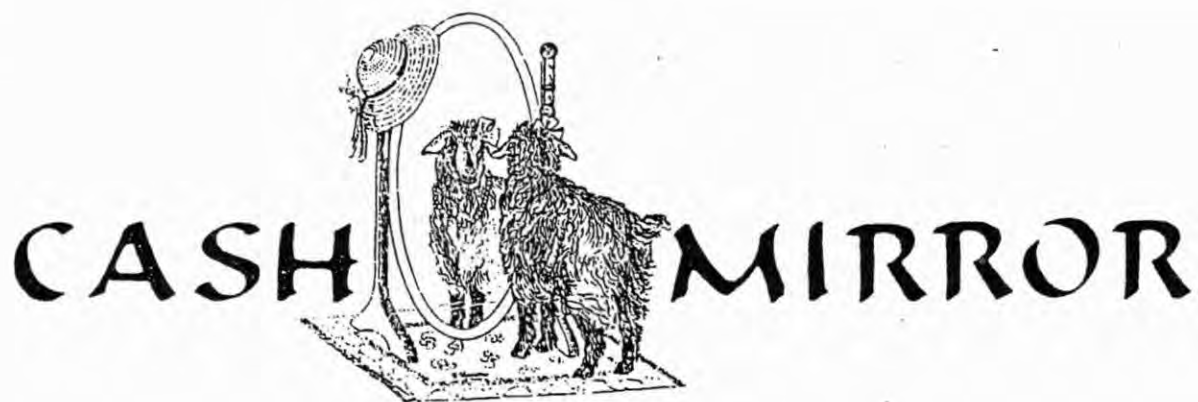




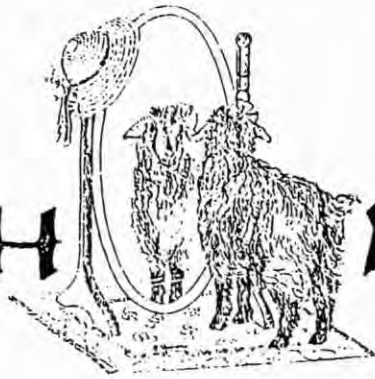
REFLECTING THE UNITED STATES CASHMERE INDUSTRY

VOLUME ONE, ISSUE TWO

NOVEMBER 1989

FORTE' ANNOUNCES 1990 CASHMERE PRICES

CASH MIRROR



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

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

SUBSCRIPTION RATE

One year, 12 issues \$15.00

REFLECTIONS

We hope you have all received your first issue of CashMirror and are now waiting with you poised pen to write a check for your fifteen dollar subscription. In this issue you will find the subscription form.

In the current issue you will find the latest research out of Australia. You may be new to the world of cashmere and not understand all of what Drs. Restall and Pattie are trying to tell us. But, hang on to this article as one of these days it will all "click" and you will understand the importance of this research. That understanding is one of the goals of CashMirror - to educate you.

I also want to remind you that while much of the information you will find in CashMirror is based on the Australasian experience, we are raising goats in the U.S. Our climate, forage and maintenance programs are very different. A "for instance" is that while the intestinal parasites of U.S. goats and Australian goats are the same species, there is a difference. We find that we must worm our Australian goats more often than the U.S. goats. It will be interesting to see what happens with the U.S. born kids. What I'm getting to is that we welcome articles from you who are out there doing it! People need to share information with one another and we hope you'll use CashMirror as the place to do it.

With Warmest Regards
Judith Richardson

CASHMERE PRODUCERS OF AMERICA HOLD ANNUAL CONVENTION

George Ahlschwede of Texas Agriculture Extension Service hosted the three day conference for the Cashmere Producers of America (CAPRA) in San Angelo Texas, October 27-29th.

Tom Dooling, President of CAPRA opened the conference with an overview of the cashmere industry. According to Dooling, there is a need for a strong central organization such as CAPRA to deal with the many issues facing the cashmere industry today. Some of the issues that CAPRA is having to deal with are: registry, breed standards, and a desperate need for a cashmere testing authority.

Dealing with the many issues facing the cashmere industry takes time, energy and money. We urge you to support your growers association - Cashmere Producers of America.

FORTE ANNOUNCES 1990 CASHMERE PRICES

Richard Forte', Owner and president of Forte' Cashmere Company announced prices for the 1990 American Cashmere clip. The announcement was made at the Cashmere Producers Conference at San Angelo Texas.

Prices are:

Fine Cashmere 16.5 micron or less: \$45.00/clean lb

All colors, all yields, all lengths.

Coarse Cashmere 16.6 -19
microns: \$35.00 per pound.

All colors, all yields, all lengths.

A clean lb: = per lb of Cashmere, for example, fleece weight 1 lb, yield 25%, micron 16.0, Fleece value 1 x .25 =

According to Forte' the total American clip for 1989 was 440 pounds. The price paid in 1989, was \$38.00 per pound.

The move to pay breeders a higher price for finer and better quality fiber serves to encourage and reward breeders for higher standards of fleece production.

According to Hugh Hopkins, General Manager of Forte', these prices have been derived to bring the U.S. Cashmere in line with world market prices.

CCIA REPRESENTED AT CONFERENCE

Karl Spilhouse represented CCIA at the recent cashmere conference in San Angelo, Texas. The Camel Hair and Cashmere Institute of America (CCIA) is an international trade association representing the interests of producers and manufactures of camel hair and cashmere fiber, yarn, fabric and garments through out the world. The Institute was formed in 1984 and is supported by seven major textile firms.

According to Time Magazine Spilhouse is quoted as saying. "Nearly 30% of the cashmere sold in the U.S. is mislabeled." CCIA has a testing service for buyers of

cashmere products. The results of testing will tell the buyer if the fabric or garment is accurately labeled. If the garment is mislabeled, CCIA can arrange a full scale follow up analysis.

When a fraud is found, a lawsuit can be sought.

----- AUSTRALIAN MARKET REPORT:

THE AUSTRALIAN CASHMERE MARKETING CORPORATION

PRICES RECEIVED FOR POOL P - CLOSED AUGUST 18TH 1989

LINE	NET WEIGHT KG	DESCRIPTION	YIELD %	PRICE AUSTR
WW1	402.00	WHITE< 16.0 > 35° YIELD	36.2	16361
WW1	264	WHITE< 16.0 um	29.9	15772
WW1	927.00	WHITE< 16.5 um	30.0	15021
WW2	939.00	WHITE<16.5-18.5 um	29.8	10873
WC1	3062.00	WHITE/COL/GH <16.5 um	27.4	14306
WC2	1389.00	WHITE/COL/GH 16.5-18.5 um	29.9	10355
GY1	4869.00	GREY <16.5 um	24.4	13591
GY2	1832.00	GREY 16.5-10.5 um	27.4	9837
BR1	1465.00	BROWN < 16.5 um	24.4	13591
BR2	367.00	BROWN 16.5:- 18.5 um	28.2	9837

EXCHANGE	RATEON	DAY	OF
CONVERSION	24.10.89	77.22	

TOTAL SALE PROCEEDS:
A\$ 584,210.93
TOTAL FIBER SOLD
20.694.00 KGS

The highlight of this pool was the large quantity of fine cashmere received from growers. The percentage of cashmere less than 16.5 microns sold to processors was 70.82%, indicating grower awareness for the premiums received for the finer lines. Prices for cashmere remained stable due to the dollar value. Although prices received for cashgora sold under the tender system

BREEDING CASHMERE IN AUSTRALIAN GOATS

W.A. Pattie & B.J. Restall

Reprinted from Goatkeepers Magazine

Following detailed research since 1980 into the inheritance of cashmere in Australian goats we are now able to recommend breeding strategies to meet the various objectives of cashmere producers. The research has been carried out at the North Coast Agricultural Institute, Wollongbar, using goats from stock collected in the Cobar region of New South Wales. A large number of goats have been involved in these studies and the information reported here was derived from more than 2,200 fleece records.

