



INTERNATIONAL TEXTILE MANUFACTURERS FEDERATION  
FEDERATION INTERNATIONALE DES INDUSTRIES TEXTILES  
INTERNATIONALE VEREINIGUNG DER TEXTILINDUSTRIE

## **Spinners Committee**

### **Travel Report**

# **UZBEKISTAN 2016**

From October 9-15, 2016 members of the ITMF Spinners Committee visited Uzbekistan on behalf of ITMF, as part of the on-going program of the Committee to visit cotton-producing countries around the world in an effort to strengthen the dialogue in the cotton pipeline between growers, ginners, seed breeders and cotton spinners.

The Committee would like to express its appreciation for the warm welcome and the interesting discussions and exchange of opinions with senior government personnel and, when the opportunity arose to visit fields, gins, mills, cotton organisations, and research institutions. The hospitality of all hosts was outstanding and made the whole visit not only very informative, but also very pleasant.

The Committee would like to express its special gratitude to Mr Ilkhom Khaydarov, Chairman of the Uzbekistan Textile Association, for all his assistance and making his personnel available to us throughout the visit. Also to Mr Umid Askhanov and Mr Bakhtiyor Mahkamamov representing the cotton company Faircot Geneva, who collaborated with their in depth experience of Uzbekistan with the detailed planning, thus helping making the visit an outstanding success. Also our gratitude to Mr Damase Buchi for assisting in the initial stages.

## **Participants**

### **Committee Members & Secretariat**

Andrew Macdonald	Brazil	Santista Group (Chairman)
S. Sumarto	Indonesia	Apac Inti
Christian Schindler	Switzerland	ITMF

## Objectives of the visit

- To review the situation of cotton growing and ginning in Uzbekistan as compared to 12 years ago when the ITMF Spinners Committee visited Uzbekistan for the last time
- To evaluate the cotton classing at the gins and receiving stations
- To evaluate the ginning and review improvements
- To evaluate the potential for production over the next years
- To note the comments of the textile industry as regards their view on cotton in Uzbekistan

## Program

The Committee visited senior government officials in the Capital and cotton area in the area around Tashkent. They also travelled to Qarshi City, west of Samarkand, on the bullet train "Afrosiyob", to visit the cotton area of Kashkadarya. From there they drove to Samarkand where they visited further cotton growing areas, gins and textile companies.

During the visit they also participated in the XII International Cotton and Textile Fair, where both Dr. Schindler and Mr. Macdonald made presentations.

## EXECUTIVE SUMMARY

### Overall Comments/Impressions

The Committee was immensely impressed with the transition taking place. The recent change in the ministerial responsibilities is driving the industry forward, particularly with the aim of creating opportunities for investment, and the objective of eventually utilizing 100% of the Uzbekistan cotton production domestically. Currently only about 50% of total production is consumed by the local industry.

Improvements were also appreciated in the fields where new seed varieties are showing great promise in terms of yield and quality. The overall ginning process has not changed over the years, though the restructure has improved the management within the gin. However, the cotton is still stored at the gin in very large heaps, which does not invite good separation of seed varieties and the differing growing techniques on the farms. The Committee was pleased to note that the unique system of drying the cotton in large rotating drums, and the elaborate cotton seed cleaning machinery has been maintained, which would indicate that the use of the lint cleaner after ginning should be unnecessary, in fact even harmful in terms of increasing neps and short fibre content. The extraction by the lint cleaner, apart from damaging the fibres, also results in a yield loss to the ginner, as well as the extra cost of energy to run the machine. In the opinion of the Committee the small premium obtainable for the super cleanness of the cotton does not cover the cost of extraction in terms of quality and more important the spinability of the cotton.

The textile factories visited during the Committee's visit were certainly as good as any inspected in other countries, and the industry is clearly making good use of the excellent Uzbekistan cotton available to them.

The organisation at the rail yards continues to be well maintained and ensures the smoothest possible despatch of the cotton, with facilities for checking the physical quality before

shipment. Most of the bales are wrapped in cotton cloth of good quality, though some plastic polyethylene was observed at a gin visited as well at the rail yards. The Spinners Committee always recommend the use of cotton bagging to avoid any chance of contamination, and which is 100% recyclable.

