

Agricultural Outlook Forum

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## THE USDA COTTON OUTLOOK

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## **THE UNITED STATES AND WORLD COTTON OUTLOOK**

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### **Introduction**

Robust world cotton production and record consumption characterize the 2005/06 marketing year. Modestly lower planted area and yields have faded world production 5 percent from the previous season's record level; at the same time, consumption is setting a new record of nearly 117 million bales. The world price, A-index (Northern Europe), has averaged just over 56.5 cents per pound for the first half of the season, a 3-cent increase from the 2004/05 average. Continued strong consumption growth is projected for 2006/07, reaching 122.5 million bales. World production is also projected to rise as planted area responds to rising prices, but production is unlikely to keep pace with consumption, and is projected at 117 million bales. Accordingly, world stocks are projected to fall by approximately 7 percent at the end of the 2006/07 season, reaching their lowest level in three years.

### **World Cotton Situation, 2005/06**

#### **World Cotton Production, 2005/06**

World cotton area decreased approximately 1 million hectares to 34.8 million, or 2.7 percent below last year's area. The year-to-year decline was less than initially forecast given that average cotton prices declined 23 percent from the 2004/05 highs and that price of alternative crops were also relatively lower. Furthermore, record yields in many countries in 2004/05 partially mitigated the price effects on production. World production in 2005/06 decreased 6.6 million bales, or 5.5 percent to an estimated 113.8 million bales, the second largest crop on record. Weather across the Northern Hemisphere generally returned to a more normal pattern with the exception of erratic monsoon rains in India and heavy rainfall in parts of China. With generally normal weather, world average yields were down 3 percent from the previous year's record, but higher than a few years ago. The increased use of improved seed technologies, particularly Bt cottonseed, is boosting world average yields. The United States produced a record crop this year, while India's forecast crop is just below last year's record. Brazilian cotton production contracted after several years of extraordinary growth.

#### **China**

China's 2005/06 cotton crop declined 2.8 million bales from last year's record to reach 26.2 million. Cotton area declined 600,000 hectares to 5.1 million mostly due to low cotton prices and attractive returns to other crops, particularly grains, supported by government incentives. Excessive rainfall over much of the North China Plain in September resulted in lower yields in this area. Rains in this region were similar to the rain patterns in 2003 when much of the crop was damaged. On the other hand, China's most important cotton producing province, Xinjiang, experienced ideal summer weather conditions and yields in this region are estimated above average. The overall yield in China is forecast at 1,119 kg/hectare, slightly above last year's yield and above the 5-year average. Area planted with Bt cotton decreased proportional to the decline in total cotton area.

## India

India's 2005/06 cotton production is forecast at 18.6 million bales, down slightly from last season's record crop. The forecast area is 8.9 million hectares, down one percent from last year. Although average prices declined significantly, record yields in many Indian states offset some of the area impact from lower prices. Although India's cotton area is the world's largest, its yields have been among the world's lowest. However, yields have been trending up strongly over the last several years and this trend is likely to continue. 2005/06 yields are currently forecast at 455 kg/hectares, slightly below last year's record. The Government of India approved 16 additional Bt seed varieties in 2005, bringing the total to 20 varieties. Area planted with known Bt cottonseed expanded by 800,000 hectares, reaching a total of 1.3 million hectares in 2005, 15 percent of total area. Area planted with non-government approved Bt seed expanded in several states as well. Heavy rains during October and November caused crop losses in the southern States of Andhra Pradesh, Karnataka and Tamil Nadu, and Maharashtra's crop is lower as well. However, these losses were offset by improved crop prospects in Punjab, Gujarat, and Madhya Pradesh.

## Pakistan

Pakistan's 2005/06 cotton production is forecast at 9.75 million bales, down 1.5 million from last year's record crop. Due to cotton's importance to the Pakistani economy, the Government intervenes in the market in order to support prices. Given the Government policies, cotton area changes marginally year-to-year. Area decreased 40,000 hectares to 3.15 million hectares. Above-normal winter and spring rains delayed sowing in Sindh and Punjab. In addition, the monsoon arrived earlier than normal and brought with it above-average rainfall. Heavy rainfall in July led to some flooding in the cotton belt leading to some damage in those areas. Increased September precipitation also led to increased pest infestation. These combined issues led to a lower average yield of 674 kg/hectare, 13 percent below last year's record, but above the five-year average.

