The Scottish Cashmere Industry

Year 2000

Mercy Corps International Susan A. Hahn

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Abbreviations

CC Cashmere Club

Kgs SCA

Kilograms
Scottish Cashmere Association
United Kingdom
United States Dollar UK USD

Scottish Cashmere Report

Overview

History

Unknown to most, Scotland originally imported the majority of its textiles until the late 1500s, when a decision was made to start a domestic textile industry with imported textile technology and expertise from Belgium. By the mid-1600s Scotland had developed it's own fledgling reputation for quality textiles. From this infusion of textile expertise, Scotland's weaving and knitting was established and is still maintained today.

The Scottish textile mill owners were quick to organize member associations. In 1666, the first association, the Weavers Corporation, was established in the Scottish Borders region. The association sought to, "Weave truth with trust", increasing trade regulation, and providing various utensils and articles connected with the craft for the common use of the members. The Weavers Corporation was active for almost 200 years before it was disbanded in 1847.

Another association, the Manufacturers Corporation, was formed in 1777 and set standard service fees that no member could exceed, but any member could discount. "We dye to live and live to die," says it all. Member of both associations prided themselves on their craftsmanship and their industry's high quality standards. That pride remains today, as does the tendency to organize industry leaders.

Textile mills primarily processed wool until cashmere was introduced to Scotland in the mid -1850s. Every company his its own history of how cashmere came to their company's attention. Johnstons of Elgin's company history recalls that, "in the early 1850s a Scot traveling from the Far East returned home to Elgin with a bale of raw cashmere which he sold to James Johnston (founder of Johnstons of Elgin). This was the first time that Johnstons of Elgin had dealt with cashmere..."

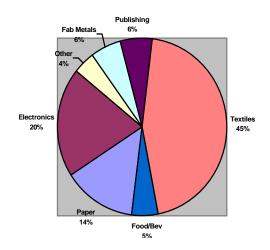
Location

The cashmere industry is clustered in three major locations, with highest concentration in the Borders region.

- 1. The Borders Region to the south of Edinburgh and including the cities of Hawick, Peebles, Innerleithen, Galashiels and Selkirk have the highest concentration of accessories, knitting, weaving, design consultants, and retail outlets.
- 2. Kinross and Elgin to the North of Edinburgh, house two of the three largest spinners in the United Kingdom (UK).
- 3. Bradford and Yorkshire, UK, are traditional trading centers, and home to the third largest spinner.

National and regional statistics do not individually measure cashmere production in Scotland. All fiber exports are lumped into the Textile Industry, which includes natural and synthetic fibers, the production of sophisticated pharmaceutical fabrics, etc. The industry assumes that wool contributes 10% and cashmere 2-3% to the total textile export figures.

Manufacturing Exports in the Scottish Borders 1996



Total Borders manufactured exports were valued at 384 million US dollars in 1996.

Value of cashmere exports is estimated at 4.3 million US dollars in 1996. The industry has remained flat to slightly lower between 1997-2000.

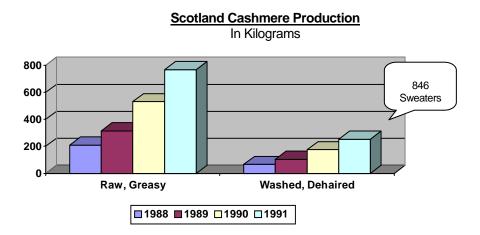
1996 is the latest data available at this time.

Cashmere Supply

Scotland has significant wool resources, but no measurable cashmere supply. Attempts to improve Scottish cashmere goat genetic were discontinued by Scotland's University of Agriculture over 5 years ago, due to a lack of government support and mild climatic conditions.

Scottish goats are too healthy and the climate is too mild for cashmere to be grown in any industrial quantities without government production subsidies. The mild climate, averaging between 2-14 degrees Celsius, and quality veterinarian care do not create the harsh climate necessary for cashmere goats to consistently produce the fine, silky undercoat. In addition, government subsidies encourage agricultural production of sheep and pigs, not goats. More and more farmers move away from goat and cashmere production to alternative livestock production with significantly higher profit margins.

The Scottish Cashmere Association (SCA) shows that Scotland produced 67 Kgs of washed, dehaired cashmere in 1988 and 253 Kgs in 1991. (Statistics are no longer recorded.) Optimistically using a 50% increase in cashmere output per year between 1991 and 2000, Scotland's production of washed, dehaired cashmere would be approximately 7 tons, less than 1% of world production.