The basic genetic parameters and selection strategies derived from them have been reported previously to meetings of goat breeders. See, for example, the proceedings of the 2nd International Cashmere Conference held in New Zealand in May, 1987 and the Cashmere Goat Seminar held by the Australian Cashmere Growers Association, Region 27, at Orange in July 1988. Some of the information is repeated here for completeness but this paper will examine other topics including the genetic value of follicle density, fibre diameter variability and the effects of crossbreeding with Angoras on cashmere breeding.

Non-genetic factors that affect cashmere production

It is important that the effects of environmental factors on cashmere production and characteristics be examined so that a clear understanding can be gained of the relative importance of inheritance in the differences that are seen between animals. Of particular importance are age, sex and birth type and the over all

environmental component of variation that remains after these have been allowed for.

Table 1 shows age and sex differences in the main components of down production and in skin follicle densities. A total of 2,224 records from 1,156 animals, all born and raised at Wollongbar were used for the fleece study while skin data of 1,514 samples were available from 1,105 animals.

Table 1 - Mean production parameters for each sex at different ages

Character sex	1	Age Group 2	3	4
Liveweight (kg)				
male	16.7	25.5	32.7	37.9
female	13.7	23.9	28.7	32.2
Downweight (g)				
male	51	83	87	96
female	48	75	83	94
Down diameter (micron)				
male	14.2	15.4	16.0	16.4
female	14.2	15.3	16.0	16.3
Secondary follicle density (per sq mm)				
male	26.7	21.6	16.1	
female	27.3	22.8	20.0	
Secondary/Primary ratio				
male	7.15	7.23	6.58	
female	6.40	7.09	6.94	

All goats became heavier and grew more down as they became older and there were large increases in down diameter. The average increase was almost one and a quarter micron between first and second fleece and an average of a half micron each fleece after that. With the normal variation between animals, this means that more than 60% of the goats in a herd averaging 16.5 micron at the first fleece will not be growing cashmere by their fourth fleece (diameter greater

than 18.5 micron). There are important implications here for the interpretation of measurements quoted on sale animals. Clearly the age at which the measurement is made must be known before the diameter has any meaning.

Secondary follicle density tended to decrease as animals became larger, either because they were older or because they were males. Secondary/Primary ratio did not show this pattern because primary density also decreased. Note that skin data was not available for 4 year old goats.

Males were heavier and grew more down at each age than females but their down diameter was no different. This too is important because it is often stated that bucks can be 2 to 3 micron stronger than females yet have the same genetic value. Because of the importance of this finding we examined the un-analyzed data broken down into year and age subclasses, looking at the differences between sexes in each group. These are shown in Fig. 1 and it is clear there were no consistent differences between sexes and the random differences that did occur were not very great. Note that these results were obtained for a wide range of diameters and ages. Our results do not support the idea that males of the same genetic make-up have coarser down than females and breeders should be very wary about accepting it-especially if it is proposed by someone trying to sell a 19 or 20 micron buck.

The repeatabilities of down weight, diameter and length

were 0.50, 0.60 and 0.63. These measure the proportion of variation between animals that is permanent throughout their life. They are reasonably high and indicate that measurements made of the first full fleece give a good indication of lifetime relative productivity. The repeat abilities for secondary follicle density and S/P ratio were lower (0.35 and 0.30 respectively) indicating more temporary variation, probably caused by sampling problems with the small amount of skin taken from each animal.

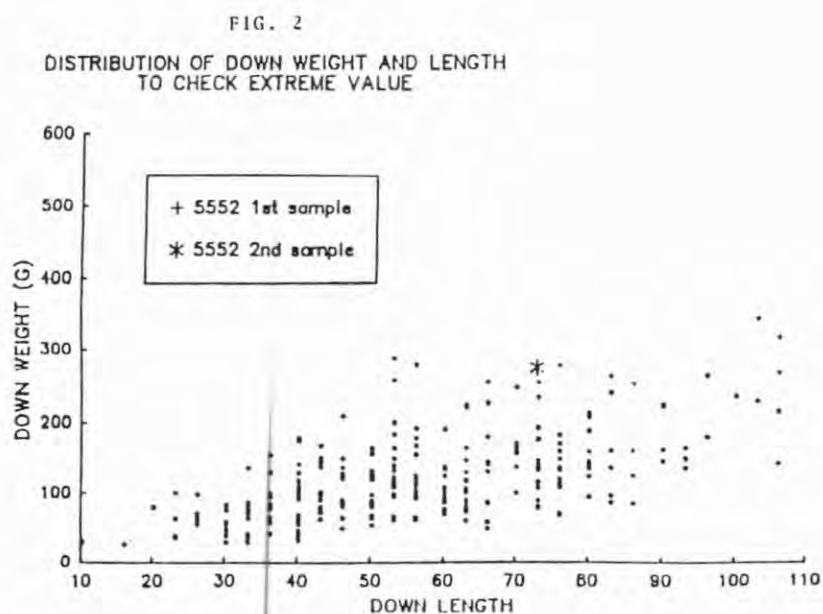
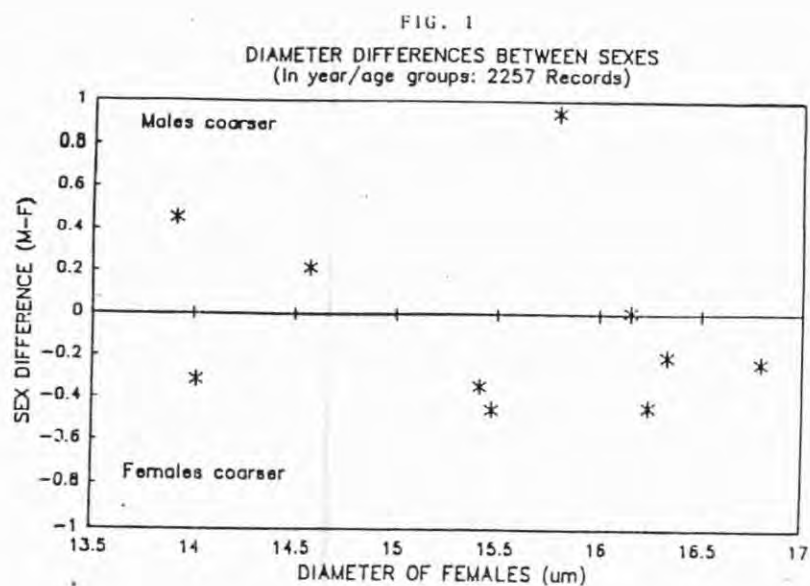
Inheritance of cashmere characteristics