## **VISITS**

### **Monday, 10 October 2016**

The first meeting was with Mr. Ilkhom Khaydarov, Chairman of Uzbekistan Textile Association (“Uzbekyengilsanoat”), Mr. Sharaf Rakhmanov, Chairman of Foreign Trade Company “Uztadbirkorexport”, and Mr. Farrukh Zargarov, Chairman of Logistic and Transport company “Uzvneshtrans”

The emphasis of the meeting was that the textile industry was doing well though margins were tight due to the high cost of being a double land locked country. However, no effort would be spared with the new reorganisation of the sector to achieve the government objective to convert 100% of all cotton into yarn and other textile products. Large players like Indorama and LT Textiles were deeply involved in the industry, and they expected more players to move in, as well as home grown entrepreneurs increasing their participation. The Committee commented that the domestic price for the mills, set on the basis of international prices based delivered to the Far East less 15% was, in their opinion, still too high to be competitive, bearing in mind the distance the textile products have to travel to reach their final destination, compared with many other countries with which Uzbekistan is competing.

The next meeting was with Mr. Akmal Kamalov, Chairman of Uzbekistan Cotton Holding Company Uzpaxtasanoatexport, and Mr. Rinat Gulyaev, Director of Cotton Research Institute “Paxtasanoat ilmiy markazi”

This new holding company will structure its responsibilities into for 4 main areas, the Ginning Company, the Seed Crushing Company, the Research Centre and the Cotton Export Company, the latter being responsible for both the domestic and export sales, as well as the execution of sales. One year ago there were three separate cotton trading houses and the ginning, marketing and exports were all under separate responsibilities. Today the holding company owns at least 51% of each of the 98 cotton gins. 50% of the cotton production is consumed domestically, and the plan is that 98% will be consumed by 2020. Asked the question Mr Kamalov replied that an increase in machine picking will depend on demand, as currently they are encouraging a higher productivity. Today about 100,000 hectares is being picked by machines, Uzbekistan has developed their own harvesters based on standard tractors.

Meeting with Mr. Umarkhodjaev, Director of Uzbek Cotton Certification centre “Sifat”

Sifat is now 20 years old, and independently class over 1,000,000 samples from 90 gins. Classing is 100% bale by bale. They have 14 different certifications as regards their performance and qualifications. SIFAT has 35 testing stations of which 18 are equipped with the latest HVI 1000 instruments. In Tashkent they act as the test centre, as samples are sent from each test laboratory and retested in Tashkent to ensure each one maintains a high standard. To ensure international recognition they also participate in the CSITC round trails. SIFAT also maintain their own sample boxes claiming that the USDA boxes do not fully cover all the nuances of Uzbekistan Cotton. With all the technology of HVI the committee questioned the need for such amplification of their boxes, even why are boxes even required, to be informed that the HVI, designed for US cotton, does not always read correctly the brilliant white colour of Uzbekistan cotton. Admittedly the difference was small but they consider it important for their cotton. The Committee tried to explain from the cotton spinners perspective, when buying Uzbekistan cotton one knew what to expect so that a consistent

reading on the HVI would tell the spinner all he needed to know, and therefore the Committee doubted that the cost of such painstaking separating of cotton by colour was really justifiable. For the spinner today, strength, length, micronaire, neps and short fibre content were much more important. The spinner has the finest machinery to clean cotton even before the cotton reaches the cards, so that a little extra leaf or a little extra colour is not so important to the modern spinner. The comment was duly noted.

SIFAT also carries out exhausted test on new varieties to assist in the selection.

**Tuesday, 11 October 2016**

### Fields



The committee made visits to cotton fields in the Tashkent Region – Toytepa District and were received by the owner/farmer and the local mayor of the district. In this field the yield was estimated at 4.5 tons of seed cotton per hectare, whilst the average yield for the region is 2.5-3.0 tons per hectare. The plants looked very healthy, fully loaded and pulling an

excellent staple. The Committee was informed that the lint outturn is on average as high as 40% with a micronaire: 4.5-4.7. The particular field above the farmer had opted for a 160 days' cycle which resulted in the higher micronaire. The normal cycle in the region is 120-130 days. The fields in the region are flood irrigated 4 times a year, and the Committee was surprised to see the regrowth of leaves after the application of defoliants. This was explained by the hosts as being due to the high ground water, and when pulling up one of the plants this fact was evident by the cool dampness of the soil surrounding the roots.

The defoliants are sprayed by tractors, whilst the weeds are treated with herbicides and harrowing between the rows. They use mainly biological pesticides as the night temperatures fall below -15 C during the winter, which eliminates most of the insect population, whilst the maximum temperature in the summer can go as high as +45 C, which then requires pesticides to keep a good control over the survivors of the winter.

Most interesting was that like in China, they cut off, or prune the tops of the plants, but unlike in China where this is done by hand, they use a tractor with a rotary knife. Unfortunately, the Committee was not able to inspect such a machine, so further investigating will be required to fully understand the process.

