, the food undergoes a further filtering. Internally, the omasum is filled with five sizes of fine leaves or lamellae which allow passage of fluids but which retard any remaining particles, thereby giving time for their continued processing. The pH is also alkaline, usually being around 7.2. Phosphorus, calcium, magnesium, and some water are absorbed from this chamber.

*As the next and last chamber, the abomasum, is acidic (around pH 2.3-4.1), one of the prime functions of the omasum is to regulate the onward passage of fluid so that there is no disruption to the new chemical environment. Here, hydrochloric acid kills the bacteria and protozoa, and they are then assimilated by the digestive juices. Furthermore, it is here that absorption of more vitamins, minerals, glucose and water occurs before excretion into the elimination canals; there final absorption of any remaining nutrients takes place.

One important aspect of the fermentation process which occurs in the rumen is that it produces heat. Over aeons of time, the goat's body has adapted to survive on vegetable matter of limited intrinsic nutritional value. It does so by the process described above which converts this high-cellulose feedstock into usable amino acids - the building blocks of protein. Parallel with this adaption has been the eradication of unnecessary body-fat, which on other animals is there to help preserve body heat. Even though many ruminants such as cows and sheep have maintained a proportion of fatty tissue, goats - like deer - have pruned their fat to a fine level of necessity.

As such they are somewhat more vulnerable to changes in temperature than many other species. Inside the rumen, the most voluminous body chamber and therefore the controlling organ, the temperature is maintained in the range of 38-48 degrees Celsius. A reduction in the roughage content of available feed will result in a drop of efficiency in the operating action of the rumen, followed by a fall in rumen temperature, and eventually in the goat getting a chill or even pneumonia. Similarly, a decline in the bacterial/protozoan population of the rumen, caused perhaps by a change in diet, may produce the same effect. Thus, a goat with widely sprung ribs, and by implication a large rumen will survive cold conditions more capably, and indeed should be more able to cope with the gradual fall in body resources resulting from advancing pregnancy.

In conclusion, the digestive system of the goat is a marvel of interwoven activities, processes, and physico-chemical environments. Sensitive husbandry, which most closely simulates the goat's natural habitat, is sure to breed contented and productive animals.

BIBLIOGRAPHY

Curtis, H 1986; "Biology", Worth Publishers, chapter 21.

Leonard, JM, 1974 "The First Farmers", Time-Life Books, chapters 1 and 4.

Morris, J, Hepburn, J, Wilkinson, M and Stark, B, 1987; "Goats for Fiber: The National Angora Stud, Tremoreland, Cardinham, Bodmin, England, printed by EJ Rickard Ltd, Plymouth, England, chapter 5.

Mackenzie, D, 1980; "Goat Husbandry", Faber and Faber, chapter 6.

Rapson, H, 1983; "Biology", GCE A-Level Passbook, Charles Letts Books Ltd, chapter 2.

Thanks are also extended to Bob Bryce who lectured to me and other students so eloquently, enthusiastically, and knowledgeably, at the TAFE course on "Dairy Goats" during the last few months of 1989.

*****BREEDERS DIRECTORY*****

FOR ONLY \$30.00 PER YEAR YOU

CAN HAVE YOUR FARM OR RANCH LISTED

IN THE CASHMIRROR BREEDER'S DIRECTORY

Name:

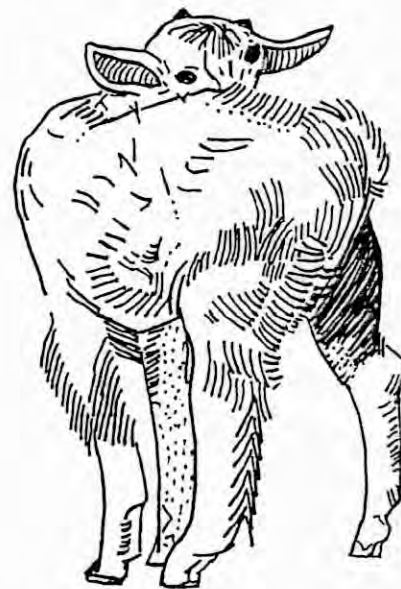
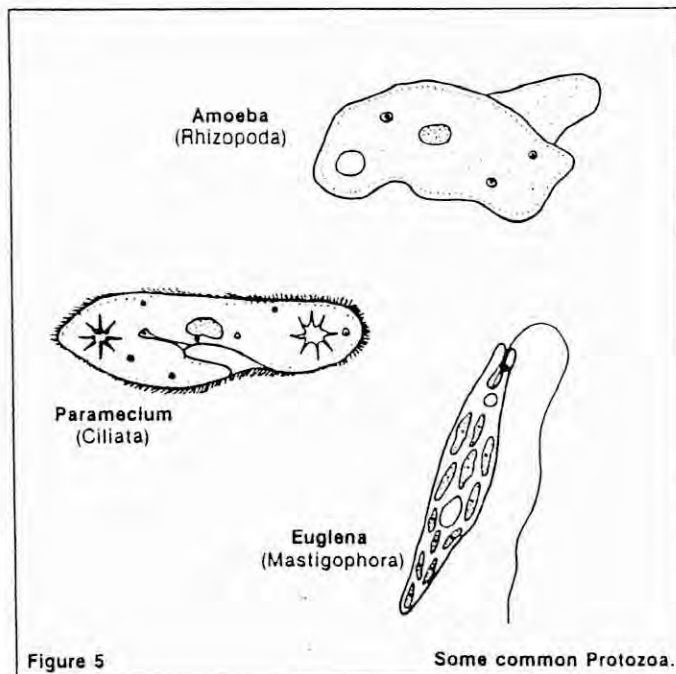
Farm Name:

Address:

Telephone:

Contact person:

Your check must accompany your order.



BLUE SHY CASHMERES FARM By Steve Stock and Morning Waters

It all started when my wife, Morning, couldn't find any dehaired Cashmere fiber for hand spinning. We had just returned from sailing 5 years in the South Pacific and she was into land things.

Choosing Central Oregon for its high desert clean air, an abundance of sunny days, we bought what had been an egg ranch employing up to 3,500 hens. It had not been well maintained during the last 10 years but most of the 8 outbuildings had concrete floors and the property had several pastures and the irrigation water necessary to maintain them.

A year later, in 1986, we started working on refencing the pastures and reroofing the outbuildings. We were looking for a way to best utilize our pastures and structures. That search evolved to fiber bearing animals as Morning's spinning hobby was beginning to blossom into a business. When we learned that cashmere came from goats we knew they were the answer for us. We chose goats because of their use in weed control, their hardiness, and their overall user friendliness.

We then became part of a group of interested small local ranchers who bought bred does from Cascade Cashmeres. Our 4 pregnant does purchased from Judith Richardson produced 6 kids, 5 does and 1 buck, their first year with us and 7 kids with their next breeding. All are excellent animals with very high quality down.

At the Cashmere Producers of America annual conference held in San Angelo, Texas, October 1989, I met a lot of the breeders from "down under". In particular, 2 breeders from New Zealand stood out for me, Garric Batten, Director of Woodstock Cashmere Stud, and Granville Dunstan, Director of Kiwi Cashmere stud. During the 3 day conference I found them knowledgeable, with a great deal of willingness to share their experience. Upon our return home, they to New Zealand and myself to Oregon we continued to have contact. Blue Sky Cashmeres decided to import 25 bred does through Granville's and Garrick's International Goat Ventures Ltd. There was no established protocols for live goat importation from New Zealand at that time but the USDA/APHIS office in Hyattsville, MD, was very cooperative. By

May 6, 1990 the animals were out of quarantine and on their way to the Blue Sky farm. We are very pleased with the does and their progeny. We are now awaiting a shipment of 1000 straws of semen from the top bucks in New Zealand.

One and a half years later after making the decision to "go Cashmere" we have 35 does and 10 great looking bucks. In addition to quality breeding stock we are actively marketing the Rossway goat head bail, a head immobilizing stanchion designed and developed in New Zealand specifically for horned goats, and marketing both processed and unprocessed Cashmere fiber.

All of our pedigrees, fiber reports and other herd information is on computer for accurate record keeping and easy retrieval. We love working with the animals and are looking forward to the years ahead. I am still waiting for my hand spun, hand knit Cashmere sweater. Ah well, maybe next winter.



BLUE SKY YEARLING BUCK

BLUE SKY CASHMERE DOES





*Blue Sky
Cashmere
Goats
Breeding & Fiber*

Hand Picked From The Award Winning Farms
Kiwi Cashmere Stud and Woodstock Cashmere Stud

Bred does	\$3,000.00
Open does	2,200.00
Weaned kids	1,000.00
Semen from champion bucks per straw	50.00

Natural color, dehaired cashmere ready for spinning
Brown, grey, white \$8.00 per ounce

Combed fiber with some guard hair \$3.00 per ounce

Distributors for "Rossway" Goat Head Bail

Agents for
International Goat Ventures, Ltd.

Member of Oregon High Desert Cashmere Assn.
and Cashmere Producers of America

Fax (503) 548-0901
Phone (503) 548-2601

3626 Northwest Way
Redmond, OR 97756



National Western Stock Show

January 16, 1991

The first CaPrA sanctioned Show and Sale will be held at the National Western Stock Show in Denver, Colorado on January 16, 1991. This event will consist of two shows and an auction to follow that evening. The first show will be for show goats only and is an opportunity for breeders to "strut their stuff". The second show will be for the sale goats and will determine the order of sale at the auction.