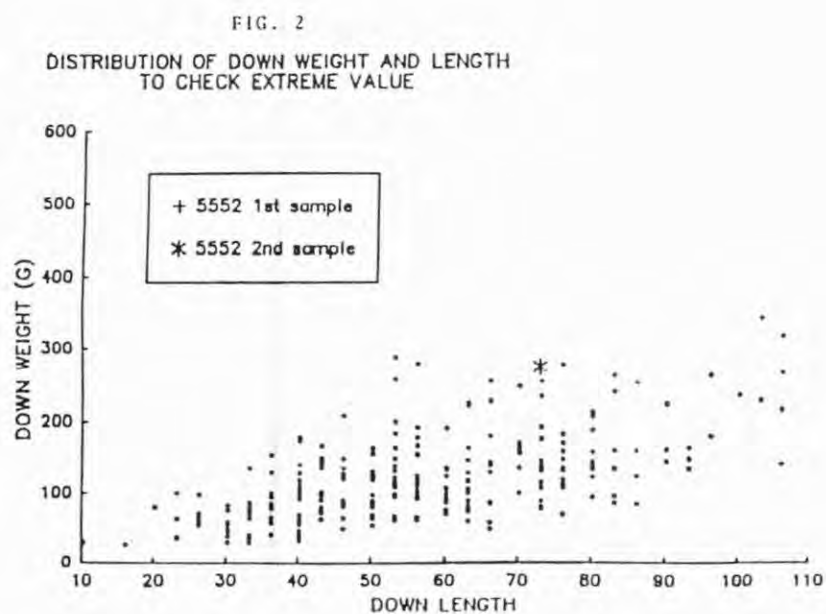
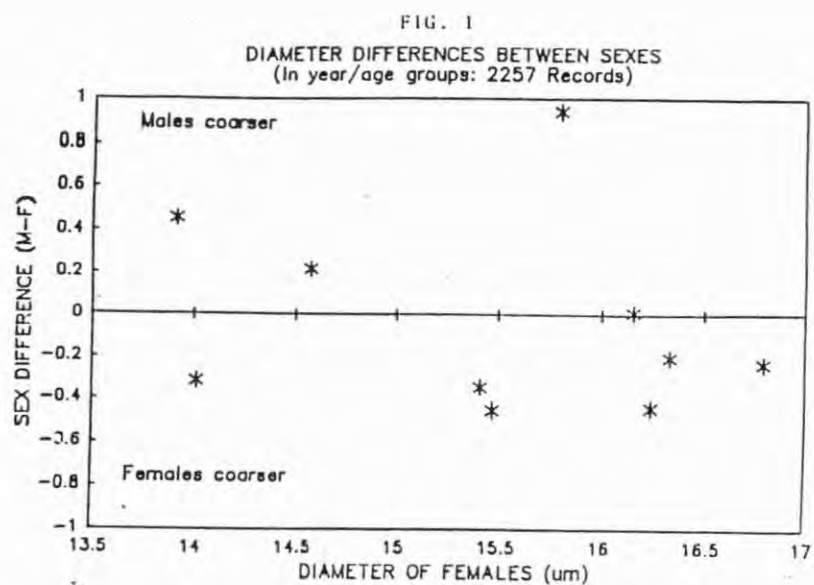
The heritabilities and relationships among the main components of down production are given in Table 2. These show that the potential for cashmere production is strongly inherited but there are unfavorable genetic relationships between liveweight, diameter and down weight. There is however a very strong relationship between downweight and length from which we have recommended that preliminary selection for down weight can be carried out by indirect selection on length.

Secondary follicle density and S/P ratio have much lower heritabilities and relatively weak correlations with the other characters. The implications for this are discussed further in a later section.

Selection Systems

The development of efficient selection systems for improving down production is restricted





Stage II Index=0.2(0.360)+
12.8(0.333)+97.1(0.145)-1.2
(-9.450)=29.82

The top bucks on this stage II index would then be selected for breeding provided they met any other important requirements. This particular buck was the top in his group on the second stage index whereas he was 8th on down weight and 10th on the first stage index.

There were 248 bucks in this group and their averages were: Liveweight 26.3 kg, Down weight 121g and Diameter 16.2 The top 10 bucks on the stage II index averaged 27.7 kg, 238 g and 16.2 micron for these characters.

This shows that the two-stage selection system has effectively controlled diameter and prevented a drop in liveweight while increasing down weight. There was some loss in potential down weight improvement because the 10 highest down weights averaged 282 g. However, this is the price that must be paid to control diameter and it is a fact of life where there are negative genetic associations between desirable characters.

The levels of improvement estimated in this table may appear to be low to some breeders. However it should be pointed out that these are estimated for changes in the average production of the whole drop, not just the top animals, and such genetic changes accumulate.

Reducing diameter within a herd

Many breeders are now finding

that too many of their goats are producing coarse fibre and the average of their herd places it in the lowest cashmere price bracket. If a reduction in diameter is desired some breeders will purchase finer bucks while others will prefer to breed

Table 3 - Two-stage indexes to hold liveweight and diameter constant

Index weights	(t)	Stage I (m)	Stage II (m)
Liveweight	0.151	0.101	0.360
Down length	0.003	0.322	0.333
Down weight			0.145
Diameter			-9.450
Expected changes in offspring:			
Liveweight	0.072 kg		
Down weight	13.0 g		
Diameter	0 micron		

finer animals from within their own herd. For these breeders we have calculated 2 stage indexes for use with bucks assuming the same index is used for doe selection as above.

Table 4 gives 2 sets of indexes for different rates of reduction in diameter among the progeny of the selected animals. Note that it is difficult to make a major reduction in diameter in a short time without causing a severe drop in down weight. In each case 25 percent of the bucks are reserved for sampling and measurement after stage I. However, the indexes do not change greatly if different proportions are kept.

Problems caused by inaccurate measurements

One of the greatest barriers to the genetic improvement of cashmere production is the expense and difficulty of measuring yield. Many samples

of fleece do not dehair properly with current testing procedures so inaccurate estimates of yield may result. The A.W.T.A. warns growers on

Table 4 - Two stage selection indexes to reduce down diameter

	Reduction in down diameter of progeny	
	0.4 um	0.25 um
Stage I		
Liveweight	0.156	0.151
Down length	-0.032	0.005
Stage II		
Liveweight	0.814	0.766
Down length	0.271	0.277
Down weight	0.058	0.672
Diameter	-17.430	-16.592
Expected changes		
Liveweight (kg)	1.06	0.98
Down weight (g)	-13.27	-3.20
Diameter (um)	-0.40	-0.25

the measurement report when any sample is outside usual limits for yield but it is the breeders responsibility to carefully examine the results that are to be used for selection or sale. This section gives an example of a typical problem of this type and suggests ways that breeders can examine their results.

At the 1987 shearing of one of our selection lines, one buck supposedly produced 530g of down in its second fleece. We were rather excited at the time but became suspicious when we saw that the next best 5 bucks produced 345, 320, 287, 277 and 277g of down and the mean of the whole un-selected drop of 248 bucks was 121 g. Thus our special buck was 409g or more than 6 standard deviations above the average and 185g, almost 3 standard deviations above the next best buck.

