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# ACRYLIC YARNS

**A report to the Minister of  
Regional Industrial Expansion**

**Canada**



Government  
of Canada

Gouvernement  
du Canada

Textile and  
Clothing Board

Commission du  
textile et du vêtement





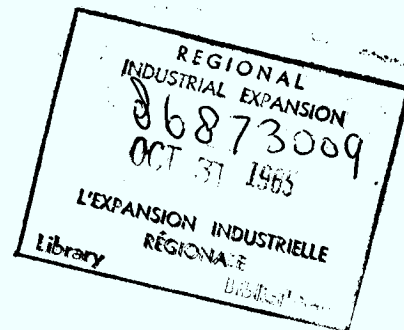
Government  
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Ottawa, Canada  
K1A 0H5



June 25, 1985

The Honourable Sinclair Stevens, P.C., M.P.  
Minister of Regional Industrial Expansion  
Ottawa, Ontario  
K1A 0H5

Mr. Minister,

Pursuant to your request, the Board has conducted an inquiry on the situation of the acrylic yarn sector of the textile industry.

We now have the honour and pleasure of presenting to you our report of this inquiry. It contains an overview of the situation of the sector in question, as well as our conclusions and recommendations.

Should you wish further information or explanations about this report, we will be pleased to do so at your convenience.

Yours sincerely,

Jacques St-Laurent  
Member

Otto E. Thur  
Chairman

Canada

**TEXTILE AND CLOTHING BOARD**

**REPORT ON AN INQUIRY  
RESPECTING  
ACRYLIC YARNS**

**Ottawa, Canada**

**June 25, 1985**

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## 1. MANDATE AND PROCEDURES

On December 28, 1984, the Textile and Clothing Board gave public notice of its intention to conduct an inquiry on acrylic yarns, pursuant to a request from the Minister of Regional Industrial Expansion. More specifically, the Minister asked the Board to undertake an inquiry into the impact on the Canadian market of imported worsted spun or equivalent acrylic yarns, excluding carpet yarns, containing 50% or more by weight of acrylic fibres, whether natural or dyed, for use in machine knitting.

In its Notice of Inquiry published in the Canada Gazette<sup>(1)</sup>, the Board invited all interested parties to submit briefs on the subject matter no later than February 1, 1985. In addition to opinions and comments to be included in the briefs, the notice stipulated that Canadian producers submitting or supporting such briefs should file with the Board a plan describing the adjustments they proposed to make and have made in their operations in order to increase their ability to meet international competition in Canada. The Board also announced in the notice that it would hold hearings to receive supplementary data and asked interested parties to indicate at the time of presenting briefs if they wished to make oral presentations before the Board.

Copies of the notice were distributed to interested firms, individuals and groups, including major trade and other organizations, and to interested government departments.

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(1) See Appendix 1

Fourteen briefs relating to the inquiry were received. The briefs were presented by organizations representing Canadian yarn spinners and Canadian garment manufacturers, by foreign exporters and domestic importers of acrylic yarns, by the Instituto Mexicano De Comercio Exterior, and by individual firms.

Hearings took place in Toronto, Montreal and Ottawa during February 1985. Twenty parties were heard, either publicly or privately, including a number of outerwear knitters who appeared at the request of the Board. Appendix 2 identifies those who appeared before the Board at these hearings.

In addition to the information received in the briefs and during the hearings, Board personnel carried out research on a number of aspects of the industry sector, conducted plant visits, and received from the Office of Industrial Adjustment of the Department of Regional Industrial Expansion a comprehensive report on the acrylic yarn industry.

## **2. PREVIOUS REPORTS OF THE BOARD**

Acrylic yarn has been the subject of numerous inquiries and/or reviews by the Board, this being the eighth official report submitted on the subject. The initial inquiry was in 1971, at which time the Board found a threat of serious injury resulting from the importation into Canada of worsted spun 100 per cent acrylic yarn on hanks or skeins for machine knitting. The Board recommended that imports of these yarns from all



sources (developing and developed) in 1972 not be permitted to exceed 4.4 million pounds (2.0 million kilograms), the approximate level of imports in 1970.

The Board reviewed the acrylic yarn situation in 1972, 1973, 1974, 1976, 1977 and 1980. Over that period there were numerous changes made in the definition of the yarn to be restrained<sup>(1)</sup>, in the level of restraint, and in the specific sources which should be restrained.

In its last report in 1980, the Board recommended that imports of yarns containing 50 per cent or more by weight of acrylic fibres from all low-cost sources in 1982 should not exceed the overall quantitative ceiling of the average annual import level from all such sources during the years 1978, 1979 and 1980; that overshipments of restraint levels from those sources during that three-year period be deducted in the calculation of the average annual import level; that there be no provision for swing, carry-over or carry forward; that for 1983 and each year subsequent thereto, up to and including 1990, growth be limited to a maximum of one per cent of the restraint ceiling established for the preceding year.

On the basis of the foregoing recommendations, imports of yarns containing 50 per cent or more by weight of acrylic fibres from all low cost sources in 1984 would have amounted to approximately 3.5 million pounds (1.6 million kilograms). Actual imports of such yarns in 1984 amounted to approximately 6.0 million pounds (2.7 million kilograms).

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(1) All these definitions, which are highly technical, were recommended by the producers themselves.



Although the Board was not asked to look into the situation respecting worsted spun acrylic yarns for hand knitting in this inquiry, such yarns are included in the current restraint agreements covering machine knitting yarns. In fact, there are three different definitions of acrylic yarns still used in Canada's various restraint agreements. These are as follows:

1. "Acrylic yarns include all types of machine and hand knitting acrylic yarns containing 50 per cent or more by weight of acrylic fibres except those yarns composed entirely of fibres not exceeding 2.5 inches (6.35 cm.) in length."

This definition governs the restraint with South Korea and the consultation level with the Philippines.

2. "Acrylic yarns include all types of yarns containing 50 per cent or more by weight of acrylic fibres".

This definition governs the restraint with Malaysia.

3. "Acrylic yarns include all types of machine knitting and hand knitting acrylic yarns containing 50 per cent or more by weight of acrylic fibres."

This definition governs the restraint with Brazil, Singapore and Taiwan.

