



**International Textile Manufacturers Federation
Fédération Internationale des Industries Textiles
Internationale Vereinigung der Textilindustrie**

Am Schanzengraben 29, Postfach CH-8039 Zürich, Phone 01/20170 80, Fax 01/20171 34, Telex 817578

Spinners Committee

Travel Report Uzbekistan and Turkmenistan

November 1 - 6, 1993



Uzbekistan

Population: 21 million

Capital: Tashkent

Ethnic mix: Uzbek 71%, Russian 8%, others 11%

Resources: gold, copper, carpets, cotton and goats; major gas and oil producer

Cotton production policy: see attached report by the ICAC

Turkmenistan

Population: 3.5 million

Capital: Ashkhabad

Ethnic mix: Turkmen 72%, Uzbek 9%, Russian 9%

Resources: oil and major gas deposits; a large cotton-growing region

Cotton production policy: see attached report by the ICAC

Participants

Committee Members:

Welsford Bishopric	United States	Spray Cotton Mills
Robert M. Galmes	Australia	Bonds Spinning Mills
Andrew Macdonald	Brazil	Santista Textiles
Sebastian Otto (Chairman)	Germany	Heinrich Otto
Alexander Roth	Austria	Schwadorfer Spinnereigesellschaft
Fritz Streiff	Switzerland	Spinnerei Streiff AG

ITMF Staff:

Herwig Strolz	Director General
Peer Munkholt	Deputy Director

The Committee would like to put on record its appreciation of the help rendered by Mr. Oliver Stahel, Chairman of Stahel Hardmeyer AG, Zürich, in the preparation and execution of this journey.

Uzbekistan

Cotton Seed Breeding and Production

The ITMF Spinners Committee started out with a visit to the "Uzbek Academy of Agricultural Sciences" where the delegation was received by Professor Shukurulla U. Uldoshev, Vice President of the Academy, and Professor Egan Berdeevich, Professor of Seed Breeding. The Academy ("re-founded" in 1991) is a gigantic academic institution left over from the Soviet era. It comprises 18 research institutes, 33 farms, 20 experimental stations/mills and employs 65 doctors, 750 masters and 4,500 scientists according to the traditional Soviet academic classifications. Two of the 18 research institutes deal with cotton, namely the "Institute of Seed Breeding", where approx. 50 people are occupied with the development of cotton seeds, and the "Institute of Cotton Production".

Professor Uldoshev informed the Committee that the primary goal of the Academy's work in the field of cotton is to increase the yield which is presently at around 850 kg lint per hectare. The second most important goal is to develop cottons that can be harvested earlier, so that preferably all cotton is picked by the end of October. A third goal is to increase the ginning out-turn from the present 33% to as much as 38% - 40% by reducing the relative weight of the seed and by increasing the number of fibres on each seed. This season's harvest was estimated at 4.3 million tons of seed cotton, or 1.4 million tons of lint. The harvest has suffered from bad weather, some bolls having still been green at the time of picking.

According to Professor Berdeevich, for some years 2.5 million hectares, or over 50% of the 4.5 million hectares of Uzbek farmland, had been sown to cotton. This had led to a critical soil degradation with a subsequent fall in productivity and increase in the incidence of diseases. It had been necessary to move away from the situation of near-monoculture and today the target is that at the most one-third of the land is sown to cotton. With regard to production policies and practices it was mentioned that the long-staple part of total cotton production had been reduced currently to about 10% as domestic price differentials had been too small to make up for the lower yield associated with long-staple production. Yet, the domestic price differences are now being widened. Hosts and visitors all agreed that the number of cotton varieties grown in both the USA (approx. 50) and in Uzbekistan (24 medium-staples and 3 long-staples) were far too many. Neither are the Uzbek scientists satisfied with local ginning practices. But changes are taking place as formerly state-owned ginneries are being privatized and in some cases sold to private farms. The scientists see this as an important and potentially positive development for seed experiments, too. It was deplored that the break-up of the Soviet Union had meant that foreign experimental cotton seeds, formerly provided by a research institute in Saint Petersburg, were no longer forthcoming. Furthermore, it was mentioned that experience shows that it takes about 15 years to develop a new cotton variety when working with hybrids. It can take even longer if the experiment involves "inter-type" hybrids. Experiments in the field of "genetic engineering" are also being made. These endeavours have three basic aims: to fight diseases, to obtain more fibres and to achieve a higher ginning out-turn. On a later occasion "increased strength" was added to this list.