## Uzbekistan

Uzbekistan's cotton production is estimated at 5.6 million bales, the largest crop in 10 years. The government of Uzbekistan determines planted area, sets production targets, provides inputs (fertilizer, plant-protection chemicals, irrigation water, etc), and procures the crop from the farmers. Although area is little changed, the weather played a significant role in this year's increased production. A warm spring, followed by favorable weather during the growing season and low rainfall at harvest, boosted output to the highest level in ten years.

## Franc-Zone Africa

Francophone Africa, or the cotton "Franc Zone" of west and central Africa, includes the following nine countries in order of raw cotton production: Burkina Faso, Mali, Benin, Cote d'Ivoire, Cameroon, Togo, Chad, Senegal, Central African Republic, and Niger. This region harvested a record 4.96 million bales in 2005/06, an increase of 75,000 bales over last year's record. Area decreased approximately 200,000 hectares this year, mostly due to lower prices at planting time, but the 2005/06 growing season was characterized by above-average rainfall. Burkina Faso produced a record crop of 1.375 million bales. Overall yields are up 13.5 percent to 438 kg/hectares, the highest in fifteen years. USDA's analysis of satellite imagery indicates that the vegetative health for this growing season was better than the 5-year average, especially for Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Mali and Senegal. Cotton within the Franc-Zone is typically planted from May-July and harvested from October-December.

## Australia

Estimated 2005/06 cotton area is little changed at 310,000 hectares from last year, but still well below the highs in the late 1990's and early 2000's. Production is estimated at 2.6 million bales, down 400,000 bales from last year. The yields in Australia are the highest in the world and are forecast at 1,826 kg/ha this year compared to the world average of 711 kg/hectare. The Australian cotton industry continues to suffer the effects of long-term drought which limits cotton planting. The vast majority of the Australian cotton production is grown under irrigation with a small proportion grown as dryland cotton.

## Brazil

Brazil's cotton farmers are facing a financial crisis this year due to a combination of low cotton prices, increasing price of inputs (particularly nitrogen fertilizer and diesel fuel), an appreciating currency during 2005, and the tightening of farmer credit. These factors combined to cause a retraction of cotton area in all Brazilian states, particularly Matto Grosso. The current area forecast is 850,000 hectares, down 322,000 hectares or 27 percent from last year's record. Production is forecast at 4.5 million bales, down 1.4 million from last year. Although cotton prices increased somewhat over the past year, the appreciation of the Brazilian currency constrained returns on cotton and other exportable crops.

## World Cotton Consumption, 2005/06

In a second consecutive year of robust growth, world cotton consumption is expected to rise 8.2 million bales in 2005/06, a 7.5-percent increase that will bring world consumption to just about 117 million bales. Seldom has cotton consumption grown at this rate, and, following the previous year's 11-percent growth, global cotton consumption is now forecast to end 2005/06 with the fastest two years of growth the world has seen in at least 40 years.

Growing world incomes, favorable relative fiber prices, and the end of the Multifiber Arrangement (MFA) are all factors supporting strong world cotton consumption. World gross domestic product (GDP) in 2005 and 2006 has been growing at an above-average rate. The International Monetary Fund (IMF) expects world GDP to grow 4.3 percent in both 2005 and 2006, compared with a 3.8 percent long-term average. As recently as 2002, world GDP was growing at a below-average rate, and world cotton consumption was growing substantially slower.

Cotton prices have been relatively low compared with polyester prices during the first half of 2005/06. During 2004/05, the cotton/polyester price ratio dropped to its lowest in about a decade as polyester prices carried on with an upward trend that began during 2002 while cotton prices fell. Cotton prices have tended to rise since the middle of 2004/05, but polyester prices have also continued rising, in part bolstered by petroleum prices. As of January 2006, the cotton/polyester ratio had been 20 to 30 percent below its long-run average for 18 months, a sustained discount for cotton not seen since 1993. As a result, chemical fiber production has stagnated or declined in a number of countries, and cotton's share of end-use consumption has at least stabilized, if not increased, in some countries.