Goats will be judged on fleece and conformation. Fleece points will constitute 60% of the total points and conformation the additional 40%.

Check-in time will be January 15, 1991 before 3:00pm and goats will need to be checked out with the cashmere goat superintendent by 12:00 noon on January 17, 1991.

Entry fee for Show Only goats is \$20 per animal. Entry fee for Show for Sale goats is \$10 per animal. Entry fees for non-CaPrA members are \$25 and \$15 respectively. A 10% commission will be charged on the sale price of each animal. Entries close November 12, 1990.

.....

Entry Form

Owner(s) _____ Herd Code _____

Address _____

Show Goats: please indicate the numbers entered

Milk tooth does _____ bucks _____
Two tooth does _____ bucks _____
Four tooth does _____ bucks _____
Six tooth does _____ bucks _____

Total number of goats entered
in the Show Only category: does _____ bucks _____

Entry fee for CaPrA members at \$20 per head \$ _____

Entry fee for non-CaPrA members at \$25 per head \$ _____

Sale Goats: please indicate the numbers entered

Milk tooth does _____ bucks _____
Two tooth does _____ bucks _____
Four tooth does _____ bucks _____
Six tooth does _____ bucks _____

Total number of goats entered
in the Show for Sale category: does _____ bucks _____

Entry fee for CaPrA members at \$10 per head \$ _____

Entry fee for non-CaPrA members at \$15 per head \$ _____

CaPrA membership (if not current) \$50.00 \$ _____

Total amount enclosed \$ _____

CaPrA is not responsible for goats entered in the show or sale and will not be held liable
for any representations made by an owner as to the quality of an animal.

Signed _____

Date _____



BREEDERS DIRECTORY

ARIZONA

Chivo Negro

DW Cox
RR 1, Box 37 EE
Elfrida, Az 85610
602-459-9321

CALIFORNIA

Arboretum Farms

Joe and Susan Tooker
Star Route Box 16B
Capay, California 95607
415-843-0744

Sun Rise Cashmeres

Melody and Jeremy Driscoll
P.O. Box 245
Blocksburg, CA 95414
707-926-5430

COLORADO

CANYON COUNTY CASHMERE

Mesa Creek Star Rt., Box 7
Naturita, Colorado 81422
Cynthia Walton
(303) 862-7214

Cashco Goats America

1901 Arapaho Dr.
Longmont, Co 80501
303-776-9410

Colorado Cashmere Breeders

Russ Nelson and Ferris Hamilton
1762 W Fox Farm Road
Larkspur, Colorado 80118
303-681-3832

Fesenmeyer Cashmere Farm

Jerry P. Fesenmeyer
8422 N. County Line Rd.
Longmont, Colorado 80503
303-776-1647

CONNECTICUT

Classic Cashmere Breeders

Peter Sellew
Carol McComiskey
Call Box 7 A
Lebanon, CT 06249
203-642-7591
203-642-6965

MAINE

Down East Cashmere

Andree Lawrence
RFD 2, Box 120
Belfast, Me 04915
207-338-2325

MICHIGAN

Stony Lonesome Farm

Susan Drummond
1451 Sisson
Freeport, MI 49325
616-765-3056
Maremma Guard Dogs

MONTANA

Indian Tree Farms

Christine Maurer
Rt 2, Box 3495
Dutton, MT 59433
406-463-2451

PMF Cashmere Company

Tom and Ann Dooling
Pioneer Mountain Farm Inc.
P.O. Box 1339
Dillon, MT. 59725
406-683-5445

NEBRASKA

Airy Knolls Farm, Inc.

Richard and Harriet Jensen
RR3, Box 144
Cozad, NE 69130
308-784-3312

Cornhusker's Cashmere

Randy Hartman
Rt 3, Box 253
Grand Island, NE 68801
308-381-8289

NEW HAMPSHIRE

Indian Point Farm

Jody Nolin
Rt 13, Walesbridge Road
Loudon, NH 03301



BREEDERS DIRECTORY

NEW MEXICO

Jane Jasper

1100 Behnke N.E.
Los Lunas, New Mexico 87031
Phone: 505-865-1880

NEW YORK

STONEHILL FARM

Mary Mathews
422 Mt. Holly Road
Katonah, New York 10536
914-232-9593

OREGON

A & B CASHMERE

Auggie & Beth Pimentel
P.O. Box 6983
Brookings, Oregon 97415
(503) 469-4548
Fax: (503) 247-6273

