

FACTORS AFFECTING COTTON DISTRIBUTION IN CHINA

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Abstract

The government of China liberalized cotton prices in September 1999, but changes in the marketing infrastructure are lagging the price reforms. The authors identify impediments to efficient cotton distribution and discuss the implications for trade in the post-WTO period.

Introduction

The People's Republic of China produces and spins more than one-fifth of the world's cotton, yet many details of the internal Chinese cotton distribution system are an enigma to analysts and traders outside China. In the introduction to his new book *The Chinese*, Jasper Becker suggests that China is simply too big to comprehend and, certainly, the size and diversity of China's cotton industry are impediments to understanding how cotton is allocated. Another difficulty is the government of China's tradition of secrecy—the gradual loosening of restrictions on information has not yet extended, for example, to a public accounting of China's vast cotton stocks. A third obstacle to understanding the Chinese system is the reconfiguration of trading patterns under the reforms instituted on September 1, 1999; rapid changes resulting from the reforms make market relationships even more difficult to analyze.

Despite the many problems in gathering and analyzing information, it is critical for international cotton analysts to improve their understanding of how cotton is traded within China. China's cotton trade position, whether as a net importer or a net exporter, has a significant impact on the world cotton market. Under the old, centrally planned system, China's cotton trade was determined more by government edict than by supply-demand conditions, and thus it was more important to follow government policies than internal market developments. With the advent of the reforms and China's imminent accession to the World Trade Organization (WTO), China's internal market will become increasingly integrated with the world cotton market, with the result that her internal surpluses, shortages and dislocations will be felt more immediately and directly in the nerve centers of the world's cotton trade.

And so, in the spirit of the old Chinese adage that it is better to light a candle than to curse the darkness, the authors have undertaken to identify and interpret what is currently known about China's internal cotton distribution system. This paper is the initial product of an ongoing effort in which USDA economists will support a team from the Chinese government in writing a handbook on China's cotton industry. We wish to express our appreciation for the contributions of several experts who provided data, analysis and/or review, including Ralph Bean of USDA-FAS, Thomas Bell, David Hardoon of Dunavant Enterprises, Inc., Ji Zhang of Paul Reinhart, Inc., and other experts in the trade. We would also like to recognize the contributions of Ding Haowu of the China National Cotton Exchange, including detailed information on the operation of the exchange and the results of the exchange auctions. Finally, we would like to acknowledge the weekly Cotton Reports of East-West Consultants, Limited, for their information on Chinese domestic market activity and regular data on mill-delivered prices.

History and Impacts of China's Cotton Reforms

Prior to the cotton reforms introduced in September 1999, cotton

distribution in China was managed by the State Council through the All-China Federation of Supply and Marketing Cooperatives (SMC) and its subsidiary, the Bureau of Cotton and Jute (BCJ). Local branches of the BCJ procured the majority of China's cotton production from farmers at prices that were fixed by the government. The BCJ, which controls most of China's ginning capacity, ginned the cotton and sold it to mills in quantities and at prices determined by the government plan. The BCJ frequently incurred losses in carrying out its mandate, and these losses resulted either in non-performing loans from the Agricultural Development Bank or in additional funds allocated from the Ministry of Finance. The government maintained a strategic cotton reserve whose size was and is a State secret, but was reported to have a capacity of at least 2 million metric tons as of the early 1990's; the reserve absorbed much of the surplus production that accumulated during the late 1990's. Exports of cotton were made mainly through Chinatex, the government sanctioned state trading company for cotton.

Throughout the mid- to late 1990's, China's procurement prices rose in relation to world cotton prices, stimulating surplus production and demand for cheaper, imported foreign cotton. China became a significant net cotton importer during the period 1994/95 through 1997/98, at the same time that the stocks and financial losses of the BCJ multiplied. For the 1998/99 season, procurement prices were reduced in all provinces and the Xinjiang government was given latitude to cut prices below the national procurement price; at the same time, the central government provided both export subsidies for Xinjiang cotton and tax incentives for the substitution of Xinjiang cotton for imported cotton. However, depressed world prices undermined these initiatives to make China's cotton more competitive. While China became a net exporter by a slim margin in 1998/99, stocks continued to rise.