Since the "Uzbek Academy of Agricultural Sciences" also covers research into silk and wool, the visit to the Academy was finished off by Professor Uldoshev mentioning that Uz-

Uzbekistan with an annual production of 30,000 tons of silk cocoons is today the world's 6th largest producer of silk. It is the ambition of Uzbekistan to also build up a wool textile industry.

A special visit was made to the "Uzbek Scientific Research Institute of Cotton Breeding", formerly the "All Union Research Institute of Cotton Breeding". This institute is now operating under the "Uzbek Academy of Agricultural Sciences", but was from 1929 until the reforms in the mid-1980s the co-ordinating institute of all cotton breeding work in the former Soviet Union. In the Gorbachev era it was known as the scientific production complex "Souzkhlopok". The Director of the Institute, Professor Shukur Ibragimov, guided the delegation through the Institute's museum and thereby through the history of Uzbek and Soviet cotton growing.

Cotton was first grown in Uzbekistan 2,500 years ago. When Russia conquered the Central Asian republics in the last century, different cottons were grown in the different regions. The staple length was then 23 mm - 24 mm. At around 1905, upland cotton with a staple length of 28 mm - 29 mm was brought in from the USA. An official pamphlet issued by the Institute summarizes its own achievements with the following words: "Since 1929, the Institute has developed over 45 varieties of cotton which have been sown on a total of 50 million hectares. The selectionists have succeeded in raising the ginning out-turn from 26% - 31% to 34% - 37%. The length of the fibre has been increased from 20 mm - 28 mm to 34 mm - 38 mm and the weight of each cotton boll has grown from 3.5 g - 5.0 g to 6.7 g - 7.0 g". The delegation was surprised to hear that the Soviets had introduced long-staple cotton (fibre length over 40 mm) as early as 1922-23 with a record-short vegetation period (one month shorter than elsewhere). Enticed by the visitors' curiosity to reveal more "cotton secrets" from the 70 years of relative isolation, Professor Ibragimov produced a camouflage-coloured cotton developed during the Second World War. This 33 mm - 34 mm Arbarium-type cotton had the additional advantage that fabric made from it does not crinkle (no ironing needed) due to the wool-like properties of its fibres. On the negative side, the following characteristics were mentioned: low strength (10% - 15% synthetic fibres need to be added for sufficient fabric strength), relatively low yield and "difficult to pick in the dark!".

Ginning and Marketing

The Committee was welcomed to the "Uzbek Government Stock Association for Cotton Processing and Marketing" ("Uzgoskhlopkopromsbyt") by its President, Erkul Z. Zikrijev. "Uzgoskhlopkopromsbyt" was established in 1992 as the co-ordinating body for the country's 122 ginneries (107 saw ginneries and 15 roller ginneries) with a combined capacity of 4.5 - 5.0 million tons of seed cotton per year. Some joint ventures have already been established with foreign partners. Last season 50% of the ginned cotton had been exported to countries outside the former USSR, some 15% had been consumed in Uzbekistan itself and the rest had been delivered to other constituent republics of the former USSR. During the ensuing discussion with Mr. Zikrijev the visitors were trying to gauge why Uzbek cotton has in recent years been available at prices considerably below world-market prices. The President offered two reasons: lack of adequate classing and lack of skills and experience in selling to the world market. Others were inclined to believe that the sudden appearance of such huge quantities of Central Asian raw cotton on the world market coupled with the often very intransparent nature of the much-used barter deals had to make prices collapse,

"hurting" in particular Uzbek cotton. Having explained the rather different old Soviet classification system, Mr. Zikrijev informed the Committee about the attempts to adopt the US classification system.