Blue Sky Cashmere Goats

Steve Stock-Morning Waters
3626 Northwest Way
Redmond, Oregon 97756
Tel: 503-548-2601
Fax: 503-548-0901

Champagne Cashmeres

Lisa Faulkner
Adrienne Hochee
64315 Bend Redmond Highway
Bend, Oregon 97701
503-389-5392

Oregon Cashmere Company

Jim and Joyce Ruff
20995 NW Bishop Scott Road
Yamhill, Oregon 97148
503-662-4522

PENNSYLVANIA

AMITY CASHMERE

Dawn Jernigan
1917A Old Bethlehem Pike
Sellersville, PA 18960
(215)-257-8847

TEXAS

GOLDEN'S POINT

Larry Golden
Rt 2
Lockney, Texas 79241
806-652-3196

AMERICAN BREEDERS CASHMERE CO.

Don Jackman, Dennis Funderburgh,
Carroll Vernor
P.O. Box 9 - Hwy. N
Camp Wood, Tx 78833
512-597-6124

VERMONT

LLC Cashmere

Lydia Ratcliff
RFD #1
Chester, Vermont 05143
802-875-3159

WASHINGTON

Cascade Cashmere Company

200 Larson Road
Silver Creek, Wa 98585
206-983-3154
Fax: 206-983-3676

The Farm

Cashmere Goats
Michel Paulin
P.O. Box 639
Toledo, Wa 98591
206-864-6660

AUSTRALIA

Cashking Cashmere Company

John and Margaret Banks
P.O. Box 333
Forth, Tasmania
Australia 7310
Fax: 61-04-231-087

Ceduna Cashmere

Jim and Marg Cooper
Chads Creek Road
Strathewen, Victoria 3099
Australia
Phone: 61-03-714-8214

Greenmount Cashmeres

Tim and Jenny Eddington
RSD Ross Dhu
Selbourne, Tasmania Australia 7292
Phone: 61-03-966-162
Fax: 61-03-966-156

Maitland Cashmere

Brenda and David Atkinson
Campbell Town, Tasmania
Australia

CLASSIFIED

BOOKS

A-Z OF GOAT DISEASES
U.S. \$15.00
200 Larson Road
Silver Creek, Wa 98585

ANGORA GOATS THE NORTHERN WAY
2nd Edition \$15.00
Don and Sue Drummond
1451 Sisson Road
Freeport, Michigan 49325
616-765-3056

CASHMIRROR PUBLICATIONS : back
issues of CashMirror. \$2.00 per issue.
200 Larson Road, Silver Creek, Wa. 98585

"STUDIES ON THE CASHMERE DOWN
PRODUCTION OF GOATS", 1984.
Available now, the "Bible" for cashmere
producers, by Dr. R.C. Couchman, \$50.00
and well worth it. Contact CAPRICORN
CASHMERE, 115 Co. Rd. 45E, Virginia
Dale, Colorado 80548. (303) 493-6015 For
more information.

"STEP IN THE RIGHT DIRECTION"
Seminar notes from CashMirror Publication's
1990 Seminar. Cashmere Inheritance, by
Dr. Bill Pattie and Dr. Barry Restall. Also,
notes from Dr. Paul Mennick, Reproduction
Specialist and Hugh Hopkins, Forte
Company. \$15.00, Cashmere Publications.
200 Larson Road, Silver Creek, Wa 98585

CASHMERE YARN

100% Cashmere, 5 ply 5 run Powder Blue
\$50.00/lb ppd.

85% Cashmere, 15% Nylon 6 ply 8 run Navy
Blue. \$35/lb ppd.

50% Cashmere, 50% Acrylic - 4 ply 4.5 run
White \$25.00/lb ppd.

Call orders to: 206 983-3154

GUARD DOGS

MAREMMA GUARDIAN DOG PUPS: For
Sale--Pups born and raised in the barn with
goats--Sue Drummond 616-765-3065

GOATS

"Top New Zealand, Australian and domestic
bloodlines. Also F1 crosses and Spanish does
bred to imports. Texas 806-652-3196

OREGON CASHMERE proudly presents
1990 kids for sale. All kids are out of
imported stock. For information call 503-
662-4522

ADVERTISING RATES

FULL PAGE	100.00
HALF PAGE	50.00
QUARTER PAGE	25.00
BREEDERS LISTING	30.00
CLASSIFIED	.45 per word
BUSINESS CARD	20.00

DEADLINE: For each issue will be the 15th
of the previous month.

CLASSIFIED RATES

Send your classified advertisement to
CashMirror Publications, 200 Larson Road,
Silver Creek, WA. 98585 Rate: .45 cents a
word.