The first definition resulted from the failure of an earlier restraint definition which had excluded yarns spun on the cotton system from import restraint action. Exporters soon began to ship yarns to Canada ex quota since these yarns, although composed of fibre lengths usually associated with worsted spinning, had been spun on a cotton system which had been modified to accept longer acrylic fibre lengths. The resultant yarns were similar to, and substitutable for, the worsted spun yarns whose importation the restraint had been intended to limit.

No sooner had the new definition stipulating fibre length been put into place than imported acrylic yarn appeared in Canada which was claimed to have been spun entirely of fibres less than 2.5 inches (6.35 cm.) in length, and therefore outside the restraint definition.

The Board thereupon recommended in 1980 that the second definition be put in place as a final solution to the problem of fibre length and spinning system. This definition is far more stringent than either of the other two definitions since it does not limit the restraint to knitting yarns, but covers yarns intended for all end uses, including carpet yarns.

The third definition appears to be a modification of the earlier (1977) Board recommendation which had called for restraints on imports of all types of machine knitting and hand knitting acrylic yarns containing 50 per cent or more by weight of acrylic fibre, except those yarns spun on the cotton system.

The interrelationships and substitutabilities of various types of acrylic yarns has made it difficult for the Board to look at worsted spun, or equivalent, acrylic yarns for use in machine knitting in isolation from other types of acrylic yarns.

The more technical and precise the definition used in past restraint agreements, the more difficult it has been to enforce those agreements at the border. Not only are customs officers not trained to identify particular textile products, the restraint definitions, all based on recommendations by the producers, have been so technical and complex at times that even laboratory analyses of the goods being imported have not been able to verify their legitimacy. This is particularly true with respect to the spinning system used in the production of the yarns.

As a consequence of all of the foregoing, the existing bilateral restraint agreements cover much more than only machine knitting yarns spun on the worsted system. This move to a more general definition of the types of yarn covered by restraint agreements was found to be the only practical solution to an administrative problem which was rendering those agreements ineffective.

### 3. THE PRODUCT UNDER INQUIRY

Acrylic yarns have traditionally been spun on the worsted spinning system, the cotton spinning system and, latterly, the Repco spinning system. Acrylic yarns have also been spun on modifications to some of these standard systems. Acrylic yarns include not only yarns made wholly of acrylic fibres, but also those blended yarns containing 50 per cent or more by weight of acrylic fibres.

The acrylic fibres used in these yarns may be either dyed or undyed at time of spinning. If the fibres are dyed prior to the spinning operation, they may be solution-dyed (i.e., dyestuffs are added directly to the chemical mixture before it is extruded through the spinneret), tow-dyed (i.e. dyed after the acrylic filaments are extruded from the spinneret), or top-dyed (i.e., dyed after the tow has been broken up into staple fibres and made into a top). Alternately, the fibres may be spun in undyed (greige) form, and the spun yarn may then be dyed in hanks or skeins (worsted spinning system) or in package form (cotton spinning system). However, whether the yarns are solution-dyed, tow-dyed, top-dyed or dyed in yarn form makes no difference in terms of their ultimate end use.

To dye fibres prior to the spinning operation requires that large volumes of a particular colour be produced at one time, particularly with the solution-dye method. This disadvantage is offset by the cheapness of these dyeing methods compared to carrying out the dyeing process after spinning has taken place. As well, there is an advantage of colour consistency

in producing large dyelots at the solution or fibre stage, compared to the smaller volumes which can be dyed at one time in yarn form.

On the other hand, dyeing the yarn after it has been spun allows for greater flexibility in responding to changes in fashion colours. It also eliminates the contamination problem which can arise from spinning different colours of dyed fibres in the same plant.

Historically, different spinning systems evolved to spin the different fibres found in nature, e.g., cotton fibres and wool fibres. The cotton spinning system was designed to spin the shorter cotton fibres while the worsted spinning system was designed to spin the longer wool fibres. The development of synthetic fibres extruded in filament form not only provided more uniformity in the raw materials used for spinning, but also allowed these fibres to be cut or broken to the appropriate length to suit the type of spinning equipment being used. As a result, synthetic fibres such as acrylic can be spun on worsted spinning systems, cotton spinning systems, Repco spinning systems, and others.

The worsted spinning system and the Repco spinning system are primarily used for the production of the high bulk acrylic yarns which are the raw material for a large part of sweater manufacturing volume. Worsted spun acrylic yarns are also used in hosiery. The acrylic yarns spun on the cotton system are usually non-bulking yarns, some of which are also used in sweater production as well as in other clothing applications and in weaving.

Yarns produced on the worsted (ring spinning) system generally have broader application and acceptability in sweater production than yarns produced on the Repco system. The ring spinning process produces a more uniform and stronger yarn, while the Repco spinning process produces yarns which are alternately thick and thin throughout their length and which are weaker than ring spun yarns. The thick and thin characteristic results from the alternate S and Z twist imparted when the yarn is plied as an integral part of the spinning process. This results in weak spots in the yarn

between the alternate S and Z twist where no twist is imparted, and can result in more yarn breakages in high speed knitting. Ring spun yarn, on the other hand, has a constant twist imparted in one direction throughout its length, and two or more ends of yarn are plied in a separate operation following the spinning procedure.

#### 4. THE CANADIAN PRODUCERS

In 1975 Canada had eleven domestic spinners of worsted spun acrylic yarn for machine knitting. This number dropped to eight in 1979, and to only four today. Of the remaining producers, only one was in existence in 1975 - Spinrite Yarns and Dyers Limited. One other firm - Perth Yarns Limited - was established in 1979 to take over the Perth plant of YarnTex Corporation, which had closed in 1978. The remaining two spinners - Lanatex Yarns Limited and Dawtex Industries Inc. - were established in 1977 and in 1979 respectively. All four spinners are located in the province of Ontario.

Spinrite Yarns and Dyers Limited, located in Listowel, is a fully integrated (i.e., spins and dyes) manufacturer of both machine knitting and hand knitting acrylic yarns, as well as 100 per cent wool yarns. Yarns are produced on the worsted and woollen spinning systems.

Perth Yarns Limited, located in Perth, is also a fully integrated manufacturer of machine knitting acrylic yarns spun on the worsted system.

Lanatex Yarns Limited, Toronto, produces acrylic yarns spun on the Repco system. This firm does not have its own dyeing facilities, and purchases tow-dyed acrylic fibres.

