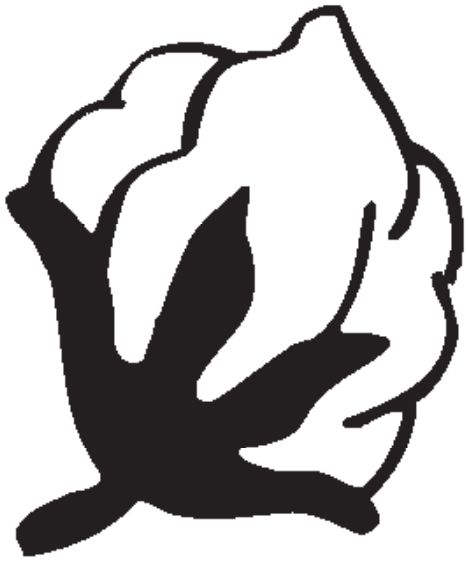


COTTON :
Review of the World Situation

International Cotton Advisory Committee

Volume 60 - Number 2
November-December 2006

Table of Contents

Tables

ICAC

SUPPLY AND DISTRIBUTION OF COTTON

December 1, 2006

Years Beginning August 1

	2002	2003	2004	2005 Est.	2006 Proj.	2007 Proj.
	Million Metric Tons					
BEGINNING STOCKS						
WORLD TOTAL	**11.882**	**9.961**	**9.228**	**11.906**	**11.93**	**11.56**
CHINA (MAINLAND)	3.988	3.033	2.796	2.537	3.11	3.32
USA	1.622	1.172	0.751	1.196	1.32	1.24
NET EXPORTERS	3.825	3.614	5.138	6.319	5.88	5.45
NET IMPORTERS 1/	8.057	6.348	4.090	5.587	6.05	6.11
PRODUCTION						
WORLD TOTAL	**19.303**	**20.708**	**26.285**	**24.664**	**24.85**	**25.10**
CHINA (MAINLAND)	4.916	4.871	6.324	5.714	6.50	6.21
USA	3.747	3.975	5.062	5.201	4.64	4.77
INDIA	2.312	3.043	4.131	4.148	4.59	4.51
PAKISTAN	1.736	1.708	2.482	2.089	1.99	1.84
UZBEKISTAN	1.022	0.893	1.134	1.210	1.10	1.16
BRAZIL	0.848	1.309	1.299	1.028	1.18	1.25
OTHERS	4.723	4.909	5.853	5.273	4.86	5.35
CONSUMPTION						
WORLD TOTAL	**21.333**	**21.592**	**23.356**	**24.773**	**25.53**	**26.05**
CHINA (MAINLAND)	6.602	7.224	8.239	9.617	10.19	10.60
INDIA	2.878	2.987	3.265	3.627	3.84	4.00
PAKISTAN	2.042	2.100	2.234	2.390	2.51	2.61
EU, C. EUR. & TURKEY	2.424	2.270	2.300	2.130	2.09	2.03
EAST ASIA & AUSTRALIA	2.075	1.879	1.988	1.901	1.90	1.88
USA	1.583	1.364	1.457	1.285	1.13	1.05
BRAZIL	0.800	0.875	0.900	0.870	0.87	0.87
CIS	0.691	0.673	0.630	0.625	0.64	0.64
OTHERS	2.237	2.219	2.343	2.329	2.36	2.37
EXPORTS						
WORLD TOTAL	**6.649**	**7.239**	**7.773**	**9.694**	**9.05**	**9.43**
USA	2.591	2.995	3.143	3.821	3.59	3.83
CFA ZONE	0.815	1.059	0.934	1.011	1.00	1.03
UZBEKISTAN	0.783	0.659	0.850	1.020	0.96	1.01
INDIA	0.011	0.119	0.136	0.700	0.90	0.79
AUSTRALIA	0.575	0.470	0.435	0.628	0.50	0.43
BRAZIL	0.107	0.210	0.339	0.429	0.36	0.45
CHINA (MAINLAND)	0.164	0.038	0.007	0.008	0.01	0.01
IMPORTS						
WORLD TOTAL	**6.585**	**7.265**	**7.325**	**9.530**	**9.05**	**9.43**
CHINA (MAINLAND)	0.682	1.929	1.394	4.200	3.60	3.88
EAST ASIA & AUSTRALIA	2.072	1.700	2.072	1.782	1.86	1.82
EU, C. EUR. & TURKEY	1.402	1.232	1.434	1.269	1.17	1.05
CIS	0.348	0.313	0.347	0.333	0.33	0.33
SOUTH AMERICA	0.333	0.303	0.216	0.256	0.29	0.23
TRADE IMBALANCE 2/	**-0.064**	**0.025**	**-0.448**	**-0.165**	**0.00**	**0.00**
STOCKS ADJUSTMENT 3/	**0.173**	**0.125**	**0.196**	**0.297**	**0.31**	**0.31**
ENDING STOCKS						
WORLD TOTAL	**9.961**	**9.228**	**11.906**	**11.929**	**11.56**	**10.91**
CHINA (MAINLAND)	3.033	2.796	2.537	3.110	3.32	3.11
USA	1.172	0.751	1.196	1.317	1.24	1.13
NET EXPORTERS	3.614	5.138	6.319	5.879	5.45	5.16
NET IMPORTERS 1/	6.348	4.090	5.587	6.050	6.11	5.76
ENDING STOCKS/USE 4/	**0.51**	**0.58**	**0.71**	**0.86**	**0.77**	**0.76**
COTLOOK A INDEX 5/	**55.40**	**68.30**	**52.20**	**56.15**	**56***	**62***

1/ Includes Argentina, China (Mainland), Colombia, Mexico, Pakistan, Turkey and traditional importers.

2/ The inclusion of linters and waste, changes in weight during transit, differences in reporting periods and measurement error account for differences between world imports and exports.

3/ Difference between calculated stocks and actual; amounts for forward seasons are anticipated.

4/ World-less-China (Mainland) ending stocks minus China net exports, quantity divided by world-less-China consumption.

5/ U.S. cents per pound.

*/ The price projections for 2006/07 and 2007/08 are obtained based on the year-to-year price differentials projected by the ICAC Price Model (based on annual variations in net China (Mainland) trade and world-less-China (Mainland) stocks-to-use ratio).

SUMMARY OF THE OUTLOOK FOR COTTON

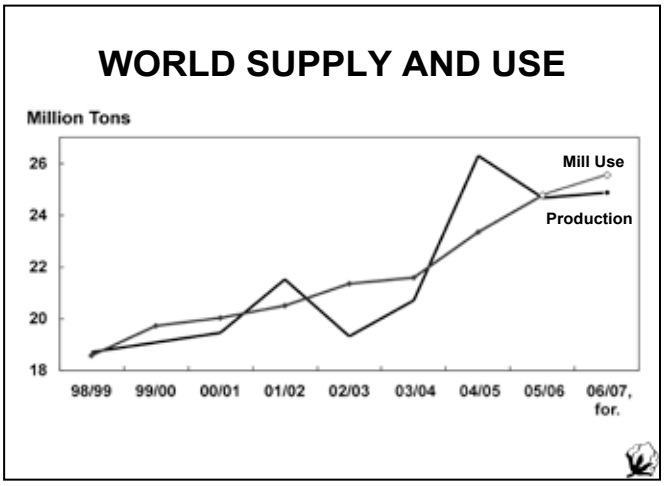
Cotton Prices Stagnant

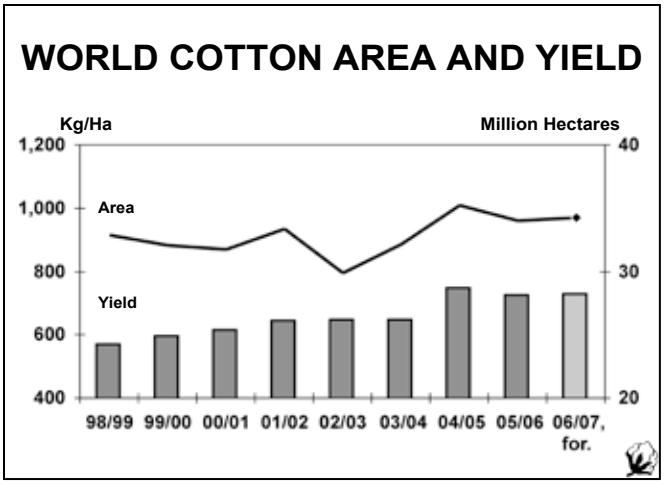
The Cotlook A Index averaged 58 cents per pound between August and November 2006, or 3 cents higher than in the same period last season. As it occurred at this time last year, current cotton prices seem stagnant, as if waiting for a new wave of large cotton imports by China (Mainland) to rise significantly. A record production in China (Mainland) weighs on domestic prices this season, contributing to making them more competitive with prices of foreign cotton imported with duties of 5% to 40%. The opening in January 2007 of the annual 894,000-ton Tariff-Rate Quota, associated with a fixed 1% duty, could trigger significant Chinese imports.

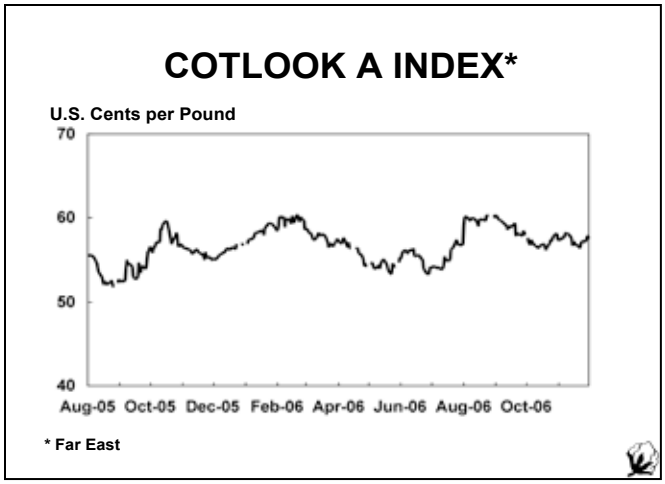
World cotton production is forecast at 24.9 million tons in 2006/07, only 190,000 tons (1%) higher than last season and the second largest up to date. World cotton area is estimated at 34.2 million hectares, up 230,000 hectares. The world average yield is projected to remain stable at 726 kilograms per hectare, 45 kg above the five-year average.

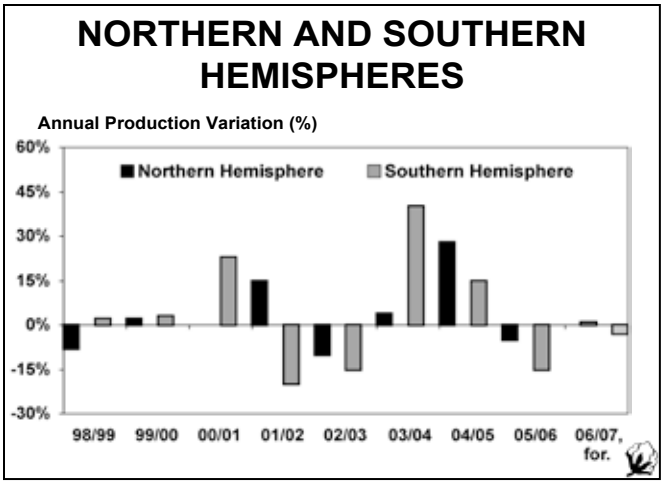
Most cotton has been harvested in the northern hemisphere and production is projected at 22.7 million tons, up by 270,000 tons. Cotton area remained stable at 30.9 million hectares, but the average yield increased slightly to 735 kilograms per hectare. Production in China (Mainland) and India is forecast at record levels of 6.5 and 4.6 million tons, respectively. However, production in the United States and Pakistan is expected to decline to 4.6 million tons and 2.0 million tons, respectively. Production in the rest of the northern hemisphere is also estimated to decline, to 5 million tons (-6%).