Industry Health

In the past three years, the cashmere industry experienced a noticeable decline in customer demand as China increased their quality of low- and medium-priced finished knitwear. Government and industry statistics are unavailable, yet industry members agree that the industry has gone from, "employing thousands, to employing hundreds". For example, Pringles of Scotland reduced employment by 90%, when they made redundant 1,800 of their 2,000 employees. The Dawson Company sold Pringles of Scotland to a Hong Kong based company in Spring 2000.

According to According to Mrs. Helen Bottle, Textile Manager of the Scottish Borders Council, the industry's recent downsizing is not surprising. Many well-established Scottish companies' unmanaged expansion into medium and lower quality cashmere sectors in the late 80s and early 90s diluted brand equity and profit.

Recognized labels with years of experience in high quality, high margin, retail knitwear decided to expand into mass marketed, commodity knitwear, where they had little to no experience. Most companies entering the mass market failed. Scottish firms could not compete with the Chinese on cost. China's low cost continuous processing and new technology supported efficient mass-market production. Scottish firms' batch manufacturing process and retooled, older knitting machines created higher than acceptable production costs. Successful Scottish companies quickly recognized their inability to directly compete with the Chinese on low-cost mass marketed retail products, and focused their attention back on luxury knitwear production.

Competition

Scotland's major competitors are China and Italy.

China Competes on Cost and Quality, but not on Service

China competes in the low cost, commodity knitwear market. Their competitiveness increases as their quality improves and the difference between Chinese and Scottish knitwear diminishes. International buyers now demand that Scottish processors explain the rational for knitwear prices that sometimes exceed Chinese prices by as much as 50%. Scotland admits that the field in quality is narrowing, but maintains that their feel, handle, design and color surpass Chinese production.

In addition, every single processor cited service as the key to future success. Clan Douglas and Johnstons of Elgin both admit that they have lost market share to the Chinese, but that numerous customers have returned and lost market share has been recaptured after China accepted, and defaulted, on numerous finished knitwear contracts.

China competes with Scotland in the commodity knitwear market when raw, greasy cashmere prices are low and large quantities are available. If cashmere prices continue to trend higher, low cost retailers may find the price of cashmere products exceeding consumer price points. As prices increase, the low-cost consumer is expected to exit the market and seek acceptable alternatives. At the same time, connoisseurs of traditional, luxury cashmere products understand and appreciate differences in cashmere quality and are willing and able to pay the high-end, niche market prices required by the Scottish cashmere industry.

Technology and Facility Design

Chinese manufactures entered the cashmere textile industry in the mid 1980s with newer, sophisticated technical equipment, and facilities efficiently designed for low-cost production. Scottish mills are often housed in historic facilities dating over 150 years old. Batch production is not streamlined to encourage low-cost production and volume capacity is much lower than the mass-production capacity of large Chinese plants. This is affecting plant expansion plans of companies like Johnstons Cashmere in Hawick, who is expanding existing facilities in order to streamline production and reduce unnecessary production costs.

Labor Costs

Chinese labor costs, which average between \$50-\$70/month per employee are insignificant when compared to the average border textile employee's salary of \$2026/month (New Earnings Survey, 1997-1998).

Staff Experience

China has new technology and spends much time and effort training employees to run machinery. However, Scotland has developed a pride of craftsmanship and an attention to detail over 450 years that cannot be replaced by China in 15 years. It is not uncommon, according to Mrs. Leslie Turnbull, Design Director of Clan Douglas Limited, for experienced professionals to be offered substantial salaries to relocate to China and improve their quality standards.

Italy Competes on Design and Cost

Italian designs allow greater use of low quality cashmere, reducing Italian production costs. According to expert in the cashmere industry, Scottish design is traditional and predictable, while Italian design prefers looser, loftier knits for popular, bulky sweater designs. Trendy Italian designs emphasize design over long-term durability. Trendy fashions apparel is often dated 2-3 years after it's bought, unlike the timeless, traditional Scottish sweater design.

The consumer of Italian fashion readily accepts the short-term product life of the trendy sweater, allowing Italian designers use of lower grade cashmere. The smooth, tight knit of the traditional cardigan, combined with its long product life, requires high quality cashmere and consistent yarn, making low quality cashmere hard to use.