Dawtex Industries Inc., also of Toronto, is the only spinner to produce acrylic yarns spun on both the Repco system and on the traditional worsted system. This firm does not have a dye house, and also purchases

tow-dyed acrylic fibres for its Repco spinning operation. Greige acrylic fibres are used for worsted spinning. The firm also produces wool yarns and wool blend yarns on the worsted system in a separate facility.

Domestic yarn spinners have made heavy investments in the past, and have plans to make even greater levels of investment in the immediate future, to improve their ability to compete with imports and to allow them to provide better service to their customers in Canada. In fact, as has already been noted, Lanatex Yarns Limited and Dawtex Industries Inc. began operations in 1977 and 1979 as completely new plants equipped with the latest available Repco and ring spinning frames and ancillary equipment. Nevertheless, between 1980 and 1985 (including planned 1985 investments) the four spinners will have invested just over \$10 million in upgrading and improving their plants. An additional \$16 million of investment is under consideration for the period up to 1990. These producers have also made adjustments in their product mix so as to avoid competing head-on with the commodity type yarns being imported from low cost sources. They increasingly produce fancy yarns, blend yarns, and specialized yarn counts that are not readily available from low cost sources of supply. The diversifications which they have carried out and are still implementing are progressively removing them from direct competition with imports. For example, between 1982 and 1984, shipments of 100 per cent acrylic yarns decreased by 34 per cent, while shipments of blend yarns increased by 27 per cent. Shipments of 100 per cent acrylic yarns still accounted for 31 per cent of total shipments in 1984.

Employment in the production of machine knitting acrylic yarns in Canada at December 31, 1975, was approximately 1,012 people. By June, 1979, this number had decreased to 597. At the end of December, 1984, the total number employed in the production of machine knitting acrylic yarns had declined further to 340, a drop of 43 per cent from 1979, and 66 per cent from 1975.

Acrylic fibres used to be produced by Du Pont Canada Inc. at its Maitland, Ontario facility. This operation became increasingly less viable as imports into Canada increased of both acrylic yarns and of sweaters containing such fibres. Production of acrylic fibres in Canada was discontinued by Du Pont in 1981 and these fibres now enter Canada duty free.

In addition to yarn spinners the commission dyers of acrylic yarns form an integral part of the domestic acrylic yarn industry. There are four such dyers in Canada, all of whom are located in Montreal, Quebec.

These dyers are: Gordon Yarn Dyers Ltd.; B-M Dyeing Inc.; Performance Dye Works Ltd.; and Tex-Dye Industries (1980) Inc. While one of these firms dyes acrylic yarns strictly on a commission basis for either domestic spinners or knitters who have purchased domestic or imported yarns, the other three firms also dye yarns for their own account. These yarns may be either imported directly by the dyers, or purchased domestically from an importer of yarns.

The commission yarn dyers play a role by responding quickly to the demand for fashion colours. By maintaining large stocks of imported greige yarn on hand, dyers can quickly meet the knitters' needs for any particular colour. When dye orders are slack, they normally dye basic colours such as blacks, whites, blues and browns on speculation in order to maintain production levels and keep their employees busy.

All four dyers have both skein dyeing and package dyeing equipment in their plants. Skein dyeing is, by nature, a relatively slow and labour intensive procedure requiring a fairly extended training period for employees. Package dyeing, on the other hand, is a faster, less labour intensive procedure and does not require the same degree of training. The two systems are not interchangeable, i.e., the package dyeing system is not suitable for dyeing high bulk yarns since yarns are tightly compressed during package dyeing and this would destroy the loft associated with high bulk yarns.



Employment in the commission dyeing sector amounted to 199 people at December 31, 1984. Of that total 135, or 68 per cent, were identified as processing acrylic yarn for machine knitting, with the balance processing other types of yarns not under inquiry.

## 5. THE CANADIAN MARKET

The Board annually reports aggregate apparent Canadian market data for machine knitting and hand knitting acrylic yarns. This combined market table was necessitated because there are only two major Canadian producers of hand knitting acrylic yarns, and to produce separate tables for machine knitting and hand knitting acrylic yarns would have disclosed confidential shipment data in the hand knitting yarn sector.

The total apparent Canadian market for worsted spun (or equivalent) acrylic yarn for machine knitting and hand knitting is given in Table 1, below.

Table 1

### APPARENT CANADIAN MARKET WORSTED SPUN (OR EQUIVALENT) ACRYLIC YARNS FOR MACHINE KNITTING AND HAND KNITTING

(Thousand Kilograms)

	1975	1979	1980	1981	1982	1983	1984
Domestic Shipments	5,961	6,070	5,899	5,571	5,915	6,027	6,432
Imports	2,806	4,054	3,684	3,727	3,714	3,898	3,872
Apparent Canadian Market	8,767	10,124	9,583	9,298	9,629	9,925	10,304
Share of Market held by:	- per cent -						
Domestic shipments	68	60	62	60	61	61	62
Imports	32	40	38	40	39	39	38

Source: Office of Industrial Adjustment, Department of Regional Industrial Expansion, and Import Analysis carried out by Statistics Canada.

It can readily be seen that the combined apparent Canadian market for machine knitting and hand knitting acrylic yarns has remained fairly constant from 1979 to 1984, inclusive, as has the relative share of that market held by domestic producers and by imports.

However, the foregoing statistics do not reflect the situation affecting the machine knitting and hand knitting yarn sectors separately. In 1975, domestic shipments of machine knitting yarns were considerably higher than domestic shipments of hand knitting yarns. In 1984, domestic shipments of hand knitting yarns exceeded those of machine knitting yarns. On the other hand, while imports of machine knitting yarns constituted 69 per cent of total acrylic yarn imports in 1975, they constituted 80 per cent of total acrylic yarn imports in 1984. Import data are provided in detail further on in this report.

As a consequence of the above changes in the machine knitting and hand knitting yarn sectors, the market share held by domestic spinners in these two different market sectors has moved in opposite directions over the 10 year period. Domestic spinners of hand knitting yarns have steadily increased their market share, while domestic spinners of machine knitting yarns have steadily lost market share to imports. For five consecutive years ending in 1984, imports have accounted for at least 50 per cent of the apparent Canadian market for machine knitting acrylic yarns.