Some concrete issues concerning Uzbek cotton were raised and commented on by Mr. Zikrijev:

- A too high sugar content is not a regular problem with Uzbek cotton. Only in seasons with extremely high temperatures and no rain does it occasionally happen that the sugar content is too high.
- Long-staple cotton is primarily ginned on roller gins, but it can happen that saw gins are being used.
- Gin identification in the form of a gin number can be found on each bale.
- Delays of 6 - 9 months in the delivery of Uzbek cotton as experienced recently by some buyers are no longer caused in Uzbekistan, but are entirely due to the cumbersome railway transit through several newly-independent countries with badly functioning border-checking practices.

On a final note, Mr. Zikrijev was exuberant in his confidence in the future of Uzbek cotton growing, contending that with temperatures of up to 45 - 50 degrees Celsius the climate of the country is ideally suited for the growing of cotton. Not only is this season's crop reckoned to be larger and of better quality than last year's, but the longer-term prospects of the Republic in cotton production were deemed very positive.

The Committee proceeded to "Khlopkoprom", a so-called Scientific & Production Amalgamation subordinated to the above-mentioned "Uzgoskhlopkopromsbyt". The General Manager of "Khlopkoprom", Mr. Irkin T. Maksudov, informed the visitors that his organization's task is to develop and produce new equipment for the processing of cotton up to the spinning stage and had been the only institution of its sort in the whole of the former USSR. It employs 1,200 people. Mr. Maksudov reiterated that the Uzbek cotton industry is planning to introduce the US cotton classification system. Furthermore, 5 HVI lines will be installed (one in each major region). The Uzbeks do not intend to develop their own testing lines. They have opted for Spinlab lines in order to be able to provide world standard measurements. The general goal for the coming years is to increase the quality of the raw cotton fibres so as to obtain higher prices in the international market. The fibres must become finer, longer and stronger, where strength has a higher priority than length. The visit to "Khlopkoprom" was followed up by a tour of a local Tashkent ginnery (see "Conclusions" below).

Textile Industry

The Spinners Committee was briefed about Uzbekistan's textile industry by representatives of its highest authority, i.e. the "State Association for the Production of Light Industry Goods" ("Uzbeklegprom"), in the persons of Mr. Uktam Kuchkarovich Ismailov (Chair-

man), Mr. Bositkhon Khasanov (First Vice Chairman), Mr. Arkady V. Popovsky (Chief of Department) and Mr. Leonid Tsoy (Director General of "Uzlegimpex").

350,000 people are employed in the Uzbek "light industry" (textiles, apparel and leather goods), making the industry the most important in the country. One million ring spindles and 280 thousand rotors consume some 160,000 tons of cotton annually (20% of which for knityarns). The annual production of woven cotton fabrics and filament fabrics is 600 million and 150 million running metres, respectively. In addition, a carpet factory complex produces 4 million square metres of carpets. A second carpet factory is being built.

Mr. Ismailov stressed the fact that Uzbekistan is one of the few stable sovereign entities of the former USSR. Light industry production grew by 17% in 1992 and this year's growth rate is estimated to be 15%. Large-scale investments are being considered for the textile industry. Domestic cotton consumption will probably soon reach some 350,000 tons annually, as no less than 19 new spinning mills will be constructed and equipped with the best foreign machinery. They are meant for the production of high-quality yarns for export. Buildings for 7 of the 19 mills are ready for use. The combined annual capacity of the 7 mills will be 50-60,000 tons of yarn. Two joint ventures with American partners and one with a Korean partner are underway in the field of spinning. The Uzbek textile industry representatives were under the impression that the world market is "yearning" for cotton yarn, citing attractive yarn prices in the USA of about US\$ 5 per kg of Nm 40. An amount of US\$ 22 million was quoted as being available for imports of equipment to replace some of the old Soviet-made equipment, which makes up 90% of the existing machinery. Still, some equipment will continue to be imported from the former USSR in order to save money. Mr. Ismailov finished his introduction by mentioning that 63 light-industry companies will be turned into joint stock companies, starting out with an allocation of 50% of the shares for the employees and 50% for the state. To overcome the problems associated with the integrated structure of the industry, a holding company has been formed to serve as the "link" between light-industry companies.