China's Impact on Scottish Knitwear

China's low cost cashmere products enable low cost retailers and non-traditional consumers to try cashmere for the first time. But increased consumer awareness must be managed for the industry to enjoy long-term growth, states Ballantyne Sales Director, Mrs. Ann Ryley. Unmonitored market expansion can create future negative impact. If consumers buy poor quality cashmere products that do not perform well after several washings or if products are mislabeled and include inferior fibers with less handle and feel, then the new, non-traditional consumer may have a negative experience that discourages them from buying cashmere garments in the future. This reduces the future market potential of cashmere.

Future Outlook

Italian production is not a competitive concern of Scottish processors. Scottish processors believe that the new surge in Italian cashmere production has expanded the market for value-added cashmere. Mr. John Gray, Assistant Head of Economic Development for the Department of Planning and Development in the Borders Region, says that the cashmere industry's main concern is the future stability of raw material supply.

The industry fears that China may retain increasing amounts of high-grade cashmere fiber for their own domestic production as their ability to produce and meet customer demand in spinning and knitwear increases. If China forms an alliance with Mongolia and secures Mongolia's supply of cashmere, Scotland's raw material base disappears, effectively destroying the Scotlish cashmere industry.

Reaction

In March 2000, the Scottish Borders Enterprise along with 21 leading cashmere companies helped organize and fund the Cashmere Club (CC). The Cashmere Club's singular goal is to promote the quality reputation of Scottish cashmere worldwide. CC membership allows companies to use the *Cashmere, made in Scotland* garment swing tags, and to benefit from industry wide promotional activities, such as trade fair promotion, etc.

Membership requires adherence to the following requirements:

- 1. Products are made from 100% cashmere yarns of European origin.
- 2. Cashmere fiber of Chinese or Mongolian origin only, with a minimum length of 34 mm and a maximum micron of 16.5 (average mean). This is for knitwear only, woven product criteria is yet to be determined.
- 3. Products are manufactured in Scotland to a high qualitative level (no standard measurements defined, or planned).
- 4. Products are sold as first line merchandise.

Cashmere made in Scotland promotions require that all yarn is spun or knitted by members of the CC. Mongolian yarn and knitwear entering Scotland for sale could not carry the quality swing tag, subjecting it to inferior quality perceptions. Mrs. Senga Griffith is a partner of HG Design, which is contracted to manage all CC promotions for the next two years. She admitted that "It is a gray area," whether or not Scottish companies with Mongolian joint ventures could qualify Mongolian spun yarn and knitwear carrying their label for Cashmere made in Scotland promotions. She believes that the CC intends to, "protect first the future of the Scottish weaving and knitwear industry". CC members are listed in the appendix.

Scottish Cashmere Association (George Piedman)

By 2004 the Scottish Cashmere Association (SCA) will merge with the CC to create one organization. At present, the SCA acts as an industry watchdog, lobbying government for positive legislation to support the cashmere industry. Currently the SCA is writing to government elected officials about the impact of the recently reinstated banana wars, which would result in significantly increase import duties on cashmere products sold to the United States, ultimately reducing demand for finished cashmere garments and apparel.

The CC and SCA remain center to the cashmere industry. Interaction with these two organizations will be critical for future expansion of Mongolian fiber to Scotland.

Market Segmentation

Spinning, knitwear and weaving are Scotland's largest industry segments.