## **6. IMPORTS**

In the face of the constant price pressures exerted by low cost imports of machine knitting acrylic yarn over the past ten years or more, domestic spinners of these yarns have either gone out of business or have begun to adjust away from direct competition with such yarns. This adjustment has been motivated not only by import pressures, but also by market changes in Canada, which have resulted in increasing demand for acrylic

blend yarns. While imported acrylic yarns are still predominantly of 100 per cent acrylic fibres, domestic spinners now produce more yarns composed of acrylic fibres blended with other fibres, such as wool, polyester and nylon. Similarly, imported 100 per cent acrylic yarns are usually 2/24 w.c. (worsted count), which has been the staple count used in the sweater trade. Domestic spinners also produce 2/24's w.c., as well as a variety of specialty counts which, because of their low volume, are not readily available from low cost suppliers. However, considerable volumes of specialty yarns are imported from Japan and the United States.

The following table shows imports of worsted spun acrylic yarn for machine knitting for the years 1975 and 1979 through 1984, inclusive.

Table 2

IMPORTS OF  
WORSTED SPUN (OR EQUIVALENT) ACRYLIC YARNS  
FOR MACHINE KNITTING

(Thousand Kilograms)

	1975*	1979	1980	1981	1982	1983	1984
Korea, South		1,030	943	1,286	1,150	961	1,119
Mexico		-	-	-	-	215	523
Brazil		-	-	35	217	236	252
Malaysia		13	68	69	262	207	144
Singapore		-	43	139	49	30	91
Taiwan		602	128	69	133	165	58
Philippines		21	-	-	30	40	-
Mauritius		-	-	-	46	1	-
Japan		176	559	342	410	537	393
United States		900	860	709	563	502	309
Others		17	45	28	30	92	24
Blends*		<u>160</u>	<u>157</u>	<u>189</u>	<u>123</u>	<u>163</u>	<u>177</u>
TOTAL	1,944	2,919	2,803	2,866	3,013	3,149	3,090

\*Not available by country.

SOURCE: Statistics Canada, special Import analysis.

Imports of machine knitting acrylic yarns into Canada increased by 50 per cent between 1975 and 1979, but have remained at about that 1979 level of penetration ever since. The only significant change in the import situation in recent years occurred with the emergence of Mexico as a supplier of 215,000 kilograms of machine knitting acrylic yarn to Canada in 1983, when it had not supplied any of these yarns in 1982. In 1984, imports from Mexico increased by 143 per cent, to 523,000 kilograms. This level of import penetration from Mexico is in excess of the restraint levels in place for acrylic yarns imported from Malaysia, Singapore, Taiwan and Brazil. The only restrained country to have a higher level of shipments to Canada than Mexico is South Korea, whose restraint level was over 1.2 million kilograms in 1984.

In spite of the emergence of Mexico as a new supplier, the overall level of imports of these yarns has remained constant throughout 1982, 1983 and 1984. Imports from several other sources have declined, including Malaysia, Taiwan and the United States, but no direct causal relationship can be drawn between those decreases and increases in imports from Mexico.

It should be noted that, while acrylic yarns for machine knitting have almost always been imported in greige (undyed) form from most countries, the yarns from Mexico are almost all imported in dyed form, on cones, ready for shipment directly to knitters. Thus, while imported greige yarns from other low-cost countries have injured domestic yarn spinners, they have at least provided some employment in Canada through the value added in the dyeing process. The importation of dyed yarns, however, not only affects the domestic spinners, but also the domestic commission dyers.

## 7. IMPORT PRICES, EXCHANGE RATES, CUSTOMS DUTIES AND DOMESTIC PRICES

Table 3 provides data on the average annual value for duty of imports of 100 per cent acrylic worsted spun machine knitting yarn from selected sources.

Table 3

VALUE FOR DUTY  
IMPORTS OF 100 PER CENT ACRYLIC WORSTED SPUN  
MACHINE KNITTING YARN<sup>(1)</sup>

(Dollars per Kilogram)

	1979	1980	1981	1982	1983	1984
Korea, South	3.04	3.17	3.40	3.73	3.51	3.22
Mexico	-	-	-	-	4.06	3.64
Brazil	-	-	3.88	3.79	3.73	3.42
Malaysia	2.91	3.42	3.57	3.86	3.44	3.33
Singapore	-	3.06	3.57	4.32	3.51	3.00
Taiwan	2.60	4.67	4.54	3.84	3.81	3.37
Philippines	2.80	-	-	3.46	3.40	-
Mauritius	-	-	-	3.84	3.64	-
Japan	5.62	6.11	5.40	4.17	4.08	4.32
United States	4.43	5.11	6.26	6.88	7.10	8.11
All Countries	3.57	4.45	4.50	4.45	4.32	3.99

(1) While imports from Mexico and the United States consist of mostly dyed yarns, imports from all other sources consist of mostly undyed yarns.

SOURCE: Statistics Canada, Special Import analysis.

There are several observations which are apparent from the above Table. The first is that the average value for duty of imports of these yarns from all sources is lower in 1984 than in each and every year back to 1980. This substantiates that the price pressures alleged by domestic spinners have in fact persisted throughout this period.

A second observation is that the value for duty of yarn imported from the United States has been the only one to increase every year from 1979 to 1984. The declining value of the Canadian dollar versus the American dollar has undoubtedly contributed to that increase in value. However, it could not have been the sole cause of an increase of such magnitude (83 per cent). The increased values undoubtedly also reflect the continued importation of specialty yarns and fancy yarns and a decrease in the level of imports of more basic yarns from the United States.

Even with the decreases in value for duty of imports from low cost sources in 1984, the Mexican yarns are still advantageously valued in comparison to the other yarns, since they are already dyed when they enter Canada. Undyed yarns have to undergo dyeing and finishing in Canada at a cost of about 90¢/lb. (\$1.98/kg.). Furthermore, Mexican yarn can be shipped to Canada in about 10 days to 2 weeks time, as compared to the several months shipping time required from the orient.

The following table provides exchange rates for the past six years for major exporters of acrylic yarn for machine knitting to Canada.

Table 4

CONVERSION RATE TO  
CANADIAN DOLLARS  
YEARLY AVERAGES (Except as noted)

COUNTRY	1979	1980	1981	1982	1983	1984	CURRENCY
Mexico	.05138	.05094	.04896	.02238	.008010	.006813	peso
Brazil	.04534	.02260	.01345	.007151	.002473	.000785	cruzeiro
Malaysia	.5353	.5371	.5209	.5288	.5313	.5529	runggit
Singapore*	.5564	.5390	.5727	.5787	.5845	.5861	dollar
Philippines	.1642	.1567	.1538	.1462	.1168	.07837	peso
Korea South*	.002755	.001998	.001803	.001681	.001624	.001564	won
Taiwan*	.03337	.03208	.03317	.03323	.03098	.03111	dollar
United States	1.1715	1.1690	1.1990	1.2341	1.2324	1.2948	dollar

\*Rate as of January 31.