Now this sort of pattern just does not happen within

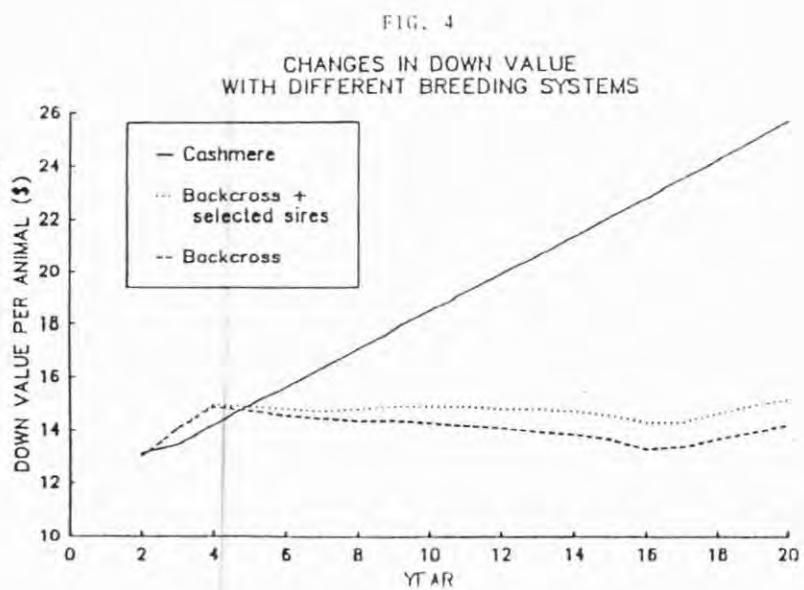
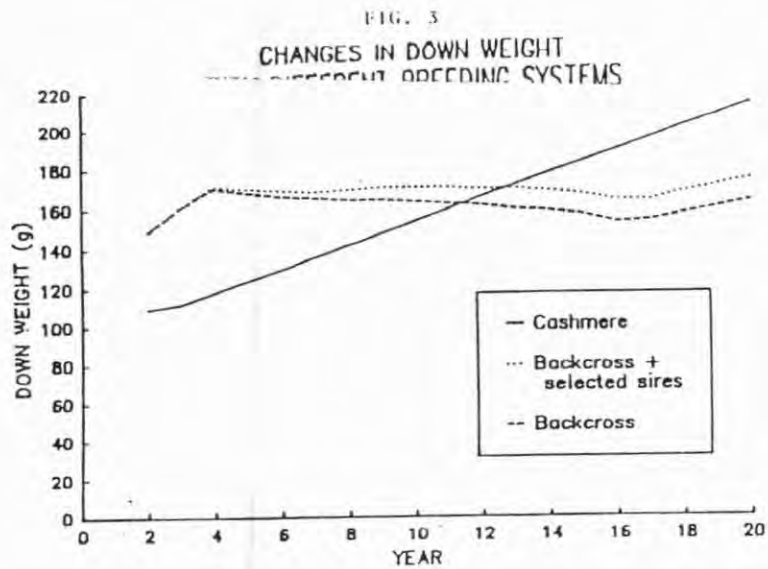
populations bred from the same source. In fact the statistical expectations are that less than 1 in 5000 animals will be more than 3.5 standard deviations above the mean and only 1 in 1000 above 4 standard deviations. Yet this buck was supposed to be 6 standard deviations above average. Clearly there was likely to be a measurement error so we had the fleece re-tested. The test yield was reduced from 66.8% to 34.5% and the estimated weight of cashmere came down to 274g, well within the normal range for the group.

The strategies that we recommend breeders use to examine their test results are as follows:

List the top 5 or 10 down weights in descending order and look for extreme values well away from the next best.

Calculate the difference between any extreme value and the group average. If this is more than 3.5 standard deviations be suspicious and certainly do not accept any value more than 4 standard deviations above the mean. If you cannot calculate the standard deviation you can use percentages because one standard deviation is usually around 50 percent of the mean for down weight. Thus 3.5 standard deviations is equivalent to 175% and 4 is about 200%.

Draw a scatter diagram of down weight against down length or diameter if length was not measured. Look for any "outlier" as this helps



interpret the pattern observed in the previous steps. Figure 2 is an example of this for our case with both the original and the re-test included. It is quite clear that the first test was anomalous and that the second was more likely to be correct.

Re-test any fleeces which appear to be inaccurate. If this is not possible, look at any other information that may help and keep the animal for a further test before using it widely.

The case used to illustrate this topic is not an isolated one and there may have been less extreme errors in the same group. This is not a criticism of the testing house but a recognition of the limitations of current procedures. Apart from the suggestions above about checking results and being careful about breeding from animals with suspicious records, equal care is needed in interpreting information presented in sale catalogues.. There is a high probability that many of the impressive down weights we see advertised are simply a collection of measurement errors. The best safe guard against these is to look at the age of animal, its down length and diameter, the down weights of other individuals in the herd, and above all, the mean of the drop. If these cannot be provided you should discount the value of the record supplied.

Value of follicle densities in genetic improvement of cashmere production

There has often been

Table 5 - Expected increases in down weight when skin follicle densities are included in selection indexes

Characters in index	Down weight included among fleece characters (g incr. in down wt)	Down weight not among fleece characters (g incr. in down wt)
Fleece Characters (FC)*	19.2	17.1
FC + Sec. dens.	19.3	17.1
FC + S/P ratio	19.2	17.4
FC + Sec. dens + S/P ratio	19.3	17.5

* Down length, diameter and liveweight either with or without down weight.

speculation on the importance of variation in follicle density in cashmere breeding. Density is certainly a component of down weight but the important thing is the extent to which differences between animals in down weight are determined by differences in density and whether or not this has a genetic basis. The parameters given in Table 2 are the first published figures that will allow this latter point to be investigated. However they should be regarded as preliminary because there are many sampling difficulties in this work and final conclusions should await the analysis of further data.

We have examined the question of whether or not data on skin follicle densities can be used in selection to improve genetic gains in cashmere production. Selection index methods were used and expected genetic changes with and without density data were estimated. It was assumed that increased down weight was required with no change in diameter or liveweight. Table 5 shows the results of this study and indicated that neither secondary follicle density nor Secondary/Primary ratio

contribute to improved genetic gains over what is possible from selection based on fleece measurements.

Potential changes in variability of down diameter

It is often asked if genetic improvement in down weight will result in changes in variability of diameter and whether this needs to be considered as a separate character in a selection programme. It is well known that variability increases with increasing diameter and that crossbred animals produce fleeces with a large proportion of coarse down. However the situation is not clear for breeding within a cashmere herd. We have examined the genetic parameters associated with the standard deviation of down diameter although we have reservations about this as an adequate measure of variability in view of the typical skewed distribution of diameter.

In our herd the heritability of standard deviation of diameter was 0.30. and it had genetic correlations of 0.60 with down weight, 0.67 with diameter, 0.54 with length and -0.41 with liveweight. Phenotypic correlations were 0.31, 0.45, 0.21 and -0.13 respectively. Using these parameters we calculated expected changes in standard deviation that would follow selection for improved cashmere production in a typical herd.

If down diameter was not controlled, standard deviation of diameter would increase by 0.14 or 4.7% in the offspring of selected animals. If diameter and liveweight are

restricted to zero change then the increase in standard deviation would be only 0.03 or 1.06% It is apparent that there will be no serious undesirable changes in the variability of diameter in herds where selection aims to increase down weight and control diameter.

Comparison of cashmere breeding with crossing

Crossbreeding with Angoras has been practiced to quickly obtain white animals and to achieve high down weights. However it is well known that the down produced is much coarser and there is a large amount of intermediate fibre which causes processing difficulties. Diameter increases rapidly with age so most halfbred animals do not grow fibre that will be bought as cashmere after the second fleece. As a consequence of these features, back crossing to about seven-eighths cashmere type combined with selection against animals with course fibre has been advocated.

It is difficult to evaluate this strategy in comparison with straight breeding of cashmere animals developed without crossbreeding because no strictly comparable data are available on relative production parameters, possible heterosis effects or age changes. As a preliminary step we have developed a model of herd productivity under crossbreeding/backcrossing for comparison with a standard gene-flow model for straight breeding. Data for the back crossing system were taken from published reports while those from the Wollongbar herd were used for the cashmere system.

There are problems with the crossbreeding data used as they were derived from a commercial herd in which corrective mating for diameter and varying culling levels were used. It is therefore likely that the results will over estimate the value of the crossbreeding system.