Planting has started in the southern hemisphere. Cotton area is expected to increase by 6% to 3.3 million hectares, but the average yield is forecast to decline by 9% to 647 kilograms









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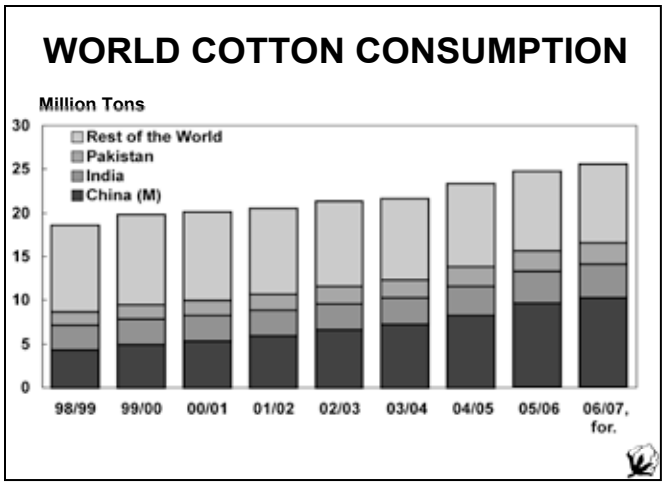
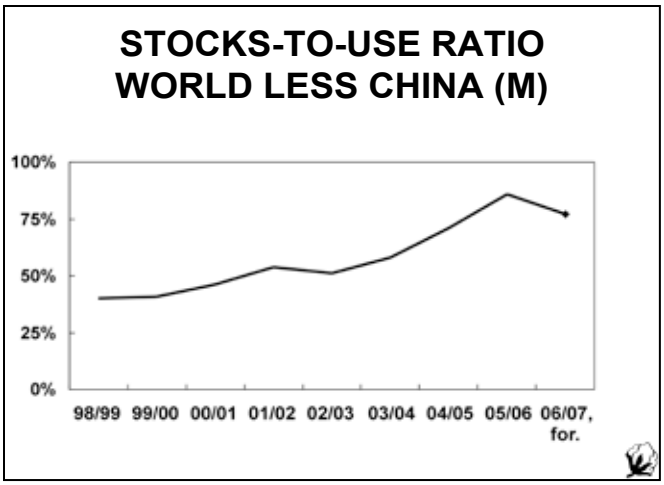
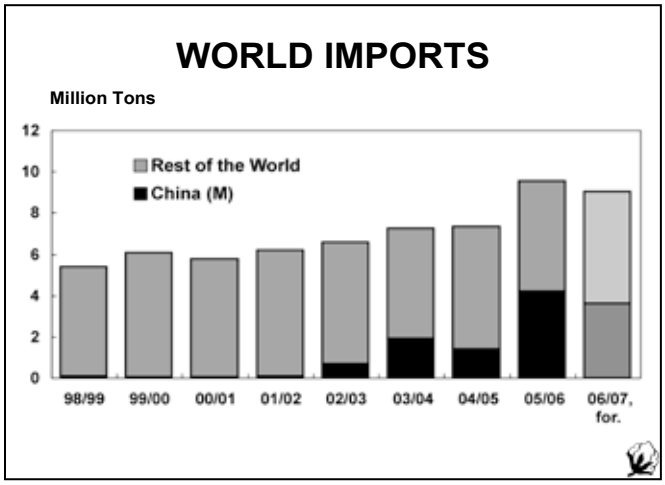
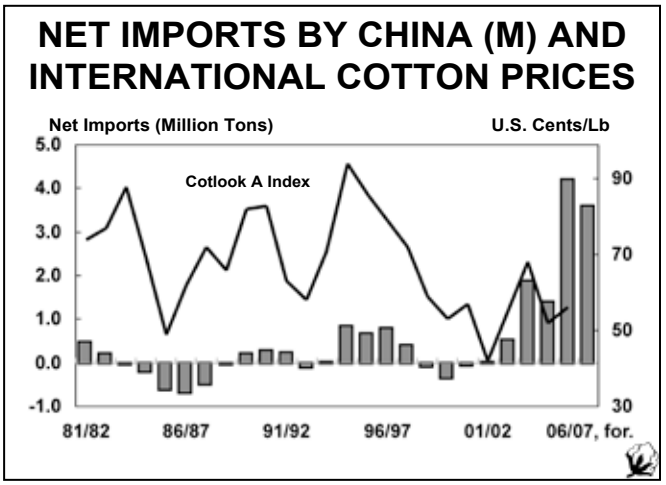








per hectare, 57 kilograms below the five-year average. A 13% increase in production to 1.5 million tons is forecasted for South America, mainly due to expected area increases in Brazil and Argentina. However, Australian cotton production is expected to fall by half to 290,000 tons, the smallest crop since the late 1980s, primarily due to severe drought conditions.

Driven by China (Mainland), world cotton consumption is forecast at 25.5 million tons in 2006/07, up 3% from last season. Consumption in China (Mainland) is forecast at 10.2 million tons this season, accounting for a record 40% of projected world cotton consumption. Cotton use is also projected up in South Asia (Indian, Pakistan and Bangladesh), but stable or declining in most other East Asian countries with the exception of Vietnam and Thailand.

World cotton imports are projected at 9.0 million tons in 2006/07, down 5% from the record reached in 2005/06 due to a projected decline in imports by China (Mainland) to 3.6 million tons (down 14%).

The two main variables affecting international cotton prices are 1) the stocks-to-use ratio outside China (Mainland)[1] and 2) the ratio of net Chinese imports to use outside China (Mainland). 2006/07 projected trends in these variables seem to be having offsetting effects on world prices: 1) the stocks-to-use ratio outside China (Mainland) is expected to decrease for the first time since 2002/03, which should have a positive effect on international cotton prices; however, 2) net Chinese imports are forecast down from last season, which should have a negative effect on international cotton prices. The ICAC price model projects a stable season-average Cotlook A Index for 2006/07.

(1) World-less-China (Mainland) ending stocks minus China net exports, quantity divided by world-less-China consumption

2006/07 OUTLOOK FOR COTTON SUPPLY AND USE

By Armelle Gruere, ICAC

World cotton production is expected to increase slightly in 2006/07 to 24.9 million tons, or 190,000 tons higher than last season and the second largest to date (after the record of 2004/05). World cotton harvested area is estimated to increase by 230,000 hectares, whereas the average yield is projected stable at 726 kilograms per hectare, 46 kilograms above the five-year average. This relative stability in world cotton area, yield, and production hides significant changes at country and regional levels. While record production levels are forecast in China (Mainland) and India, production is expected to decline in the United States and Pakistan.

An interesting aspect of this season's cotton crop is the significant increase in the share of world cotton area planted to biotech cotton varieties. It is estimated that this share increased from 29% in 2005/06 to 36% in 2006/07; this is the largest annual increase since the introduction of biotech cotton varieties a decade ago. Most of this increase is due to the jump in India, from 1.35 million hectares in 2005/06 (15% of Indian cotton area) to 3.5 million hectares in 2006/07 (38% of Indian cotton area). Since about a quarter of world cotton area is located in India, significant changes in cotton varieties grown in India are reflected at the world level.

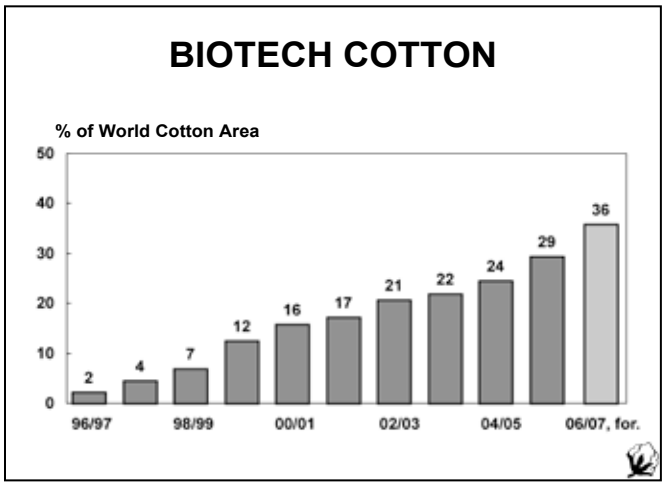
World cotton consumption is expected to grow by 3% in 2006/07, slower than last season, and reach 25.5 million tons. World mill consumption of cotton is becoming increasingly concentrated in Asia. China (Mainland), India and Pakistan combined will account for a projected 65% of world cotton use this season, up from 63% last season and 50% in 2000/01. Cotton use is also forecast up in Bangladesh and Vietnam, but stable or declining in most other countries in Asia and the rest of the world.

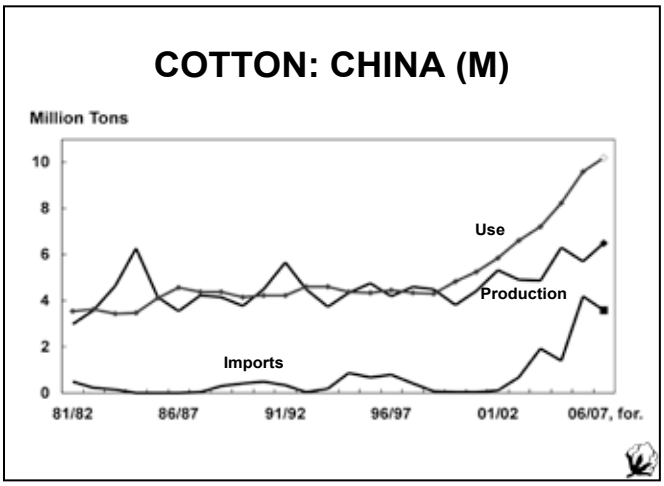
Higher Production Expected to Reduce Imports by China (Mainland)

Higher seedcotton prices and above-average yields in 2005/06 encouraged an expansion of cotton plantings in China (Mainland) this season. Cotton area is estimated at 5.4 million hectares, up 6% from last season. Favorable weather during most of the season is expected to boost yields to a record 1,209 kilograms per hectare, 7% higher than last season. As a result, production in China (Mainland) is forecast to reach a record 6.5 million tons this season. Cotton production in Xinjiang, the largest producing province, is expected to reach a record of 2.2 million tons.

Cotton use in China (Mainland) is forecast at 10.2 million tons, up 6% from last season compared to an average growth rate of 12% in the previous seven seasons. Several factors are expected to slow consumption growth, including textile export restriction agreements signed with the European Union, the United States and other countries, the reduction in the Value-Added Tax rebate for textile exports from 13% to 11%, and increases in interest rates.

The gap between production and consumption in China (Mainland) is forecast at 3.7 million tons this season, down 200,000 tons from 2005/06, which should theoretically translate into reduced import needs. Chinese imports are forecast at 3.6 million tons in 2006/07, 14% down from last season and accounting for 40% of projected world cotton imports. However, three factors must be taken into account when forecasting Chinese 2006/07 cotton imports. First, the official 2005/06 production estimate published by the National Bureau of Statistics is disputed by the Chinese cotton industry, and might actually have been 300,000 tons higher. If true, this would imply a 100,000 ton-*increase* (and not decrease) in the consumption-production gap in 2006/07.





Second, the Chinese National Cotton Reserves Corporation (CNCRC) bought significant quantities of foreign cotton in 2005/06. The intentions of the CNCRC (to buy or sell cotton) are not known for the current season, but any significant purchase/sale of cotton from the CNCRC could significantly affect 2006/07 imports. Third, significant uncertainty weighs on estimates of past, present, and future cotton consumption in China (Mainland), and therefore on the estimate of the gap between consumption and production.

