



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

Spinners Committee

Travel Report

China 2014

From October 19-25, 2014 members of the ITMF Spinners Committee visited China 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 whenever it had the opportunity to visit fields, gins, mills, cotton organisations, research institutions or governmental bodies. The hospitality of all hosts was outstanding and made the country visit not only very informative and educational but also very agreeable.

The Committee would like to express its special gratitude to Mr. Terence Yu and Mr. Steven Qi (Sunrise Resources, - now SunBliss Resources - Hong Kong, China) who not only assisted in the preparation of the visit but also accompanied the Committee and served as interpreters/translators during the various meetings whenever necessary. Furthermore, the Committee would like to thank Dr. John Cheh (Esquel, Hong Kong, China) and his team in Xinjiang for the kind support and assistance during the visit to Xinjiang.

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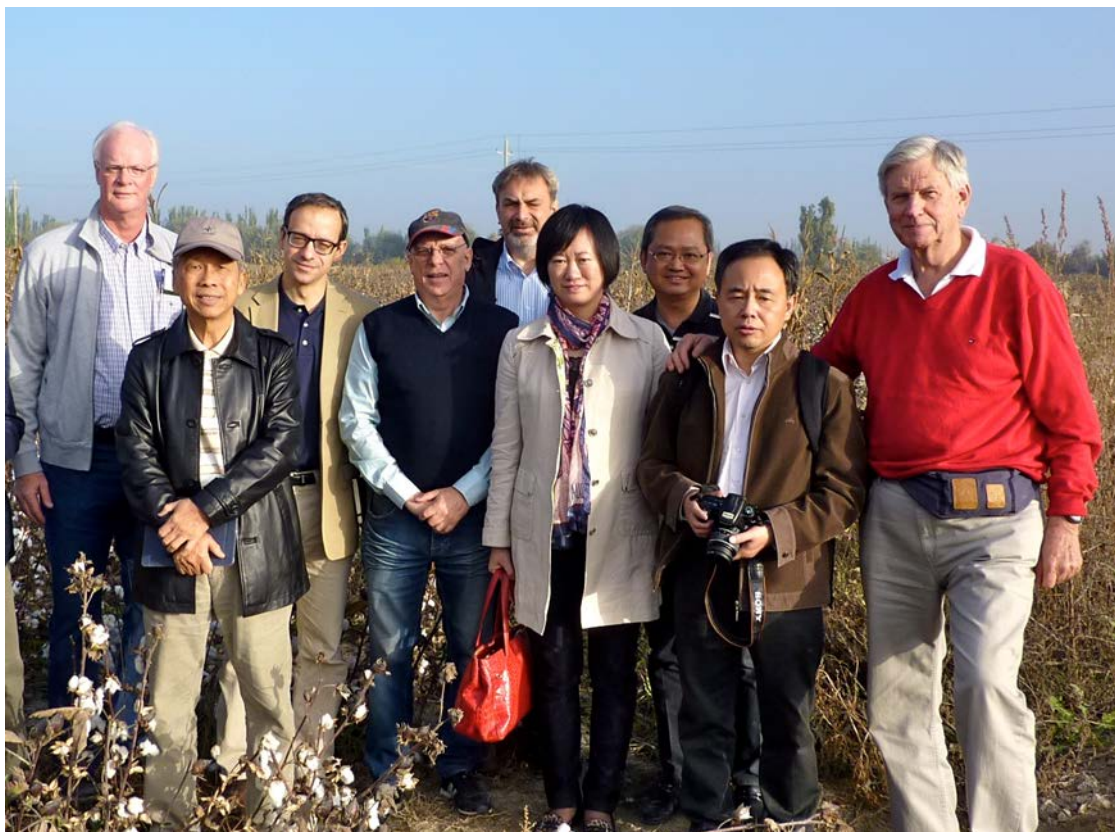
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Objectives of the Visit

- To review the situation of cotton growing and ginning in China as compared to 7 years ago when the ITMF Spinners Committee visited China in 2007
- To evaluate the situation regarding contamination of cotton
- To evaluate the ginning and detect improvements
- To evaluate the potential for production over the next years
- To evaluate the local centres marketing system
- To note the comments of the textile industry as regards their view on cotton in China
- To evaluate the sustainability of GMO cotton in China over the next years
- To evaluate the evolution of BCI cotton in China

Program

The Committee visited cotton-growing areas in the provinces of Xinjiang (North West), Hebei (Yellow River Delta) as well as of Jiangsu and Shandong (Yangtze River Delta), textile mills in Urumqi/Xinjiang and Wuxi/Jiangsu. Furthermore, it had a meeting with officials from the China National Cotton Exchange (CNCE) in Beijing, and with the Deputy Commander of Xinjiang XPC in Urumqi, Xinjiang.



EXECUTIVE SUMMARY

Overall Comments/Impressions

- **To review the situation of cotton growing and ginning in China as compared to 7 years ago when the ITMF Spinners Committee visited China in 2007**

The Committee had the overall impression that ginning installations in China had improved since the last visit in 2007. The gins in Xinjiang visited were extremely well organized, clean and well maintained. The saw gins visited in the other provinces had received little new investment recently which perhaps is not unexpected as the Government emphasis today is concentrated on Xinjiang. But even so, overall it gave a better impression than on the previous visit.