In its reply to Mr. Ismailov's introduction the Spinners Committee took issue with the rosy Uzbek appreciation of the world textile market, arguing that the closure of mills in Europe and Japan is a bad sign and not an encouraging one. The yarn price of US\$ 5 per kg quoted above was that of two years ago. The current price is some 25% lower. The Spinners Committee urged the Uzbeks to update existing capacity rather than expanding it.

Mr. Ismailov took note of the Spinners Committee's reservations by stating that "the market will teach us everything". He rounded off by inviting foreigners to invest in Uzbekistan. The formal conditions are favourable:

- 100% of production can be exported;
- raw materials are sold at local, state-fixed prices;
- if 31% or more is foreign capital, no taxes are to be paid for the first two years;
- wages are low;
- communication facilities are good;
- electricity supply is cheap (a price of US\$ 0.07 per kwh was mentioned) and reliable (air-conditioning necessary);
- buildings are to be paid for in local currency, machinery in hard currency.

The question of joint ventures was the main theme during an ensuing meeting at the Prime Minister's office hosted by a Mr. Mansurov. Joint ventures are being welcomed by the Uzbek government, in particular in the field of "cotton processing". But not *any* joint venture proposal will be accepted, as the "image" of the foreign partner is always being subject to scrutiny. Tainted by the old Soviet predilection for large integrated units, the Uzbeks prefer joint ventures to include more than one processing stage. The target market for any joint venture is subject to discussion between the partners. The actual location of a project is decided according to availability of raw materials (cotton) and social factors. At the moment, the Uzbek government favours further projects in the Fergana Valley. At first during the meeting with Mr. Mansurov there was some confusion as to what size the foreign stake in a joint venture could have, but it was finally concluded that the foreign partner can take any stake in a project, including the option of a 100% foreign-owned operation. The concrete example of a Turkish company as a joint venture partner was mentioned. The company is involved in a knitted-goods project in Uzbekistan, in which 35% of the produced ladies' and men's underwear is being exported.

Finally, the ITMF delegation visited the "Tashkent Textile Combine", which was founded in 1932. The company is the third biggest integrated spinning and weaving operation in Uzbekistan. The key data for the company are as follows:

Number of employees	10,000
- of which "engineers"	600
Number of ring spindles (P-76)	200,000
Number of o-e rotors	60,000
Number of looms	5,500
- of which: STB (projectile):	580
- ATPR (air-rapier)	
in separate shed not seen by the visitors	2,200
Annual cotton consumption (tons):	17,000

The mill operates in 2 shifts, 6 days a week. The price paid for cotton was given as 1.6 million roubles per ton and translated into 25 cents per pound. As mentioned by the Minister earlier in the day, it was evident to the visiting spinners that the pre-spinning stages of the integrated mill were those most in need of renovation. In the weaving department about half of the looms were idle.

Conclusions

Summing up its impressions of the prime focus of the visit, i.e. raw cotton, the Spinners Committee was impressed with the considerable investments in seed breeding and development, which had been undertaken over the years, and the decision of the Uzbek authorities in this area to continue the work with the intention of improving the cotton quality in strength, length and fineness. The Committee applauded the intention to intensify the cotton picking earlier in the season, to avoid having to gin cotton under damp and unfavourable

conditions. This decision will ensure a better ginning environment and reduce the damage which can be caused by excessive drying and preparation requirements, as well as save energy and reduce costs. This measure could also be expected to lower the inherent sugar content which was found to be a problem for spinners in more tropical climates. At the one ginnery visited, the Committee admired the careful ginning, with the exception of the intensive lint cleaning, while the bale preparation and bale wrapping was of the highest standard. The Committee appreciated the clear bale markings with gin-location numbers which would assist the spinners in their mix preparations.