SOURCE: Bank of Canada.

The most significant exchange rate changes have occurred with respect to the Brazilian cruzeiro and the Mexican peso.

The decline in the exchange rate of the Brazilian cruzeiro has continued throughout the period from 1979 to 1984. The Mexican peso lost more than half its value in terms of the Canadian dollar in 1982, and fell by a further 64 per cent and 15 per cent in 1983 and 1984 respectively. Nevertheless, and notwithstanding any impetus which may have been given to Mexican exports to Canada by these exchange rate changes, probably the greatest impetus originated from the embargo placed on imports of acrylic yarn into the United States from Mexico, beginning in 1983. The import level imposed by the United States in that year was 759,421 pounds, rising to 1 million pounds in 1984, and back to 750,000 pounds for 1985. By comparison, actual imports of acrylic yarn from Mexico into Canada in 1984 were 1,153,000 pounds. On a per capita basis, Canada's imports of acrylic yarn from Mexico in 1984 were more than 12 times greater than U.S. imports of such yarns.

It should be noted that the fluctuations in exchange rates shown in Table 4, above, do not translate directly into changes in the value for duty of acrylic yarns imported into Canada (Table 3). Exchange rates are a complex reflection of several factors: domestic inflation rates in the two countries, balanced or unbalanced external positions (balance of payments), expectations about future developments and, in many developing countries, pegging of exchange rates by monetary authorities at levels requiring complex interventions in the form of exchange controls.

In this particular context it should be recalled that the depreciation of a foreign currency does not represent necessarily an advantage in international competition. If domestic inflation and domestic costs of production increase proportionately to the currency depreciation, there is no competitive advantage. There is competitive advantage only if the rate of depreciation exceeds more or less significantly the rate of inflation.



In Mexico, high rates of inflation and an external payments crisis since 1982 have been the main factors of the exchange rate decline. In relation to Canada, the exchange rate decline of the Mexican peso has been magnified by the general appreciation of the Canadian dollar relative to the majority of other currencies, with the exception of the U.S. dollar. Thus, the significant depreciation of the peso in relation to the Canadian dollar did represent an improvement in the Mexican capacity to compete, but, taking into account relative inflation rates in Mexico and in Canada, this depreciation was not out of line with that of many other currencies in relation to the Canadian dollar.

Customs duties on acrylic yarns imported into Canada in 1984 were 10 per cent ad valorem, plus 7.2¢/lb. In 1985 the specific rate of duty has been reduced to 6.7¢/lb., while the ad valorem rate is unchanged. The same rate of duty applies whether the yarns are dyed or greige, and whether or not they are on cones or in hanks and skeins. As noted earlier, acrylic fibres enter Canada duty free following the closure of the sole Canadian acrylic fibre producing facility in 1981.

The value for duty of imported acrylic yarn was discussed earlier (Table 3), where values were presented in dollars per kilogram for yarns originating in the principal supplying countries to Canada. South Korean greige yarn was shown to have an average value for duty of \$3.22 per kilogram, compared to \$3.42 per kilogram for greige yarn from Brazil, and \$3.64 per kilogram for dyed yarn from Mexico. Ocean freight from South Korea and Brazil would be approximately 25 cents and 31 cents per kilogram, respectively, for yarn on hanks and skeins, while for Mexican yarn on cones, shipment by truck would cost approximately 46 cents per kilogram.

We are therefore able to construct costs of these yarns as follows:

Table 5

CONSTRUCTED COSTS OF IMPORTED ACRYLIC YARNS  
SELECTED SOURCES - 1984  
(Canadian Dollars Per Kilogram)

	South Korea	Brazil	Mexico
Value for Duty	3.22	3.42	3.64
Ad Valorem Duty (10%)	.32	.34	.36
Specific Duty (7.2¢/lb.)	.16	.16	.16
	3.70	3.92	4.16
Freight	.25	.31	.46
	3.95	4.23	4.62
Dyeing	1.98	1.98	N/A
Total Cost	5.93	6.21	4.62

N/A - Not applicable.

SOURCE: Textile and Clothing Board.

The foregoing costs do not include warehousing costs incurred in Canada, domestic freight, financial and administrative costs, or profit margins accruing to importers. The inclusion of such costs would tend to bring the costs of the Brazilian and Korean yarns closer to parity. Furthermore, since average values for duty have been used, it should be noted that a considerable range of values actually exists.

It can be readily seen that importers of acrylic yarn from South Korea, Brazil and other low cost suppliers of greige yarn are at a distinct cost disadvantage versus importers of dyed Mexican yarns. While the Mexican yarns have a marginally higher duty paid value than do the greige yarn imports, these latter yarns incur dyeing costs which are equivalent to over 50 per cent of their duty paid costs. The Mexican yarns, of course, are already dyed at time of importation.

Notwithstanding the cost differential between imported acrylic yarns from Mexico and those from other low cost sources such as South Korea and Brazil, all of these yarns are said to sell on the Canadian market at between \$6.30 and \$6.50 per kilogram, although Mexican yarns are rumored to have sold as low as \$6.00 per kilogram. Given the cost data provided in Table 5, it is easy to understand the concern over Mexican imports which has been expressed by dyers of greige acrylic yarns imported from other sources. In order to compete, these dyers must sell at the prices established by the Mexican yarns, which may not even cover all of the costs incurred by the dyers in putting these yarns on the market.

Canadian spinners of acrylic yarns on the Repco system have so far been able to meet the prices established by the Mexican yarns. Like the Mexican yarns, the Canadian Repco yarns are made of dyed fibres, although the Mexican yarns are solution-dyed while the Canadian are tow-dyed. In either case, there are considerable cost savings compared to those yarns which are dyed in hanks or skeins after they have been spun. Nevertheless, the threat of injury to the two completely new plants of the Repco spinners is very real. Repco yarns, by nature, are not of the same quality as ring-spun yarns, so they will continue to be at a disadvantage against the Mexican yarns on the Canadian market. The Repco yarns account for almost 30 per cent of total Canadian production of the types of yarn subject to this inquiry.