The comparisons we have made assumes that the breeder wishes to eventually produce fine cashmere about (16 um). We have examined cases where the cashmere bucks purchased for backcrossing are from a herd making genetic improvement using the systems outlined above. One case is where average bucks are bought from this breeder, the other where the "next best" bucks are bought after the cashmere breeder has chosen his reserves. Figures 3 & 4 show the changes in down weight and value of the down produced in the herds modelled. It was assumed that the culling levels used maintained average diameter at less than 18.5 micron.

With typical reproduction and death rates it takes 14 years of crossing and backcrossing to develop a breeding herd composed totally of three-quarters or more cashmere type assuming culling levels after the second fleece of 70% for 1/2 breds, 40% for 3/4 and 30% for 7/8. Average herd down weights (including hoggets) increase to a peak in the 4th year at which time they averaged 54 g per head more than a cashmere herd undergoing selection. The backcrossing herd then declined to be 25 or 36g per head lower than the cashmere herd in year 16

depending on the bucks that were bought. These changes are accompanied by an increase of +1.4 micron in average diameter for the whole herd reducing to 0.4 um.

It takes 11 to 13 years for the cashmere herd to catch up to the backcrossing herd in down weight but because of the finer fibre it gets the same financial returns from the cashmere at year 5. Thereafter the cashmere production is increasingly more valuable. Increasing the down weight advantage of crossbreeds or reducing culling levels only changed this situation by two to three years. It is apparent that the backcrossing system offers short term advantages in cash flow. However, this is accompanied by the production of coarse fibre and a stable cashmere growing herd is not achieved until many years after the straight breeding system has surpassed it in productivity and value.

W.A. Pattie, Department of Farm
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University of Queensland.

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Agricultural Institute,
Wollongbar.

THE BUCK KNOWS BEST
Miriam Jeswine

This morning I suspected one of the does was in heat. When I stepped outside, even though I had yet to see a goat, I knew it for sure. How did I know? Just before daylight I heard does calling repeatedly. When I stepped out on the porch, I heard the buck rooing and snorting. I knew there was a doe in heat, and when I looked, sure enough, there were two does on one side of the fence, wagging their tails, and on the other side, the buck was snorting and rooing and pawing the fence. Heat is easy to detect because the buck does know best. Still, one of the most common questions I get is, how do I know when my does are in heat? Sure, the books say does come in heat every 18 to 23 days, but how do you know the first time. Obviously, if there is a buck on the premises, it becomes more obvious, but still, you may not have a buck, or you may be planning to haul her to some other buck, or use artificial insemination. Here, then, are some of the ways you can tell.

Develop the habit of checking the flock every morning, preferably quietly, before you feed them. Watch for persistent calling, for tails flipping back and forth, fast, and for bucky behavior among the does. If you see someone acting strange, look under her tail. If the vagina looks swollen, reddish, and moist, she may be in heat. Run your hand down her back to her tail. If she is in heat, and isn't real wild, her tail will flip like a hyperactive windshield

wiper. What if you still aren't sure?

Many people keep a buck rag. To make one, take a washcloth-sized rag to the smelliest buck you can find, a dairy goat buck would be great. Rub it all over his disgusting forelegs, beard, and chest and put it in a jar with a tight-fitting lid. You should have worn grubbies and rubber gloves. If you didn't, thoroughly scrubbing your hands with baking soda and dish detergent will get rid of the smell. Your clothes will wash clean. I keep buck coveralls and rubber gloves to wear when handling the guys. Take the jar to your doe, open it and let her smell. If she flips her tail and continues to smell it, you have doe in estrus. If she looks at you and walks away, check again later in the day, and the next morning, also. You can also take her to a buck and see if he is interested in her and she in him. Some people keep a gomer buck, that is, a vasectomized male. He is fully masculine, but infertile.

Having determined that you do, indeed, have a doe ready for breeding, when should you do it? Normally, does come in heat during the small hours of the morning, are at the peak of the estrus some time in the afternoon, and by the next day, have lost interest. The best time to breed is the afternoon or early evening of the day she comes in heat. If she is still in heat the next morning, she can be re-bred every twelve hours until she is no longer

receptive. Most goats, however, are only in heat for about 23 to 27 hours or so. A doe who stays in heat for long periods may be infertile due to ovarian cysts. If you prefer to be more precise about timing breeding, watch some more. At the beginning of the heat cycle, the cervix releases a thick, gummy mucous plug, and you'll see it as a gluey discharge, probably gumming up her tail feathers. When the mucous changes to a clear, watery consistency, the cervix is open, and it is the best time to breed. If you are planning to use artificial insemination, use your speculum and light to check the cervical opening and notice the changes. When it is fully open, she is most receptive to insemination and you probably can place the semen directly into the uterus. A good management technique is to keep a record of each doe's heat cycles. You will discover that each doe has her own characteristic cycle. One doe may come in heat every eighteen days another every twenty one, and yet another will be in every twenty five days. One may not show heat signs until noon, and another may be very subtle about her behavior.

Keeping a record of these observations will help you manage your breeding program more effectively, reducing the number of missed, or mistimed breedings. Once you know a doe's pattern, she will maintain that pattern throughout her life, unless she is pregnant or something goes wrong. Remember, the leading cause of anestrus (not having heat cycle) is pregnancy.

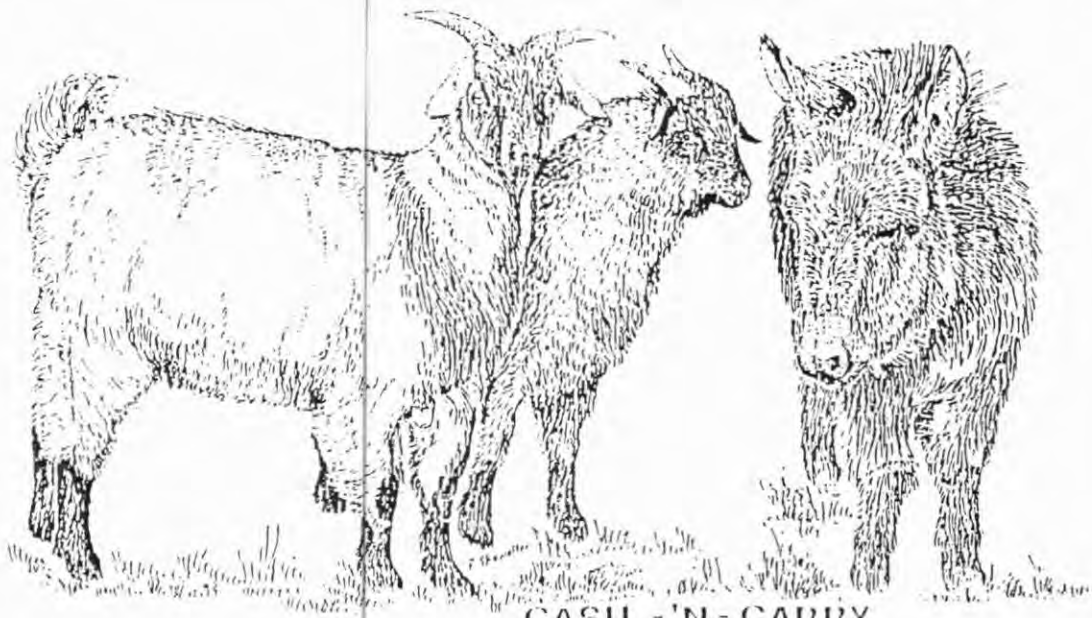
You'll be aware of missed heats sooner with good records. I write on a calendar eighteen days after a breeding to watch for heat in that does. Some breeders keep a chalkboard or a huge calendar in the barn and keep notes on them. Others use notebooks or notecards. The thing is to be consistent in your observations and record keeping. Then you won't make the mistake I did with my very first goat. She lived with the buck all one September. In February she acted restless and I spent a week holding her hoof but no kids. That fall, she and another doe came in heat and I realized that in February she had been in heat, not ready to kid. Live and learn, sigh.