- 1. <u>Accessories</u>: A niche market experiencing rapid expansion during the past three years as low cost cashmere finds its way into hats, scarves, gloves, socks, stoles, upholstery cushion covers, hot water bottle covers, rugs and blankets. Accessory production is integrated into the operations of large weavers and knitters, as well as high-end boutiques. The ability to create finish accessories with customized embroidery, kit packaging, and labeling (including swing tags) differentiate large from small-scale accessory manufacturers.
- 2. <u>Dyeing and Finishing:</u> The dyeing and finishing of cloth for garments and accessories, which enhances finished products handle, feel and appearance. Finishing processes can include aqueous scouring, milling, solvent scouring, raising, cropping, steam stabilizing, pressing, and the application of chemical finishes, such as Scotchguard. These companies often finish cashmere cloth for their own production and offer outsource services. They are a service industry and are often part of a larger weaving facility.
- 3. <u>Garment Manufacturing:</u> Cashmere cloth is sewn for the production of pleated and kilted skirts, slacks, jackets, suit coats and capes. Garment manufacturers and weavers often overlap, yet independent garment manufacturers do exist. It is convenient for large design houses like Ralph Lauren to collaborate with Loccharon Mills, a weaver and garment manufacturer who can go from the design phase to the weaving of unique and proprietary cloths to finished garment samples all in-house.
- 4. <u>Knitwear:</u> The knitwear industry buys cashmere yarn from spinners and produces traditional design knitwear, intarsia, suits, dresses, jackets, overcoats, trousers, polo shirts and tee-shirts, scarves, gloves and socks on traditional flat-bed and Shima v-bed machines. Intarsia is still done by hand at the more expensive labels.
 - Knitting facilities have a full time designer on staff to create fashion designs with retailers. In addition, knitters offer a broad array of unique fiber yarns that clients can use to create special yarn blends. The knitwear industry has faced the greatest competition from the Chinese cashmere industry.
- 5. <u>Spinning:</u> Spinners are extremely flexible and often have a small, experienced trading group that buys and trades raw, greasy and washed, dehaired cashmere for spinning into yarn. Spinners are the only group to follow cashmere raw material markets, and to understand the difference between Chinese and Mongolian fiber characteristics. They often buy and trade dyed and undyed yarn. Spinners have their own dyeing facilities. Dying is preferred prior to spinning to ensure color consistency, yet yarn can be successfully dyed after spinning.

- 6. <u>Weaving</u>: Weavers buy cashmere yarn from spinners and use the yarn on a loom to create a woven cloth used for garment manufacturing. In most cases weavers are vertically integrated either with spinning or with garment manufacturing.
- 7. <u>Retailers:</u> Small and medium sized retail spaces advertise cashmere and other quality fiber products for sale. They buy finished knitwear and garments from Scottish firms or import finished goods. They often carry their own label. Some merchants carry multiple labels. No Chinese or Mongolian labels were found.
- 8. <u>Support Services and Consultancies:</u> Government programs, university curriculum and testing facilities, design consultants, and organizations that round out the industry.

Supply Chain

Spinners buy and trade cashmere for yarn production, making it the only industry segment to link Mongolian and Chinese fiber with the rest of the cashmere industry in Scotland, England and abroad. The small number of large, reputable spinners (7) and the lack of any yarn broker/consolidator system make the spinning segment the tightest bottleneck in Scotland's cashmere supply chain. Contracts for yarn are written directly between supplier and buyer, unless the company is using a vertically integrated sister company, such as the Dawson Cashmere Group and to a limited extent Clan-Douglas and Johnstons of Elgin.

Spinners are listed in geographic order.

Scotland

All three companies are vertically integrated from goat to garment.

• Todd & Duncan, Kinross, is a division of Dawson Cashmere International. They use approximately 25% of the world's supply of cashmere for spinning into yarn, and receive 100% of their cashmere supply from the Dawson Group in Bradford, UK. They are sole supplier of yarn to sister cashmere knitting and weaving companies Ballantyne and barrie. Their full time representative in Inner Mongolia trades cashmere all year long

They sell yarn on contract and are unanimously regarded as having the highest quality and best service in the industry. An on-site pilot R&D lab is equipped with miniature weaving and knitting machines that allow clients to trial yarn while still on premise, prior to contract. They carry a \$13 MM USD inventory of washed, dehaired cashmere and processed yarn to guarantee clients a 150 stock color range, and quick turnaround of 2-3 days for orders as small as 1-2 kilograms. Appropriate inventory costs are added to the value of the yarn at time of shipment.

 Murray Allen, Innerleithen, is a division of Toibashi of Japan. The Japanese headquarters buys washed, dehaired cashmere and outsources spinning in Innerleithen, Scotland and Yorkshire, UK. Yarn is spun for internal consumption

- only. Murray Allen supplies 100% of its own label with cashmere yarn, and supplies 80% of sister company Clan Douglas' yarn supply.
- Johnstons of Elgin, Elgin, spins yarn mostly for internal consumption. As a family owned and operated company, it is more flexible and dynamic in its approach than either Murray Allen or Todd & Duncan. They are willing to try new suppliers and are open to any business idea that "creates opportunities". They are the sole supplier of yarn to Johnstons Cashmere in Hawick. They buy approximately 200 tons of dehaired fiber a year, 50% white. They place the bulk of their cashmere orders between April and May for delivery in September. They analyze additional small cashmere trades (5-20 tons) all year long.