On the other hand, Canadian spinners of acrylic yarn on the worsted system have been almost entirely frozen out of competition with imported acrylic commodity yarns, whether these latter are of Mexican or other low cost origin. The prices quoted by domestic spinners for these yarns would range from about \$7.60 to \$8.00 per kilogram, while actual selling prices would range from about \$7.15 to \$7.60 per kilogram. When imported yarns and domestically produced Repco yarns sell for between \$6.30 and \$6.50 per kilogram, very few Canadian knitters can afford to ignore such a price differential.

## 8. IMPORT RESTRICTIONS

Imports of acrylic yarns from South Korea, Taiwan, Brazil, Malaysia, and Singapore are subject to bilateral restraint agreements which apply until the end of 1986. A consultation level has been arranged with the Philippines. Details of the original and revised restraint levels, as well as the actual restraint utilization rates, are provided below (Table 6).

The revised total restraint level in 1984 (including the consultation level with the Philippines) is 75 per cent higher than the total restraint level in place in 1979. Actual imports from the sources shown were only 45 per cent higher in 1984 than in 1979. This lower performance level is partly due to the inroads which dyed Mexican yarns have made into the Canadian market. If Mexican imports of 523,000 kilograms in 1984 are added to the imports achieved by the countries listed in the table below, the level of imports from these low cost sources would be almost 89 per cent higher in 1984 than in 1979.

It should also be noted that actual imports of acrylic yarn from Mexico in 1984 were almost five and one-half times as high as the restraint level in place for acrylic yarns imported from Singapore, and almost double the restraint level negotiated with Brazil.

Table 6

**ACRYLIC YARNS - RESTRAINT LEVELS AND UTILIZATION RATE\***  
(Kilograms and Per Cent)

		1979 Kilograms %	1980 Kilograms %	1981 Kilograms %	1982 Kilograms %	1983 Kilograms %	1984 Kilograms %
O(1)		979,770	1,009,163	1,039,444	1,075,000	1,118,000	1,162,720
Korea, SouthR(1)		979,770	960,174	1,180,930	1,202,423	1,174,013	1,286,075
U(1)		1,125,141 115	991,225 103	1,145,559 97	1,202,315 99	1,158,356 99	1,156,711 90
O		-	90,720	96,163	102,000CL	102,000	220,667 <sup>(2)</sup>
MalaysiaR			90,720	96,163	239,402	208,176	220,667
U		-	44,900 49	91,049 95	239,389 100	207,730 100	144,282 65
O		90,720	96,163	101,932	120,000CL	120,000CL	120,000CL
PhilippinesR		90,720	96,163	101,932	120,000	120,000	120,000
U		0 -	0 -	0 -	69,784 58	368 -	0 -
O		68,040	72,122	76,609	40,518	85,000	90,100
Singapore <sup>(3)</sup> R		68,040	72,122	96,663	40,518	99,829	95,200
U		42,605 63	28,199 39	88,291 91	40,518 100	60,800 61	60,800 64
O		46,267	49,043	51,985	52,000	54,600	303,500 <sup>(2)</sup>
TaiwanR		46,267	49,088	51,985	54,600	57,330	328,666
U		39,556 86	48,906 99	47,724 92	53,292 98	56,786 99	253,720 77
O		117,935	125,011	-	-	125,000 <sup>(4)</sup>	220,000
BrazilR		117,935	125,011			125,000	228,471
U		4,800 4	0			70,630 57	147,332 64
O		1,302,732	1,317,211	1,366,133	1,389,518	1,604,600	2,116,987
TOTALSR		1,302,732	1,268,267	1,527,673	1,656,943	1,784,348	2,279,079
U		1,212,102 93	1,113,230 88	1,372,623 90	1,605,298 97	1,554,670 87	1,762,845 77

\*Utilization rate as of January 4/85.

1. O = Original Level. R = Revised Level. U = Utilization.

2. Definition change to include all types of machine and hand knitting yarns.

3. Prior to 1983, restraint periods are July-June 12-month periods (not calendar years).

4. June-December 1983.

CL Consultation Levels.

SOURCE: Special Trade Relations Bureau, Department of External Affairs.

## 9. USERS OF ACRYLIC YARN

Acrylic yarns have a variety of end uses, including hand knitting, crafts, machine knitting, carpeting and weaving.

The principal uses of worsted spun or equivalent acrylic yarns for machine knitting are in the sweater and hosiery industries. Sweater yarns are normally 2 ply, high bulk yarns of either 100 per cent acrylic fibres, or of blends of acrylic and other fibres. Hosiery yarns are normally singles yarns and may be of either bulking or relaxed (non-bulking) fibres.

All four domestic spinners of worsted spun or equivalent yarns for machine knitting produce yarns for the sweater trade. Three of these four spinners also produce yarns for the hosiery trade, but two of these spinners produce only very marginal quantities. The sweater trade continues to be the principal market by far for the yarns manufactured by the domestic spinners involved in this inquiry.

The general consensus of the sweater knitters who appeared before the Board was that imports of acrylic yarns are essential because these are either basic yarns which are cheaply priced or fancy yarns which are not always available from domestic producers. At the same time, knitters are relying more heavily today on novelty yarns, blend yarns, and special yarn counts which allow them to place unique and attractive products on the Canadian market. The type of products they are demanding from Canadian spinners are not readily available from low cost exporters because of the low volumes and the variety of product involved. However, some of these specialty yarns are also sourced in developed, high cost, countries.

In total, yarns of 100 per cent acrylic fibre are still predominant in the production of sweaters, but increasing use is being made of acrylic fibres blended with other fibres such as wool, nylon and cotton. Children's sweaters, because of their lower price points, still consist largely of 100 per cent acrylic yarns, while blends are more prominent today in men's and ladies' sweaters where fashion is more of a factor.

This increased emphasis on style and fashion has been both a boon and a bane to domestic spinners and dyers. The different blends, the specialized yarn counts, the fancy yarns and the variety of colours mean that demand by the knitters is for short runs and fast turns which imports are not geared to respond to because of their requirement for long lead times and large volumes. At the present time this business goes largely to domestic spinners and dyers, but it is viewed by them as somewhat of a mixed blessing. The constant change-overs and short runs create high overheads and do not allow for orderly production planning nor for production for inventory. At the same time these yarns usually command, if not premium prices, at least prices which allow a margin for profit. While low-cost exporters have not yet become a significant factor in this market area, they have the ability to produce such yarns. It is probably only a matter of time, therefore, before this particular market niche receives greater attention from such suppliers, to the detriment of Canadian spinners.