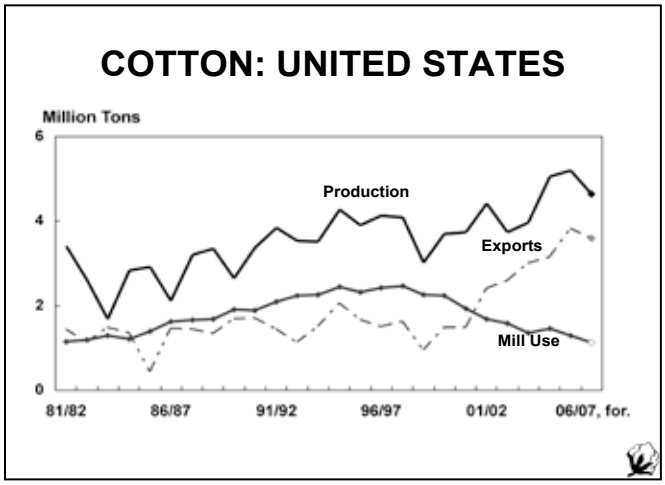
Decline in North American Production

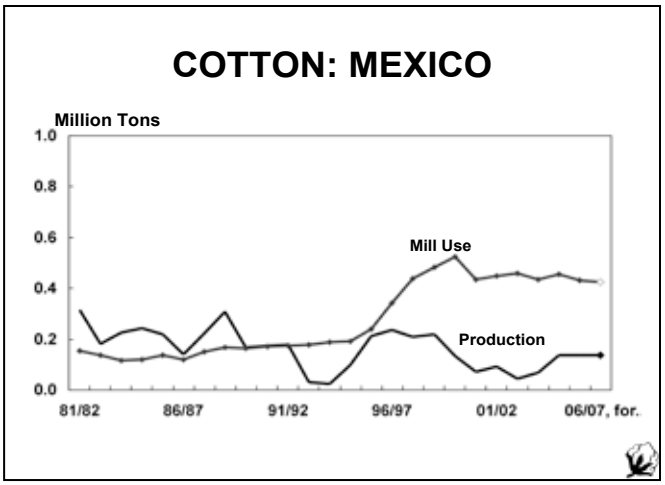
Cotton production in North America reached record levels in the last two seasons (5.2 million tons in 2004/05 and 5.3 million tons 2005/06). In 2006/07, cotton production is expected to decrease by 11% to 4.8 million tons.

Planted area rose by 7% in the United States in 2006 thanks to better prices and high yields in 2005/06. However, drought conditions in the Southwest region in 2006/07 caused the abandonment of about a third of area in that region and a decline in yields from their 2005/06 record. Below-average yields were also estimated in the Southeast region. In contrast, cotton production in the Delta region is estimated at a record 1.8 million tons, 13% higher than in 2005/06, thanks to higher area and above-average yields. Overall, the national average yield is estimated down by 4% to 894 kilograms per hectare. As a result, U.S. production in 2006/07 is forecast to fall by 11% to 4.6 million tons.

U.S. mill use is expected to continue its long-term decline this season due to high production costs and increasing competition from cheap imported textile goods. Mill use is projected at 1.1 million tons in 2006/07, 12% down from last season. Due to lower domestic production, exports are expected to decline by 6% to 3.6 million tons, still the second highest up to date. US ending stocks are expected to decline by 5% to 1.2 million tons.

The elimination of the Step 2 payments, effective on August 1, 2006, is not expected to affect significantly the volume of U.S. exports, but seems to have forced US domestic prices to decrease relative to international cotton prices.



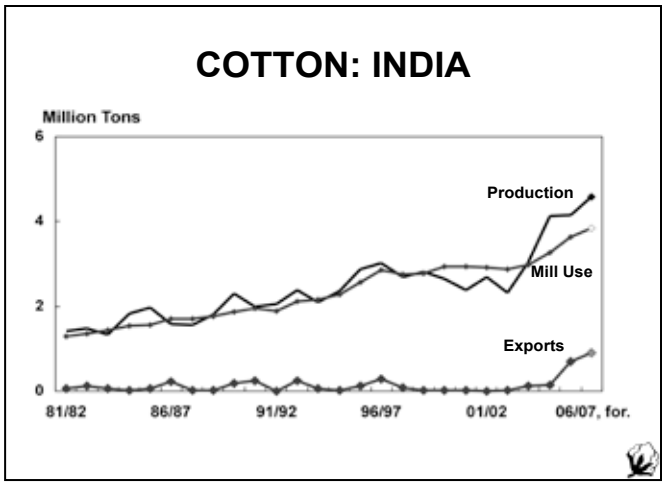


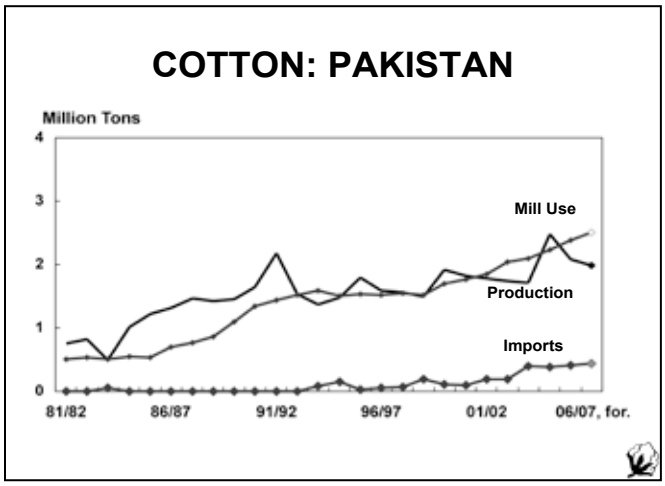
Mexico's cotton area is estimated at 114,000 hectares this season, 10% down from last season due to reduced plantings in Southern Sonora, where cotton producers faced heavy pest attacks and adverse weather in 2005/06. Yields are estimated at 1,209 kilograms per hectare, up 11% from last season. The decrease in area and increase in yield are expected to almost offset each other, and production should remain about the same this season, between 135,000 and 140,000 tons. Cotton consumption is expected to decrease slightly to 424,000 tons, and exports to remain stable at 325,000 tons.

South Asia Production Forecast Just Below the Record of 2004/05

Cotton production in South Asia is expected to increase by 5% in 2006/07 thanks to increases in both area and yield. However, this regional increase hides significant disparities at the country level: production in India is expected to break a record for the fourth consecutive season, whereas production in Pakistan is forecast down again. The share of India in South Asia production could climb to 69% in 2006/07, from 56% in 2002/03.

Indian cotton area is estimated up for the fourth consecutive season, to 9.3 million hectares, the largest in eight seasons. Several factors last year, contributed to this expansion in cotton area in 2006/07 in particular satisfying yields, partly due to the use of biotech cotton seeds, and higher domestic prices as demand for Indian cotton from both domestic and Chinese mills was good. Officially approved biotech cotton varieties were planted on an estimated 3.5 million hectares or 38% of the total cotton acreage in India this season, up from 15% in 2005/06. The significant increase in use of biotech cotton seeds was encouraged by the larger number of biotech cotton varieties available in 2006/07 and their lower prices. In addition, the use of high yielding hybrids and better agronomic practices is also expanding. Weather conditions have been favorable to growth of cotton plants this season and yields are expected to reach a record 495 kilograms per hectare, up





6% from last season and 190 kilograms higher than five years ago. Higher cotton area and record yields are expected to lift Indian production to a record of 4.6 million tons in 2006/07.

Expected record production in India this season should continue to boost cotton domestic use and exports. Investments in the domestic textile industry are still growing, thanks in part to the Technology Upgradation Fund, which provides access to cheaper financing and will likely be extended beyond its current expiry data of March 2007. Domestic use is forecast at 3.8 million tons in 2006/07, up 6% from last season. Exports are projected up 200,000 tons to 900,000 tons. Ending stocks are projected to decline by 50,000 tons to 1.6 million tons.

Cotton area in Pakistan is estimated to remain at about 3.1 million hectares this season, as higher prices offset the slight decline in yields in 2005/06. However, intensive attacks by a new strain of leaf curl virus were reported in the Punjab province. As a result, the average yield is projected down 25 kilograms to 650 kilograms per hectare. This would be the second consecutive season of production decline in Pakistan after the record of 2.5 million tons reached in 2004/05. 2007/08 yields could also be affected.

Cotton use in Pakistan is expected to increase by 5% this season to 2.5 million tons. Demand for cotton yarn by China (Mainland) is benefiting the Pakistanese spinning industry. The decline in production could result in an increase in cotton imports. However, Pakistan's cotton stocks were estimated at a high level at the end of last season (1.2 million tons) and this could limit the increase in cotton imports, projected at 440,000 tons.

Central Asian Production Down

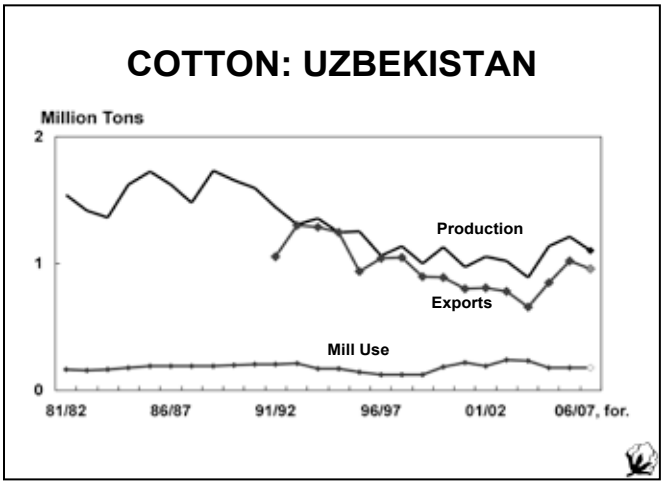
Central Asian production is forecast to decline by 7% to 1.7 million tons in 2006/07. Despite stable area, less favorable weather conditions affected yields. Most of the production decline in the region is expected to take place in Uzbekistan.

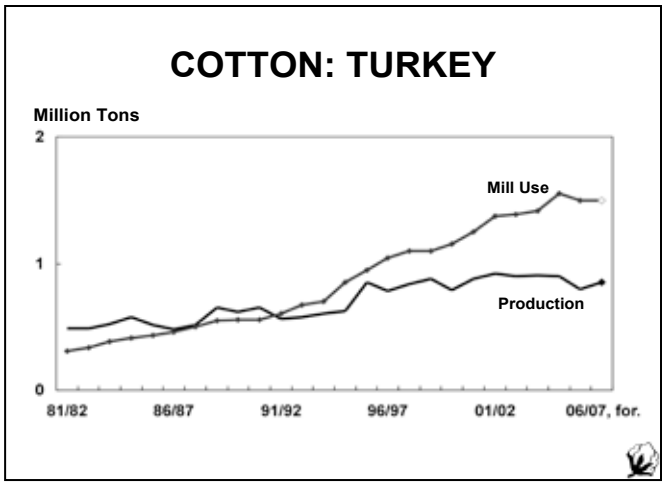
Cotton area in Uzbekistan has remained relatively stable since 2004/05, at around 1.4 million hectares. However, after two consecutive seasons of yield increases due to good weather conditions, the national average yield is estimated to drop by 75 kilograms to 770 kilograms per hectare in 2006/07. As a result, production is expected to reach 1.1 million tons, down 100,000 tons from last season. Similarly to past seasons, the bulk of the production (about 950,000 tons, down 70,000 tons from last season) is expected to be exported, whereas domestic cotton use is expected to increase slightly to 180,000 tons.

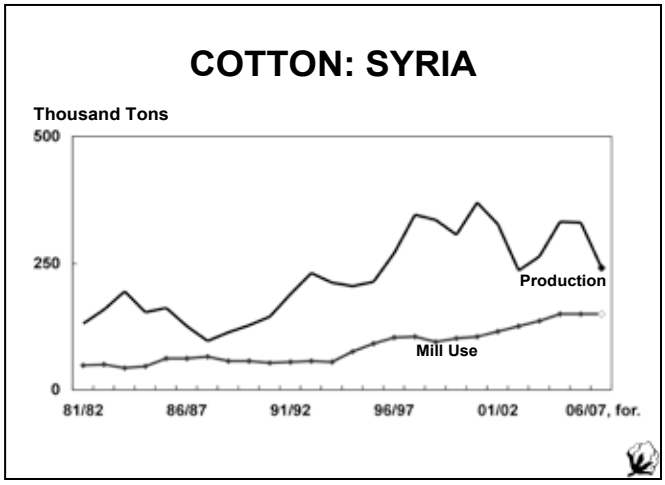
Cotton production in Turkmenistan is expected to increase in 2006/07, thanks to yield increases. Tajikistan's production could remain stable at around 140,000 tons. Kazakhstan's production is expected to decrease for the second consecutive season to 130,000 tons. Azerbaijan's production steadily increased from 30,000 tons in 2001/02 to 70,000 tons in 2005/06. However, a decline in area is expected to result in a drop of production to 54,000 tons this season.