In late 1998, the State Council announced that procurement prices would be completely liberalized for the 1999 crop and that entities other than the BCJ, mainly large State textile mills, would be able to purchase cotton directly from farmers after obtaining licenses to do so. These measures were affirmed in a speech by Premier Zhu Rongji at the June 1999 National Cotton Conference. In addition to the price and trade liberalization, the local and provincial offices of the BCJ would be responsible for all new financial losses incurred through the procurement process. Authority was also extended to the Xinjiang provincial government and its paramilitary Production and Construction Corps, which operates large State farms, to export cotton independent of central government control. However, the main thrust of the reforms was to allow prices to float while assigning responsibility to the local and provincial government cotton companies for any losses incurred.

The supply-demand balance sheet for the 1999/2000 marketing year is remarkable for its sharp reversal of the patterns of the preceding years (see Table 1). Production fell as a result of farmers' lower price expectations and exports climbed over 200 percent to 1.7 million bales. However, the most significant change occurred in domestic mill use, which rose an estimated 15.6 percent. The increased mill use is partially attributable to reforms in the textile sector which promoted efficiency and profitability, and to a recovery in the world's textile economy; at the same time, lower cotton prices and higher synthetic fiber prices raised cotton's share of fiber use. Imports of raw cotton have been severely restricted since the liberalization and, therefore, the excess of disappearance over production is reflected in sharply lower ending stocks, which fell nearly 30 percent from the preceding year.

China's domestic cotton prices have also shown a strong response to the reforms and related developments. Mill-delivered prices began to fall in March 1999, reaching their low point in November 1999. At that point, the shortfall of production vis-a-vis disappearance was manifested in a price rebound. At about the same time, the central government began to auction

its reserve stocks—by early March 2000, 130,000 tons of pre-1993 crop cotton had been sold

The Chinese government officially opened the China National Cotton Exchange (CNCE) in Beijing in April 2000. The exchange serves as an electronic spot cotton market and as the focal point for the government's stock disposal program. Trading on the exchange is by membership and there are currently about 100 members, most of whom are either BCJ companies or textile mills. Members may purchase cotton for a non-member, but are officially prohibited from making speculative purchases. Cotton stocks are re-classified prior to being sold, and starting bid prices are established with reference to the world price A-index. Successful bidders are required to pay for the cotton within 10 working days, or be assessed a penalty, and must arrange for transportation themselves.

The CNCE has auctioned a total of about 7.6 million bales of cotton on the exchange from April 1, 2000 through January 1, 2001. The auctions allow the government both to dispose of its surplus and to moderate price increases by raising the free supply; the latter, in turn, supports textile mills and prevents excess production on the part of farmers. As a result of the large volumes of cotton being auctioned, China's internal cotton prices stabilized in the fall of 2000, but remained enough above comparable world prices constrain export sales.

Challenges of Cotton Distribution Before and After the Reforms

China is known to have experienced a number of distribution challenges prior to the advent of the reforms. The "top-down" nature of the centralized allocation system resulted in the mills not receiving all of the cotton they requested, or receiving different qualities than they needed, or in shipment delays. Transportation bottlenecks, especially from the far northwestern province of Xinjiang, presented a major obstacle to efficient and timely cotton distribution. The BCJ was charged with procuring all cotton production but was often not provided with sufficient financial resources to do so, and this sometimes resulted in farmers receiving IOU's or in downgrading the quality of the farmers' cotton in order to minimize costs. Farmers sometimes hoarded cotton in an attempt to maximize returns, and all market sectors sometimes dealt with unlicensed dealers in order to circumvent the system's many requirements and restrictions. The strategic reserve warehouses, which were built for national security and defense purposes, were generally located in inaccessible areas. In the mid- and late 1990's, when large surpluses were accumulating, total warehouse space was extremely deficient, and a significant but unknown quantity of cotton was stored in sub-optimal conditions.

The liberalization of cotton prices under the reforms has begun to address some of the former circulation difficulties. The local cotton companies, under orders to avoid losses, now have the freedom to set procurement prices according to what they believe the market will bear. Mills have more independence to seek the quantities and qualities of cotton they need, and more potential sources of legitimate cotton purchases. Rising mill demand, and especially demand for cotton from Xinjiang, continues to pressure the government to make transportation improvements. The authorities in Xinjiang appear to be making price-driven choices about whether to sell cotton for domestic use or export. And the drawdown of surplus stocks has partially alleviated the shortage of warehouse capacity.