England

 Z. Hinchliffe & Sons Limited, Bradford, a family owned company that sells yarn on contract. They refuse to comment on their operations. They buy cashmere from the Gobi Cashmere Company in Mongolia, and are "satisfied" with their arrangement. They have a reputation for high quality yarn, and are one of the biggest suppliers of yarn for contract along with Todd & Duncan.

Italy (No information)

- Loro Piano
- Biagiolo
- Botto Poala

Small spinners target individual knitting and weaving companies with less stringent requirements. They are unable to satisfy dye lots, stock inventory, lead time and design requirements of large knitters and weavers.

Working Relationships

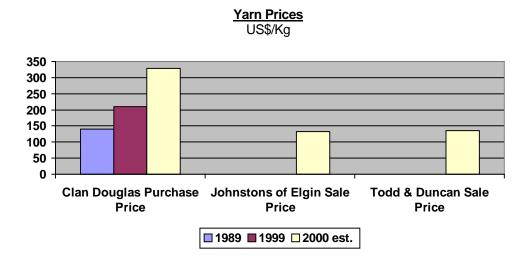
Mutual trust and established working relationships between knitters, weavers and spinners make it hard for new suppliers to enter the Scottish market. The cashmere industry as a whole is fully satisfied with the spinners' quality and service. Knitters and weavers periodically test incoming yarn for quality and performance and occasionally sample new yarn from non-current suppliers for quality and price comparison.

European spinners receive so few complaints about their yarn that their clients are no longer familiar with their precise yarn specifications. In essence, yarn quality has been outsourced to spinners who are trusted completely. As a result, spinners and weavers are more likely to test the fiber quality than the yarn quality to ensure labeling adherence.

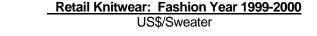
In the near future, yarn and fiber will have to meet the minimum standards of the CC to participate in the *Cashmere made in Scotland* promotion. The Heriot-Watt testing facility will be the official CC testing facility for the next two years. It is important to note that the testing facility uses traditional microscope testing methods and does not rely

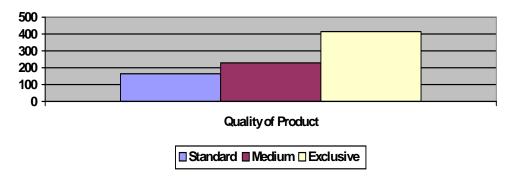
on new technical equipment. (See appendix for testing methodology and product specifications.)

Knitting and weaving companies are willing to spend more money for consistent quality and service. Clan Douglas estimates that fine yarns shown at the latest Italian fashion show averaged \$329 US/Kg. If yarn orders of staple quality are placed in large lots with long lead times prices can be discounted to \$195-210 US/Kg. Johnstons of Elgin and Todd & Duncan agree that specialty yarn can be expensive, but feel that the market for in-stock yarn this year has averaged around \$145 for light shades and \$125 for dark shades.



Yarn prices are supported by retail prices, which also greatly exceeds prices in the Mongolian market. (Excludes exclusive brands such as Ballantyne, whose retail prices can range from \$900-1300/sweater, and higher.)





Cashmere Calendar Year

The design process sets the pace for the entire industry, including the spinners. Designs are worked on and approved one year prior to their marketplace introduction. The bulk of greasy or washed, dehaired cashmere fiber must be at the spinners no later than September or October to guarantee sample production and pricing estimates to the weaver, knitters, and ultimately the fashion buyers.

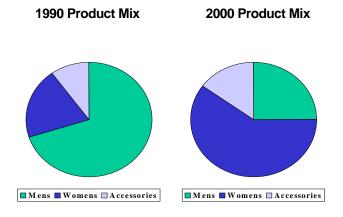
Cashmere Design Calendar

June/July/Aug	Sept/Oct	Nov/Dec	Jan/Feb	Mar/Apr/May	June/July	Aug/Sept
Colors &	Designs sold	Samples &	Buyers place	Production	Shipment	In-store
designs	to buyers.	prices sent,	orders. Yarn			display
finalized		some yarn is	ordered.			
		ordered				
	Canton Fair				Work on next	
	held in Hong				fashion year	
	Kong.					
	Prices set for					
	industry.					

Spinners have experience buying Mongolian and Chinese cashmere. Spinners travel to Asia frequently and many have established Mongolian and Chinese contacts/relationships that they refer to, but prefer not to list. Knitters and weavers rely on spinner to provide market information used to set the next seasons pricing structure.