In the United States, the world's largest consumer of cotton-containing products, cotton's share of end-use is likely to increase slightly in 2005/06, following several years of stagnation. While global fiber price ratios are likely to be a factor, the end of the Multifiber Arrangement (MFA) is also important. U.S. end-use of cotton-containing products is expected to increase at an above-average rate in 2005/06 as the relaxation of textile trade barriers starting from January 1, 2005 has reduced the cost of clothing and other products. In 2004/05, U.S. end-use surged at its fastest rate in more than a decade as lower-

priced textiles first became available. As trade patterns have stabilized, U.S. textile import growth has slowed, and consumption growth by U.S. households has slowed. The MFA affected cotton products more than products comprised of chemical fiber, and the removal of most quotas has stabilized cotton's share of the growing textile trade deficit.

The end of the MFA would also presumably be favorable for cotton share in the EU, although reportedly the impact on trade has been smaller than in the United States, suggesting that the impact on consumption and cotton share should also have been smaller. European consumer demand has also been less robust than in the United States. Outside of the North America and the EU, the end of the MFA would not be expected to boost either textile imports or consumer end-use of cotton products since the MFA quotas were only applied by Canada, the United States, and the EU. Many other countries have been reporting rising textile imports, but the end of the MFA is not driving those changes.

The end of the MFA is apparent in the geographic distribution of changes in cotton spinning in 2005/06. For example, mill use of cotton is expected to fall 12 percent in the United States and 11 percent in the EU. Japan's cotton mill use is expected to fall 8 percent, but since Japan did not impose MFA quotas, any impact of the 2005 change in the global textile trade regime would be indirect. Korea's mill use is expected to be 9 percent lower, possibly reflecting the protection the MFA offered Korean exporters in North America and the EU, but also the impact of an exchange rate at an 8-year high. Similarly, Mexico's cotton use is expected to fall 5 percent as its textile exports to the United States decline, but Turkey's mill use is forecast to rise almost 1 percent from the year before, despite the opening of the EU's textile market to outside competition. Turkey's consumption rose a surprising 13 percent in 2004/05, in part due to a surging domestic economy.

The most striking changes in world mill use of cotton in 2005/06 are expected in the countries benefiting the most from the end of the MFA: China, India, and Pakistan. Changes in these countries exports to the United States are indicative of the impact the MFA's end on their spinning for exported products, since the United States is the largest import market in the world for cotton textiles. China's exports to the United States (by volume) were 53 percent above the previous year during the first 4 months of 2005/06; India's were 29 percent higher; and Pakistan's were 33 percent higher. In addition to increased textile opportunities, economic growth in each of these countries has been remarkably strong during 2005, further supporting increases in their mill use of cotton. In some cases, textile exports to markets that did not impose MFA quotas before 2005 fell after January 2005, and since exports do not account for all the cotton spun in these countries, mill use would not be expected to rise as fast as exports to the United States.

China's expected 17-percent increase in mill use to 45 million bales is particularly striking given that China is now expected to account for almost 40 percent of the entire world's consumption. At 13 percent, India's expected 2005/06 increase in mill use is smaller than China's but, on the other hand, it represents the highest growth India has seen since the early 1990's when its textile industry last restructured. Pakistan's 9-percent growth is smaller than India's, but follows 6 years of significant expansion in cotton use there.

#### China's Domestic Consumption and Trade

China's consumption of cotton at the mill level has grown 50 percent during the last three years. Investment in spinning equipment, competitiveness of labor, economies of scale and trade liberalization have resulted in dominance of the world textile market. While consumption continues rising sharply, production in 2005/06 declined significantly from the previous year's record to 26.2 million bales. This

resulted in the gap between production and consumption nearly doubling. The larger import share of China's consumption is changing the timing of China's 2005/06 cotton trade. With the large 2004 crop and tightening of credit by the central government prompting mills to reduce stocks, China had limited early season import requirements in 2004/05. Imports picked up later in the season as the credit situation clarified and the continued consumption growth outpaced even the record crop.

In contrast, the larger 2005/06 gap between production and consumption and tighter beginning stocks, will increase total import requirements by more than 10 million bales to 17.0 million. In order to meet this demand imports began the year at a high level and should remain high throughout 2005/06. During the first five months of 2005/06 (Aug-Dec), imports totaled 6.9 million bales, or 40.5 percent of the forecast for the entire marketing year, compared with only 1.3 million bales for August-December 2004, 15.6 percent of total 2004/05 imports.