For more information about the author go to the next page

ABOUT THE AUTHOR

I bought my first goat, a French Alpine dairy goat, thirty years ago. I chose her because I liked her name, Topsy. She supplied milk for my summer as a forest lookout in the Idaho Sawtooth Mountains. Since then, I have bred French Alpines, which I am leaving for Cashmeres. As a dairy goat judge and Director of the American Dairy Goat Association, I traveled and talked with goat raisers around the country, and learned about regional conditions affecting goat keepery. In 1967 I conducted a work shop in dairy goat management at Punjab Agricultural University in India for the A.I.D. -Peace Corps-Ford Foundation. In 1982 my goats and I worked with Dr. Mary Blankevoort and Dr. Ann Keisling in a study of methods of superovulating goats

for embryo recovery and I like to think that contributed to some of the Cashmere embryo transplants. I have a particular interest in nutrition and have attended many seminars, including the international Scientific Congress held every four years in conjunction with the Olympic Games. Finally, I have written and published in several fields, including goat management and nutrition. I'd like this column to be one which serves your needs. Let us know what you would be interested in reading about and we'll try to supply the information. I live with my husband, several horses, two dogs, and a huge organic garden on eighteen acres near Dexter, Oregon where the goats often outsmart us.



CASH - 'N - CARRY

Amicale INDUSTRIES, INC.

1375 BROADWAY, NEW YORK, NEW YORK 10018

CASHMERE IN THE 90'S

Over the past ten years, as the leading dehairer, spinner and weaver of luxury fabrics in America, Amicale has seen the industry pass through a very unusual period. Up to the eighties there had been sharp ups and downs in price due to large variations in demand. This past decade we have experienced almost continually rising prices with little expansion in supply. This has led, from time to time, to shortages of supplies that could not be met until the new cashmere clip came to market.

Now times are changing. For the first time in many years prices are coming down, not only for cashmere but all other luxury fibers, as well as wool. Higher cashmere prices made pure, 100% cashmere garments prohibitively expensive. New blends of very fine wool with just a small amount of cashmere were developed and found satisfactory by the consumer. The technical and marketing breakthrough of cashmere blends has reduced the market for cashmere. How low the prices will go, low enough to revive the market for pure cashmere again, can not yet be foreseen.

As cashmere prices rose out of reach, camel hair became the American consumer's alternative, the "affordable" luxury fiber. Much of the fiber for overcoats and jackets that had previously been made of cashmere is now camel hair. Since camel hair prices are less than half of cashmere, it will be difficult for cashmere to recover this segment of the

consumer market. Dyeing and finishing technology over the past few years have led to improved techniques to obtain a full range of colors from brown camel while preserving its fine hand. As American sweater production has moved offshore over the past quarter century most of the cashmere fiber used here has gone into the woven fabric market. This market uses dark colored cashmere more and more that sells at lower prices than white fiber. The market for white fiber in quantity is in Europe and Japan.

Of the four countries producing cashmere in quantity, China and Mongolia in the 16 micron range, Iran and Afghanistan in the 18 micron, three are socialist with radically different principles of pricing fiber than the new growers in the U.S. or Australia and New Zealand. Cashgora, a fiber that is produced when cashmere goats do not breed true, has not yet found a dependable market.

I hope growers, considering new cashmere herds, will give careful consideration to all these factors in this fast changing market. We need more cashmere, but it must be the right quality at the right price.

Boris Shlomm, President
Amicale Industries, Inc.
New York



QUANTITY AND QUALITY QUESTION

CASHMIRROR has been receiving copies of brochures and letters from cashmere producers in the U.S.A., with regard to fleece quantity and quality.

Our research shows, backed by Australian research and a lot more experience, that the below factors are pretty accurate. These figures express **QUALITY** animals with **ABOVE AVERAGE** yields.

Micron	Down weight
15.5	150 grms
16	200 grms
17	300 grms
18	400 grms

Some tips to keep in mind when evaluating breeding animals:

Yield is a percentage of down to guard hair. Don't get carried away with this number. A goat with a 75% yield sounds real good over the phone. However, the goat may have little or no guard hair and a 75% yield equates to less than one oz. of cashmere. 50% of "nuttin is still nuttin". The opposite also occurs. We have a couple of goats whose guard hair parts down the middle of the back and hangs down covering the entire body. These goats can cut very heavy down weights but show a lower yield due to the tremendous hair weights. Instead be more concerned with actual down weights as that is what your wool payment is based on.

However, knowing the down weights of your bucks you can now look at yield. The rule of thumb is never to use a buck with less than 40% yield in his

first year. With regards to micron, never use a buck over 17.5 micron as a two year old and never greater than 18.5 microns at four years old.

And the real gripe I have are the fleece tests that come through on bucks in Australia that only list the buck at his two year test.

Some of the better known bucks of Australia are sitting at 20 to 22 microns as four year and over bucks. But they will tell you that the buck produces finer than he is. Don't you believe it!!! Coarse produces coarse!

When you buy a buck you want to see ALL of that buck's fleece tests. If that buck went out more than two microns, (even if his first test was at 14 microns) from his first test to his second test, you can bet the farm that he will keep on going.

Also know that in the goat species, that a doe is not considered mature until she is 18 months and a buck is not mature until he is 30 months. However, just as we humans change with age, does will put on weight and bucks will add round bone, muscle, long guard hair up until the age of 7 or 8 years if given good nutrition.

Also beware of 'very heavy yielding kids, kids with tremendous down weights. Its always possible that you have found "super goat", but not very probable. Especially if the breeder is willing to sell it. More than likely you have found

an angora infused goat who by its second or third fleece will have turned to cashgora or fine mohair and you now have a very expensive "leg of goat".

Also keep in mind that with few exceptions, the outrageous prices being paid in Australia by US buyers are more likely proportional to the buyer's ignorance and enthusiasm and not the quality of the goat.

There are a lot of "get rich quick" schemes going on in this embryonic industry and many people are going to get hurt financially. This is going to leave a bad taste in people's mouth for cashmere and could slow down or disrupt the progression of the industry. While there are many honest breeders, there are also crooks - on both sides of the water. My most spouted statement is "a goat is only as good as the integrity of the breeder". So get a little information under your belts before you go shopping for your flock of cashmeres.



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Cashmere
and the U.S. Cashmere Industry

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CASHMERE TERMINOLOGY

ANGORA:

(a) The name applied to the fibre produced by the rabbit.

(b) The name given to a breed of goats originating from the Ankara district of Turkey.

NOTE: These goats produce a secondary fibre called mohair. It should not be confused with the fibre produced by the Angora rabbit which is called Angora.

BACK CROSSING: The process of systematically breeding back to a particular parent type of breed.

CASHGORA: The name used to describe the resultant progeny of cross-breeding Angora and Australian feral goats.

(a) The term is believed to have first been used by breeders to describe such crossbred animals and has remained in use to differentiate between "Cashmere" producing animals and fine mohair producing animals.

(b) These animals, when used in an upgrading program by Angora breeders have also been referred to as Grade 4.