- **To evaluate changes in production**

In the West of China, the Xinjiang cotton production has expanded since the last visit. This region has been earmarked by the government as the region where cotton production should be concentrated in the future. The level of mechanization is significantly higher than 7 years ago, especially in picking. In the XPPC, known as the "Military areas", the farming practices appear to be very professional. Fields are in a very good condition with very little evidence of weeds and insect infestation. However in the other areas, i.e. non-XPPC, those fields visited were not so clean and showed a certain absence of attention. Drip irrigation is the norm in both the XPPC and non-XPPC areas.

On the other hand cotton production in the East has not changed since the last visit of the Committee in 2007. The majority of producers are smallholder farmers for which cotton is one of many possible crops. Since the price of cotton has fallen below costs, cotton production has fallen significantly and is expected to drop further. The cotton is still handpicked, dried on the patios or streets and then sold to middlemen. In Jiangsu the fields were very poor, indeed worse than our previous visit though admittedly the weather had been unsatisfactory.

In the Eastern Provinces there is clearly a significant lack of labour, in most of the areas visited. The evidence of the age of the farmer workers, pickers, and those tending to the drying of the cotton, lead the Committee to this conclusion, which was subsequently confirmed by those we spoke with. Many farmers plant on the orders of the local authorities, rather than for any other economical consideration. There is also an absence of any real modern mechanisation as regards transportation, though, during this visit we did not encounter any animal drawn transportation. Cotton is being moved on small trucks or motorbike like trucks as well as on electric bicycles. However, these changes that have occurred are still a far cry from the changes in the busy capital cities of China.

- **To evaluate the situation regarding contamination of cotton**

The Committee noted that with the transition from hand-picking to machine-picking, in those areas using machine pickers the contamination of plastic had increased compared to the previous visit. Chinese cotton farmers generally use plastic films to cover the cotton seeds after sowing in order to keep the moisture in the soil and to hold the warmth during the night. When the cotton is machine-picked parts of these plastic films are scooped up and end up in the seed cotton. In Xinxiang the authorities assured the Committee that a thicker plastic will be used in the future though the Committee recommended using a sunlight bio-degradable plastic, so that it would have disappeared at the time of harvest. An alternative solution would be to use a coloured plastic being easier to detect at the spinning mills.

The other problem is that in an endeavour to pick 100% of the cotton bolls on the plants, the spindles on the harvesting machines are set aggressively, which ensures a 95% pick, but, leads to bark being introduced into the cotton as the spindles scrape the stalks of the plants

As far as handpicked cotton is concerned the problem of contamination continues as it does in all countries. None of the saw gins visited in the Eastern Provinces had systems for contamination extraction prior to ginning.

- **To evaluate the ginning and detect improvements**

The roller ginning in Xinxiang, especially at the Esquel installation, is excellent. At Esquel the attention to details, the housekeeping, the cleanliness and the white cotton uniforms used by all the workers was outstanding. The XPPC gins visited did not meet this high standard, but they were good, though there was clear evidence of the contamination by the plastic film which had been placed over the seeds, having being harvested together with the cotton.

In terms of ginning of both the long- and extra-long staple cotton, they were all carrying out an excellent job both in terms of collecting, separating, storing and pre-cleaning the seed cotton and, applying gentle roller ginning, thus preserving the intrinsic values of the cotton

The Committee had the impression that in general the saw ginning in the East has not changed since the last visit in 2007. Currently, the seed cotton is piled based on production characteristics (e.g. day of harvesting, total duration of plantation, etc.). As the cotton is intrinsically similar there is not much separation by quality, especially as the middleman does not have the capability of testing the quality before purchasing from the small farmer. The criteria as mentioned above have proven to be a more accurate guide on the quality.

- **To evaluate the potential for production over the next years**

It must be expected that cotton production in China will see a major shift from the East to the West as the new cotton policy favours the West (Xinjiang) rather than the cotton production in the deltas of the Yangtze River and Yellow River in the Eastern Provinces. It is expected that cotton production in Xinjiang will increase from currently around 4.5 million tons to approx. 6.5 million tons, close to today's total Chinese production of 6.7 million tons. During this period cotton production in the East will gradually decline. Yields are good, perhaps at the expense of meeting spinners' requirements by focusing on coarser micronaire. The policy of the past 3 years has promoted yield over quality. This now requires the re-building of the relationship between cotton lint producers and spinners (as confirmed by the Deputy Commander of XPCC). The cotton lint producers paying more attention to spinners' requirements will achieve this. Also, perhaps the new cotton policy could assist in this regard as the price spinners will be prepared to pay will be influenced by quality considerations. Previously cotton went straight into the government stocks where quality for spinners was not of prime importance.

- **To evaluate the marketing system in China**

At a meeting with the China National Cotton Exchange (CNCE) the Committee was informed about the mechanism of this trading platform for spot cotton in China as well as the other functions of the exchange. CNCE provides an array of services such as trade settlement, physical delivery, warehousing and logistics, trade financing, information and training. The exchange also trades and handles imported cotton. CNCE is also in charge of the warehousing of the national cotton reserves from the China National Cotton Reserve Cooperation (NCRC).

- **To note the comments of the textile industry as regards their view on cotton in China**

The quality of the Chinese cotton suffered during 2011-2014 when the government paid a minimum price to encourage production and support farmers. The producers' focus was

directed mainly on quantity not quality, since the vast majority of the cotton produced was taken up by the government and went into the National Reserves. This led to a certain disconnect between cotton producers and consumers, and it is hoped that better quality will be restored when the new cotton policy (as of 2014/2015) will shift from the minimum price system to a subsidy system.

Those cotton mills spinning high count yarns regretted that the general level of contamination in Chinese cottons (e.g. plastic films, bark, etc.) is still relatively high compared to imported growths.