### World Ending Stocks and Prices

World ending stocks are forecast at nearly 53 million bales for 2005/06, slightly below the year-ago level. However, due to a significant increase in world consumption, the stocks-to-use ratio is just over 45 percent, 4.5 percentage points below 2004/05. The A-index (Northern Europe) has averaged 56.5 cents through the end of January, compared with 53.5 cents for the 2004/05 season.

## **U.S. Cotton Situation, 2005/06**

### Area and Production

As planting time approached for the 2005 crop, U.S. futures prices for cotton and competing crops—like corn and soybeans—were on the rise, but each was well below its respective year-ago level. However, with cotton prices below the loan rate—and competing crop futures slightly above the loan rate—planting decisions in 2005 were based on both market return expectations and possible program benefits for each crop. In addition, record cotton yields in many areas of the Cotton Belt in 2004 likely played a critical role in 2005 area decisions as well.

U.S. cotton area in 2005 surpassed both the 2004 area and the March 2005 *Prospective Plantings* indication. U.S. producers planted 14.2 million acres of cotton in 2005, 4 percent above a year earlier and the highest in 4 years; plantings were also nearly 3 percent above indications in the *Prospective Plantings* report. Upland cotton area totaled 13.9 million acres, nearly 500,000 (4 percent) above 2004 and the most planted under the current farm legislation. Meanwhile, extra-long staple (ELS) acreage climbed 8 percent to 270,400 acres, as record export shipments in 2004/05 reduced ELS beginning stocks to a historical low.

U.S. cotton harvested area expanded once again in 2005 as excellent crop conditions prevailed throughout much of the Cotton Belt despite the increased hurricane activity. In 2005, harvested area reached 13.7 million acres, 5 percent above 2004 and the largest since 1995. As a result, the national abandonment rate of only 3.5 percent was the second consecutive season of single-digit abandonment and the lowest since 1997.

U.S. cotton production in 2005/06 is estimated at a record 23.7 million bales, compared with the nearly 23.3 million produced in 2004/05. The back-to-back record crops have exceeded the previous high by an astonishing 3 million bales or more. Just as in 2004, the dramatic level of cotton production this season was attributable to both excellent growing conditions and recent technological advances,

including variety improvements, biotechnology, and the success of the boll weevil eradication program. This led to low abandonment and a relatively high national yield in 2005. Although 2005 U.S. crop conditions were generally below those of 2004, they remained above the 5-year average throughout the season. The U.S. yield is estimated at a remarkable 831 pounds per harvested acre in 2005/06, topped only by 2004/05's record of 855 pounds. Upland production is currently estimated at approximately 23.1 million bales, with an average yield of 824 pounds per harvested acre. In contrast, the ELS crop—despite higher area—is projected at 655,000 bales, below 2004/05's record but near the previous 4-year average. As a result, the ELS yield fell dramatically from last season's record (1,443 pounds) to 1,171 pounds per harvested acre.

Compared with last season, 2005/06 upland cotton production was higher in three of the four Cotton Belt regions. In the Southwest, the upland crop is estimated at a high of nearly 8.7 million bales, more than 500,000 above 2004/05. With a regional abandonment rate at less than 7 percent—a first in 8 years—the region harvested over 5.8 million acres, the highest in a decade. Accompanied by a record yield of 716 pounds per harvested acre, the Southwest region accounted for approximately 38 percent of this season's U.S. upland cotton output, the region's largest share since 1981/82. Similarly, the Delta produced its largest crop ever, surpassing last season with a crop of nearly 7.5 million bales. Although below the record yield attained in 2004/05, the Delta produced a second best 917-pound average with over 3.9 million acres of cotton harvested, the highest in 4 years. The Southeast also contributed a relatively large cotton crop in 2005/06. Although this season's upland crop of nearly 5.2 million bales was below the 2001/02 record, the region's yield per harvested acre was a record at 824 pounds, equal to the national average. Meanwhile, the Southeast accounted for 22 percent of the U.S. upland cotton area and output.