Fashion Trends

Women's fashions now make up the largest part of cashmere sales. The trend is expected to continue. (Industry consensus.)



Perception

Knitters and weavers prefer Chinese cashmere, which is perceived to be of better quality. Although contract defaults and contaminated fibers are problematic, spinners are more comfortable dealing with Chinese firms, whose infrastructure is more convenient, efficient and reliable than Mongolia's.

At best, Mongolian fiber is considered a blending fiber used for weaving dark finished products. Mongolian fiber handles the harsh dyeing process better, resulting in a better feel than dyed Chinese fiber. Most knitters and weavers did not know that the majority of dark Chinese cashmere originates from Mongolia. Spinners did know.

Ironically, few industry experts thought that a Mongolian fiber promotion would increase their perception of Mongolia's fiber production. Most perceived Mongolia as a remote, dusty, dirty country with very poor herders, which doesn't synch with luxury label appeal. All agreed that the end consumer must demand such a label before any processor or manufacturer would pay a premium for Mongolian sourced fibers.

Criteria for Participation

For Mongolian firms to enter and compete in the Scottish cashmere industry, they would have to do the following (listed in order of importance to buyers):

- Create stable political and export policies that are not influenced by a small number
 of strong voiced individuals. Long-term stability is critical for share-holding
 companies, which are not willing to risk long-term investment in Mongolian
 companies unless government policies are stable. Cited: The Mongolian
 government's ability to ban export of raw cashmere and increase/ create new taxes
 without open forum.
- Know the customer. A Mongolian company must be willing and able to know and service its clients. Intimate knowledge of supplier specifications is critical. Companies gain experience by supplying small quantities of consistent quality cashmere to large buyers over an extended period. Johnstons of Elgin refuses to buy more than 20% of any one supplier's production.
- Build on relationships. Scottish firms do not like to change suppliers, which have become partners in success over many years.
- Establish a local contact or create frequent contact. Mongolian suppliers that have contacted Scottish spinners tend to do so once and then are never heard from again. This undermines buyers' confidence. Open a warehouse with close proximity to the buyers reducing lead time, a practice already done by local Chinese firms in Italy,

- Consistently and repeatedly met and exceed standards for quality and service.
 Samples must represent volume shipments. Scottish buyers will return cashmere that does not meet specifications. Johnstons of Elgin writes contracts that deny letter of credit if quality parameters don't meet contract or pass inspection.
 Companies shipping cashmere not meting specification are often delisted, making future shipments nearly impossible. Note: Heriot-Watt routinely grades cashmere and advises clients that submit samples for a standard fee.
- Reputation in meeting contract agreements. Buyers feel more commitment to honor contracts with sellers of solid reputation. Companies that default on contracts are known and avoided.
- Price competitive Mongolian cashmere should be priced lower than Chinese and higher than Iranian or Afghanistan, in relation to quality perception.

Conclusion

The Scottish cashmere industry is vital to the economic health of the regions in which it is processed, and provides the regions with a historic sense of pride. The fraternity among cashmere professionals encourages cooperation and implies obligation between Scottish companies whenever possible, as can be seen with the newly established CC and its membership requirements.

However, the global market is changing, and competition from China on low cost, mass marketed cashmere products and from Italy on trendy, fashionable cashmere products jeopardizes Scotland's future position in cashmere. While Scotland firms try to isolate themselves to outside competition, global pressures make them adapt and compete. The industry understands this and is cautious. Mongolian firms can successfully approach Scottish firms with a win-win solution where the benefits to Scotland are made clear.

Cashmere Specifications

Yarn Specifications:

Contamination – inconsistent length of fiber or dark fiber in yarn are undesirable.

Levelness of yarn – if fibers are short and not blended well, the yarn will appear wavy, with part of the yarn being thicker or thinner than other parts.

Dye levelness – Consistency of color and dye

Cashmere Club Fiber Specifications:

Average mean diameter of 16.5 microns.

Minimum length of 34 centimeters. White fiber of Mongolian or Chinese origin preferred.