In addition to direct competition from imported acrylic yarns, domestic spinners and dyers of acrylic yarns have also experienced indirect competition from imported sweaters. These latter imports not only dilute total market demand for acrylic yarns in Canada, they put pressures on domestic knitters to source their raw materials as economically as possible, in order to remain competitive in the Canadian market. Pressure from imported sweaters has increased significantly in the past two years, as import volumes continue to grow. These imports are shown in Table 7 below.

**Table 7**

**SWEATER IMPORTS  
(Thousand Units)**

1979	1980	1981	1982	1983	1984
20,520	20,450	23,910	23,121	28,033	29,745

SOURCE: Statistics Canada.



These pressures have not abated in 1985. Permits issued in the first three months of 1985 for the importation of sweaters are 32 per cent higher than in the similar period in 1984.

## 10. SUMMARY

In 1975 Canada had eleven domestic spinners of worsted spun acrylic yarn for machine knitting. This number dropped to eight in 1979, and to only four today.

Employment in the production of machine knitting acrylic yarns in Canada at December 31, 1975, was approximately 1,012 people. By June, 1979, this number had decreased to 597. At the end of December, 1984, the total number employed in the production of machine knitting acrylic yarns had declined further to 340, a drop of 43 per cent from 1979, and 66 per cent from 1975.

Employment in the commission dyeing sector amounted to 199 people at December 31, 1984. Of that total 135, or 68 per cent, were identified as processing acrylic yarn for machine knitting, with the balance processing other types of yarns not under inquiry.

The market share held by domestic spinners in the machine knitting and hand knitting market sectors has moved in opposite directions over the 10 year period. Domestic spinners of hand knitting yarns have steadily increased their market share, while domestic spinners of machine knitting yarns have steadily lost market share to imports.

Imports of machine knitting acrylic yarns into Canada increased by 50 per cent between 1975 and 1979, but have remained at about that 1979 level of penetration ever since. However, the level of import penetration from Mexico exceeds the restraint levels in place for acrylic yarns imported from Malaysia, Singapore, Taiwan and Brazil.

It should be noted that, while acrylic yarns for machine knitting have almost always been imported in greige (undyed) form from most countries, the yarns from Mexico are almost all imported in dyed form, on cones, ready for shipment directly to knitters.

The average value for duty of imports of yarns from all sources is lower in 1984 than in each and every year back to 1980. This substantiates that the price pressures alleged by domestic spinners have in fact persisted throughout this period.

Even with the decreases in value for duty of imports from low cost sources in 1984, the Mexican yarns are still advantageously valued in comparison to the other yarns, since they are already dyed when they enter Canada. Undyed yarns have to undergo dyeing and finishing in Canada at a cost of about 90¢/lb. (\$1.98/kg.).

Customs duties on acrylic yarns imported into Canada in 1984 were 10 per cent ad valorem, plus 7.2¢/lb. In 1985 the specific rate of duty has been reduced to 6.7¢/lb., while the ad valorem rate is unchanged.

While the Mexican yarns have a marginally higher duty paid value than do the greige yarn imports, these latter yarns incur dyeing costs which are equivalent to over 50 per cent of their duty paid costs. The Mexican yarns, of course, are already dyed at time of importation.

Actual imports of acrylic yarn from Mexico in 1984 were higher than the restraint levels negotiated with five out of six restraining countries.

The sweater trade continues to be the principal market by far for the yarns manufactured by the domestic spinners involved in this inquiry. Pressure from imported sweaters has increased significantly in the past two years, as import volumes continue to grow.

## 11. CONCLUSIONS AND RECOMMENDATIONS

Although the production of acrylic yarns for machine knitting decreased considerably in the last ten years, the Canadian market for these yarns reached a relative equilibrium in the early 1980's.

The four firms still producing these yarns have for the most part abandoned the production of 2/24's 100 per cent acrylic yarn, the most common type of this yarn. They have instead moved into the production of special yarn counts, of blended yarns or of fancy yarns.

During this period the dyers specializing in dyeing and finishing of acrylic yarns also found a profitable activity: since more than half the acrylic yarns utilized in Canada were imported in the greige or undyed state, they dyed these yarns in the colours required by the knitters. Some dyers also became importers of undyed yarns, thus benefiting from the added profit margin provided by direct importing.

Canadian producers, using the Repco spinning system to process fibres already dyed, were able to produce colored acrylic yarns which could compete with Asiatic or Brazilian imports. However, starting in 1983, dyed Mexican acrylic yarns appeared on the Canadian market to disturb its equilibrium. Because of their relatively low prices, these Mexican yarns have managed to threaten what remains of the Canadian production of basic 2/24's 100 per cent acrylic yarn. In fact, the prices of dyed Mexican yarns barely exceed prices of undyed yarns imported from South Korea or from other sources. This has resulted in injury to Canadian spinners, although this injury cannot be considered serious.

The dyers, however, are being seriously injured: in 1984, they lost some 20 per cent of the business of dyeing 2/24's 100 per cent acrylic yarn. As a result, inventories of undyed acrylic yarns held in Canada at the beginning of 1985 were equivalent to the amount of dyed yarns imported from Mexico in the previous year.

There are 135 workers employed in dyeing of machine knitting acrylic yarns. This number may seem small, but the impact of the import situation extends well beyond these 135 jobs. Should the Canadian dyers lose a major share of their market, the financial survival of their firms would be in doubt. These firms provide an important service to knitters by dyeing and finishing their yarns according to their needs and specifications. The disappearance of the four independent dyeing firms would mean the major loss of a flexible source of yarn supply for knitters, as well as the loss for the country of one third of the value added of finished acrylic yarn.

Imports of Mexican acrylic yarns also give rise to another problem relative to the equality of treatment accorded to the various exporting countries. It is not justifiable that a country refusing to negotiate should be accorded a restraint limit higher than for other countries which have accepted to negotiate an export restraint agreement with Canada. During the Board hearings in this inquiry the Brazilian producers expressed their objections to this situation.

It should also be noted that Mexican acrylic yarns started to enter Canada only after the United States imposed an embargo on these yarns, when Canada became a handy place for disposing of the embargoed Mexican yarns. As a final note, the restraint levels eventually established by the United States for Mexican yarn imports in 1984 and 1985 were still substantially less than the quantities of Mexican yarns imported in Canada in 1984.