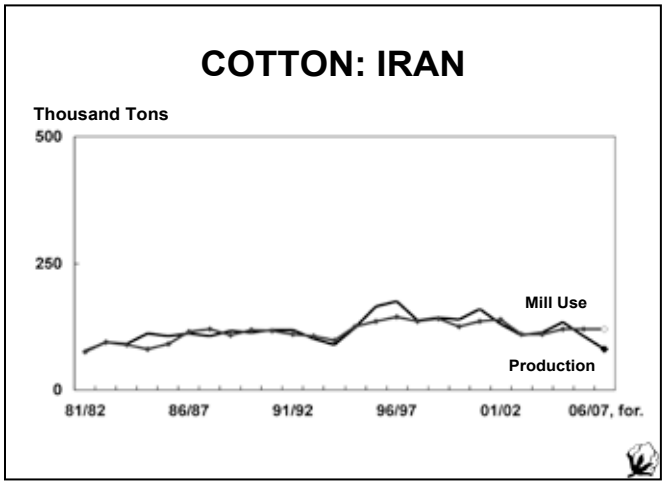
Middle East Production Down

Production in the Middle East is expected to decline by 5% this season to 1.2 million tons, as yield declines more than offset area increases. Cotton area in Turkey is estimated up 100,000 hectares to 700,000 hectares, as many farmers were unsatisfied with the returns obtained from competing crops last season and the government paid premiums for the 2005/06 cotton crop. The weather was adequate until the second half









of October, when heavy rains in the Aegean and GAP region damaged some unharvested cotton fields and reduced quality and yield expectations. With an average yield expected down 9%, production is projected to reach around 850,000 tons, up by 50,000 tons. Cotton area is estimated down by a third in Iran to 106,000 hectares, due to high cost of production and low prices received compared to competitive crops in 2005. Production in Iran is forecast at 80,000 tons, down 25% from last season. Cotton area in Syria is estimated stable at about 220,000 hectares. However, heavy rains late in the season negatively affected lint yields and quality. Production in Syria is forecast at 240,000 tons, down 27% from last season. Exports are expected to decline to 120,000 tons, down almost 40% from last season.

Consumption in Turkey is expected to remain stable at 1.5 million tons. As production is rising, imports are projected down 11% to 650,000 tons. Consumption is also projected stable in Iran and Syria.

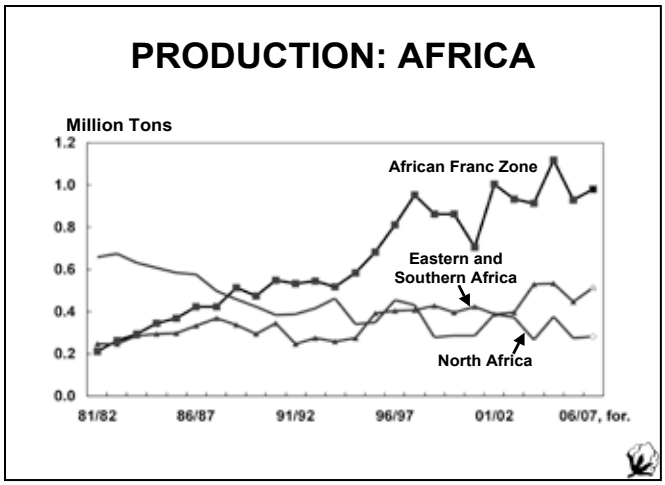
Production Up in Africa

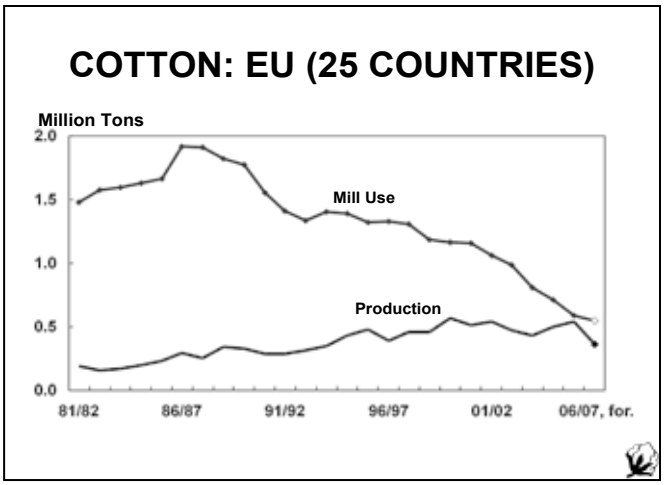
Production in Africa in 2006/07 is forecast to increase by 7% to 1.8 million tons, due mostly to production increases projected in East and Southern African countries. African exports are projected at 1.6 million tons, slightly down, mainly reflecting the production decrease of last season, as the bulk of cotton produced in 2005/06 will be shipped in 2006/07.

Plantings in Egypt decreased by 43,000 hectares to 231,000 hectares in 2006, but more favorable weather conditions than last season should raise yields, and as a result production could increase slightly to 210,000 tons. Egyptian exports of extra-fine cotton are forecast at 100,000 tons, similar to the previous season. Domestic cotton use is forecast at 220,000 tons, up 5% from last season, which could raise imports of medium staple cotton to 110,000 tons.

Cotton area in Sudan is estimated to decline for the second consecutive season to about 150,000 hectares. However, area planted to Barakat cotton increased slightly and represents 56% of total planted area this season, up from 47% last season. Recent policy changes in the Gezira and Managil irrigation scheme, intended to liberalize the cotton sector and allow farmers to grow their crop of choice, increased incentives to plant more extra-fine cotton. Sudanese yields remain low due to inadequate plant protection practices. Production is projected at 69,000 tons, slightly down from last season. Exports are projected down by 19,000 tons to 68,000 tons.

The strength of the CFA franc against the dollar continues to severely affect cotton producers in the eleven producing countries of the African franc zone and offset most of the small increase in international prices in 2005/06. An area declined but yields are increasing, and production in the African Franc Zone is expected to increase by 50,000 tons to 980,000 tons. However, there are considerable disparities inside the region. Several seasons of low prices and unfavorable exchange rates have impacted the revenues of cotton producers, this impact being different depending on the country. Production in Burkina Faso is expected to reach a record for the sixth season in a row. With 320,000 tons of expected production up 8% from last season thanks to an increase in planted area, Burkina Faso will remain the largest African producer for the second consecutive season. Production is also expected to increase in Benin, Cameroon, and Senegal. However, production is expected to decline in Mali, Cote d'Ivoire, and





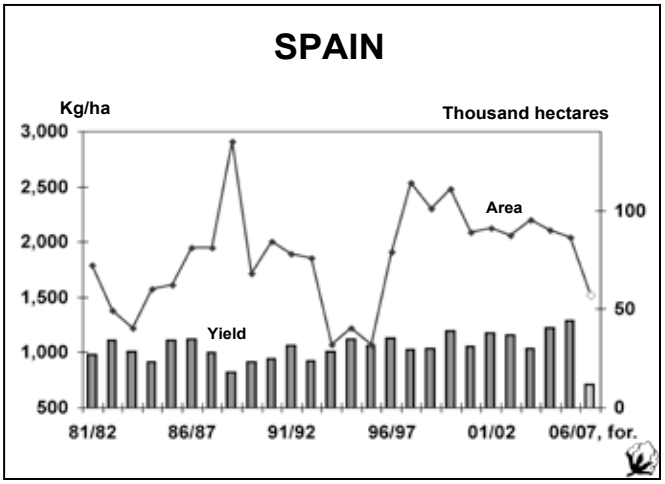
Togo. Togo's cotton production is estimated down for the second consecutive season to 20,000 tons, down from 74,000 tons only two years ago. Cotton use in the African Franc Zone accounts for an estimated 2% of production, and most cotton produced domestically is exported. 2006/07 exports are expected to remain stable at 1 million tons.

Cotton area in East and Southern African countries is expected to rebound to 2.1 million hectares this season, up by 12%, encouraged by higher prices paid to producers in 2005/06. Assuming average yields in each country, production is forecast to increase by 14% to around 510,000 tons. Production in Tanzania is expected to rebound to 103,000 tons in 2006/07, after a low of 45,000 tons last season, due to attractive prices in 2005/06 and assuming no drought conditions. Production in Zimbabwe is expected to increase slightly to 113,000 tons due to an increase in planted area encouraged by higher seedcotton prices received in 2005/06. Nigeria's production is projected to remain at 84,000 tons. However, Zambia production is forecast at 65,000 tons, down by 15,000 tons, due to lower domestic prices in 2005/06. Uganda production is expected to rebound to around 30,000 tons after a low of 18,000 tons last season. Consumption in East and Southern African countries is forecast slightly down at 230,000 tons, and exports are expected to remain stable at 380,000 tons.

Sharp Drop in Production in the European Union

In the first season of application of the reform of the EU cotton program, which introduced a partial decoupling of subsidies, production is estimated down by a third to 365,000 tons. Traditionally, EU subsidies were directly linked to cotton production, and support payments to producers were channeled through ginners. In 2006/07, cotton producers will receive 65% of EU support as a single decoupled payment (income aid) and the remaining 35% as an area payment (production aid).

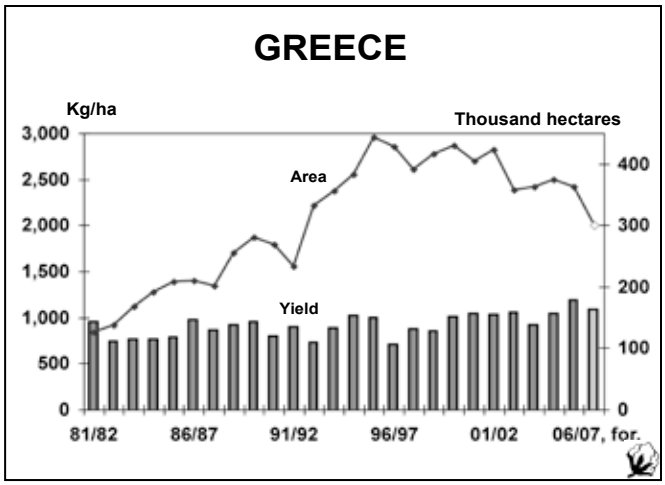
Planted cotton area in Spain decreased to 60,000 hectares, 10,000 hectares less than the maximum area eligible for the new coupled and decoupled payments. Despite favorable

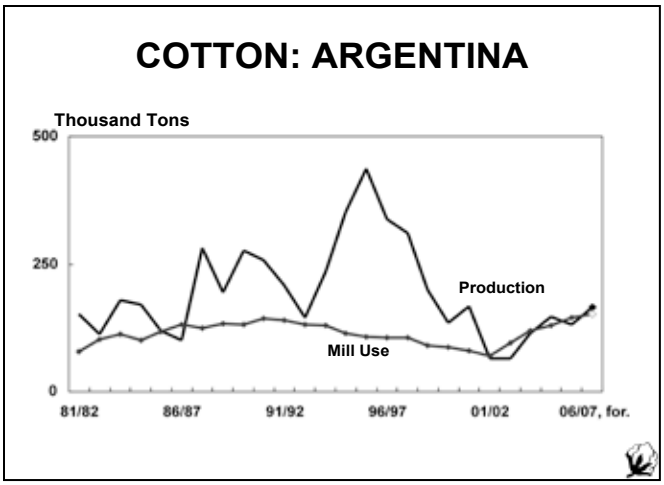


weather and low pest pressure in the first half of the growing season, incentives to minimize production costs under the new program significantly affected average yields, estimated down to 700 kilograms per hectare, or a little more than half the yield of the previous season and the lowest since the 1970s. Rains have delayed the end of the harvest. Final production is estimated at 40,000 tons, the lowest since 1995/96.