The evidence suggests that the business practices of each industry sector have been impacted by the reforms. Farmers are operating in a more uncertain environment due to the loss of guaranteed procurement prices and their cropping decisions are increasingly market-driven. Cotton area dropped from 4.5 million hectares in 1998 to 3.7 million in 1999, based on the anticipation of much lower prices under the reforms, but rose in the spring of 2000 as the cotton outlook improved relative to grains. With

prices much more volatile and hedging instruments unavailable, farmers are also trying to maximize returns by delaying sales, or by seeking the highest bidder and this, in turn, has resulted in more sales to unlicensed dealers. Indeed, the proliferation of unauthorized cotton dealers has become a matter of increasing concern to the government and numerous official warnings have been issued against illegal trading. The BCJ charges that unregulated sales result in the cheating of farmers, poor ginning practices, mixing of grades, the introduction of foreign matter into the cotton to fraudulently increase weight, and misrepresentation of quality.

The local and provincial BCJ remains the primary agency authorized to procure and gin cotton. While the procedures allow for other entities to procure cotton from farmers, the licensing requirements are strict and only a few large State mills have exercised this option. Like farmers, the government cotton companies are operating in an environment of greater price uncertainty and have no hedging instruments to protect themselves from the price risk associated with carrying a long cotton position. While prices rose during the 1999 harvest period and, to a lesser extent, the 2000 harvest period, evidence suggests that cotton companies have been cautious about incurring potential losses. Initial procurement prices dropped below \$1000 per metric ton, or about 45 cents per pound, following the 1999 harvest; procurement volume through November 30, 1999 dropped about 30 percent below the preceding year and procurement through November 2000 was also below historical average levels. Reports suggest that in some provinces unlicensed dealers procured a significant proportion of the harvest, in direct competition with the local BCJ.

The position of the domestic mills has been complicated by the new reform procedures and by dramatic changes in consumption requirements vis-a-vis production. As stated earlier, mills have generally benefited from both lower prices and an allocation system that is less bureaucratic and more market-driven. Indeed, the sharp increases in consumption witnessed since August 1999 are largely attributable to increased cotton textile exports, which would not have been possible under the pricing constraints imposed by the old system. But mill consumption rose in calendar 2000 at the same time that production from the 1999-crop declined, leaving some provinces with less supply relative to consumption than in prior years. Measured by deducting estimated provincial consumption from the lagged production, the important cotton-spinning provinces of Shandong, Jiangsu and Hubei increased their cotton deficits by about 2.8 million bales, collectively, in 2000. With reduced availability of both local cotton and imports, mills in cotton-deficit provinces were forced to look to other provinces and to the cotton auctions from the Beijing exchange to purchase cotton.

The combination of the new policies and the rising necessity of inter-provincial trade have significant implications for China's cotton distribution. In the pre-reform era, mills in cotton-deficit regions or provinces requested and received cotton through the BCJ, which made allocations from the national level. Mills can still request cotton through the BCJ, but some are electing to purchase cotton through agents or by sending their own staff to the point of production. Xinjiang cotton is currently in high demand for reasons of both quality and quantity, being the only region with significant surplus production and China's main producer of high-grade cotton. A number of mills have sent buyers to Xinjiang to negotiate purchases. It is generally the responsibility of the purchaser to arrange and pay for transportation, which continues to be problematic due to a shortage of rail cars. This can result in significant delays in securing delivery and the delay exacerbates the price risk, as the suppliers may attempt to renegotiate the contract prior to delivery.

Credit poses another difficulty, as the Chinese banking structure is not well adapted to the newer, more flexible cotton trade arrangements. Under the old system, mills received credit through the BCJ to buy cotton. Under the reforms, mills wishing to purchase cotton directly from farmers are not eligible for credit from the Agricultural Development Bank, and the

Commercial and Industrial Bank, the traditional lender for mill operations, has been unwilling to provide credit to make direct purchases from farmers. The BCJ does not extend credit for cotton purchases outside the home province, but Xinjiang suppliers generally require cash up front before they will release the cotton.

Purchasing cotton from the CNCE auctions alleviates some of the logistical problems of mills in cotton-deficit areas. The exchange provides information about the available supplies by location and quality, and provides assurances that the cotton will be delivered at the bid price. It also offers an arbitration service if there is a disagreement about quality.