- **To evaluate the sustainability of GMO cotton in China over the next years**

The efforts to intensify the research of BT cotton seeds was evident. GMO cotton seeds are constantly developed for each region (Xinjiang, Yangtze River Delta and Yellow River Delta) in order to develop best varieties. In this context the Committee regrets that most of the time the focus is put on yield only and not on quality. When yield improvements are achieved by increasing the micronaire, the overall spinning value of the cotton deteriorates

It was interesting to learn that research efforts for GMO cotton are not only undertaken for upland cotton, but also for extra-long staple cotton.

- **To evaluate the evolution of BCI cotton in China**

BCI cotton is making important progress in the Chinese marketing system, and with the change to marketing with the Mass Balance System the tendency for this program to expand will be important for China as textile exporting country. Premiums for the growers and ginnerers were noted in some areas, which in theory should not exist. In the long term, the Committee believes, that these premiums will disappear as production increases.

GENERAL DETAILED COMMENTS

Production Areas

The Committee could observe first-hand how production of cotton is declining significantly in the deltas of the Yangtze and the Yellow Rivers where cotton production is dominated by many smallholder farmers. At current seed cotton prices of around RMB 6.7/kg (=USD 1.09/kg = USD 0.50/lb) farmers cannot cover their production costs (approx. USD 1.50/lb) and are depending on subsidies to compensate for the deficit. The subsidies in the river deltas are expected to be only around RMB 2'000/ton (=USD 0.33/lb). This is not enough to reach breakeven at current cotton prices (USD 0.70/lb), and so there is no long-term incentive to produce cotton in these regions at these cost levels.

The situation is different in the autonomous region of Xinjiang where the majority of cotton is grown. Of the approx. 6.5 million tons produced in China 2013/14 approx. 4.5 million tons were grown in Xinjiang. As the aim of the new Chinese cotton policy is to further concentrate cotton production in Xinjiang, the subsidies paid in Xinjiang are higher. The target price for cotton lint is RMB 19'800/ton (= RMB 8.5/kg seed cotton).

Note: According to the ICAC the cost of producing one kg of seed cotton in China in 2012/13 was on average USD 0.73 (at the exchange rate of USD=RMB 6.2); the world average was USD 0.43.

According to the ICAC the cost of producing one kg of cotton lint in China in 2012/13 was on average USD 2.06 (at the exchange rate of USD=RMB 6.2); the world average was USD 1.50.

Farming Practices

The farming practices and quality observed in the different regions differ quite significantly. While in Xinjiang the fields seemed to be in a very good state, especially those of the large coops, the situation was different in the smaller fields. Some were excellent, others in poorer conditions.



Cotton fields in Xinjiang (left) and in the East (right)

Drip irrigation is applied in Xinjiang in order to save water and hence reduce cost of water. The availability of water will be the greatest challenge for Xingjian's production growth. In the river deltas where water is not scarce, cotton fields are still flooded. Both in Xinjiang and the Yangtze and Yellow Rivers delta, farmers use plastic films after sowing in order to keep the moisture and warmth in the ground; however, as mentioned earlier they are a huge source of contamination.

It was interesting to observe that the uniformity of the height of the cotton plants in the various cotton fields all over China was very good. The Committee learned that this uniformity is achieved by snapping/cutting off the top of the plants once a certain height is reached. In Xinjiang the tops off the cotton plant are cut off about 80 days before harvesting in order to stop the growth and stress the plants and thereby encourage vigor in fruit production and hence increase yield. This is a huge labor and cost intensive effort, but necessary to achieve good yields, and to facilitate the picking, be it by machine or by hand.

In the cotton growing regions of the river deltas in the East the numbers of smallholder farmers is enormous. Since the average farm size is only about 0.3 hectare, the degree of mechanization is still very low. This leads to a labor-intensive production (e.g. cutting off the tops of the plants, spraying, hand-picking, etc.) that is becoming more and more expensive. It was interesting to note that in most of the fields old persons are working. The younger generation seem to have left the farms.

In some smaller areas the farmers are planting cotton in wide rows in order to grow other crops in between to improve their income.

Contamination

The level of contamination of Chinese cotton has increased in recent years. One reason for this development is the expansion of machine picking in connection with the plastic films and irrigation tubes used in China.



Source of contamination: plastic film



Source of contamination: plastic irrigation tubes

Furthermore, with the transition from hand-picking to machine-picking not only the leaf content was increased, it has also led to bark being present in the seed cotton, resulting from the harvester machine spindle settings. Currently the settings are too tight allowing the spindles to scrape the bark off the plant; but the trade-off would be that by adjusting the settings to reduce the presence of bark, the yield would drop as some cotton would be left on the plants. Currently, approx. 5% of the cotton is left in the field (international average after machining picking is around 10%). Certainly significant improvements are possible and feasible.



Source of contamination: bark

Another source of contamination that the Committee observed was the fact that very often the seed cotton is being transported in woven poly bags.



Source of contamination: woven poly bags

In Xinjiang the XPCC, the largest single producer of cotton in China with a production of 1.6 million tons (on 600'000 hectares) where approximately 70% of the cotton is machine-picked, is trying to tackle this problem of plastic contamination by using thicker plastic films (0.008 mm instead of 0.004 mm). It is expected that the thicker and heavier film will not be taken up by the harvesting machines, and that they can be removed from the fields at the end of the harvesting period and used again. In this context an additional problem is the fact that the current plastic films are transparent, which makes it difficult to detect in the cotton at the spinning mill especially having gone through the ginning process. Coloured plastic films would certainly be preferred for this reason, as it would be easier to detect in the blow rooms.