Producers in Greece planted cotton on 375,000 hectares, or 5,000 hectares more than the area for which they can receive *coupled* payments under the new EU cotton regime. Weather conditions were very favorable and pest attacks low in the first half of the growing season. However, heavy rains at harvest time damaged a portion of the crop and affected lint quality, decreasing the incentive to harvest some fields, especially given the fact that under the new regime, it is not necessary to harvest the crop to receive EU cotton subsidies. As a result, the abandonment rate was higher than usual and final production is estimated at 325,000 tons, down by more than 100,000 tons from last season.

On September 7, 2006, the European Court of Justice annulled the EU cotton reform due to the fact that labor costs were not well accounted for in production costs and also to the lack of examination of the potential economic effects of the reform





on the ginning sector. However, the new EU cotton regime will continue to apply until a revised regime is introduced, maybe not until 2008/09. This implies that harvested area and/or yields could remain low in 2007/08 in Spain and Greece.

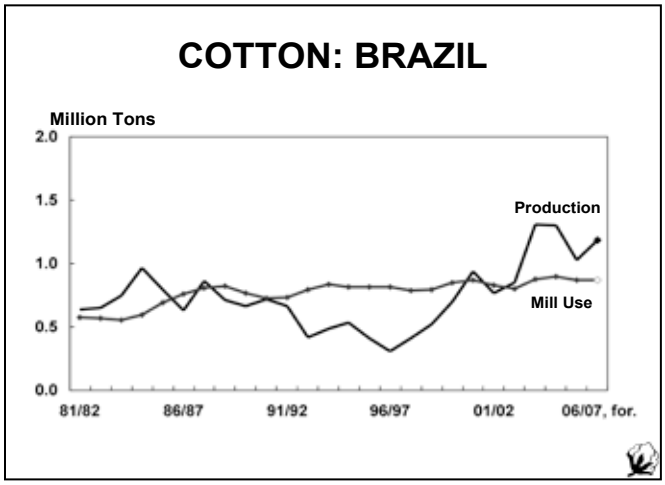
Cotton use in the European Union is expected to continue to decline in 2006/07, but slower than in the previous season, reaching 550,000 tons (down 7%), or less than half 2000/01 consumption. As a result, exports are expected to decline below 500,000 tons.

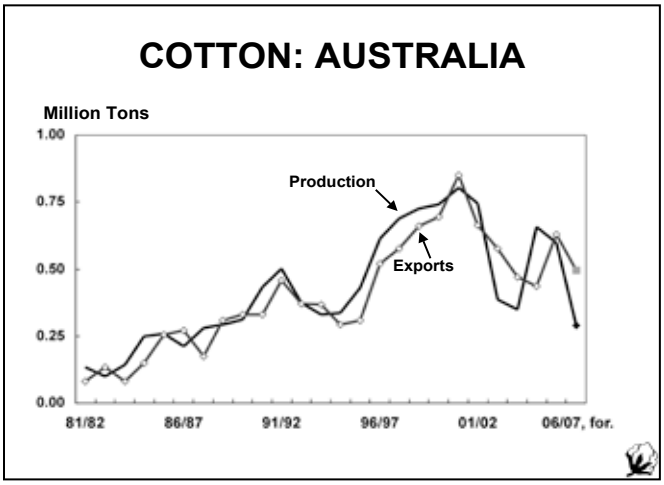
Production Down Again in the Southern Hemisphere

Cotton production in the southern hemisphere is expected to decline by another 3% in 2006/07 (after a 15% decline in 2005/06). Despite an expected 6% area increase, due to higher prices last season, the average yield is forecast down 60 kilograms to 647 kilograms per hectare, almost 60 kilograms lower than the five-year average. However, trends vary significantly from one region to another.

South American cotton area is expected to increase by 10% from last season to 1.7 million hectares and production is expected up 180,000 tons to 1.5 million tons. Cotton area in Brazil is expected to rebound to 1 million hectares thanks to higher international cotton prices, low domestic soybean prices in 2005/06, and availability of biotech cotton seeds (Bt cotton) starting in 2006/07. Cotton area might have been higher if cotton producers had had better financing possibilities. Biotech cotton could account for 10% to 20% of planted cotton area in 2006/07. The use of biotech cotton in Brazil is not expected to significantly affect yields, but could reduce production costs (pesticide and labor costs) for some farmers. Production is projected to increase by 15% to 1.2 million tons. Brazilian cotton consumption is projected stable at 870,000 tons. Cotton area in Argentina is forecast to increase by 28% to 390,000 hectares thanks to improved soil moisture, higher cotton prices, and the strength of domestic use, expected to increase by 5% to about 150,000 tons. Production is forecast at 165,000 tons, up 35,000 tons from last season.

In Australia, a severe drought and the low cotton prices received in 2005/06, combined with late cuts in water allocations, are expected to cause a 52% fall in harvested cotton area to a 20-year low of 160,000 hectares. Assuming average yields, production of 290,000 tons is forecast, half the size of the previous season and the lowest since 1988/89. Exports in 2006/07 are expected to decline by only 21%, to 500,000 tons, as they will include a lot of cotton produced last season.

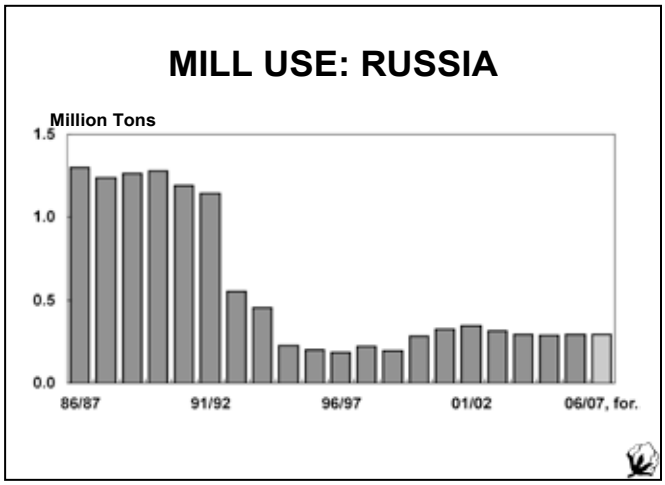


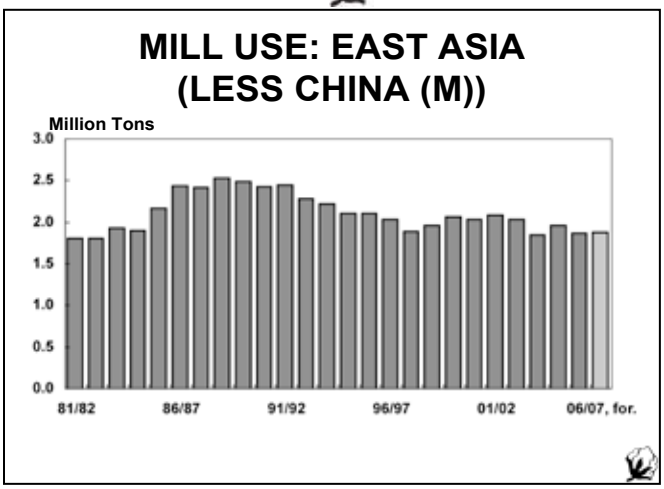


Consumption Stable in Russia and East Asia

Cotton consumption in Russia declined from 340,000 tons in 2001/02 to 290,000 tons in 2003/04, but has remained at about this level since then. Mill consumption is expected to remain stable in 2006/07.

Cotton use in East Asia is expected to remain stable in 2006/07 at 1.9 million tons. Projections of continued declines in cotton use in South Korea, Japan and China (Taiwan), could be offset by increases in Thailand and Vietnam. In particular, Vietnam's accession to WTO, expected to be finalized on December 28, 2006, could boost its textile exports and affect positively domestic cotton consumption.





CHINESE SOURCES OF ESTIMATES OF COTTON PRODUCTION IN CHINA (MAINLAND)

By Armelle Gruere, ICAC

China (Mainland) is the largest cotton producer in the world. In 2006/07, Chinese cotton production is forecast at 6.5 million tons, or a quarter of world cotton production. Until the cotton marketing reforms in 1999, the only production estimates published in China (Mainland) were the government estimates reported by the National Bureau of Statistics. Since 1999, several other organizations publish their own production estimates.

Chinese Organizations Publishing Estimates of Production in China (Mainland)

National Bureau of Statistics (NBS)

The NBS publishes the official estimates of production in China (Mainland). The NBS uses a sample of about 900 villages spread throughout cotton producing provinces, with 10 families by village and 5 to 6 plots by family. According to the NBS, this sample is representative of national cotton area and production. In spring, they go to the fields to forecast planted area for cotton and other crops. Later in the year, NBS surveyors estimate cotton yields either by hand sampling in the field or through farmers' interviews, the second method being usually preferred. Agricultural investigation teams in cotton producing provinces send two reports to the NBS: one in September (projected production estimates) and one at the end of November (final production estimates).

The NBS generally publishes a preliminary estimate of total cotton production for the current season on December 31st[1]. A revised estimate of total production is released in the Economic and Social Development Communiqué published in late February, around the Chinese New Year. Then a revised estimate of total production and an estimate of total area are published in the NBS Statistical Summary around June. Final estimates of area and production at the national and provincial levels are published in the NBS Statistical Yearbook, in the fall. Once these final estimates are published, there is little chance that they will be modified in the following months or years.

From the moment the Economic and Social Development Communiqué is published, most provinces start publishing their own communiqués, some of which include preliminary estimates of local cotton area and/or production.

Ministry of Agriculture (MOA)

The MOA surveys cotton farmers three times a year, independently from the NBS. The first survey takes place at

(1) This preliminary estimate is not published every year

the end of the calendar year to collect planting intentions; the second survey takes place in May, and the third survey takes place in August, just before the harvest. The MOA does not publish mid-year estimates; it communicates its estimates of production to the NBS only after the third survey. The MOA re-publishes the final NBS estimates of cotton area and production in the MOA yearbook.

Chinese Cotton Association (CCA)

The CCA was created in 2003 by members of the Chinese cotton industry (cotton farmers, cotton farmers' cooperatives, enterprises engaged in cotton production, purchasing and processing, cotton textile enterprises, cotton research institutes, and other organizations). This is a non-profit organization, funded by members' dues and government commissions (received for payment of specific consulting work). The CCA employs 12 persons in its Beijing headquarters; in addition the CCA has established 10 provincial offices in cotton producing areas. These provincial offices gather local production data and supply them to the CCA headquarters. The CCA develops monthly estimates of production, but adopts the final NBS estimates.

Cotton Information Services

The China National Cotton Information Center (CNCIC) and Beijing Cotton Outlook (BCO) are the two major Chinese cotton information services.

CNCotton (www.cncotton.com), which was first established in 1999, regularly publishes news about Chinese cotton supply and use. In 2003, the China National Cotton Reserves Corporation (CNCRC) was established. CNCotton became a corporation (CNCIC) under direct management of the CNCRC in 2004. CNCIC, which employs 45 people at its Beijing headquarters, operates the National Cotton Market Monitoring System (NCMMS), an information monitoring, publishing and early-warning system. The CNCIC regularly analyzes the information coming from NCMMS and sends reports to the Chinese government. The NCMMS collects information from 8,000 farmers (according to them, it is representative of 65% of the total cotton area in China) via 200 monitoring stations and has 15 offices around the country. Since December 2004, the NCMMS has surveyed a sample of farmers each month. A survey is first conducted in December at cotton farms in order to collect information about planting intentions for the following season. Then a second farmers' survey is conducted at cotton farms after sowings to estimate the planted area. For the rest of the growing season, surveys are conducted via face-to-face or phone interviews. The CNCIC publishes monthly reports on the production of cotton in China (Mainland). However, similarly to the CCA, the CNCIC usually adopts the NBS final production estimates[2].