In the West region, upland area fell to 716,000 acres—the region's lowest since 1946/47—as upland area there continues to follow the downward trend since the early 1980s. With the lower area and a below-average yield of 1,200 pounds per harvested acre, upland production in the West this season contributed only 1.8 million bales or about 8 percent of the total upland crop in 2005/06. The ELS crop also proved somewhat disappointing in the region, as lower yields more than offset higher acreage. ELS production continues to be dominated by California, where nearly 90 percent of the 2005 ELS cotton crop was produced.

### Domestic Mill Use

Domestic mill use is forecast at 5.9 million bales for 2005/06, 800,000 bales or 12 percent below a year earlier. The current projection is nearly half of the recent high seen in 1997/98 and is expected to be the lowest since 1984/85. This dramatic decline in U.S. mill use is the direct result of competition from a significant increase in imported textile and apparel products over the last several years as quotas were phased out. And with the final apparel quotas lifted in January 2005, the U.S. textile industry has faced additional pressure this past year from imported products, particularly from China. In calendar year 2005, China replaced Mexico as the leading supplier of cotton textile and apparel products to the United States, accounting for about 19 percent of the 2005 total. Ironically, a decade earlier China relinquished the top spot to Mexico, the year after the introduction of the North American Free Trade Agreement (NAFTA) that led to increased trade flows in North America.

With the overall volume of U.S. textile trade rising once again in calendar year 2005, the U.S. textile trade deficit also expanded, as growth in cotton product imports increased faster than product exports. The cotton product trade deficit in 2005 expanded to a record 17.0 million bale-equivalents, nearly double the trade deficit just seven years earlier. During 2005, U.S. cotton textile and apparel imports

reached the equivalent of 21.9 million bales of raw cotton, 10 percent above 2004. In contrast, cotton product exports have stabilized at 4.9 million bale-equivalents in 2005, and now account for 77 percent of domestic mill use compared with 55 percent in 2001. The expanding proportion of mill use that is exported in the form of products is indicative of the continuing decline of the U.S. apparel industry.

Along with the expansion of imported cotton products, U.S. retail use of cotton, as measured by domestic mill use plus net textile trade, is expected to rise again in 2005/06 if the 2005 calendar year trend continues. In 2005, U.S. domestic consumption of cotton surpassed 23 million bale-equivalents, up from 21.4 million in 2004. U.S. consumers continue to support global demand for cotton, as U.S. per capita cotton consumption reached an estimated 37.5 pounds in calendar 2005, up 2.5 pounds from the preceding year.

### Exports and Ending Stocks

USDA is forecasting total 2005/06 U.S. exports at 16.4 million bales, up 14 percent from last year's record of 14.4 million bales. Exports are supported by a second consecutive record U.S. crop, which resulted in a record-large exportable supply.

Total import demand in the world grew by 28 percent to 42.4 million bales, due to higher imports by China. However, outside of China continued strengthening of mill demand has not resulted in increased import demand. In other major consuming/producing countries, either record or near record production has offset increases in consumption (India & Pakistan) or declining production has been offset by stagnant or declining consumption (Turkey, Brazil, EU). With a few notable exceptions (Thailand and Bangladesh), non-producing importing countries have not fared well after the lifting of MFA quotas and consumption is stagnant for this group as a whole, further limiting import demand outside of China.

Shipments from the United States in the first half of the season are significantly above both of the last two seasons--5.8 million 480-lb. bales compared to 4.6 million and 5.0 million, respectively. Weekly exports have averaged 225,000 bales, 30 percent above the average for the same period the last two years. Weekly exports will have to be quite strong, averaging nearly 400,000 bales per week for the second half of the season, to achieve the forecast total of 16.4 million.

Weak sales to foreign markets outside China have offset some of the growth in sales to China during the first half of the year. U.S. upland cotton exports of 15.8 million bales are expected to be higher than last season's record 13.6 million bales. With smaller beginning stocks and lower production, ELS cotton exports are expected to decrease by 26 percent from last year's record level to 585,000 bales.

U.S. ending stocks are forecast at 7.0 million bales this season, up more than 25 percent from 2004/05. At this stock level, the U.S. would hold about 13 percent of global stocks. The U.S. stocks-to-use ratio would grow moderately from last season's 26.2 percent to 31.4 percent, but would still be lower than in 2000/01 or 2001/02. Upland stocks are estimated at 6.9 million bales, while ELS stocks are expected to be below 60,000 bales.

