

Bearlin Acres Farm
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Cashmere Fiber Processing

FINEST FIBER IN THE LAND

With a handful of slightly smelly fluff in my right hand and a finished skein of amazingly soft, evenly spun yarn in the other, I am amazed at what needs to happen between the two stages. Even getting good goat down has an impressive list of variables as all breeders eventually learn. Some days, the task seems overwhelming. When running your face over the new coat of a kid snuggled in your arms, it all seems worthwhile. The value of cashmere seems to be well understood world wide. Getting quality of the final spun material is quite variable and not always so reproducible, nor understood. In the sections that follow I hope to give insight on the production experience and practices of some cashmere producers in the US.

General Information: Cashmere Goats can be characterized as follows:

"A cashmere goat is one which produces a fine undercoat of any commercially acceptable color and length. This down should be less than 19 microns (μ) in diameter, crimped as opposed to straight, non-medullated (not hollow) and low in luster. It should have a clear distinction between the coarse, outer guard hair and the fine underdown and should have good handle and style."

-CaPrA, *Concerning Cashmere*, 1989.

...as quoted in http://www.capcas.com/Cashmere_Characteristics.html

Generally, quality cashmere fiber is considered to be down with fiber micron count at 15 or below and a minimum length of 1.5 inches. Other considerations in addition to fiber diameter must be taken into account when evaluating cashmere fiber. Overall characteristics and cashmere goat conformation standards can be found at several sites: <http://www.easterncashmereassociation.org/pages/evaluations.php> and <http://northwestcashmere.blogspot.com/2008/09/northwest-cashmere-association-serving.html>.

"More than 300 tonnes of cashmere is produced worldwide." (www.scottishfibres.co.uk/acatalog/Cashmere_Story.html). According to this reference the primary producers are Mongolia, Iran, Afghanistan, Australia, NZ and the UK. The US production is not even mentioned. "Until recently Britain handled and processed most of the world's cashmere with the Dawson International group of companies processing around 2,000 tonnes annually, with Scotland the

world centre for cashmere finishing, knitting and weaving.” Today, most scouring (washing) dehairing processing is handled by China. For a full summary of production and how the US plays a part consult http://www.capcas.com/american_cashmere_industry.html.

Cashmere Breeders: Two main US cashmere associations, the Eastern Cashmere Association, ECA, and the Northwest Cashmere Association, NWCA exist. Both have active websites and member listings online. (<http://www.easterncashmereassociation.org> and <http://northwestcashmere.blogspot.com/2008/09/northwest-cashmere-association-serving.html>). There are also numerous breeders with herds of varying sizes that appear on various goat-related pages and sales lists, but do not belong to either association. I have met, spoken with and done business with several breeders in the last decade to gain insight on what they use as a focus for breeding programs and in producing the fiber of their herds. All were knowledgeable, helpful and more than willing to contribute to my merry journey down the path of goat herding. I would like to thank them collectively for their contributions. I would also like to thank my goats for their contributions to my education.

The Survey: Using the basic account at Surveymonkey.com, I collected data in survey format at this link: http://www.surveymonkey.com/s.aspx?sm=pEGbsrUgRiow5_2b4aZltQGA_3d_3d. Keep in mind that all of this data was provided anonymously and is the opinion of the breeder respondent. Responses varied considerably. Data is reported only to give you an indication of response. It is not intended to endorse the products or services of any particular processor.

Herd size often determines the amount of fiber available and the processing chosen. Of the fifty respondents, 55% process one to five pounds of cashmere annually. Producers of 5 to 50 pounds comprised 28% of the responses. Four respondents process over 50 lbs annually. The same number reported less than one pound per year in processing. Some mills can process small amounts, but you may get charged their minimum required price. Other mills will not accept small amounts for processing, especially spinning runs where there is a large loss from processing. Zeilinger Wool Company recommends a minimum poundage of 18 pounds for a successful yarn run.

What do breeders do with the fiber they grow? The largest reported use is to have it cleaned, dehaired, roved and spun into yarns. Forty-eight percent have the mill card, dehair, rove and spin their raw fiber. The predominant type of yarn produced for the breeders is 2-ply, lace weight, followed by 2-ply fingering weight, 3-ply fingering weight and 3-ply lace weight. One response listed 2 ply sport weight as their product. Packaging is split almost evenly between 1 oz and 2 oz skeins. Some specified that their lace weight is put up in 1 oz skeins while the fingering weight is in 2 oz skeins. Others produce hand-spun yarns and skeins. Still others use 25 gram skeins which are a little less than the 30 gram ounce equivalent. Several ask the mill to dye their yarns. A few use their fiber for felting.

Processing mills for cashmere were geographically located across the country.

The list of mills mentioned in survey responses are in the following table.

Mill	Location	Contact Information
Belfast Mini Mills PEI	Belfast, Prince Edward Island Canada	http://www.minimills.net/ 1 (902)659-2202
California Cashmere Company	San Andreas, CA	http://www.calcashmere.com/infoset.htm 209-754-5751
Fantasy Fiber	Canby, OR	www.fantasyfibers.com ffibers@web-ster.com 503-263-4902
Flaggy Meadows Fiber Works	Springfield KY	(859) 336-7272 email: info@flaggymeadowfiberworks.com
Georgia Mountain Fiber	Blue Ridge, GA	www.georgiamountainfiber.com E mail fiber@tds.net 706-632-6767
Going to the Sun Fiber Mill	Kalispell, MT	406-756-6772 http://www.gttsfibermill.com/cashmere.htm
Haneke Wool Fashions	Meridian, ID	208-888-6934 kathyhaneke@msn.com
Mill's Hill	Shade Gap, PA	Ph 1: 814 259 3928 www.FibersAtMillsHill.co...
Still River Mill	Eastford, CT	http://www.stillrivermill.com/ 860-974-9918
Texas Fiber Mill	McDade, TX	512-273-2540 http://www.texasfibermill.com/
Yolo Wool	Woodland, CA	(530) 666-1473 http://www.yolowoolmill.com
Zeilinger Wool Company	Frankenmuth, MI	Toll Free at 1-877-767-2920 Fax: 989-652-2940 • Email: zwool@aol.com

