

SPECIAL FOCUS

Fiber Selection in Garment Markets

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In Issue 007 (March 5, 2002) of the Global Fibers & Feedstocks Market Report, we considered the relative merits of cotton and polyester in a range of end-uses and how changes in the fibers' relative prices might impact on their future market shares. We would now like to look more closely at the determinants of fiber shares in general within world garment markets, and the resulting impact on the forecast demand for the main synthetic fibers.

— How Fashions are Determined —

The variables possible when producing a range of clothes are almost infinite. The textile industry would not be able to survive if each company were to produce what it individually thought were “good ideas”. The textile pipeline has therefore developed a system of consensus to make the process more manageable. The associated seasonal decision-making system protects the textile industry by reducing the risk of producing fabrics or garments in the wrong color or style. It is a planning device that enables manufacturers to produce affordable clothes by achieving economies of scale and minimizing stock write-offs. It also provides manufacturers with guidelines. For example, dye manufacturers must know in advance what colors they will be required to produce in order to have the right precursor chemicals in stock. The consumer is given a reduced but still wide choice.

Garment shape and silhouette for a target season (e.g. Spring/Summer 2003) are dictated by what is presented at fashion shows in earlier seasons by the major designers. The garments shown often appear outrageous and fantastic; however, the textile chain is skilled at interpreting the trends shown into commercial styles. Adaptations of the designer fashions are produced for the mass market.

With regard to color, “Color Palette Committees” exist in both the US and Europe to determine the forthcoming season’s palette. These committees are composed of various decision makers and influential people from within the textile industry. In the case of Europe, subcommittees exist for the major countries whose suggestions are fed into the Europe-wide body. These decisions on color and other fundamental aesthetics such as handle and texture complement evolutionary changes to the performance of fabrics such as stretch and easy-care which meet the needs of changing consumer lifestyles.

It takes about 18 months of planning for a range to reach the high street. There will be, at any one time, three seasons in the pipeline, all at varying stages of development. For example, in August 2002, garment orders will be placed and delivered for Autumn/Winter 2002, garments are being designed and made-up for Spring/Summer 2003, and yarns and fabrics are being developed for Autumn/Winter 2003 ranges. The process is aided by a series of trade shows, which exist for three major categories:

- Yarn
- Fabric
- Apparel (including ready-to-wear, designer and sportswear)

There are generally two of each show per year. One displays products for the Spring/ Summer season and another for the Autumn/Winter season. Shows are concentrated in three geographic areas — Europe, North America and Asia. The European shows such as Expofil (yarns), Premiere Vision (fabrics) and SEHM (men’s wear), Pret a Porter (women’s wear) tend to be the focus for world trends. In the US, major yarn and garment fairs also exist in the form of Yarn Fair International and New York Premier Collections respectively, while Interstoff Asia is a major fabric fair for the Far East.

Buyers and selectors attend the show most relevant to them. For example, spinners exhibit at yarn shows and the main visitors at these shows are fabric producers and the specifiers. However, there are attendees from all parts of the supply chain at most shows for the purpose of trend spotting and contact making.

Once garment fashions and color trends have been determined, and specifiers have decided on their garment offer, it becomes the task of the supply chain — from fiber company through spinner, texturizer, weaver or knitter, to dyer and finisher — to come up with fabrics (or yarns for knitwear) which meet the physical requirements for each specific garment end-use at a cost which enables target retail garment price points to be met.

— Key Selection Criteria —

Fabric requirements can be condensed into four broad headings:

1. Esthetics (handle, drape, lustre, etc)
2. Performance in use (easy-care, stretch, comfort, pilling tendency, abrasion resistance, etc)
3. Image
4. Cost, which can be subdivided into:
 - (a) The fiber or yarn cost
 - (b) The processing cost into the finished fabric

Each of these factors will have a weighting that depends on both the type of garment concerned and its market position or price point. For example, a fabric to be used in a formal ladies’ suit for a highly-regarded brand house will have a high value placed on esthetics and image, be less sensitive to performance in use (where dry-cleaning is an acceptable option and garment life is less critical), and will be largely insensitive to cost. By contrast, a department store’s own-brand denim jeans will value highly both the fabric’s durability and a low cost above its esthetics and image.