Beijing Cotton Outlook (BCO) is a joint venture, part private and part public, created in August 2004 by three shareholders: the CCA, the China National Cotton Exchange (CNCE)[3] and Cotlook, Ltd, a major cotton information provider based in Liverpool, UK. BCO develops its own estimates of cotton supply and use in China (Mainland) and publishes them on the website www.cottonchina.org. BCO employs 22 persons at their Beijing headquarters. BCO collects data on supply and use from "stations" established in more than 100 major cotton producing areas, but does not conduct farmers' surveys at the present time. Each station includes at least one cotton specialist. BCO develops its own production estimates during the season and adopts the NBS final estimates at the end of the season. Since September 2006, BCO has started publishing monthly production estimates (before, it published production estimates several times a year).

Coordination/Cooperation Between Organizations

None of the organizations described above is totally independent from the Chinese government. The NBS and MOA belong to the Chinese government. The CCA is under the supervision and management of the Ministry of Civil Affairs and follows the guidance of the All-China Federation of Supply and Marketing Cooperatives[4].The CNCIC is under direct management of the CNCRC, a state-owned enterprise. BCO is a joint-venture between Cotlook Ltd., a private UK company, the CNCE (state-owned enterprise) and the CCA. The CCA is a non-profit organization, whereas both BCO and CNCIC are private organizations. The CNCIC has a partnership agreement with Globecot Inc., a cotton information provider based in the United States.

Relationships between the various organizations developing production estimates in China are complex. The NBS communicates with the MOA, the CCA and the CNCIC when developing its production estimates. However, the MOA, the CCA and usually the CNCIC adopt the final NBS estimates. BCO communicates with the CCA when developing its estimates, but also adopts the NBS final estimates at the end of the season. The CNCIC discusses with the NBS before releasing their monthly report on supply and use, but usually adopts the NBS final estimates at the end of the season.

(2) Except for the 2005/06 season, for which the CNCIC estimated production at 6.0 million tons, whereas the NBS production estimate is 5.7 million tons.
(3) The CNCE was founded in 1998 by the Chinese government to regulate cotton trade in China (Mainland). The major functions of the CNCE include organizing trade, price discovery, avoiding risks, conveying information, and guiding China's cotton production, distribution and consumption.
(4) The All-China Federation of Supply and Marketing Cooperatives (ACFSMC) was a state-owned organization, which before 1999 supplied all cotton inputs and purchased all seedcotton produced in China (Mainland). After the market reforms, the ACFSMC agencies became separate business entities with no government support and competing with other entities to sell inputs and purchase seedcotton.

Quality of Production Estimates

Until 1999, the only production estimates available were those published by the NBS. The absence of other production surveys limited the discussion about NBS production estimates. Since other organizations started to conduct their own research and build survey methods in order to develop their own production estimates each month, there has been more discussion about government official production estimates.

There seems to be a consensus across these organizations that NBS production estimates in recent years generally slightly underestimated actual production numbers. The main source for this underestimation seems to be an underestimation of Xinjiang cotton production. In addition, current Chinese government agricultural policies favor production of grains rather than cotton, and there may be incentives and possibilities to under-report cotton area in some provinces. Since the NBS does not revise its final estimates once they are published, only hypotheses can be made regarding the actual production estimates. It is probable that pre-1999 NBS official estimates sometimes under or overestimated production in some provinces, but there is currently no way to know in which provinces and to what extent.

The new discussion over NBS estimates creates the expectation that future production estimates will be constructed with more care than in the past.

LONG-TERM TRENDS IN IRRIGATED AND RAINFED COTTON YIELDS

By Armelle Gruere, ICAC

Irrigated area accounts for 55% of world cotton area and the remaining 45% is rainfed ("dryland"). The cotton plant needs water in order to incorporate nutrients and offset water losses from evapo-transpiration. Insufficient ground moisture affects cotton yields. If irrigation is not available, rains can provide for water needs of the plant. However, under rainfed conditions, the moment and duration of rains cannot be planned. Besides irrigation, other factors that affect cotton yields include soil quality, variety, seed quality, weather, pesticide and fertilizer use, and crop management. However, all these factors being equal, irrigated yields are usually higher than rainfed yields because of the ability under irrigated conditions to time input applications.

Many countries produce cotton under irrigated *or* rainfed conditions. For example, most cotton area in West African countries is rainfed, and most cotton area in Uzbekistan is irrigated. However, a number of countries grow cotton under irrigated *and* rainfed conditions, depending on the location within the country.

A generally accepted rule of thumb is that cotton yields are often twice as high under irrigation as under rainfed conditions. This article provides an analysis of long-term trends in national and regional average yields under irrigation and rainfed conditions in order to 1) verify this rule of thumb, 2) examine whether the relationship between irrigated and rainfed yields has changed over time, and 3) examine whether irrigated and rainfed yields varied similarly in all countries.

Methodology and Description of the Sample

In order to examine long-term trends in yields under irrigated and rainfed conditions, it was assumed that countries/regions where 90% or more of the cotton area is irrigated are under irrigated conditions and those where 10% or less of the cotton area is irrigated are under rainfed conditions. Countries/regions where the share of rainfed or irrigated area falls between 10% and 90% were not taken into account. In addition, it was decided to select only the countries/regions for which data on area and production under irrigated and rainfed conditions are available from 1980/81 to 2005/06. For the United States and India, incomplete information is available; therefore a selection was made of the states within each country for which information about irrigation and rainfed areas is available from 1980/81 to 2005/06.

The sample of cotton producing countries/regions, presented in Table 1, includes a total of 42 producing areas: 26 countries and 16 intra-country areas (in the United States and India). For the period 1980/81 to 2005/06, 21 countries and intra-country areas were considered irrigated and 21 rainfed.

As shown in Table 2, the geographic distribution of the sample's cotton producing area is about the same as the distribution of all cotton producing area in the world. Africa is slightly over-represented and Asia and Central Asia are slightly under-represented. In addition, the share of irrigated area in the sample is 60%, larger than the average share of irrigated area in world cotton area. Therefore, even though the sample's total area accounts for more than two-thirds of world cotton area and production, observations based on the sample can only be extrapolated to the world level taking into account the noted differences.

Table 1: Countries and Regions included in the Sample

Irrigated areas*	Season-average rainfall (mm)***	Rainfed areas**	Season-average rainfall (mm)***
Countries:		***Countries:***	
China (Mainland)	500	Argentina	851 in North East; 750 in North West
Egypt	32	Benin	1,000 in North; 1,100 in South
Greece	350 to 550	Brazil	550 in Northeast
Iran	300-650 in Golestan & Mazadaran; 110-300 in Khorasan & Kerman	Burkina Faso	900
Mexico	300 to 500	Cameroon	1,050
Pakistan	21 in Punjab; 12 in Sindh	Chad	987
Spain		Cote d'Ivoire	1,000
Sudan	185 in Gezira Scheme	Mali	784
Syria	253	Mozambique	1,000
Turkey	189 to 1,130	Paraguay	1,400
Uzbekistan	100-300	Tanzania	1,100 in Western region
		Togo	1,137
		Uganda	1,200
		Zambia	900
		Zimbabwe	662
Regions:			
Arizona (USA)	250		
California (USA)	200		
Irrigated Arkansas (USA)			
Irrigated Louisiana (USA)		***Regions:***	
Irrigated Mississippi (USA)		Rainfed Arkansas (USA)	
Irrigated New Mexico (USA)		Rainfed Louisiana (USA)	
Irrigated Oklahoma (USA)		Rainfed Mississippi (USA)	
Irrigated Texas (USA)		Rainfed Oklahoma (USA)	
Haryana (India)	220 (North India)	Rainfed Texas (USA)	
Punjab (India)	220 (North India)	Maharashtra (India)	1,100 (Central India)

* Countries and regions with 90% or more irrigated cotton area were considered irrigated.
** Countries and regions with 10% or less irrigated cotton area were considered rainfed.
*** Data on season-average rainfall come from Cotton Production Practices, 1999, 2002, 2005, ICAC and NOAA.

Table 2: Geographical Distribution of the Sample and All Cotton Producing Countries*

% of total area	Sample	All Cotton Producing Countries
North America	16%	16%
South America	6%	6%
Europe	2%	1%
Africa	16%	14%
Middle East	4%	3%
Central Asia	6%	8%
Asia	50%	52%
Total	**100%**	**100%**

* In 2005/06

Trends in Irrigated and Rainfed Cotton Production

Production from irrigated areas increased from 8.8 million tons in 1980/81 to 14.0 million tons in 2005/06. Over the same period, production from rainfed areas more than doubled from 1.9 million tons in 1980/81 to 4.4 million tons in 2005/06. As a result, the share of cotton production from rainfed areas in the sample increased from 17% in 1980/81 to 24% in 2005/06.

China (Mainland) and Pakistan combined contributed for 84% of the total production increase in the sample's irrigated area. The United States and Africa combined contributed for 69% of the total production increase in the sample's rainfed area.

Trends in Irrigated and Rainfed Cotton Area

Over the 26-year period, irrigated and rainfed cotton areas remained relatively stable at around 14 and 10 million hectares, respectively. As a result, the share of rainfed cotton area in the sample remained stable at around 40%. This relative stability in irrigated and rainfed cotton areas implies that long-term production increases were due to increases in the average irrigated and rainfed yields.

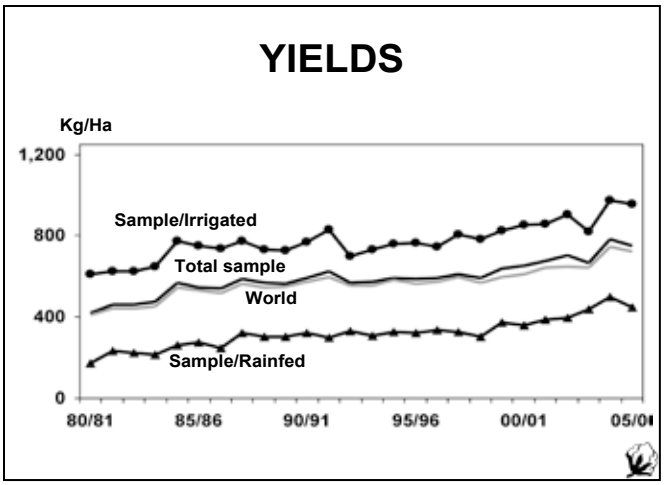
The long-term stability in total irrigated and rainfed cotton areas hides significant disparities within countries and regions. Irrigated cotton area tended to increase in Pakistan, Greece, Spain, and the state of Haryana in India, but declined in China (Mainland), Uzbekistan, Sudan, the state of Punjab in India, and Mexico. Irrigated area remained relatively stable in the selected irrigated U.S. states and in Turkey. Rainfed cotton area tended to decrease over time in Brazil, Paraguay, and in the selected rainfed U.S. states, while it increased in Africa.

Trends in Irrigated and Rainfed Cotton Yields

In 2005/06, the average irrigated cotton yield was estimated at 956 kilograms per hectare, or 2.1 times the average rainfed cotton yield of 449 kilograms per hectare, in agreement with the rule of thumb mentioned earlier. However, over the 26-year period the average yield under rainfed conditions increased faster than the average yield under irrigated conditions. The average irrigated yield was equal to 3 times the average rainfed yield in the first five years of the period vs. 2.1 times the average rainfed yield in the last five years of the period.

The average irrigated yield increased from 609 kilograms per hectare in 1980/81 to 776 kilograms per hectare in 1984/85, but then fluctuated between 700 and 830 kilograms per hectare with no tendency to increase until 1996/97 before starting to rise again. It rose to a record 975 kilograms per hectare in 2004/05, before declining slightly in 2005/06.

The average rainfed yield followed a similar trend: it increased quickly from 172 kilograms per hectare in 1980/81 to 323 kilograms per hectare in 1987/88, but fluctuated between 300



and 330 kilograms per hectare during the following decade. It started to rise again quickly to 498 kilograms per hectare in 2004/05, before declining in 2005/06.

The initial yield increases in the 1980s in both irrigated and rainfed areas were due to the widespread adoption of insecticides following a decade of heightened pressure from insects. Then yields stagnated again in the 1990s, partly because of pesticide resistance. Yields again began to rise in the late 1990s due to several factors, including the introduction of new technologies, extensive use of existing techniques, and shifts in areas used for cotton production, especially in China (Mainland), Turkey and Brazil.