Picking

When looking at cotton picking in China one has to differentiate between the cotton growing areas in the West (Xinjiang) and the East (river deltas). In Xinjiang the share of machine-picked cotton has increased significantly to approx. 60-70% due to the high labour costs. The vast majority of cotton production in Xinjiang is taking place on larger areas that allow for mechanical harvesting, but this is not the case in the East. In the Eastern Provinces most farms are smallholder farmers with an average size of around 0.3 hectare.



Machine picking in Xinjiang (left) and hand picking in the river deltas of the East (right).

Yields

The yields in China are generally high compared to the world average.

	Yield						
	(kg of lint per hectare)						
	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
CHINA	1,239	1,339	1,467	1,514	1,521	1,529	1,537
WORLD	756	771	777	778	759	746	741
Source: ICAC, Cotton: World Statistics, September 2013							

In Xinjiang the yields were as follows:

- Upland (GM cotton): 200 kg per mu x 15 = 3000kg/h seed cotton or 1200kg lint
- ELS (GMO cotton): 130 kg per mu x 15 = 1950kg/h seed cotton or 702kg lint
- ELS (organic cotton): 100 kg per mu x 15 = 1500kg/h seed cotton or 525kg lint

In Guoxin the yields were:

Upland (GM cotton): 275 kg per mu x 15 = 4125kg/h seed or 1650kg lint

Organic Cotton

In Xinjiang only 2% of total cotton production is organic.

BCI Cotton

The Committee visited the Guoxin Cooperative in the province of Hebei, which is the largest cotton seed supplier in China, as well as the largest cotton growers' cooperation organisation. Guoxin has more than 60'000 members in 12 major cotton growing regions and provinces (including Xinjiang).

Guoxin is a member of BCI for three reasons:

- 1) The sustainable concept of BCI (e.g. less waste of fertilizer, water, etc.) is convincing
- 2) BCI cotton is well promoted
- 3) The quality of the cotton is improved, with better farming practices and including less contamination (e.g. the plastic film is removed prior to harvesting)

The yields and the costs of BCI are comparable with conventional cotton, even so they are able to receive a premium for this cotton. Since joining BCI in 2011/12 they have produced annually on average approx. 10'000 tons of BCI cotton. In 2013/14 production has dropped to 6'000 tons. In the past BCI cotton was only hand-picked, but now approx. 1/3 is machine-picked.

Transportation

In Xinjiang where the cotton is predominantly machine-picked the cotton is transported directly from the fields to the gins on open trucks. Smallholder farmers, who have hand-picked their cotton, transport it on smaller vehicles to middlemen, who then transport it on larger ones to the gins. In the more humid cotton growing regions in the East smallholding farmers often need to dry the cotton first on their patios or on the narrow public streets before they can sell it to the middlemen.



Small open truck (left) and cotton drying on patio (right).

Spinning Mills

The spinning mills visited by the Committee have focused on the production of fine count yarns of consistently high quality and this clearly has been a successful strategy. In those mills visited it is clear that their knowledge of cotton spinning coupled with their knowledge of manufacturing management has allowed them to be successful in a technically difficult market. This illustrates that it is not always a requirement to have a state of the art equipment to be successful as a spinner.

From Old to New Cotton Policy

The old cotton policy was based on a minimum support price system. The minimum support price was around RMB 19'800/ton (=USD 1.49/lb with the USD=RMB 6.1) in the past 3 years. This made the Chinese cotton spinning initially – when international cotton prices were higher (late 2010 and beginning of 2011) – very competitive; but once international cotton prices fell below this price level (around May 2011) Chinese cotton spinning mills became uncompetitive internationally as they were forced to buy cotton from the National Reserve at those high prices (if they did not have access to imported cotton). As Chinese cotton yarn became too expensive compared to imported yarn that was not restricted by any quotas, the imports of cotton yarn soared tremendously after international prices fell back below USD 150/lb.

The new cotton policy that will change from a minimum support price system to a subsidy system was about to unfold during and after the visit of the Committee. Its details have not yet been fully communicated. For the spinners the new policy means that cotton can be purchased at market prices and hence they can operate in a more predictable and stable environment. In this context one estimate is that this might lead mills to hold higher stocks levels, which in return might result in the medium-term to a reduction of the National Reserve. Since the government had announced that imported cotton will be limited to the minimum requirement under the WTO agreement, the National Reserve might indeed be reduced somewhat from its record highs. The National Reserve has declared that they will not buy, nor sell from their stock until March 2015. As such, the only cotton available for the Chinese spinners until March will be from the new crop and the imported cotton.

INDIVIDUAL VISITS

October 19, 2014

- **Visit of the China National Cotton Exchange (CNCE) in Beijing**
 - Mr. Jeremy Wang Jian – VGM International Department
 - Mrs. Jenny Dong – International Department
 - Mrs. Zhang Man – Deputy GM Cotton Outlook Consulting Co
 - Mrs. Su Jing – Deputy GM Cotton Outlook Consulting Co

The Committee visited CNCE, the neutral trading platform for spot cotton in China. CNCE informed the Committee about their various other services (www.cottonchina.org) and its role in the new cotton policy. The Committee was shown a live demonstration of the warehouses monitoring system, showing that from the headquarters in Beijing it is possible to monitor the warehouses all around the country.



Visit of the China National Cotton Exchange (CNCE) in Beijing.

CNCE's customers are registered members, ginneries and textile mills in China, and around 400 agents. In total CNCE has more than 4'200 registered members representing over 80% of China's annual cotton consumption. CNCE services also include such as trade settlement, physical delivery, warehousing and logistics, trade financing, information and training. The exchange also trades and handles imported cotton.