After harvesting the cotton, the plants are, cut, mulched and left on the field as organic fertilizer, when they generally plant winter wheat, or beans with some irrigation depending on the weather. Actually when there is a shortage of water the farmer would grow peanuts.

After the harvest, by hand, the pickers get paid every day according to the amount picked. This is weighed individually before being placed on the truck which transports the cotton to the central receiving station in the region, or directly to the gin, whichever is closer, where it is classed and weighed. There an official document, or receipt, is issued based on the weight and quality assessment, with which the farmers can go to the bank and get paid immediately, after deducting any loans proportional to the delivered quantity. At the receiving stations, or

gins, the cotton is stored in very large piles, either under roof, or covered with canvas. The piles are ventilated if necessary to keep them cool, (below 30C) to avoid fermentation in such large piles.

### **Cotton Gin**

The Committee visited the “Uzbekistan” Gin in the Tashkent District, where they receive the cotton either from the receiving centers as required, or directly from the farmers. Each case the truck is weighed on a weigh-bridge, and samples drawn which are then placed in large cans.

For the testing they use, old, Russian instruments that first separate the dust and trash, which is weighed, together with a further system for measuring humidity. This is done on a weight to dry basis, for which they use a hot plate, rather like a waffle pan, but flat, which dries the cotton, and on that basis they calculate the humidity by weight of the sample before and after. Then there is a Russian grading instrument which grades the seed cotton from 1-5 to arrive at the final price. Cotton delivered from the receiving stations follows the same treatment to check on the results. Since the concept is not to mix seed varieties, the Committee presumes the truck is homogeneous, and the direct delivery from a farmer, once classed and the variety established, is added to the correct pile. The staple is apparently not checked, nor the micronaire, though they possess an old Russian instrument. Their point is that the characteristics of each variety are very consistent, so basically they only need to check just for trash, humidity and color.

As at the receiving stations, the cotton is stored at the gin, in very large piles, with the ventilation arches throughout the length of the pile for ventilation purposes.



In the gin the seed cotton is dried in very large rotating drums, though which air is passed, the temperature depending on the measured humidity, rather like a clothes drier, but on a larger scale. A system that the Committee applauds as a manner to gently dry without damaging the cotton fiber. After this process the cotton travels first to a horizontal cleaner, unique for the central Asian countries, and then on to a vertical pre-

cleaner. The machinery was old, as were the gins, with 2 sets of three gins stands each with 118 saws. After the ginning regrettably there were impact lint cleaners. The production of the press is about 10-12 bales per hour, where the bales were being wrapped in blue polyethylene.

### **Textile Mills**

While still in Tashkent the Committee visited **Uztek Group**, often referred as **Uztek/Reiter** as the factory is 100% Reiter equipment, the owners being a Swiss financial group. It is primarily a spinning company, with 100% compact spinning.

This is a first class installation, including a laboratory with the latest Uster testing instruments, where they also re-class the cotton. The factory floor is well air-conditioned perhaps an excessive consumption of energy, very clean with a modest number of workers in evidence. They are about to upgrade with Quantum 4 yarn clearers.

Visiting the knitting department, the Committee noticed the room was air conditioned which is unusual in many other factories, whilst in the inspection room the cloth revealed that perhaps more attention is required to the adjustment of the needles.

The Committee was very well received and grateful for the opportunity to see such a modern installation with state of the art technology especially in the spinning sector.

The Committee then visited **Osborn Textiles** who are mainly a mélange cotton yarn producer, which they export to CIS-countries, as well as dyed cotton yarns to Italy and Poland. All the dyeing is carried out in house and the capacity is very large allowing for considerable flexibility. They are using reactive dyes from Korea

They also have Jacquard looms for manufacturing yarn dyed towels, which are only exported to CIS countries, mainly Russia. and 30% to the domestic market. The towels are sewn, folded, and packed manually.

Most of the machines are relatively old, but are very well organized in the spinning. The speed in the mélange ring spinning is about 14'000 rpm, with one operator for 120 spindles. This is well justified, as that the yarn was found to be very good with few defects.

The factory consumes 20 tons of cotton a day, but to meet their consumption they buy about 10 tons of yarn a day from local spinners.

The manager was critical of the ginning in Uzbekistan, and reckoned that the outturn could be increased from 34%to 36% and complained about the neps. The Committee pointed out that increasing outturn would not improve the quality, on the contrary could make it worse. The recommendation was to discuss the elimination of the lint-cleaners in the gins.