Industry Fiber Specifications:

Hosiery:

White, 36 MM, 15-16 micron Brown, 34 MM, 14,5-15.5 micron

Weaving:

White: 30-32 MM, 15.5-16.0 micron Brown: 30-32 MM, 14.5-15.5 micron

Service Specifications:

Service is the most important criteria that knitters and weaver evaluate when selecting a spinner. Spinners are expected to carry an extensive color stock. Todd & Duncan, for example, carries over 150 stock colors. The smaller the spinners minimum order, the more flexibility the knitter or weaver has for creating a small number of high fashion sweaters for high-end retail outlets. Todd & Duncan is the exception to the rule, and can turn around small lots of 1-2 kilos within 3-5 working days.

Turnaround time, critical for weavers and knitters, depend on their client standing and the volume ordered with spinners. When dye baths were installed at spinning facilities, 100 Kg baths were the standard size. Now that the cashmere industry has decreased in size, it is hard for spinners and weavers to order 100 kg lots. An order for 40 Kgs of a single colored yarn 40 Kg is still considered a good-sized order.

In general, spinners require 100 Kg minimum orders to meet guarantee a two-week turnaround. A special order of yarn less than 100 Kgs for a preferred client takes up to six weeks. Small orders for non-preferred clients take 10-12 weeks to turnaround. Small knitting companies requiring 3-5 kilograms usually place their orders with small, local spinners.

Finished Product Specifications:

After spun, the yarn is graded in finished product by its feel and handle. This is a subjective test. The eye is used to evaluate dye levelness again.

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Internet Resources:

www.scottishtextiles.com www.cashmeremadeinscotland.com www.made-in-scotland.co.uk

Retail Store Contacts on the Royal Mile:

The Cashmere Catalogue Mr. Taylor 2 St. Giles St. The Royal Mile Edinburgh, Scotland EH1 1PT

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Interviews

Ken Reilley, Director of Operations Todd & Duncan (Division of Dawson) Lochleven Mills, Kinross KY 13 8DH

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Todd & Duncan is one of the largest spinners in UK. It receives all of its washed, dehaired fiber from the Dawson procurement office in Bradford. The buyer there is John McKnee 01274 721555

Important to spinners:

Operations: Tex, Twisting, Plot,

Deliverables: Handle, feel, touch, and quality service

Cashmere: medium micron (16-17 micron), white, undamaged.

Tex measures the density of yarn in a length to weight ratio. The yarn density indicates yarn characteristics. The higher the tex, the chunkier the yarn. The lower the tex, the finer the yarn. A spinner must be able to guarantee consistent tex specifications of finished yarn.

Tex measures the gram per 1000 meters of yarn.
75 tex = 1000 meters with a 75 gram total weight (finer)
150 tex = 1000 meters with a 150 gram total weight (bulkier)

Yarns with different tex values can be twisted together to:

Create unique color combinations

Introduce new fibers: metal or linen, for example

Increase the strength and decrease the shear point, allowing for faster knit times on automated machines. Also, more complicated designs require stronger yarn. Cable designs need high twist numbers.

Increase the tex (2x 75 tex = 150 tex) this allows spinners the ability to create one standard product that can be twisted to meet customer demand. Throughput efficiencies remain high.

Twist is measured in turns per length. For example a typical 2-ply yarn will have 3-6 turns/inch.

Colors: They have a 140-color range. Dominant colors remain constant. In order of preference: Black, white, gray and navy.

White cashmere is preferred to dark. If all pastel colors are added together with white demand, then the demand for white cashmere far exceed the demand for dark cashmere.

Dying before spinning allows for consistent coloring. Fibers are dyed all the way through. Some companies dye after spinning, and a speckled effect occurs.

The most important aspect of cashmere sweaters are their feel, handle and touch. Women buy more sweaters than men, because they often wear sweaters next to their skin, whereas a man wears the sweater over a shirt. Women can appreciate the feel more.

Chinese cashmere is preferred for its color, quality (low micron), and customer service. White, 16-17 micron fiber, non-damaged is their target. If fiber is too fine (13-14 micron) it can pill. To spin yarn, you need a spread of long medium and short fibers, with the bulk of the fiber in the medium length range. Fiber Plot is important, and it measures the shape of the finished yarn. Most desirable is a yarn with a right sloping 45% angle.

Customer service is important for Dawson makes the Ballentyne line, which is sold exclusively in its own retail outlets in Bond Street, London, Madison Avenue, NY, North Michigan Ave, Chicago, Tokyo, Osaka and Milan.

The Pringle line was sold to King Deer within the last 6 months. This was Dawson's medium range quality/price line.