Implications for Supply, Demand, Stocks and Prices

The level of information available to estimate the individual components of China's cotton supply and demand is highly variable. Customs data on imports and exports of raw cotton are regular and are deemed reliable. Production estimates are not made regularly during the growing season, but the government of China does publish final production estimates after the harvest is complete through its National Bureau of Statistics (NBS). The government does not, however, provide reports of cotton consumption and, therefore, USDA estimates consumption by using the government's total yarn production data, assuming a fiber share for cotton, and adding an allowance for non-mill use and other uses not accounted for in the yarn data.

Since there are no official data on the size of China's stocks, USDA's cotton balance sheet for China reflects stocks as a residual of the other estimates; this means that any inadvertent errors in current and past estimates of production, consumption, or trade are reflected on a cumulative basis in the stocks figure, unless they happened to be offsetting. When stocks were very large, the error factor was of less consequence, since it was likely to constitute a relatively small percentage of the total. However, as of January 2000, USDA projects that China's stocks will decline to about 11.8 million bales at the end of 2000/01, or just over half of estimated domestic mill use (though high-level Chinese officials have suggested that stocks are larger, but have declined to provide estimates). As total stocks approach a more normal 30-40 percent of total disappearance, possible errors in the stock estimates affect projections of future trade, which is of major concern to the world cotton market, especially in the context of China's impending WTO accession. Thus, analysts must make careful observations of market behavior within China in an attempt to verify stock estimates.

One alternative method of analyzing the stock situation is to make estimates of free stocks by examining price movements and other signs of internal surplus or shortage. While China's overall stocks are large, government and BCJ reserve stocks from the 1998 and prior crops are not available for consumption unless they are approved for auction on the CNCE; thus, these reserve stocks are excluded from free stocks for the purpose of the analysis. Special government approval for release of the reserve stocks is required because of the potential for prohibitive financial losses associated with selling cotton procured at above-market prices and stored for several years. As a result, only the auction amounts are included in free stocks as defined here.

Construction of a balance sheet for the reform period based on free stocks requires the estimation of a beginning free stocks level for August 1, 1999. USDA's definition of stocks generally includes all stocks held in the country, including stocks on farms, in warehouses, in transit or at mills. In the summer and fall of 1999, when the price liberalization was anticipated, rapidly falling prices were a powerful inducement to unload stocks and cotton companies were selling cotton at a loss, as indicated by the decline in mill-delivered prices.

However, the national BCJ began counting the provincial cotton stocks in the summer of 1999 for the purpose of separating losses on the old crops from the liberalized new-crop transactions; at that time, a warning was issued that losses on further old-crop sales would not be reimbursed. Given the conflicting inducements to hold and sell cotton from the point of view of sellers, the most straightforward assumption is that there were sufficient free stocks on August 1, 1999 to cover domestic consumption and exports for the 3-month period August-October, less small amounts of imports and auctioned cotton that became available during the August-October period, for a total of about 5.5 million bales. Since fall 1999 procurement progressed more slowly than usual due to price uncertainty and harvest delays, and since mills apparently had sufficient cotton to continue operating during this period, it can be argued that this is a minimal estimate.

Tracking the flow of free stocks by month beginning in August 1999 indicates a free stock level one year later, on July 31, 2000, of about 2.3 million bales. While this level would have constituted only about 40 percent of the upcoming three months of mill use and export requirements, free stocks in August-October 2000 were supplemented with cotton auctioned by the CNCE of an additional 2.3 million bales. Together, these two sources of stocks account for nearly 80 percent of the estimated amount needed (see Table 2).

Government policies, price developments and anecdotal evidence are consistent with a relative tightness in free stocks during the 2000 pre-harvest period. The ongoing need for free stocks helps to explain the heavy auction volumes by the CNCE, which rose from 0.8 million bales in October to 2.1 million in November. The government had also opened up an import quota for higher qualities in June and added 200,000 tons of non-reserve 1998-crop commercial stocks to the auction pool in July. Mill-delivered prices rose appreciably in September 2000. Although one would have expected free stocks to rise in the late fall of 2000 due to new-crop availability, prices have not fallen as of the end of the calendar year. While China's harvest takes place predominantly in September and October, little information is available on the effects of procurement and ginning lags on supply availability. Also, world prices rose during this period and may have influenced internal prices indirectly, through demand for exports.