Overall, the Spinners Committee was impressed with the determination with which the Uzbeks appear to be preparing for a great future in cotton and textiles. They both want to modernize and expand. It is, however, no surprise that the technology-oriented attitude of the Soviet regime still shines through in many of the people who are now in charge, in some cases seemingly at the expense of a good feeling for sound economy. Surprisingly little was mentioned about the ecological and environmental problems connected with the drying-out of the Aral Sea and other challenges posed by the all-irrigation mode of cotton production. In the industrial field, probably a somewhat slower approach with a concentration on modernization of existing capacities (in particular improvements of the pre-spinning stages in spinning) and development of the home market would in the longer term pay off better than a too rapid rush into export-led expansion.

Turkmenistan

Cotton Seed Breeding and Production

For the purpose of discussing the matters of cotton seed breeding and production the Committee visited the "Academy of Agronomic Science of Turkmenistan". The Academy entertains two institutes related to cotton: "Institute of Experimental Biology" and "Institute of Seed Breeding". The combined task of these institutes is to develop new seeds and to produce the first reproduction of seeds.

The current cotton crop in Turkmenistan comprises 4 different medium-staple varieties (all over 20 years old) and 2 different long-staple varieties (one of them over 17 years old). The visitors were told that the scientists are currently working on 3 new long-staple varieties. The priorities as to improvement of parameters for the new long-staple cottons are as follows:

- higher yield
- shorter vegetation period
- higher ginning out-turn ("fibre content").

The current yield is 2,200 kg - 2,500 kg seed cotton per hectare, but it is anticipated that this can be brought up to 3,000 kg - 3,500 kg. The vegetation period for new varieties is targeted at 135 - 140 days.

Turning to the existing 4 medium-staple varieties the question was posed as to why it is at all necessary to use 4 different ones. The answer was that the soil conditions in the 4 main growing areas require varieties with different properties.

At a 28% - 35% lint content this season's crop of 1.3 million tons of seed cotton should yield approx. 400,000 tons of fibres (of which 10% long-staple). Still working with "plans" the Turkmen have a future target production of 2 million tons of seed cotton. The way to achieve this goal was not quite clear, but it appeared that the preferred way would be an increased yield per area unit at an unchanged total area sown to cotton. The scientists believed that as the country proceeds with the privatization of farmland, the yield per area unit will be higher. Rented land already yields more cotton per area unit than does the collective farmland.

Salinity of soil and cotton is a problem in half of the cotton-growing area. A high salt content makes the fibres retain more moisture. More moisture means more drying and "aggressive" drying removes the wax-like substance on the fibre surface. This, in turn, makes the cotton have a harder, i.e. less "silky", feel. Another facet of the problem is that as hand-picked cotton is normally drier than machine-picked, the problem is less pronounced with hand-picked cotton.

Fibre testing is still being done with locally-made or Polish-made instruments. It is intended to introduce Spinlab HVI testing lines, but no final decision has yet been taken.

Ginning

There are 22 ginneries in Turkmenistan, 7 of which have both saw and roller gins. The Spinners Committee was assured that all long-staple cotton in the country is being roller-ginned.