These general yield trends hide disparities among irrigated and rainfed regions, in terms of both yield level and yield trends. The average irrigated yields increased significantly in Asia, the Middle East, and the European Union. Between the first five years of the period (1980/81 to 1984/85) and the last five years of the period (2001/02 to 2005/06), the average yield increased in China (Mainland) from 682 to 1,095 kilograms per hectare; in Pakistan from 343 to 643 kilograms per hectare; in Turkey from 788 to 1,291 kilograms per hectare; in Syria from 945 to 1,403 kilograms per hectare; in Iran from 455 to 730 kilograms per hectare; in Greece from 807 to 1,047 kilograms per hectare; and in Spain from 986 to 1,171 kilograms per hectare. The average irrigated yield in the United States increased from 831 to 1,076 kilograms per hectare over the period. The average yield in Sudan increased from 250 to 565 in the first half of the 1980s, but fluctuated afterwards between 320 and 610 kilograms per hectare without showing any prolonged tendency to increase. The average yields in Pakistan and Sudan remain well below average irrigated yields and even rainfed yields in some countries. Finally, the average yields in Uzbekistan and Egypt tended to decrease slightly over the period.

There were also disparities among rainfed regions over the same period. The average rainfed yield in African countries increased slowly, from less than 200 kilograms per hectare in 1980/81 to 347 kilograms per hectare in 1990/91, but then fluctuated between 305 and 370 kilograms per hectare

2006/07 SUPPLY AND USE OF COTTON BY COUNTRY 1-Dec-06

	AREA	YIELD	PROD	BEG STKS	IMPORTS	CONS	EXPORTS	END STKS	S/U *
	000 Ha	Kgs/Ha	000 Metric Tons						Ratio
CANADA				7	39	39		7	0.18
CUBA	4	269	1	5	9	10		5	0.50
DOM. REP.					2	2			0.31
MEXICO	114	1,209	138	252	325	424	50	241	0.51
USA	5,187	894	4,637	1,317	7	1,132	3,591	1,238	0.26
Sub total	**5,309**	**900**	**4,777**	**1,583**	**381**	**1,608**	**3,641**	**1,493**	**0.28**
EL SALVADOR				5	20	20		5	0.27
GUATEMALA				5	23	23		5	0.21
HONDURAS	0	313	0	1	3	3		1	0.22
NICARAGUA	2	538	1	0		1		0	0.18
Sub total	**2**	**505**	**1**	**11**	**46**	**47**		**11**	**0.24**
ARGENTINA	390	427	166	97	20	152	23	107	0.61
BOLIVIA	8	600	5	6	10	11	4	6	0.43
BRAZIL	1,000	1,183	1,183	750	105	870	360	808	0.66
CHILE				5	15	15		5	0.36
COLOMBIA	52	763	40	29	60	101		27	0.27
ECUADOR	1	416	1	9	16	17		9	0.51
PARAGUAY	190	348	66	12		6	55	17	0.28
PERU	90	711	64	73	39	98	5	73	0.71
URUGUAY				1	4	4		1	0.15
VENEZUELA	15	347	5	14	18	21	2	14	0.60
Sub total	**1,747**	**876**	**1,530**	**996**	**287**	**1,295**	**449**	**1,068**	**0.61**
ALGERIA	0	848	0	5	22	22		5	0.24
EGYPT	231	908	210	47	110	220	100	47	0.15
MOROCCO	2	521	1	6	32	33		6	0.19
SUDAN	151	458	69	42		2	68	42	0.60
TUNISIA				6	12	13		5	0.38
Sub total	**385**	**729**	**281**	**106**	**176**	**290**	**168**	**105**	**0.23**
BENIN	236	534	126	50		3	129	44	0.33
BURKINA FASO	717	450	323	150		2	325	145	0.44
CAMEROON	203	473	96	48		3	98	43	0.43
CENT. AFR. REP.	8	262	2	1			2	1	0.27
CHAD	300	273	82	43		1	76	48	0.63
COTE D'IVOIRE	199	503	100	37		10	96	32	0.30
GUINEA	13	224	3	1			3	1	0.40
MADAGASCAR	21	351	7	3		5	3	3	0.44
MALI	490	429	210	90		3	218	79	0.36
NIGER	5	426	2	0		1			0.15
SENEGAL	44	457	20	6		1	20	5	0.26
TOGO	50	400	20	25			34	11	0.34
Sub total	**2,286**	**434**	**991**	**455**		**28**	**1,005**	**414**	**0.40**
ANGOLA	2	288	1	0		1		0	0.12
ETHIOPIA	85	258	22	8		10	12	8	0.35
GHANA	26	346	9	5	2	2	9	5	0.43
KENYA	55	103	6	4	16	22		4	0.16
MOZAMBIQUE	294	115	34	24		2	35	21	0.56
NIGERIA	363	231	84	37	15	63	44	29	0.27
SOUTH AFRICA	21	730	15	11	27	44		9	0.20
TANZANIA	500	205	103	52		15	83	57	0.58
UGANDA	100	310	31	11		2	25	14	0.52
CONGO, DR	11	268	3	2	6	8		2	0.26
ZAMBIA	225	288	65	44		12	65	32	0.42
ZIMBABWE	350	324	113	66		24	86	69	0.63
Sub total	**2,113**	**242**	**512**	**279**	**85**	**230**	**379**	**267**	**0.44**
BULGARIA	9	259	2	8	17	19	1	8	0.42
CZECH REP.				19	36	35	1	19	0.54
SLOVAK REP.				2	7	7		2	0.28
HUNGARY				4	10	10		4	0.36
POLAND				13	34	35		12	0.35
ROMANIA				4	14	14		4	0.30
FORMER YUGOSLAVIA				6	12	13		5	0.42
Sub total	**9**	**259**	**2**	**58**	**134**	**136**	**2**	**56**	**0.41**

2006/07 SUPPLY & USE OF COTTON BY COUNTRY (cont'd) 1-Dec-06

	AREA	YIELD	PROD	BEG STKS	IMPORTS	CONS	EXPORTS	END STKS	S/U *
	000 Ha	Kgs/Ha	000 Metric Tons						Ratio
NORWAY				0	1	1		0	0.27
SWITZERLAND				1	10	9	1	1	0.15
Sub total				**2**	**10**	**10**	**1**	**2**	**0.16**
AUSTRIA				6	20	20		6	0.31
BELGIUM				7	27	22	5	7	0.24
DENMARK				(0)				(0)	
FINLAND					0	0			
FRANCE				11	41	37	5	10	0.24
GERMANY				4	69	52	17	4	0.05
GREECE	300	1,083	325	137	5	75	266	126	0.37
IRELAND				0	1	1		0	0.27
ITALY				35	137	133	4	34	0.25
NETHERLANDS				1	3		3	1	0.38
PORTUGAL	0	889	0	16	60	62		14	0.22
SPAIN	57	702	40	23	8	38	15	19	0.36
SWEDEN				0	0	0		0	0.19
UNITED KINGDOM				0	0	0		0	0.23
Sub total	**357**	**1,022**	**365**	**240**	**371**	**440**	**316**	**220**	**0.29**
AZERBAIJAN	84	648	54	18		10	47	16	0.28
BELARUS				4	11	11		4	0.34
ESTONIA				7	15	15	0	7	0.48
GEORGIA				0				0	
KAZAKHSTAN	195	665	130	25	9	22	117	25	0.18
KYRGYZSTAN	45	815	37	13	3	3	37	13	0.33
LATVIA				8	16	4	12	8	0.49
LITHUANIA				2	4	4		2	0.35
MOLDOVA				1	3	3		1	0.36
RUSSIA	1	507	1	52	289	290		52	0.18
TAJIKISTAN	260	549	143	43		18	125	43	0.30
TURKMENISTAN	600	375	225	72		92	133	72	0.32
UKRAINE				4	16	11	5	4	0.29
UZBEKISTAN	1,429	770	1,100	361	1	180	958	324	0.28
Sub total	**2,618**	**646**	**1,691**	**611**	**366**	**662**	**1,434**	**572**	**0.27**
CHINA (MAINLAND)	5,377	1,209	6,500	3,110	3,600	10,194	8	3,317	0.33
CHINA (TAIWAN)				73	255	255		73	0.29
CHINA (HONG KONG)				29	93	78	15	29	0.31
Sub total	**5,377**	**1,209**	**6,500**	**3,212**	**3,948**	**10,527**	**23**	**3,419**	**0.32**
AUSTRALIA	160	1,812	290	398	0	11	496	182	0.36
INDONESIA	12	540	6	82	464	470		82	0.17
JAPAN				39	129	134		35	0.26
KOREA, D.R.	19	540	10	6	5	15		6	0.41
KOREA, REP.				39	219	219		39	0.18
MALAYSIA				14	56	56		14	0.24
PHILIPPINES	7	414	3	4	22	25		4	0.18
SINGAPORE				1	3		3	1	0.24
THAILAND	24	444	11	156	451	458	4	156	0.34
VIETNAM	23	446	10	26	166	176		26	0.15
Sub total	**254**	**1,330**	**337**	**765**	**1,514**	**1,569**	**503**	**545**	**0.26**
AFGHANISTAN	25	367	9	5		4	5	5	0.54
BANGLADESH	51	306	16	114	429	444		114	0.26
INDIA	9,266	495	4,590	1,679	105	3,845	898	1,631	0.34
MYANMAR	284	208	59	34		47	12	34	0.57
PAKISTAN	3,060	650	1,989	1,153	440	2,510	25	1,047	0.41
SRI LANKA				5	20	20		5	0.23
Sub total	**12,689**	**525**	**6,663**	**2,990**	**995**	**6,872**	**940**	**2,837**	**0.36**
IRAN	106	758	80	46	45	120	5	46	0.37
IRAQ	20	352	7	1	6	13		1	0.09
ISRAEL	13	1,423	18	7	3	3	18	7	0.33
SYRIA	218	1,099	240	123		150	120	93	0.34
TURKEY	700	1,214	850	437	650	1,500	40	397	0.26
Sub total	**1,082**	**1,113**	**1,204**	**621**	**733**	**1,819**	**188**	**551**	**0.27**
WORLD TOTAL	**34,227**	**726**	**24,855**	**11,929**	**9,047**	**25,534**	**9,047**	**11,559**	**0.45**

*/ Ending stocks divided by consumption plus exports.

Subtotals and total include countries not shown.