Carrying this analysis one step further suggests that, based on USDA's January 2000 estimates, Chinese mills will need an additional roughly 1.5 million bales from old-crop stocks during the period January-October 2001 to maintain a minimal level of free stocks in the fall of 2001. The free stocks analysis provides an additional tool for reconciling market developments with estimates of supply and demand, and ultimately may provide information to make revisions in the balance sheet, if needed. In considering the implications of changing levels of free stocks, one needs to consider how the speculative holding of stocks on the part of farmers, cotton companies, unlicensed traders, or mills may be affecting the market, as well as quality issues and other factors which could influence cotton supply and demand.

A further dimension of the stocks issue is the apparent shortage of high quality cotton in China, as evidenced by the rising differential between high and low qualities. With falling production and the rising dependence on old-crop cotton to satisfy current requirements, the shortage of high-grade cotton is becoming more acute. Based on the daily average grade reported for the auctioned cotton, most of the old-crop cotton that has been sold thus far was originally grade 3 and better. Thus, indications are that the higher grades of old-crop cotton are currently being disposed of, raising questions about the quality of the remaining stocks. If these stocks are low quality, there may be increased pressure on the government to allow imports to maintain an adequate high quality supply, regardless of the total stock level. Alternatively, accession to the WTO, likely to occur before the end of the current year, forces the immediate opening of a large tariff-rate quota of

about 3.5 million bales of raw cotton (of which roughly two-thirds will be reserved for non-state trading companies).

Conclusions

The liberalization of prices beginning in September 1999 has helped to rationalize the distribution of cotton in China while, at the same time, posing new challenges to the circulation system. The combination of floating prices, a lack of hedging instruments, and a relatively weak system of contract enforcement tends to link profit and loss potential to the ownership of the physical commodity. The government cotton companies have responded to the risk of loss by making somewhat conservative price offers to farmers; at the same time, more speculative illegal private dealers have made significant inroads into cotton trade at all levels of the market.

With reduced 1999-crop production available to satisfy increased consumption in 2000, a greater percentage of textile mills were operating in cotton-deficit regions. In response, some textile mills have sought non-traditional sources of supply, either the CNCE auctions or production outside of their home provinces, and mills that were accustomed to carrying only a few weeks' supply during times of surplus now may seek 2-3 months' supply as protection against uncertainties. But while the reforms in principle have given the mills greater independence to secure the supplies they need, changes in the infrastructure of the market have not kept pace with the new trading practices. Limitations on credit, transportation and storage add to the risks of purchasing cotton independent of the BCJ or outside the home province.

Tracking the flow of free stocks explains much about the recent movement of domestic prices and the government's decisions to auction massive quantities of stocks. Limitations on free stocks may also explain why China's domestic cotton prices have to date held just above the level that would make large exports of Xinjiang cotton competitive in world markets. If the divergence between production and consumption regions continues to widen, free stocks requirements will likely rise due to increased reliance on slower and more cumbersome inter-provincial trade. Inter-provincial trade also may rise as the ready supply of surplus government stocks available from the CNCE dwindles. Alternatively, marketing difficulties—including sourcing information, storage, transportation, financing and contract enforcement—may put a premium on cotton production close to textile mills or make imports attractive once China joins the WTO.

While the free stocks analysis does not currently suggest revisions in USDA's China balance sheet, it may at some point in the future provide more insight into the question of the total stocks level, which is currently estimated as a residual of the other supply-demand components. The stocks question is complicated by an increasing shortage of high quality cotton, which is especially important for the textile export market, and quality needs may supersede quantity as a determinant of China's prospective imports.

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Table 1. China Cotton Supply and Demand, 1997/98 through 1999/2000 (million 480-lb. bales.)

Item	1997/98	1998/99	1999/2000
Beg. stocks	16.66	19.96	21.13
Production	21.10	20.70	17.60
Imports	1.83	0.36	0.12
Total supply	39.59	41.01	38.85
Dom. mill use	19.60	19.20	22.20
Exports	0.03	0.68	1.70
Total use	19.63	19.88	23.90
Ending stocks	19.96	21.13	14.95

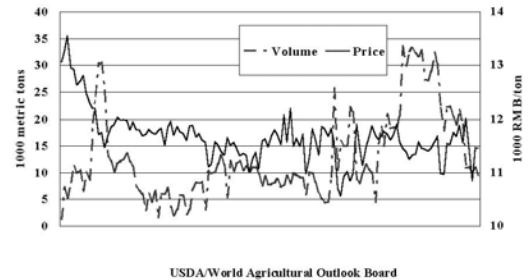
Table 2. Estimated Monthly Free Stocks, August 1999 through November 2000. (thousand 480-lb. bales)