— The Concept of “Fabric Stories” —

It is here that the “Fabric Story Approach”, as initially developed by David Rigby Associates (DRA) to assess the potential for new fibers, shows its usefulness as a tool for understanding the shares of existing fibers, particularly across apparel applications. Fabrics are the center of the analysis rather than fibers, yarns or garments because fabrics act as the crossroads in the apparel market. Yarns and fibers have a relatively low degree of variety but are difficult to interpret until formed into fabric. Garments are a complex mix of design and shape, which disguises the role played by the component materials. By contrast, fabrics are finite in number, visible from both ends of the supply chain and recognizable by all.

For most fabric types, especially those with a high fashion content, it is possible to use a range of different fibers, either singly or in blends, often in conjunction with special finishes, to meet the required market need. For example, while true “linen” is a fabric type using purely flax fibers, “linen look” is a “Fabric

Story” comprising a number of different fibers and fiber mixtures in fabric form attempting to replicate the characteristics of linen itself. Options include cotton, viscose, lyocell, polyester and Modal in both blends or 100 percent form assembled and finished in such a way as to provide a reasonable imitation of the “real thing”.

Exhibit 1: Fiber Scores for “Linen Look” Fabric Story								
Parameter	Weight	Example Fiber or Mixture						
		Linen/Cotton	Lyocell	Linen	Modal/linen	Cotton/Viscose	Viscose/Linen	Polyester/Linen
Esthetic	35	8	6	9	7	6	7	6
Performance in Use	15	7	7	5	6	6	6	8
Image	25	8	7	10	8	7	8	6
Fiber Price	10	6	2	4	4	7	5	6
Processing Cost	15	6	6	6	6	7	6	6
Weighted Average	100	7.35	6	7.7	6.65	6.5	6.75	6.3

Notes: Each parameter is marked out of 10; 1 = very poor (disadvantage), 10 = excellent (advantage). Weights reflect the garment type. Source: DRA

Each of such solution can be judged for its overall suitability by scoring its performance against each relevant criteria and producing an overall score based on the appropriate weightings, as shown in Exhibit 1 (with hypothetical scores). These weighted total scores will broadly reflect fiber shares for each fabric story.

This example analysis implies that, despite its high fiber price, 100% linen offers the most suitable price/performance ratio for the (assumed) upmarket garment in question, since “pure linen’s” excellent image and esthetics are weighted highly while its very high fiber cost is not relevant. Hence for this garment, 100% linen could expect to take the largest share of the market. This would be closely followed by linen/cotton blends which also score highly overall, with a significantly lower fiber price largely offsetting an inferior image and marginally poorer esthetics.

At the opposite end of the scale, both lyocell and polyester/linen blends score poorly overall and could be expected to take only a small share of the story for this garment type — lyocell’s esthetics are not ideal for the linen look and its fiber price is even higher than for linen itself, while the crease-resistance offered by polyester blends is not an important feature in this story and is weighted accordingly.

This exercise can be repeated for more “fashionable” linen garments to be sold through lower-priced outlets. A higher emphasis on price and cost and less on image and esthetics might see cotton/viscose come out with the highest projected market share.

In addition to “linen look”, DRA has identified around 30 other Fabric Stories such as “warp knit control fabric”, “weft knit staple topweight” and “worsted look woven”. However, each of these may have more than one garment application, where requirements and weightings vary. Over 75 different garment-fabric combinations have been identified.

— The Key Determinants of Overall Fiber Performance —

The performance of each fiber in apparel markets is essentially determined by three factors:

- How well the intrinsic qualities of the fiber itself match the esthetic, cost and other requirements of each fabric story
- How easily and cost effectively the fiber’s characteristics can be enhanced by processing in yarn or fabric form (i.e. its versatility or processability)
- How well the fiber combines with others to improve overall fabric characteristics (i.e. its blendability or complementarity).