In view of the present situation, the Board recommends that:

1. restraint measures currently in place for acrylic yarns be maintained until December 31, 1986;
2. steps be taken immediately to conclude a restraint agreement with Mexico covering all yarns containing 50 per cent or more by weight of acrylic fibres;

3. in concluding such an agreement, a restraint level be established in accordance with Annex B of the M.F.A., taking into account Canada's initial notification to Mexico in 1984 of its desire to enter into negotiations on acrylic yarns, (i.e., the restraint level should be established on the basis of the volume of actual imports of such products during the twelve-month period terminating two months preceding the month in which the request for consultation was made).
4. the restraint agreement cover the calendar years 1985 and 1986, with growth levels in the second year of the agreement not exceeding the minimum growth level in place in other restraint agreements for that year.

The Board is currently undertaking an inquiry into what restraint action, if any, should be in place beyond 1986 for a broad range of textile and clothing items. In presenting that report later this year the Board will comment on whether further restraint action is required on acrylic yarns.

**APPENDIX 1**

**TEXTILE AND CLOTHING BOARD**

**NOTICE OF INQUIRY**

**ACRYLIC YARNS**

The Textile and Clothing Board hereby gives notice of its intention to conduct an inquiry pursuant to a request received from the Minister of Regional Industrial Expansion in a letter reading as follows:

"As you are aware, imports of acrylic worsted spun yarn have been subject to special measures of protection for the last 18 years. Since then, there have been significant changes in the Canadian industry structure, product mix, sources of raw material supply and finally tariff protection. Considering that the last inquiry on this product was conducted more than four years ago, I believe it would be appropriate for the Board to undertake, on an urgent basis, an inquiry into the impact of the Canadian market of imported worsted spun or equivalent acrylic yarns, excluding carpet yarns, containing 50% or more by weight of acrylic fibre, whether natural or dyed, for use in machine knitting.

Specifically, you are requested to:

- a) determine the extent to which imports of worsted spun (or equivalent) acrylic yarns for machine knitting from specific sources compete with existing Canadian production and would threaten or cause serious injury to Canadian production in the absence of special measures of protection;
- b) determine the extent to which the Canadian producers of these yarns have undergone adjustment and restructuring and in the opinion of the Board, the time-frame, if any, they require for further adjustment in order to compete effectively without special measures of protection;
- c) determine whether the current definition encompassing all acrylic yarns of 50% or more by weight of acrylic fibre continues to be required to prevent the substitution of acrylic yarns spun by other processes for worsted spun acrylic yarns.

Bearing in mind that it is desirable for the Government to receive the Board's report prior to pursuing consultations with exporting countries presently active in the Canadian market, I would urge the Board to proceed as expeditiously as possible with this inquiry."

The Board invites all interested parties to submit to it, not later than February 1, 1985, briefs relating to this inquiry. Ten copies of each brief should be supplied. The Board will not make such briefs public and the confidentiality of confidential material contained in them will be maintained. Those submitting briefs are free to make them public if they wish.

The Textile and Clothing Board Act stipulates that a recommendation for special measures of protection against imports cannot be made by the Board unless, in addition to determining serious injury or threat thereof, it also finds acceptable the adjustment plans of Canadian producers aimed at improving their competitive ability. In this respect therefore, and in order to carry out the second part of the Minister's request, the Board is asking each producer who wishes to make representations to it, by submitting a brief or by supporting the presentation of a brief, and/or by appearing at hearings, to file with the Board a plan describing the adjustments he proposes to make and has made in his operations in order to increase his ability to meet international competition in the market in Canada. These plans should be submitted to the Board not later than February 1, 1985.

Public hearings relating to this inquiry are expected to be held in Toronto and Montréal in the latter part of February 1985. Specific dates and places for the hearings will be announced at a later date.

These public hearings will be for the purpose of receiving supplementary explanations or arguments from organizations or persons who will have presented briefs by February 1, 1985 and who have asked or been invited to appear before the Board.



The Board will also receive requests for private hearings from parties who have presented or supported the presentation of briefs and wish to discuss confidential matters. These private hearings will be arranged at mutually convenient times for the parties.

All correspondence and briefs regarding this review should be addressed to the Secretary, Textile and Clothing Board, C.D. Howe Bldg., 235 Queen Street, Ottawa, Ontario K1A 0H5 (telephone (613) 993-6336).

Ottawa, Canada  
December 28, 1984

APPENDIX 2

FIRMS AND ORGANIZATIONS WHICH PRESENTED  
OR SUPPORTED BRIEFS TO THE BOARD AND  
APPEARED AT HEARINGS OF THE BOARD

	<u>Presented a Brief</u>	<u>Supported a Brief</u>	<u>Appeared at Hearings</u>
B-M Dyeing Inc.	x		x
Boutique Knitting Mills			x
Canadian Textiles Institute	x		x
Canvel (Division of Darrow Fabrics Inc.)	x		
Dawtex Industries Inc.		x	x
Derivados Acrilicos, S.A.	x		
Diament Knitting Mills Ltd.			x
Gordon Yarn Dyers Ltd.	x		x
Grey, Clark, Shih & Assoc. Ltd.			x
representing:			
Canadian Apparel Manufacturers )			
Institute )			
Quebec Outerwear Knitters Association )			
Apparel Manufacturers Institute of )			
Quebec )	x		x
Apparel Manufacturers Association of )			
Ontario )			
Manitoba Fashion Institute )			
B.C. Fashion and Needle Trades )			
Association )			
Japan Silk & Synthetic Textile )	x		x
Exporters Assoc.			
Conselho Nacional Da Industria Textil, )			
Brazil )	x		x
Holiday Knitwear Ltd.			x
Institute Mexicano De Comercio Exterior )	x		x
Lanatex Yarns Ltd.		x	x
Patons and Baldwins )		x	x
Performance Dye Works Ltd.	x		x
Perth Yarns Ltd.		x	x
Polytex Industries Ltd.	x		
W.D. Severs Marketing Ltd.	x		x
Spinrite Yarns & Dyers Ltd.	x	x	x
Straton Knitting Mills Corp.			x
Tex-Dye Industries (1980) Inc.	x		x
Universal Knitting Ltd.			x

[illegible]