CNCE is also in charge of the warehousing of the national cotton reserves from the China National Cotton Reserve Cooperation (NCRC). With an estimated 12 million tons of cotton stocks in China at the end of 2014/2015, of which the vast majority is held by the NCRC, the CNCE has had to handle enormous amounts of cotton. CNCE has developed an electronic monitoring system of the warehouses that allows online monitoring. Each cotton bale lot of 186 bales is equipped with a RFID chip that carries all necessary information about each single bale as well as real time information about the current conditions where the bales are stored.

The CNCE is playing a key role in the transition of China's cotton policy from a guaranteed minimum support price system to a subsidy system. The cotton farmers (or middlemen) sell their seed cotton to certified ginning mills at the market price, or are paid an advance to cover the production costs. The lint is stored in a certified warehouse where the sampling and testing of the cotton will be conducted. The ginner, as the owner of the ginned cotton, offers/sells the cotton to the open market at a market price. In January/February 2015, the farmers will receive the calculated subsidy from the government. This is expected to be the difference between the guaranteed price (RMB 19'800 RMB/ton = USD 1.46/lb) and the average market price. It is expected that there will be a cap that could be around RMB 6'800 per ton. The release of the subsidies to the farmers will be on the basis of the warehouse data and CNCE will be responsible for the distribution.

When trading imported cotton CNCE stands in between the buyer and the seller charging only a service fee.

CNCE also fulfills the role of sharing information with the textile community in China and worldwide. In the near future, they intend to expand into the trading of cotton yarn through the www.chinacotton.org platform.

A discussion point was about what are the determining factors of the market price that the ginners will buy from the farmers. The Committee was informed that the driving forces relate to the spinning mills' demand, the international prices of cotton, the availability of quotas for imported cotton and the availability of Chinese cotton (although it is a general belief that the farmers will deliver their seed cotton to the ginners and not store it).

- **Meeting with Deputy Commander of Xinjiang XPCC in Urumqi (Xinjiang)**

The Committee met the Deputy Commander of Xinjiang Production & Construction Corps (XPCC), Mr. Kong Xing Long.



Meeting with the Deputy Commander of Xinjiang XPCC, Mr. Kong Xing Long.

XPCC is the largest owner of farming land in China, (about 1.1 million hectares) and the single largest producer of cotton in China. They plant 650'000 hectares of cotton producing 1.6 million tons of cotton. China produces 6.5 million tons and Xinjiang Province alone produces 4.5 million tons. XPCC employs around 2.7 million people, and as the largest single unit in China, XPCC owns 1'750 picking-machines and 204 ginning mills (382 production lines) with 14 divisions and 176 state owned farms.

The Committee had an interesting discussion about the evolution of cotton production in Xinjiang and the changes in harvesting from hand- to machine-picking, the level of contamination and the variety of different seeds.

With an ever-increasing scarcity of labor together with rising labor costs and with the modern cotton quality demands XPCC activated a series of measures to address these emerging needs such as:

- 70% of the cotton in Xinjiang was machine picked during the last season.
- Implementation of rigorous quality control on farming, ginning and handling of cotton.
- The challenges faced with the rapid transformation of the production practices.
- The design of the harvesting machines (some of them are local made) and the farming practices that are not yet harmonized to cope with this change (narrow planting).
- The cotton quality variation caused by the huge variety of cotton seeds that are available within the Xinjiang province so that XPCC will restrict the use to only 3-5 varieties in the large-scale cotton production divisions.

In a similar fashion, another improvement recognized was the determination of the right period for defoliation. Currently, spraying takes place about 20 days before harvesting, but an accurate timing is crucial to protect the quality of the cotton and facilitate the mechanical harvesting.

In ginning, XPCC intends to modernize the gins by equipping them with on-line quality monitoring systems to guarantee an optimum quality. Such systems are in an initial phase and have been currently installed in three gins.

At the gin the XPCC intends to improve the handling of the seed cotton before ginning. Currently, the cotton is piled based on production characteristics (day of harvesting, total duration of plantation, etc.). In the future the intention is to separate by quality characteristics.

They are trying to reduce the time of processing the cotton, from harvesting to ginning, in order to reduce the potential risk of harming the quality.

October 20, 2014

• Akesu division 1 – Cotton field and ginning mill visit

The city of Akesu is called “Capital of Cotton” as 700’000 to 800’000 cotton lint are produced there every year. The extra-long and long staple cotton is produced with conventional (non-GM seeds) whereas the short staple cotton is mostly produced with GM-cotton. The average gin turn-out (GTO) of short staple and extra-long staple cotton is around 40% and 34%, respectively.

Most of the cotton plants are drip irrigated with the irrigation tubes currently being used only for one season, unlike in many other countries where the pipes are used for 10-12 years. The reason for that is the quality and the lack of specialized equipment, which is required to “harvest” the drip tubes.

Planting of cotton consists of the following steps:

- Placing of the irrigation tube
- Placing of the plastic foil on the ground
- Making a hole on the plastic foil
- Planting the cotton seed

There are apparently devices that achieve step 1-4 at the same time, but the Committee did not see these in operation.

The fields were uniform in their height proving that the capping of the plants works well.

- **Visit of a roller gin installation owned by Esquel in the region of Akesu (Xinjiang)**

The Committee recognised a well-organised roller gin set-up (punch blade ginning) ginning extra-long-staple cotton with a clear evidence of excellent housekeeping. The cotton is ginned with a unique in-house developed roller-punching system.