Exhibit 2: Key Features of Main Apparel Fibers

Fiber	Key Inherent Characteristics	Fiber Price	Versatility/ Processability	Complementarity with Other Fibers	Main Apparel Application Areas	End-use Market Trends
Cotton	<ul style="list-style-type: none"> Breathable Hydrophilic Crisp Dry handle Low luster 	Low	Low	Medium	<ul style="list-style-type: none"> Shirting T-shirts Jeanswear 	Classic/ Mature
Polyester	<ul style="list-style-type: none"> High luster Hydrophobic Hard wearing Crease-resistant 	Low	High	Very high	Found in 100% form or blends across most segments	In line with garments overall
Polyamide	<ul style="list-style-type: none"> Soft Bright Stretchy Very hard wearing 	Medium	Medium/ High	Medium (high with elastomers)	<ul style="list-style-type: none"> Hosiery Lingerie Sportswear Swimwear Outdoorwear Casual tops 	Selective growth – e.g. sports, stretch
Viscose	<ul style="list-style-type: none"> Excellent drape and dye take-up Hydrophilic 	High	Low/ Medium	Medium	Ladies' topweights, especially prints	High fashion content – downward trend
Wool	<ul style="list-style-type: none"> Extensible Crease-resistant Non-flammable Weak 	Very high	Low	Poor	<ul style="list-style-type: none"> Knitwear Formal wovens 	Declining

Source: DRA

Exhibit 2 considers how well each of the main apparel fibers performs against these criteria.

— The Growing Importance of Fiber Blends —

Blends of two or more fibers are increasing in importance in apparel fabrics as the supply chain develops new ways of meeting fabric story requirements while reacting to continual downward price pressures. One fiber is added to another for a number of reasons to:

- Dilute a more expensive fiber
- Engineer a fabric to a price point
- Improve processability
- Improve performance in use
- Widen finishing options
- Engineer the esthetics of the fabric

Exhibit 3 analyzes the reasons behind some of the more common fiber blends using these criteria.

— Conclusion —

Fiber companies, like all other members of the apparel supply chain, have little control over the type of fabrics to be produced from one season to another. Instead they must react to fashion and longer-term trends with solutions that meet market needs as well as imposed price points. Since fashions change and

the consumer increasingly demands higher performing, easier care, more comfortable garments at even lower prices, the best prospects obviously exist for those fibers that can meet a wide range of market requirements either on their own or in conjunction with others.

Exhibit 3: Impact of Fiber Addition in Blends							
Base Fabric/ Fiber	Fiber Added	Impact of Fiber Addition/Blending					
		Dilute Expensive Fiber	Engineer Price in Middle Market	Improve Performance in Use	Improve Processability	Widen Finishing Options	Engineer Esthetics
Cotton	Modal		X	✓			✓
Polyester	Viscose		X	X	X	✓	✓
Wool	Viscose		✓		X		✓
Linen	Viscose	✓✓		✓			X
Cotton	Polyester		✓	✓	X		
Viscose	Polyester		✓	✓✓	✓		X
Modal	Nylon		✓	✓✓	X		X

Key: ✓ = Benefit, ✓✓ = Major Benefit, X = Disadvantage
Source: DRA

Meeting and reacting to the changing needs of the fashion industry is the strength of synthetic fibers, but only polyester combines versatility and complementarity with low fiber cost. This combination not only ensures polyester a high share of the apparel fabric market today, regardless of the vagaries of fashion, but also encourages the supply chain to develop new polyester variants that overcome the remaining obstacles to the fiber's use, for example, the need to dye polyester at high temperatures or the ability to use it in hydrophilic sportswear.

Polyamide arguably has superior esthetics to polyester and it continues to fit well in the strong growth areas such as stretch markets and sportswear, but it is less versatile and is used in far fewer blends and combinations with other fibers – with the major exception of elastomeric. More critically, it does not enjoy the fiber cost advantage of polyester. This results in a far less buoyant outlook for polyamide as share is lost to polyester in major segments such as contour tops, lingerie and linings, largely on cost grounds but also on performance as improved polyester derivatives are introduced.

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