The Committee toured ginnery No. 207 located near the city of Kaakhka. This ginnery is one of the "mixed" ginneries with both saw and roller gins. It was built around 1970. Both medium and long-staple cotton was being gathered under tarpaulins as the first stage of the ginning process. It was at first maintained that there was no danger of the two being inadvertently mixed neither there nor during the later stages of ginning. Later on, an official was more sceptical about this practice of treating short-and long-staple in parallel. The outdoor piles of cotton were further divided into hand-picked and machine-picked cotton. It was not possible, either, to verify to what extent hand-picked and machine-picked cotton were kept separated throughout the entire ginning process. The visitors saw the cotton being pre-heated for up to 15 minutes with the thermometer showing 200 degrees Celsius. At a later debriefing session with the gin management it was admitted that the 15 minutes of extreme heat exposure was too long and that attempts were being made in new plants to reduce the duration of the heating process to a maximum of 5 minutes. Subsequently, the dried cotton was being exposed to a harsh treatment by being sucked through pipes over long distances and then "cleaned" before the actual ginning. The medium-staple and the long-staple were being processed in parallel on 10 stands of saw gins and 48 stands of roller gins, respectively, and finally delivered by 4 high-density bale presses. The total capacity of the ginnery is 30-35,000 tons of lint per year with a ginning period of 6-8 months. 70% of the cotton is medium-staple, the rest long-staple. The ginning out-turn is 30%-31% for the saw gins but only 28%-29% for the roller gins, the latter being so low due to a long-staple variety with heavy seeds. The cotton is being collected in an area with a diameter of 120 km, but the amounts received by the ginnery are shrinking as new gins are being taken into operation in the outskirts of the area. The cotton is being delivered by the collective farms which basically do not have a free choice of gin. Payment to the farmer is done by bank transfer within one week after delivery. The prices obtained by the farmer for seed cotton were US\$ 150 and US\$ 180 per ton medium-staple and US\$ 180 - US\$ 200 per ton long-staple. The ginnery's charge is US\$ 30 - US\$ 50 per ton seed cotton, which roughly corresponds to the US\$ 30 paid for one ton of cotton seeds. It was calculated that a final price of cotton lint would be US\$ 500 - US\$ 550/ton. The ginnery employs 1,200 people altogether, where probably 50 people would have sufficed in a state-of-the-art ginnery with the same capacity in the West. Each worker fetches on an average 100,000 roubles a month (approx. US\$ 40). At the debriefing session everyone agreed that the roller gins are in a dismal condition. The gin management informed the visitors that this is a general problem in Turkmenistan and that 3 new roller ginneries (later a total of 5 new roller ginneries were mentioned) with Turkish technology are being constructed in order to improve on the situation. The new gins will all be equipped with gentler pre-treatment machines.

Textile and Apparel Industry

There is relatively little textile industry in Turkmenistan, the spinning industry being organized in one combine with some 45,000 ring-spindles and 15,000 o-e rotors. An official source states that Turkmen textile enterprises produce a total of 28.2 million square metres

of cotton fabrics, 7.4 million square metres of silk fabrics, and 2.9 million square metres of woollen fabrics; 12.5 million square metres of non-woven materials; 10.5 million pieces of knitwear; 12.5 million pairs of hosiery; and 1.38 million square metres of carpets and tapestry. Textile facilities were not on the visiting programme, whereas the delegation was taken to an apparel factory in the outskirts of Ashkhabad. The sewing operation uses cotton fabrics from Russia, and silk and wool fabrics from Turkmenistan itself. Until some months ago, fabrics had also been imported from India, Pakistan, Czechoslovakia, the USA and other countries, but currently restrictions in connection with the introduction of the new Turkmen currency (manat) had made imports impossible. The factory produces 10,000 pieces of ladies' and children's clothes a week for the local market. In times of high demand the factory can change into a 2-shift operation and produce up to 100,000 pieces a month. 2-shift operation increases the number of employees to 700-800. The monthly wage of 400 manats translated into US\$ 200 at the official exchange rate. As this is extraordinarily high for the region (note the US\$ 40 mentioned above for workers in the ginnery based on the old rouble/dollar free-market exchange rate) it appears that the official exchange rate for the new currency is not at all market-conform. The workers were still working under huge posters from the Soviet era with moral slogans like "For Peace and Happiness on Earth" and "Each Minute Counts". The sewing machines originated in a multitude of countries: Russia, Japan, former GDR and Czechoslovakia.