2007/08 SUPPLY AND USE OF COTTON BY COUNTRY 1-Dec-06

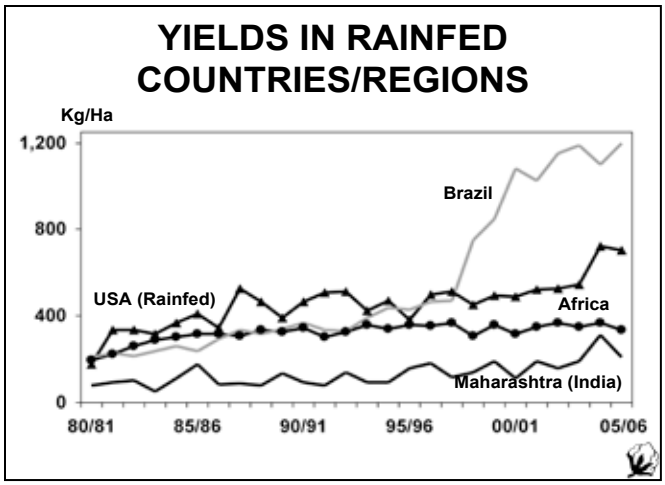
	AREA	YIELD	PROD	BEG STKS	IMPORTS	CONS	EXPORTS	END STKS	S/U *
	000 Ha	Kgs/Ha	000 Metric Tons						Ratio
CANADA				7	37	37		7	0.19
CUBA	4	269	1	5	9	10		5	0.50
DOM. REP.					2	2			0.31
MEXICO	114	1,176	134	241	315	415	50	225	0.48
USA	5,300	900	4,770	1,238	7	1,053	3,833	1,129	0.23
Sub total	**5,423**	**905**	**4,906**	**1,493**	**369**	**1,518**	**3,883**	**1,368**	**0.25**
EL SALVADOR				5	19	19		5	0.28
GUATEMALA				5	23	23		5	0.22
HONDURAS	0	316	0	1	3	3		1	0.22
NICARAGUA	2	543	1	0		1	0	0	0.17
Sub total	**2**	**510**	**1**	**11**	**45**	**46**	**0**	**11**	**0.24**
ARGENTINA	390	400	166	107	20	152	34	107	0.58
BOLIVIA	8	606	5	6	11	11	5	6	0.40
BRAZIL	1,050	1,195	1,255	808	50	870	445	797	0.61
CHILE				5	15	15		5	0.36
COLOMBIA	52	771	40	27	61	101		27	0.27
ECUADOR	1	420	1	9	16	17		9	0.51
PARAGUAY	190	352	67	17		6	56	22	0.36
PERU	90	718	65	73	38	98	5	73	0.71
URUGUAY				1	4	4		1	0.15
VENEZUELA	15	350	5	14	18	21	2	14	0.60
Sub total	**1,797**	**892**	**1,603**	**1,068**	**234**	**1,295**	**548**	**1,062**	**0.58**
ALGERIA	0	857	0	5	22	22		5	0.24
EGYPT	280	920	258	47	80	224	113	47	0.14
MOROCCO	2	526	1	6	33	34		6	0.19
SUDAN	159	416	66	42		2	65	40	0.60
TUNISIA				5	12	12		4	0.35
Sub total	**441**	**736**	**325**	**105**	**147**	**295**	**179**	**104**	**0.22**
BENIN	325	462	150	44		3	143	48	0.33
BURKINA FASO	717	462	332	145		2	353	122	0.34
CAMEROON	203	490	99	43		3	100	40	0.40
CENT. AFR. REP.	8	262	2	1			2	1	0.29
CHAD	300	230	69	48		1	76	40	0.53
COTE D'IVOIRE	199	406	81	32		10	82	20	0.22
GUINEA	13	224	3	1			3	1	0.40
MADAGASCAR	21	324	7	3		5	2	3	0.48
MALI	500	443	222	79		3	225	72	0.32
NIGER	5	426	2	0		1			0.12
SENEGAL	44	416	18	5		1	18	5	0.26
TOGO	75	334	25	11			28	9	0.32
Sub total	**2,410**	**419**	**1,010**	**414**		**28**	**1,033**	**362**	**0.34**
ANGOLA	2	288	1	0		1		0	0.12
ETHIOPIA	85	258	22	8		10	12	8	0.35
GHANA	26	346	9	5		2	6	6	0.79
KENYA	55	103	6	4	16	22		4	0.16
MOZAMBIQUE	294	115	34	21		2	32	21	0.61
NIGERIA	363	231	84	29	15	60	37	31	0.32
SOUTH AFRICA	21	734	15	9	26	42		9	0.21
TANZANIA	500	205	103	57		15	88	57	0.56
UGANDA	100	310	31	14		2	25	18	0.63
CONGO, DR	11	268	3	2	5	8		2	0.27
ZAMBIA	225	288	65	32		12	51	34	0.55
ZIMBABWE	350	324	113	69		24	100	58	0.47
Sub total	**2,113**	**241**	**510**	**267**	**82**	**224**	**372**	**264**	**0.44**
BULGARIA	9	258	2	8	16	18	1	8	0.40
CZECH REP.				19	34	35	1	18	0.49
SLOVAK REP.				2	7	7		2	0.27
HUNGARY				4	10	10		3	0.35
POLAND				12	33	34		11	0.33
ROMANIA				4	13	14		4	0.28
FORMER YUGOSLAVIA				5	12	12		5	0.40
Sub total	**9**	**258**	**2**	**56**	**128**	**133**	**2**	**51**	**0.38**

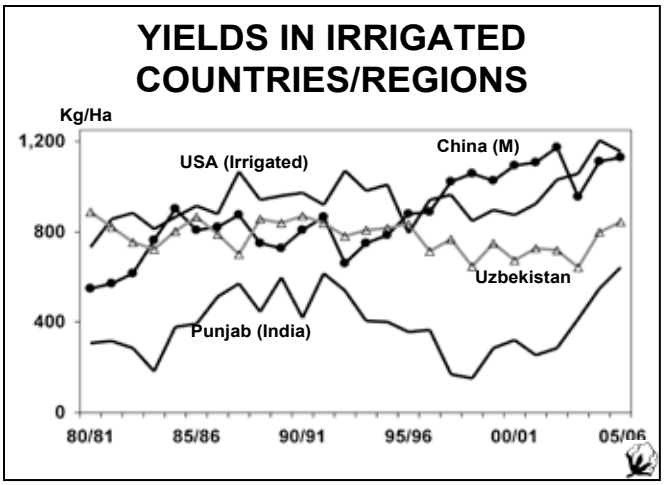
2007/08 SUPPLY & USE OF COTTON BY COUNTRY (cont'd) 1-Dec-06

	AREA	YIELD	PROD	BEG STKS	IMPORTS	CONS	EXPORTS	END STKS	S/U *
	000 Ha	Kgs/Ha	000 Metric Tons						Ratio
NORWAY				0	1	1		0	0.28
SWITZERLAND				1	9	9	1	1	0.13
Sub total				**2**	**10**	**10**	**1**	**1**	**0.14**
AUSTRIA				6	17	18		5	0.27
BELGIUM				7	24	20	5	4	0.17
DENMARK				(0)				(0)	
FINLAND					0	0			
FRANCE				10	39	35	5	9	0.22
GERMANY				4	66	49	17	4	0.06
GREECE	350	1,068	374	126	5	71	330	104	0.26
IRELAND				0	1	1		0	0.29
ITALY				34	129	125	4	33	0.25
NETHERLANDS				1	3		3	1	0.38
PORTUGAL	0		0	14	57	58		13	0.22
SPAIN	60	800	48	19	8	35	21	19	0.33
SWEDEN				0	0	0		0	0.21
UNITED KINGDOM				0	0	0		0	0.22
Sub total	**410**	**1,029**	**422**	**220**	**350**	**414**	**386**	**192**	**0.24**
AZERBAIJAN	84	647	54	16		10	44	16	0.29
BELARUS				4	11	11		4	0.34
ESTONIA				7	15	15	0	7	0.48
GEORGIA				0				0	
KAZAKHSTAN	205	706	145	25	9	22	132	25	0.17
KYRGYZSTAN	45	841	38	13	3	3	38	13	0.32
LATVIA				8	16	4	12	8	0.49
LITHUANIA				2	4	4		2	0.35
MOLDOVA				1	3	3		1	0.36
RUSSIA	1	506	1	52	288	290		50	0.17
TAJIKISTAN	260	562	146	43		19	129	41	0.28
TURKMENISTAN	600	369	222	72		93	131	70	0.31
UKRAINE				4	16	11	5	4	0.29
UZBEKISTAN	1,429	809	1,156	324	1	180	1,008	292	0.25
Sub total	**2,628**	**671**	**1,763**	**572**	**364**	**664**	**1,500**	**534**	**0.25**
CHINA (MAINLAND)	5,377	1,155	6,212	3,317	3,882	10,602	8	3,112	0.29
CHINA (TAIWAN)				73	241	247		67	0.27
CHINA (HONG KONG)				29	81	74	10	26	0.31
Sub total	**5,377**	**1,155**	**6,212**	**3,419**	**4,204**	**10,923**	**18**	**3,204**	**0.29**
AUSTRALIA	300	1,777	533	182	0	10	435	270	0.61
INDONESIA	12	540	6	82	464	470		82	0.17
JAPAN				35	125	127		33	0.26
KOREA, D.R.	19	540	10	6	5	15		6	0.41
KOREA, REP.				39	206	208		37	0.18
MALAYSIA				14	56	56		13	0.23
PHILIPPINES	10	414	4	4	20	25		4	0.18
SINGAPORE				1	3		3	1	0.24
THAILAND	24	444	11	156	438	458	4	143	0.31
VIETNAM	25	446	11	26	179	188		28	0.15
Sub total	**399**	**1,461**	**583**	**545**	**1,496**	**1,563**	**442**	**619**	**0.31**
AFGHANISTAN	27	368	10	5		4	6	5	0.49
BANGLADESH	52	306	16	114	445	466		108	0.23
INDIA	9,266	487	4,515	1,631	120	3,998	789	1,479	0.31
MYANMAR	284	208	59	34		47	12	34	0.57
PAKISTAN	3,060	600	1,836	1,047	756	2,610	25	1,003	0.38
SRI LANKA				5	20	20		5	0.23
Sub total	**12,692**	**507**	**6,438**	**2,837**	**1,341**	**7,149**	**831**	**2,635**	**0.33**
IRAN	106	751	80	46	50	120	10	46	0.35
IRAQ	20	353	7	1	6	13		1	0.09
ISRAEL	16	1,423	23	7	3	3	23	7	0.27
SYRIA	218	1,401	306	93		152	154	93	0.30
TURKEY	700	1,285	900	397	567	1,470	40	353	0.23
Sub total	**1,085**	**1,219**	**1,324**	**551**	**655**	**1,790**	**232**	**507**	**0.25**
WORLD TOTAL	**34,785**	**721**	**25,097**	**11,559**	**9,426**	**26,053**	**9,426**	**10,914**	**0.42**

*/ Ending stocks divided by consumption plus exports.

Subtotals and total include countries not shown.





afterwards without showing any tendency to increase. The average yield in Argentina varied between 300 and 570 kilograms per hectare during the 26-year period without showing any tendency to increase. The average yield in Paraguay did not show any tendency to increase either over the entire period: except for a peak at 592 kilograms per hectare in 1991/92, yields fluctuated between 240 and 500 kilograms per hectare during the entire period without showing any sign of increasing durably. In contrast, the average rainfed yield in the United States increased significantly over the period, from an average of 306 kilograms per hectare in the first five years to an average of 605 kilograms per hectare during the last five years. In particular, in the last two seasons (2004/05 and 2005/06), exceptional weather helped the average U.S. rainfed yield reach a record of over 700 kilograms per hectare. The average yield in rainfed Maharashtra (India) also increased over the same period, although slower than in the United States, reaching 213 kilograms per hectare during the last five years of the period. The average Brazilian yield increased slowly from 208 kilograms per hectare in 1980/81 to 470 kilograms per hectare in 1997/98. The increase in the national average yield accelerated in the following years as cotton production shifted from the north and northeast to the south and southwest where soils are more fertile. The national average yield reached a record of 1,207 kilograms per hectare in 2005/06, above average yields in some irrigated cotton areas of the world.

From one season to another, the average yields were much more variable under rainfed conditions than under irrigated conditions: the average year-to-year coefficient of variation, averaged amongst countries/regions, was 31% under rainfed conditions compared to 18% under irrigated conditions. The greater year-to-year yield variability under rainfed conditions is due to the fact that year-to-year variations in rainfall generally affect rainfed yields much more than irrigated yields.

In addition, for any given season within the period considered, there was much more yield variation amongst rainfed countries than amongst irrigated countries: the inter-countries/regions coefficient of variation, averaged over the 26-year period, was 54% for rainfed countries/regions compared to 36% for irrigated countries/regions. This greater geographical variability under rainfed conditions reflects differences in the amount of rainfall received, and differences in other factors such as soil, cotton variety, seed quality, weather, input supply, crop management and degree of technology adoption.

Conclusions

The average irrigated yield is currently about twice the average rainfed yield in the sample, which is in agreement with the generally accepted rule of thumb. However, the average rainfed yield increased faster than the average irrigated yield between 1980/81 and 2005/06. This implies that the "2:1" rule of thumb does not hold for the entire period. The average irrigated yield averaged 3.0 times the average rainfed yield between 1980/81 and 1984/85, 2.5 times in the following 15 seasons, then 2.1 times between 2001/02 and 2005/06.

It is important to underline the significant disparities in terms of yield level and long-terms trends from one country/region to another, in both irrigated and rainfed areas.