### Prices and Farm Income

Gross upland cotton farm income from the 2005 crop is estimated marginally above 2004 at \$9.3 billion. Higher production and prices will raise market income to \$6.2 billion, up 16 percent from the 2004 crop, but these returns will be mostly offset by lower program payments, mainly marketing loan benefits. The



upland cotton marketing year price has averaged 46.9 cents per pound for August through December 2005, an increase of 13 percent from the 2004/05 average.

### **World Cotton Outlook, 2006/07**

#### **World Production, 2006/07**

A slight increase is expected in world cotton production in 2006/07, as global area planted to cotton once again surpasses 35 million hectares and weather and technology result in higher yields in some major cotton producing countries. At 117 million bales, production is expected to be about 3 million bales or 2.9 percent higher than in 2005/06.

China, the world's largest cotton producer, is likely to see both higher area and yields in 2006/07. Area is likely to rise, following a 20- to 25-percent increase in local cotton prices during the procurement season. China's corn prices have been much more stable, given China's larger crop in 2005, indicating that competing crop prices are not likely to offset the impact of rising cotton prices. In the past, China's cotton area has grown a little less than half as much as cotton prices, in the absence of competing crop price changes, suggesting area could rise by several hundred thousand hectares. Surveys and domestically produced forecasts in China support this outlook. China's yield is likely to rise with the return to normal weather. Excessive fall precipitation in several provinces cut yields during 2005/06, although not as badly as during 2003/04. In recent years, China's yields have stopped following a rising trend. While the completion of the transition to Bt cotton in eastern China may account for some of this stabilization, weather problems have been reported to varying degrees in each of the last 3 years.

Higher area and yields are also possible in India as higher cotton prices support area gains and the continued spread of Bt cotton pushes yields higher. During 2005/06, cotton prices in India have surpassed minimum support levels significantly for most of the marketing year. This was in marked contrast to 2004/05 which saw heavy intervention purchases by Indian government agencies to maintain minimum support prices (MSP). This suggests that area could once again rise above 9 million hectares, after dipping to 8.9 million during 2005/06. Yields are likely to be higher as utilization of Bt cotton varieties continues to expand. Forecasting India's 2006/07 yield is particularly risky since actual yields in 2005/06 are not yet known with certainty due to the large share of India's cotton output planted in July or later. While press reports indicate problems with Bt varieties for some Indian farmers, the steady expansion of area planted to these varieties suggests they are generally preferable to conventional varieties throughout the country. The role of weather in the 50-percent yield gain India experienced between 2002/03 and 2005/06 is a great unknown, but, since weather outside of South India could be described as normal, an assumption of normal weather for India in 2006/07 make little difference when comparing yields with 2005/06.

Higher yields and output are also possible in Pakistan, in part due to Bt cotton. Information about Bt adoption in Pakistan is much more tentative than in India, but recent reports suggest some of the recent strength in Pakistan's yields can be attributed to the adoption of Bt varieties. The recent appearance of Bt hybrids in India's Punjab have more than doubled yields there over the last 3 years, suggesting the possibilities available to farmers in Pakistan. Pakistan's 2005/06 yield was 13 percent above its 2000/01-2002/03 average. Further adoption of Bt cotton and other technologies by Pakistani farmers in 2006/07 suggest yields would rise again, while a 15-percent increase in cotton prices there suggests cotton area is more likely to rise than decline.

Area planted to cotton in the Franc Zone could rise in 2006/07, in the wake of higher cotton prices and a strengthening of the dollar versus the CFA Franc during late 2005. While the region's average yield might be expected to decline from the 15-year high it reached in 2005/06, higher area is likely to drive production slightly higher. On the other hand, a return toward average yields in Uzbekistan is likely to mean lower production in the other major export competitor with the United States. Uzbekistan's cotton area is relatively stable, and as yields dip from the 15-year high achieved in 2005/06, lower production is likely to result.

Southern Hemisphere production could be larger in 2006/07, given the declines in area that developed in Brazil and Argentina during 2005/06. If area in these countries rebounds, and Australia continues to see reservoir levels further approach normal levels, greater output can be expected. Given that the Southern Hemisphere's 2005/06 crop was itself planted relatively recently, forecasts for 2006/07 are particularly tentative. Southern Hemisphere producers have accounted for about 10 percent of world production in recent years, but for about 15 percent of world exports.