(c) The term has also been used to describe the down fibres grown by the above mentioned animals.

(d) There is controversy as to the fibre produced by these animals. It is suggested that the term when used to describe the fibre refers to the finer end of the distribution as opposed to the coarser end of the distribution. The latter fibre has the appearance of fine mohair.

CROSSBRED: The offspring of parents from different lines, strains or breeds.

CRUTCHED OR CRUTCHING: Shearing around the rear end of the sheep to prevent flystrike.

CULLING: The act of removing inferior or non-preferred animals from a flock.

CULLS: Animals that are rejected from a flock.

DEHAIRING: The mechanical process of removing guard hair (primary fibres) from animal fleeces, particularly from goat, camel, vicuna, guanaco and angora rabbits.

DIAMETER: Mean fiber (mfd) is the term used to denote fineness of a fibre sample or fleece. The mfd is calculated from a number of measurements of fineness for individual fibers. The unit of measure is the micron. (1/1000mm).

FIBRE DRAW: A technique used to show the length of fibres within a sample. The fibers are "drawn" from the sample and pasted onto a colour contrasting board to show from long to short fibres.

FIBRE TESTING: Specifically includes, but not limited to:

- (a) Fibre diameter measurement
- (b) Yield etc.

FLEECE: The total fibre grown by a goat.

FLYSTRIKE: The laying of fly eggs, resulting in maggots, in the manure tags around the rear end of the sheep. This is a result of not crutching.

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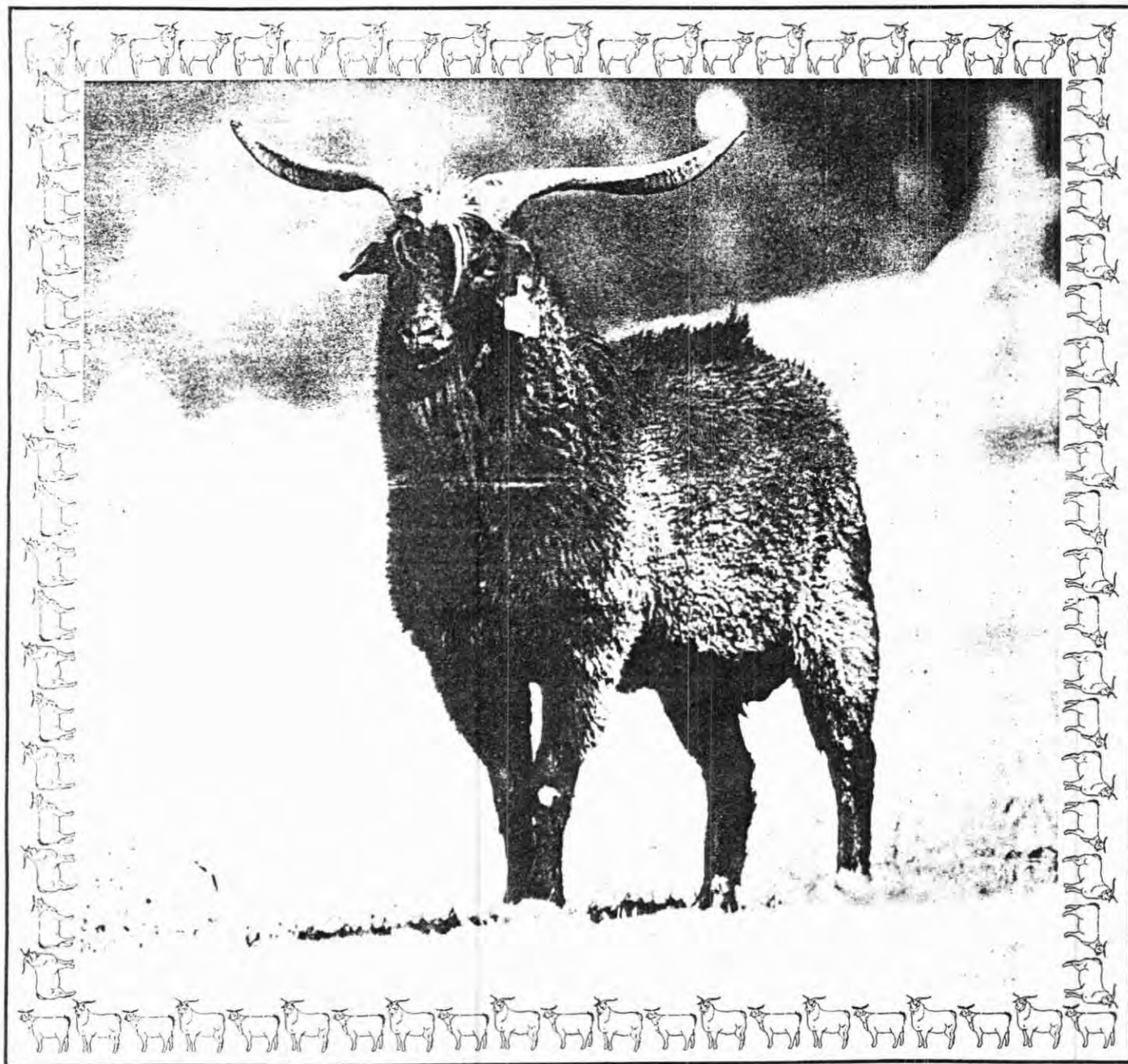


PHOTO BY BILL GILLINGHAM

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Hoof Trimming

by Sara Emond
Leduc, Alberta Canada
Courtesy Dairy Goat Journal (U.S.)
Vol. 16 No. 4.

Leaning over
the goat like
this gives you
quite a bit of
control...



Tie the
goat up,
short +
secure!

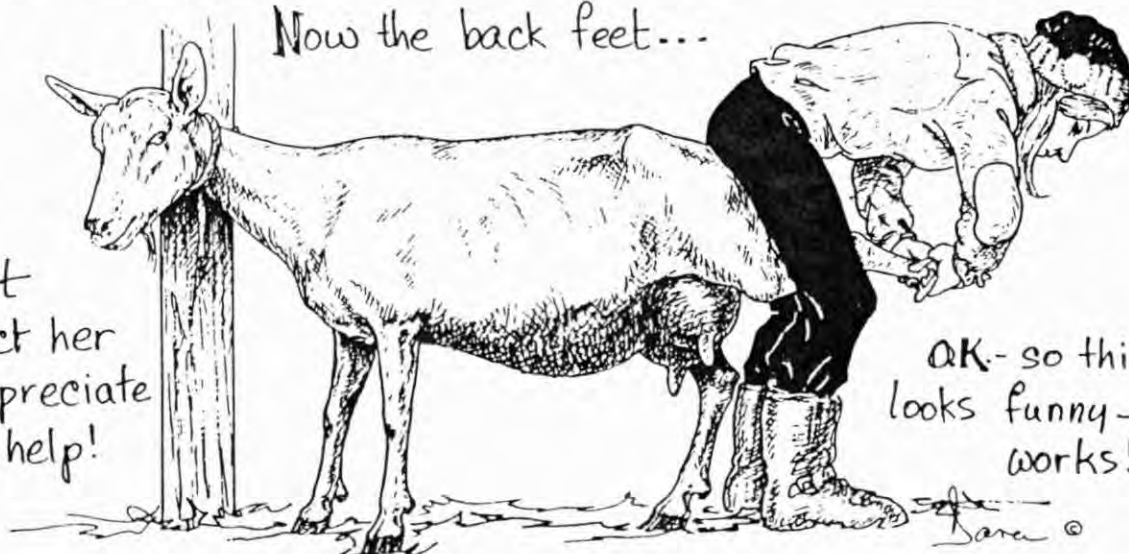
If you do
this foot
first, she
can watch
what you're
doing...