The energy costs have risen recently, and since October 2016 is now USD 0.058 per KWh which is still lower than many other countries. However, in this factory, the insulation is not perfect; in the dye house there is potential to save energy. Some of the steam is leaking from the drums and pipes, which represents energy loss.

The minimum wage 220 USD net (+40% gross) and the workers are collected and returned home by buses, organized by the factory. Meals are provided for each shift, there being 3 shifts, with a total of 964 workers. The turnover of workers is 15% in the towels division, which incidentally takes up 50% of management man hours.

As a point of curiosity, the factory is using old containers as warehouses. They are sold locally for US\$500 whilst to return them empty would cost US\$ 2000!!!

### Wednesday, 12 October 2016

The Committee spent the day at the XII international Cotton and Textile Fair in Tashkent, where Committee Members made presentations.

### Thursday, 13 October 2016

The Committee travelled by the bullet train “Afrosiyob” to the Kashkadarya region 450 kilometres South West of Tashkent, - passing through the famous town of Samarkand which is about 300 kilometres for Tashkent – to arrive in Qarshi City.



On arrival the Committee went to visit cotton fields where the average farm size is reportedly 30 hectares with a yield of 4.5 tons of seed cotton per hectares. The Cotton is hand-picked and they do not require to use defoliants, as the ground water is much deeper than around Tashkent. However as in that area the tops of plants are cut off, this occasion, by hand, and it was estimated that for the average size field, it takes 10 persons two days. The farmers confirmed that this “pruning” of each plant, makes them strong and significantly more “bushy” with many more bolls.

Technically for the spinner, though the farmers were seemingly unaware, pruning makes the cotton more “even running”, since the formation of immature bolls at the top of the plant is eliminated. The resulting plant height is a perfect 80 cm. The average staple length is 37 mm and the micronaire 4.3 to 4.7.

The crop is generally irrigated 3 times during the season. There is no charge for the water, but the supply is controlled by a separate organization. Thin plastic sheeting is use to line the farrows where the water flows when flooding so as to save the maximum amount of water.



At the beginning of the season, the farmer makes a contract with the receiving/station or ginner, on the basis of which he receives an advance from the bank at 3% per annum. The seed is purchased from the sowing seed production and multiplication agency, having been produced on special designated farms. The pickers get paid every day based on the weight picked. The plants are cut down after harvest, mulched and left in the fields. The weeds are controlled without herbicides.

After picking the seed cotton is transported to the receiving points or gins for processing in a similar way as previously described.

There are 150'000 hectares under cotton in this region. On average the farmer uses 54 kg seeds per hectare.

In the same area, near Qarshi, the Committee visited one of the receiving stations which followed a very similar pattern as previous stations. The cotton once received and weighed, it is stored in the enormous piles as seen previously, which the Committee was assured is not a problem as there is little rain at this time of the year and anyway the storage time is short. Once again the Committee was assured that it is forbidden to mix varieties in the piles.

The laboratory of the receiving station followed the same pattern. A 300-gram sample is drawn from the truck and checked for trash and moisture, for which they use a frying pan method to dry the cotton.

The station as seen previously, has an instrument for measuring the micronaire of the seed cotton, the Committee asked for a demonstration which was undertaken, but the result seemed quite meaningless to either the operator or ourselves. Clearly the instrument is used very rarely, if at all, and perhaps it harks back to the time when some cotton was left in the fields over winter and harvested in the spring and the maturity could be in doubt. Here they had a second instrument for maturity, but there was nobody there who could show us how it worked. Looking at HVI results, the maturity of Uzbek cotton is good, so the Committee presumes, like staple, separation by varieties has proved to be totally satisfactory.

The Committee then proceeded to visit a cotton gin in Beshkent Area, not far from Qarshi.

This gin has a theoretical annual capacity of 50'000 bales of 210-220 kg per bale, however this season they had handled/received 47'700 tons of seed cotton, say 16,000 tons of lint (80'000 Bales) It was clear that there was still a considerable stock of cotton in the gin yard awaiting ginning, and so far they had produced 14'000 tons of cotton lint (70'000 bales) of which 90% was grade 1. The lint outturn however was low at 34%.

The drying in a large heated drum, followed by preclears followed a similar pattern, whilst the machinery in the gins consisted of 3 Chinese gin stands with 12 inch saws and 130 saws per stand, rotating at 730 rpm. Each gin stand had two lint cleaners. There were also 3 de-linter machines, producing 2 bales per hour of first cut linters. The Committee was disappointed as regards the ginning quality, as the staple appeared at least 1mm short between the seed cotton and the lint, and there was now a considerable evidence of neps. The Committee attributes this to the extensive use of the lint cleaner.