Esquel's roller ginning mill in Akesu (Xinjiang)

The operation is as follows:

1. The farmer's/middleman's truck with the seed cotton arrives at the gin. The cotton is covered with cotton cloth only.
2. A gin employee takes a sample of cotton, measures the moisture and checks the ID of the cotton from the farmer, seed variety, area, etc.
3. The seed cotton sample is ginned in a laboratory gin stand.
4. The ginned sample goes in the laboratory where a full HVI-test for length, strength, micronaire, etc. takes place.
5. Based on the test results, the moisture content and the seed variety (though not always available) the responsible person from the gin decides on which pile to unload the seed cotton.
6. There are two piles: 90% is ELS and 10% XLS
7. An aerial pipe network connects each cotton pile to transfer the cotton to the gin.
8. Inside the gin the seed cotton feeds a pre-cleaning tower machine before being transported to roller gin stands.
9. The roller gin method was modified by Esquel to protect the fiber length, when separating from the seed, employing a "punching barrier". This slows down the gin's speed but the result is a very long fiber with high length uniformity and very low neps.
10. The cotton lint is finally pressed into a bale at a hydraulic press, adding the required amount of moisture at the press slider.
11. A tag with a barcode ID is printed and attached to the bales.
12. At the same time, a sample is taken for the CFIB quality testing.
13. The bale is ready for storing outside the ginning mill before shipping to the spinning mill.

- **Visit of cotton fields in the region of Akesu (Xinjiang)**

The Committee visited a cotton field where short-staple upland cotton is grown. During the visit it was confirmed that also for short staple the irrigation pipes, the seeds and the plastic films are placed mechanically and are covered with soil at the same time. The period between planting and harvesting varies in Xinjiang; in the North it is around 120 days, in the South around 143 days. Defoliation takes place by spraying 20 days prior to the harvest, and the tops of each cotton plant are cut off manually (after the 7th or 8th branch) to control the plant height.

- **Visit of a saw gin (XPCC) in the region of Aksu (Xinjiang)**

The Committee visited a saw gin where upland cotton is ginned. The gin was very clean and well organised with concrete patios. The seed cotton was piled according to the source of production.



XPCC's saw ginning mill in Akesu (Xinjiang)

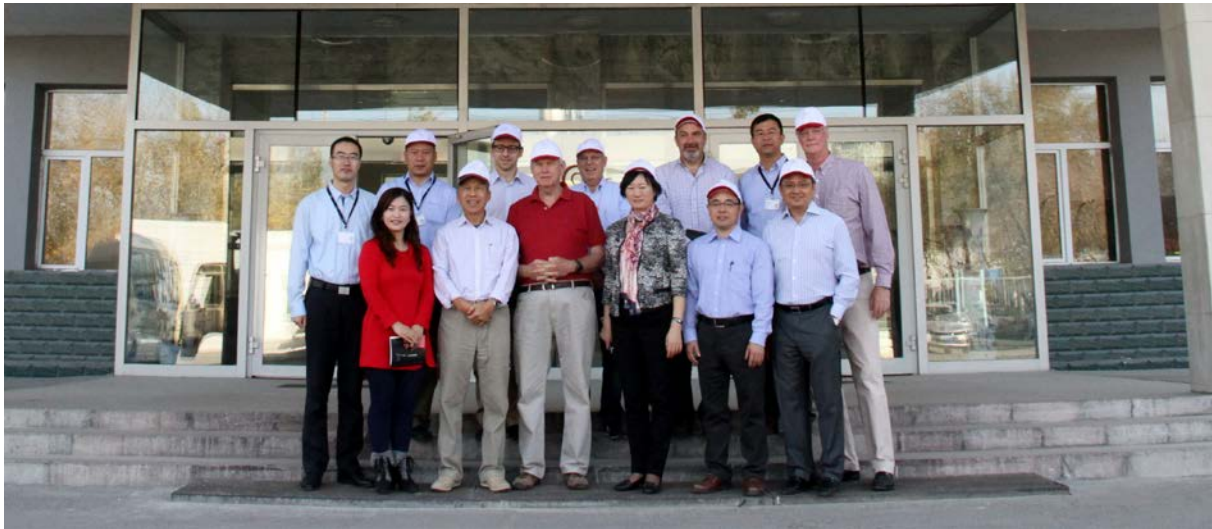
In Xinjiang the cotton seeds after ginning are used for oil production and other side products but not as sowing seed.

The Committee observed the presence of round modules, an evidence of the existence of the latest technology. However, plastic films could be found in the seed cotton.

October 21, 2014

- **Visit of Esquel's Spinning Mill in Urumqi (Xinjiang)**

The spinning mill of Esquel produces high-count cotton yarns for shirting. The most popular yarn is a Ne 80 ranging from Ne 80 to Ne 300. Esquel showed in trials that yarns up to Ne 700 (15 fibres in a cross section) can be spun. The factory in Urumqi has 280'000 spindles and produced 24'000 million yards of knitted fabrics and 140 million yards of woven fabrics. Total invoicing was USD 1.3 billion in 2013 (47% woven and 33% knitted products). Ne 80 double ply yarn is the most popular yarn for shirting.



Visit of Esquel's spinning mill in Urumqi (Xinjiang).

The contamination extractors installed in the blow-room remove around 70% of the contamination (they are performing trials with upgrades and additional sensors to boost the performance of the blow-room detection) and in the winding machines the yarn clearers do a good job of removing the remaining contamination.