I am hopelessly
right-handed so I
have to do her left
hoof from here - it
helps to squeeze her
up against a wall -
A knee under her
chest gives her some
support...

Now the back feet...

Don't
expect her
to appreciate
your help!



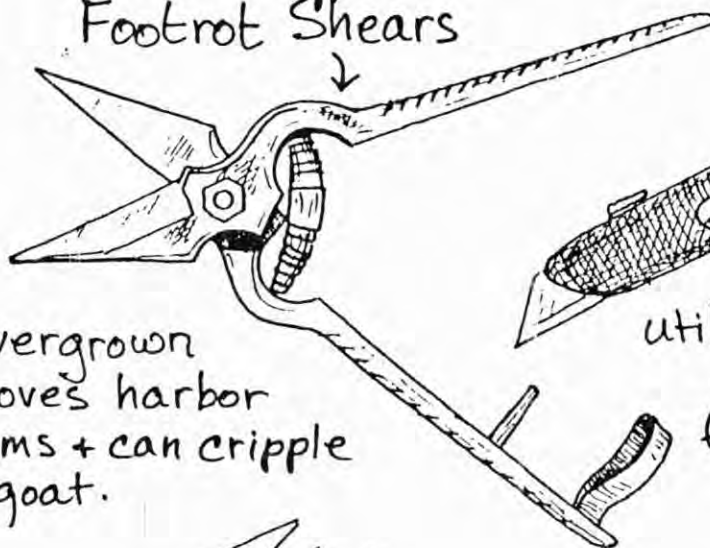
OK- so this
looks funny - it
works!

Sara ©

Hoof Trimming



Footrot Shears



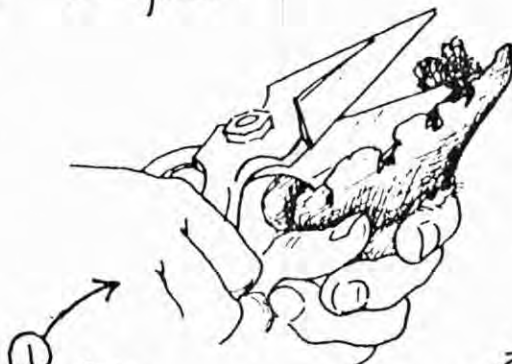
Overgrown hooves harbor germs + can cripple a goat.



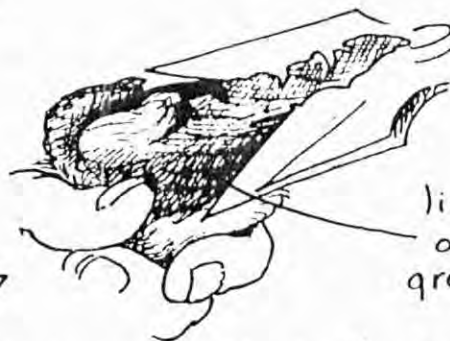
I use a utility knife for the finishing strokes..



Trim every 6 weeks or so



① Dig out dirt from toes.



② Trim away excess nail - Try to trim parallel to lines of growth...



③ Pare heels to the same level as soles of toes.



④ Take away all the excess nail tissue, all around each toe...

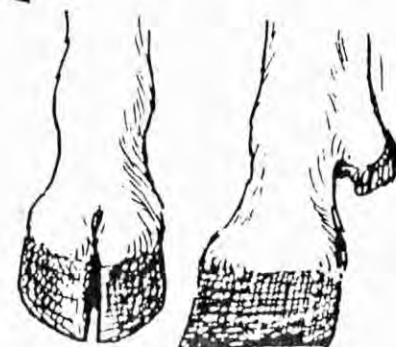


⑤ Finish the job by paring thin slices from soft tissue. Make flat.

When I cut too deep and draw blood, I use "Kopertox" to protect the foot. Actually it is much better, with a badly overgrown hoof, to trim several times at close intervals until feet are normal

- Sara

⑥ A good trim.



Very few people have the space, time, effort or money enough to have all the sires they want, but one small A.I. tank, can hold them all. Your livestock will improve more rapidly when you can select a buck for each individual doe based on specific traits you need to improve.

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Purcella's independently developed the following in goat A.I.:

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- 2.) Modified cattle A.I. equipment and developed original equipment for goat A.I.,
- 3.) Developed an educational program to train breeders to A.I., a program responsible for teaching most of the successful dairy goat A.I. breeders and instructors in the U.S.
- 4.) Developed an extender and freezing process for goat semen that replaces the problem plagued cattle semen freezing extenders and process commonly used to freeze goat semen in the U.S.

Andy holds a B.S. in education, Biology, Chemistry, and General Science. He has extensive non-institutionalized research and experimenting in goat and sheep A.I., using frozen semen and frozen semen extenders and freezing processes. She also custom collects in the Pacific Coast States.

CHOOSING A BUCK OR BUYING SEMEN FOR GENETIC GAINS

Jenny Eddington and Ida Purcella

When we think of entering an animal breeding enterprise our thoughts immediately focus on our sire for the breeding programme. This selection is usually a major investment as he will provide half of our genetic base. Much thought and investigation goes into this decision. Before choosing a sire it is vital to think about just what is expected of the chosen animal and what our aims and objectives are. With Cashmere breeding there are many choices to make, the most important being the quality of the fibre produced. If your aims are to produce fine crimped fibre, a coarse micron buck used over bred-on does will not produce you fine kids. However, if your does are very fine micron and do not produce a lot of down or very short down, then a courser longer fibered buck carefully selected will add some length and weight to your kids fleeces. In the ideal situation each mating should be complimentary. In other words, accepting that no animal is perfect, what your doe lacks (i.e. fleece length) you counter with a buck who has good length. Another example is if your doe is 15 micron, her fleece weight will be lower and perhaps less valuable. So, mated to a buck of 18 micron you would expect the kids to be around 16.5 with a better weight and hence fleece sale value. However, if your doe is 18 micron and is mated to an 18 micron buck chances are that the kids will be over 18 micron and, as adults, out of the cashmere range. This all means that a herd should contain a mix of animals which gives you the maximum average flock fleece weight under 18 micron for the best financial returns.

In a large flock you need more than one buck so you can run groups of complimentary matings and maximize your genetic gain. With a smaller flock this becomes more difficult as you will not want to keep several bucks for limited matings. Not only from a management point of view, but also because there is considerable investment tied up in top sires. The best way around this is the option of semen from top sires from other herds artificially inseminated to compliment individual does.

Given that a good sire costs several thousand dollars to buy, you can buy frozen semen from the best sires for a lot less investment. You can then complimentary mate all of your does for the season. Not only do you save money, but you also avail yourself of the best available genetic material.

Bucks put in for semen collection have detailed breeding and production records which you should digest and work out the best breeding strategy. The use of artificial insemination is an important agricultural tool. The use of A.I. can increase genetic potential and allow development of any number of genetic pools. The line breeder can use many related sires, some of which may be unattainable due to distance, money, death or poor health. In some cases it allows access to herds that are closed to outside breeders.

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If no why?_____

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(spinning, knitting, and weaving)

I would like to see a column regarding care and maintenance of goats_____

I would like to see a column from the fiber processors_____

I would like to see a column on the shearing shed_____

I would like you to feature a cashmere buck from a different breeder each month_____

Other comments:_____