Meeting with the Deputy Prime Minister of Turkmenistan

The Committee was informed about the general economic situation in Turkmenistan by the Deputy Head of the Cabinet of Ministers of Turkmenistan, Mr. Dzorakuli B. Babakuliev. The minister told the visitors that important changes are being made in the economy, in particular in the agrarian sector where land is being privatized. In the case of the cotton sector, the mechanization of harvesting is no longer being forced. On the contrary, this year the cotton crop was picked in record time as hand-pickers had been mobilized in so large numbers that over half of the total crop has been hand-picked. The Minister stressed that the Turkmens have become more quality-conscious and are determined to eradicate the old quality problem with Turkmen cotton. Realizing that the problem to a large extent lies in poor ginning, Turkmenistan will in the next few months buy 5 new roller ginneries from Turkey.

Turkmenistan has just received the "green light" from Brussels for quota-free textile exports to the European Community until 1995. A new textile combine is being built together with Turkish partners and will be ready for production by the end of 1994. The Minister reminded the visitors of the fact that only about 15,000 tons of cotton was processed in Turkmenistan itself in the Soviet era, against a local production of cotton of about 400,000 tons.

20,000 foreigners, of whom 7,000 are Turkish, are already working in Turkmenistan in connection with joint ventures. The government sees joint ventures as a necessity as the Turkmens themselves do not have much experience in foreign trade. Privatization is seen as a means of motivating people to make an extra effort. Wheat production has been raised from 800,000 tons to one million tons in only three years and the country is now self-sufficient in rice. Mr. Babakuliev finished off by pointing out that there are practically no limits to how joint ventures can be arranged and promised tax exemption for joint ventures with a foreign participation of over 35%.

Conclusions

The Committee was impressed with the enthusiasm with which the Turkmen people are tackling the development of their cotton industry, bearing in mind that until only two years ago, 97% of the Turkmen cotton production of about 400,000 tons had been exported to the industries of the former Soviet Union, and the Republic had depended for its textile consumption on Russian fabric. So, clearly there was a necessity to build up a Turkmen spinning and weaving industry, and active steps are being taken in this direction.

In this overall development the Committee noted with satisfaction that emphasis would also be laid on the seed breeding area, to improve further the three vital characteristics of the cotton. Additionally, the Committee agreed and supported the idea that the traditional Soviet ginning processes should be substituted with more compact ginning plants but without sacrificing the excellent spinning characteristics which are so evident in the Turkmen cotton today. The Committee agreed with the authorities that the high-speed saw gins should be avoided at this stage, since the only advantage of such ginning would be high production with less labour, the basic technology being identical in the standard and high-speed gins. Standard gins or the adaption of current gins, which would ensure gentle ginning, would be a more economical investment, and could be installed in various cotton centres, thereby avoiding concentration of production in one place, with the corresponding additional freight costs such concentration entails. The Turkish roller gins which were being installed in Turkmenistan will certainly go a long way to improving the long-staple ginning. The authorities and the Committee agreed that the current Soviet machinery viewed during the visit is inadequate for the long-staple Turkmen varieties of cotton. The Committee endorsed the concern of the authorities that the distances which separate the pre-cleaning, drying, the second pre-cleaning and ginning areas, at the factory visited, were far too great. It was agreed that such long distant movement by tubes damages the cotton, and as moisture regain occurs during such movement from the drying to the gin stands, the quality of the final out-turn is severely endangered. The Committee discussed with the authorities the importance of bale sampling and marking as soon as the bales are drawn from the presses to avoid the mixing of qualities, and for better identification of the bales for their international costumers.

Although Uzbekistan for reasons of sheer size has a greater potential in cotton than has Turkmenistan, it appears that Turkmenistan has a greater opportunity for a balanced development because of its modest size and the limited urbanization of the country. Finally, it is very evident that as a textile- and apparel-producing country Turkmenistan starts out from a very rudimentary level. The Committee, however, welcomed Turkmenistan in the international market and assured collaboration at any stage in the development of the new republic.

PM/eg
November 1993