70% of the yarns produced are consumed by Esquel in their weaving and knitting facilities in the Province of Guangdong in the South of China. The balance for the weaving/knitting is purchased from other suppliers. To complete its vertical integration from cotton to brand Esquel owns its own brand "PYE" and has opened its own "PYE" shops in various Chinese cities including Beijing, Chengdu, Guangzhou, Hong Kong, Shanghai and Urumqi.

Esquel also owns cotton farms where they produce organic cotton for specific customers. Currently only 2% of the total production in Xinjiang is organic cotton.

Beside the business aspects, Esquel is extremely active in various welfare programs supporting the local society. Since 2003 Esquel invested more than RMB 20 million in such welfare activities.

- **Meeting with XPCC in Urumqi (Xinjiang)**

Mr. Zhang Yan Lin, the Deputy Director of Supply and Marketing Cooperatives of XPCC, hosted a meeting with representatives from the XPCC. The Committee shared the impressions it collected during the past 2 days with the XPCC and discussed the consequences of the cotton policy introduced in 2011. The high guaranteed procurement prices for seed cotton strengthened cotton production in the past 3 years – production increased to approx. 1.6 million tons of lint (on an acreage of approx. 9 million mu or 600'000 hectare). However, the high guaranteed procurement prices for cotton effected the relationship between farmers and the cotton spinners.

Under the new policy the gin delivery prices are collected between September and November, and the average price is based on the standard quality 328 whilst applying premium/discount for the other qualities.

XPCC makes two payments to the farmer:

1st: at the gin upon delivery of the seed cotton.

2nd: after 3 months the subsidy is paid based on average price.

However, in their opinion the scheme requires adjustment in Xinjiang as the production in savannah area is not productive.

Alternative crops are tomato, grain, etc. but volatile prices for these products make them less attractive and clearly the Government wants to stabilize cotton production in China.

The government is responsible for the seed varieties and the farmers buy the seeds against cash payments.

The visit to Xinjiang terminated and the Committee travelled back to the East.

October 22, 2014

- **Visit of the seed breeding and cotton growing company Guoxin in Hejian City (Hebei)**

The Committee visited Guoxin, a producer of cotton seeds as well as BCI cotton. Guoxin was founded in 1984 by 12 farmers and has grown into a coop of more than 60'000 farmers with 18 representative offices in all the important cotton growing areas in China including Xinjiang.

Guoxin is a member of BCI since 2011 and owns 1'000 mu for experimental purposes and for upland cotton they have in Xinjiang (4'000 hectares of farmland). Their members cover 20 million mu in total. Their total BCI cotton production in 2011-2013 (average) was 10'000 tons whilst it was 6'000 tons in 2014.

Compared to conventional cotton they receive a higher price for BCI cotton (premium) and have found no impact on the yield or costs applying BCI criteria. Previously all BCI cotton was hand-picked, but now 1/3 is machine-picked.

As regards seeds these are developed and produced separately for each region (Xinjiang, Yangtze River and Yellow River) in addition to GMO seeds for the various regions.

As regards costs in the East, the subsidy is only RMB 2'000/ton which barely covers the costs. For example, production costs are estimated at USD 1.5/kg while the revenue (incl. subsidy) is USD 1.15/kg. Clearly, this is not a sustainable approach and their production will be reduced further provided they do not need the area for breeding purposes.

The gin turn-out rose from 40% to 43%; but then the micronaire reached 5.0, discounting its value substantially.

The Committee visited their cotton gin where the seed cotton is piled by farm, variety and grade. They permit a maximum moisture of 8-8.5%, if it is higher, it goes back for drying.

The visit to their BCI-field looked similar to other cotton fields that the Committee had visited. The cotton will be machine-picked with the usual plastic on the ground and irrigated by flooding. Interestingly, there were 3 fields next to each other with different varieties – one field with long staple cotton.

October 23, 2014

- **Visit of cotton fields along the road in Hebei**

During the drive through the Province the Committee had the opportunity of meeting with middlemen who buy cotton from smallholder farmers. However, the process as to how the subsidy reaches the farmers was not clear. From the discussions it seems the middleman will receive the subsidy of RMB 2000/t as he is the deliverer of the cotton at the gin. Whether this is shared with the ginner was not clear, though it seems very likely, since it is the ginner who has to sell the cotton to the industry.

In one village the cotton acreage had shrank from 50% (1'500 mu) to 10% (300 mu) within one year with a total acreage of only 3'000 mu. In future they intend to reduce the acreage further and plan to grow other crops instead. However, it is the village chief who decides how much cotton is grown. The area of 300 mu for cotton production is divided among farmers who receive the sowing seeds from the village chief.

In this area the farmers also cut off the top of the cotton plants but irrigate by flooding the fields once before planting.



Cotton field in Hebei Province

Planting is done mechanically with the seed under the plastic which stays on the ground. But this is not a problem since the cotton is all handpicked.

A big sign put up in April 2014 states that the aim is 10'000 mu!

- **Visit to Binzhou (Shandong)**

The area of about 6'400 hectare is alkaline and saline and therefore the option for crops is limited. About 50% is for cotton (BCI) and 50% for wheat (in rotation).

Unlike other areas they use plastic film that is 0.008 cm which is 2 times thicker. Normally it is only 0.004 cm. However, the plastic film is recycled and the stalks are sold to the power plant.

Being BCI they are using organic fertilizer and 20% less pesticides. They claim the cost is less and the yield 10% higher and there is no premium asked for or paid.

- **Jinan – visit small cotton farms and local ginning mills**

Visiting small cotton farms in Shandong province and talking to the farmers it became clear that less and less farmers are planting cotton simply because the crop is not profitable.