The mills most often reported as middle to high in price range were Still River Mill, Going to the Sun Fiber Mill, and Haneke Wool Fashions. All that had previous experience with Fantasy Fibers felt the prices were in the middle range. California Cashmere was reported most frequently as being in the high range. The opinion of Georgia Mountain Fiber's prices was quite varied, from low to high. Zeilinger Wool was reported in the middle to low price range. Belfast Mini Mills was also reported to produce yarns with reasonable investment, and the price range of low to middle range. For total number of respondents, Going to the Sun Fiber Mill ranked first in usage followed closely by Still River Mill.

Turn around time from the mills was reported by the majority of patrons to be reasonable from Fantasy Fibers, Still River Mill, Going to the Sun Fiber Mill, Haneke Wool Fashions, Zeilinger Wool Company and Belfast Mini Mills. In the opinion of other producers some of these same mills were sluggish in return of fiber. Only the California Cashmere Company received sluggish rating from all past users who responded.

Happily, most mills received good ratings of easy to reasonable in the communication heading. Only one had a 100% response as to be difficult in communication. Likewise, all mills except this one returned the farm's fiber to its owner.

Packaging of the returned products was the most widely variant category in response. A predominant theme was that the packaging was "adequate or practical," the middle rating. Of 48 responses, one half were in the middle rating, one quarter were in the "clean, neat, fancy" category and the remaining quarter indicated "no packaging."

The remaining rating category, "quality of finished product," indicates a general satisfaction with the results from differing processors. Of the fifty total responses, 25 rated the processors as having returned "top quality" products. These responses were distributed across all the listed processing facilities. Again, Going to the Sun Fiber Mill and Still River Mill received the highest number of positive responses. Twelve persons reported "ok" product quality. Only eight responses were "would not use again." These responses were clustered in the columns for four of the companies listed. Interestingly, the same companies were rated as "top quality" producers by other respondents.

What determines quality? Who determines quality? How does one produce quality? These are some of the most difficult determinations to make in breeding goats to produce cashmere. It is a long process from the forage to the finished garment. One of the most extensive compilations of fiber goat nutrition research articles were assembled in print form by the publishers of The CashMirror, Linda Fox and Paul Johnson of Goat Knoll Farm in Dallas, Oregon. It is not the purpose of this article to review these references, but some issues are still available. (<http://www.wvi.com/~goatknoll/>). Investigating your herd's nutrition and eating habits can be a solid first step in producing quality fiber.

Choosing the right animal for your desired fiber type is the first step in creating quality fiber. YOU can select animals with an eye for improving your herd's fiber through breeding. Different breeders focus on certain characteristics of the goats. Color is one consideration. Conformation, mothering ability, kidding percentage, and temperament are others that rank importantly. When looking at fiber production, type, length, volume, style, crimp, diameter, coefficient of variation (CV) and the differentiation between guard hair and down are very important.

Harvesting the fiber also plays a large role in determining the nature of the end product. Shearing and combing are the options. Shearing takes both the coarser, often medullated, guard hair as well as the finer cashmere down from the goat in one swipe. Combing removes primarily down, but care must be taken as to the timing of the fiber harvest and the vigor with which it is harvested. According to Diana Blair of Going to the Sun Fiber Mill, combing when the fiber is not fully released from the animal can add stress to the individual hairs and cause it to noil when spun. Twanging up like Christmas package ribbon is not a desirable trait for cashmere fiber! Also, different times in the animal's life it produces differing kinds and amounts of dander. Some of this can be removed in the mill processing. Much of it cannot be, especially if it is oily in nature, and fiber containing a high percentage of this should be discarded before shipping to the mill.

What you put into preparation of your fiber is usually observed in the final product. Careful skirting, removal of vegetation, and sorting by length and type will assure that the most compatible fiber batches will enter processing together. Color is not the only sorting consideration. Prime cashmere will spin better if the type and length are close from animal to animal and even from differing portions of the same animal's coat. Dehairing machines can separate fibers up to a certain extent based on their physical characteristics, but careful sorting by hand will be rewarded in the final stage. Cost may be lower from lesser required processing. Yarn produced will be of higher uniformity and be resistant to forming a halo. Final knitted garments will resist pilling. A yarn can only be spun so tightly to keep it together and the ends well collated before it becomes a hard cord instead of a strong, soft textile material. Well-sorted and prepared fiber makes the entire process more successful.

From forage to fluff to finished product, getting quality cashmere products is a labor that requires much attention to detail. Selecting, breeding, harvesting, skirting, sorting, scouring, dehairing, roving, spinning, skeining and dyeing all have points to note that may make or break your profit and production for a given year or in the long run. When considering which mill to select for fiber processing, the above results may give you an idea of where to start. No amount of opinion is going to remove the need for your involvement in the process.

As one mill owner stated, " We are here to help the small cashmere breeder." Many times that breeder needs help in determining exactly what can be done with the fiber he produces, in best helping himself to gain knowledge about the processes in the mill, and skill in realizing the potential of his herd's fiber. In this case the owner of the left hand must know what fluff lies in the right hand and how to get from one point to the other.

GRAPHICS FILE FOLLOWS IN separate pdf. References in separate file.

June 26th, 2009 www.bearlinacres.com

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