The bales are wrapped in excellent strong cotton cloth, and each day's the production is transported to the terminal so there is very little stock at the gin.

In the arrival inspection room in addition to the usual moisture dryer, a trash separator and the maturity tester for seed cotton, they also had a Russian version of a mini card.

The Committee then made a quick visit to the Terminal (Qarshi Tola), where they can store 25'000 tons in bales, receiving bales from 6 gins. The system allows the merchants/ buyers to select the lots for pre-inspection, and they supply a room for visual verification of the samples drawn from the lots.

The cotton then loaded onto wagons, which hold 215-220 bales each i.e 47 to 50 tons which is considered one lot.

Finally, the Committee paid a quick visit to the new site of Litai - LT Textile China, in Kashkadarya Region just outside Qarshi City, where their latest factory is being built under

the direction of their Chinese engineers. The current plan is to install 230000 spindles in the first phase, hopefully to finalize in 2017, employing only 800 workers, and a further 230000 future expansion once phase one is under full production. The plans also include weaving in the future, though that is still on the drawing board as an idea.

After the long day the Committee were driven the 150 kilometers to Samarkand.

### Friday, 14 October 2016

In Samarkand the Committee visited the Textile Mill (Daka Tex), which is Russian owned and carries out spinning, knitting, and garmenting, though the dyeing/finishing is outsourced. The main markets for their products is Russia for garments, but they also sell yarn to China.

The factory has 18'000 spindles producing 9 tons a day of yarn with 220 employees, meaning 81 spindle per person, compared with say 250 spindles per person in a modern set up. In the garmenting area they employ 160 workers.

The Committee then visited Bofanda, Samarkand Apparel, and were received by the owner Mr. Aziz Akhrarov, together with some other gentlemen who were visiting at the same time, namely Mr. Bahtiyor Umarov (Ideal, Uzbekistan) and Mr. Morislav Tsankov (Diogen, Bulgaria).

Bofana only deal with cotton products, woven and knitted, the dyeing/finishing being currently outsourced though they do intend to introduce these processes in the future. They use the Continuous Improvement program in the production system, which the Committee felt was a good indicator for a positive future in this very competitive market.



Samarkand Apparel is a joint venture with Youngone of Korea, which is just being set up with the intention of importing man-made fibre fabrics for garment production. Basically Mr. Akhrarov is offering the premises and local knowledge, and Youngone putting up the capital. The preparation for the cut-sow area is impressive offering the maximum flexibility in the placement of the sewing machine. Mr. Sung, Chairman of Youngone, apparently directs every step of the plans for new building being proposed and constructed, as well as the current installation. Mr. Akhrarov mention a very interesting point that though he has years

of experience in manufacturing garments, technically, what he has appreciated, has been the art garment manufacturing management from Youngone, which has been immeasurably useful and satisfying for the joint venture.

Being in Samarkand the Committee also visited the cotton terminal which followed the same pattern a previously. The management commented that buyers could only take delivery via the terminals, and that the terminal is fully covered by insurance. 4 gins deliver to this terminal, and as before each shipment lot can be inspected by the buyer and accepted or rejected after drawing samples at their own expense. They normally draw up to 10%. The Committee were curious about this procedure since the cotton is fully classed by SIFAT, where was the need for this inspection? There was a buyer's representative at the terminal and he confided that their inspection did not always coincide with the official class, admittedly the variation was small, slightly more leaf but the main divergence was the staple. Based on the mixture of cotton in the piles at the gin, though officially the same variety, the Committee found the staple length on seed cotton varied at the locations visited, so there could be a

sample variation when drawn from the same bale. The Committee also discussed the advantages of roller ginning over saw gins to preserve the excellent staple found on the plants.

Though not on the program, the Committee were able to visit another gin the Samarkand Area. This gin was working and the Committee was able to establish the temperature in the drying drum was only at 47°C. This excellent since there is no damage to the fiber at that temperature. The gins were Chinese “Swan” manufacture and though equipped with two impact lint cleaners only one was operating. Otherwise the gin followed the standard pattern seen in other locations, which is not surprising as the gins are under the ownership and control of the government.



The Committee then returned to Tashkent from Samarkand by the bullet train, a very efficient and comfortable system.

Once again the Committee expresses it thanks to the organizers and support that was received though out the entire visit. The Committee appreciated the efficiency of the system which lies behind the complex and diverse channels through which the cotton travels from the farm to the final product, and is confident that with a gradual modernization of the ginning sector, Uzbekistan will continue to hold and increase its important role in the cotton textile world.

**December 2016**