What was apparent from the very first moment that the scale of farming was completely different to Xinjiang Province with very small farms that are run literally as a "family business".

The cotton price for a farmer that was being delivered to an agent was RMB 6'700 – 6'800 /ton (hand-picked). The farmer could not afford to transport the small quantity he had to the ginner. Therefore, "agents" or middlemen act as whole-traders.



Smallholder farmers selling their seed cotton to a middleman.

The current price is not satisfactory at all for the farmers and those that can keep the cotton in their homes, as there are no warehouses, hoping for better prices.

In most of the cases the agents collect the subsidy from the government since they are delivering the cotton to the ginning mills being technically the owners of the cotton.

At the end of the day, the whole situation confirms the intentions of the central government that cotton cultivation will be concentrated in Xinjiang.

October 24, 2014

- **Visit of a gin in Dafeng (Jiangsu) and of cotton farms in Jiangsu**

In 2014, the county planted 12'000 hectare of which 50% was cotton. The gin visited in Dafeng was not running yet though the first farmers/middlemen had delivered some of their seed cotton to the gin. In 2013, this installation ginned 2'500 tons with a gin turn-out of 36-37% and a micronaire range of 3.7-4.5. They estimate the size of the next cotton crop will be 30% less.

The Committee visited some cotton fields and due to the higher temperatures and moisture levels no plastic film was being used. On average there were 3'000 plants/mu and 50 bolls/plant.

There was no irrigation and there was space between plants being reserved for wheat. As in other areas the tops of the plants had been cut off.



Handpicking cotton in the East of China.

Once again the Committee stopped at various cotton fields and talked to the farmers about their farming practices. As in the other Eastern provinces the farms are very small and mostly taken care of by old people since the younger already moved to the bigger cities. Almost everything in this region is done manually. The cotton is not irrigated and the yield in the fields are very poor.

October 25, 2014

- **Visit of Wuxi No. 1 Spinning Mill in Wuxi (Jiangsu)**

The Committee was welcomed at the mill and was immediately impressed by the excellent management. The mill was very clean and clearly organised very efficiently. It was considered an outstanding and privileged visit.

Wuxi No.1 was founded in 1919 in Hong Kong and now belongs to the government (51%) and to the Yarn Garment Management (49% - a Hong-Kong enterprise).



Visit of Wuxi No. 1 Cotton Mill

It has a total of 600'000 ring spindles, all compact with some SIRO, which, as regards the raw material, consume 1/3 synthetics (PES, CV, Modal, Tencel) for blends, 1/3 ELS cotton and 1/3 for upland cotton.

Their yearly cotton consumption is up to 30'000 tons from Xinjiang, USA, Australia and W. Africa while synthetics fibers consumption is around 10'000 tons per year.



Inside of Wuxi No. 1 Cotton Mill

The yarn production is 30'000 tons per year and is exclusively fine and extra fine counts (most popular is Ne 120) for both the local and the foreign markets. Some of the largest brands are customers of Wuxi No.1. In addition, they have 800 air jet looms.

In 2013 they produced 1'000 tons of BCI yarn using the "Mass Balance Concept" and, although there is a market and premiums are applied for both sourcing cotton and selling yarn, the quality of the available BCI cotton is poor and normally cannot meet their standards.

In 2013 they also experienced that the quality of the reserved cotton was not as good as expected. Therefore, just before an auction they check the HVI data of the available cotton bales and select the right quality for their needs and then make their offer.

Their cotton stock is between 2 and 6 months depending on the market conditions and their needs.

Stickiness is a serious problem which is found more often. In fact, during the Committee's visit, there had been a problem with a shipment of US Pima cotton that was sticky. They wished to have stickiness measurement with HVI data to solve such problems.

From the view of the textile business the following features made this textile organization special:

- A system that monitors their production 100% and online having all the data available for the managers even on their mobiles.
- The very low number of personnel equal to any western standard and practice. 25 people for every 10'000 spindles whereas the standard in China is around 100.
- They efficiently spin fine counts; no end-brakes in the ring spinning machine, no stops in the preparation, good care of the fibers through low processing speeds.
- Spinning Ne300 in compact spinning exclusively for an Italian weaver sold at a discounted price of 195 USD/kg!

In response to the question how the mills in China manage to compete globally with such high cotton prices the answer was that:

- They are using synthetic fibers as well to manage the costs
- They reduced the time of operation and production
- They produce fine counts with higher value

They still make losses but they believe that this is a temporary phase that they will survive.

Since the Chinese government announced the change in the cotton policy the mill started already to take a position for the new crop and to visit the Xinjiang ginning mills.

Generally, the new policy will help the spinners in China to compete and grow. The help will be more visible to the lower-end mills and to the production of coarser counts.

There are no major advantages and incentives for the spinning mills unless they are in Xinjiang where the taxation, land, power, etc. are much cheaper compared to any other area in China.

Finally, the release of the reserves is not considered as a major problem. If the reserves become available to the market at a favorable price and the mills invest in building their normal inventories – which currently are low – then there will be a reduction of about 30% and the balance would be manageable.

Various (but interesting) points

Costing in a Chinese spinning mill

- The mill has to pay, in addition to the salaries, 15%-20% of the salary as a contribution to the social security costs of the employee
- The energy cost in China is 0.73 RMB/kwh for industrial use. But in Xinjiang it is only 0.38 RMB/kwh
- The depreciation period in China is between 8-14 years for textile machinery
- The official interest rate is 6.5% but in practice it is 20%-40% (short term lending – not for long term investments)

February 2015