Month	Beg. Free			
	Stocks	Production	Imports	Auction
Aug 1999	5,486	0	13	0
Sep	3,665	3,520	8	0
Oct	5,309	3,520	4	18
Nov	7,040	3,520	6	61
Dec	8,554	3,520	9	61
Jan 2000	10,120	3,520	13	258
Feb	12,116	0	9	197
Mar	10,647	0	14	0
Apr	8,530	0	0	841
May	7,192	0	1	717
Jun	5,810	0	15	434
Jul	4,012	0	26	425
Total, 1999/2000	5,486	17,600	118	3,012
Aug 2000	2,321	0	48	766
Sep	1,126	4,000	34	750
Oct	3,939	4,000	9	781
Nov	6,755	4,000	16	2,071

Table 2, continued.

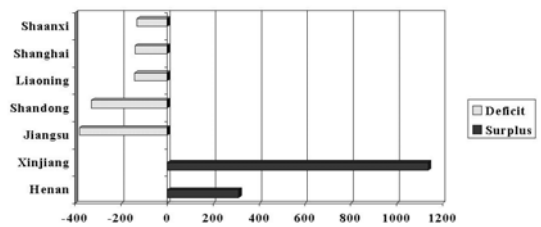
Month	Mill Use	Exports	Ending Free Stocks
Aug 1999	1,732	102	3,665
Sep	1,776	108	5,309
Oct	1,732	79	7,040
Nov	1,931	142	8,554
Dec	1,865	159	10,120
Jan 2000	1,665	130	12,116
Feb	1,576	99	10,647
Mar	1,931	200	8,530
Apr	1,976	203	7,192
May	1,976	124	5,810
Jun	2,042	205	4,012
Jul	1,998	144	2,321
Total, 1999/2000	22,200	1,695	2,321
Aug 2000	1,917	92	1,126
Sep	1,917	54	3,939
Oct	1,917	57	6,755
Nov	1,917	13	10,912

China Daily Auction Prices and Volume
April 11 – December 29, 2000



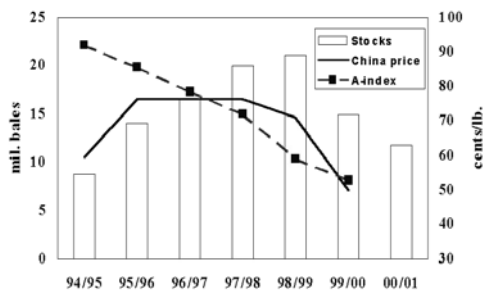
USDA/World Agricultural Outlook Board

Production - Consumption in Largest Surplus and Deficit Provinces, 2000



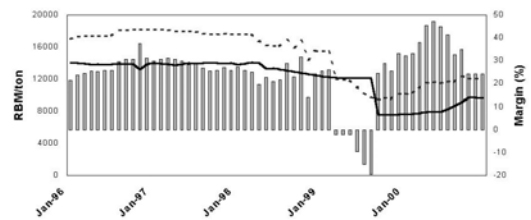
USDA/World Agricultural Outlook Board

China's Ending Stocks and Prices
1994/95 to 2000/01 est.



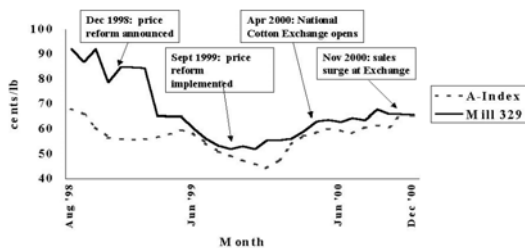
USDA/World Agricultural Outlook Board

Mill Market Margins
January 1999 - December 2000



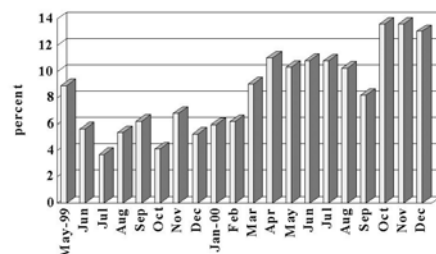
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World and Chinese Cotton Prices
August 1998 to date



USDA/World Agricultural Outlook Board

China's Mill Price Spread:
Cotton Grade 129 - Grade 429



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