#### World Cotton Consumption, 2006/07

In 2006/07, world cotton consumption is expected to grow nearly 5 percent from the year before, reaching 122.5 million bales. Continued robust economic growth worldwide and favorable relative fiber prices are expected to account for a third consecutive year of extraordinary consumption growth. With this increase, world consumption will finally surpass the extraordinary period of extended growth experienced during the mid-1980's. During the 1980's, world cotton consumption soared 19 million bales in 5 years as the liberalization of U.S. farm prices and of China's centrally planned economy coincided with the introduction of new varieties and technology to South Asia. Today, rapidly expanding consumer incomes across Asia have coincided with the spread of Bt cotton and other technologies, permitting world cotton consumption to once again expand 30 percent over 5 years.

While well above the long-run average of 1.7 percent, world cotton consumption growth in 2006/07 is expected to be its slowest in 3 years. A moderation in growth is likely as economic growth slows slightly across the world, particularly in developing countries, and as the shocks of shifting relative fiber prices and the end of the MFA in 2005 work their way through the textile sector. Cotton consumption in China is expected to grow 10 percent from the year before in 2006/07, more than double the world consumption growth rate, but less than half the rate China achieved during 2004/05.

Current trends in China's total yarn output support the forecast of slowing gains in mill use. After running at a 10-percent annual growth rate at the beginning of calendar 2004, and rising to 25-percent growth during the first half of calendar 2005, year-on-year gains in China's monthly yarn output have slowed to below 20 percent in recent months. As textile trade patterns stabilize during 2006 and 2007, growth in yarn production will also continue stabilizing, helping slow China's gains in cotton mill use. China's 2005 textile trade agreements with the EU and the United States will constrain China's textile export growth; at the same time, sourcing of yarn, fabric and apparel from China through countries not subject to the agreements will help to sustain China's total exports and spinning.

Consumption growth is also likely to slow in India and Pakistan during 2006/07, although the limits on China's textile exports to the EU and the United States are likely to give South Asian exporters greater opportunities. For example, India's cotton textile exports to the United States accelerated after July 2005 as China's lost momentum. However, income growth in both India and Pakistan is expected to decelerate in 2006 and 2007 from extraordinarily high levels in 2005. The pace of substitution of cotton for chemical fibers in South Asian yarn output is also likely to slow.

On the other hand, developed countries that have seen cotton use fall in recent years are likely to experience smaller declines in 2006/07 than in past years. U.S. mill use is expected to fall only 5 percent, after a 12-percent decline in 2005/06. A similar pattern is expected in the EU, Mexico, and in other countries exporting to formerly quota-constrained textile markets.

### World Trade 2006/07

Continued rapid growth of consumption by China is projected to boost imports for both China and therefore the world significantly, raising world imports 4 percent. China's consumption is forecast to exceed production by 20.0 million bales; with limited stocks to draw upon, the shortfall will have to be supplied by imports, currently forecast at 18.5 million bales, or an increase of 9 percent from the 2005/06 forecast.

With world exports expected to rise to a record 43.5 million bales, many of the world's cotton exporters, including the United States, will continue to reduce surplus stocks accumulated in 2004/05. While global stocks will be, in absolute terms, at a relatively high level, the rapid growth in global consumption means that world stocks-to-use ratio (adjusted for China's stocks) will be the lowest level since 2003/04.

## **U.S. Outlook for 2006/07**

### Area, Production, and Supply

U.S. planted area in 2006 will once again be influenced by a number of factors, including price prospects for cotton and alternative crops, weather during planting, crop rotation benefits, and the additional concern over higher fuel and fertilizer costs this season.

U.S. cotton prices are currently higher than a year ago, but so are competing crop prices. The weighted upland cotton farm price has averaged 46.9 cents per pound during the first 5 months of 2005/06, above last season but still below the national loan rate for upland cotton. As a result, market returns are being augmented by marketing loan benefits this season. As planting time for the 2006 crop approaches, cotton futures prices—as well as those for alternative crops like corn and soybeans—are above their respective loan rates, making the 2006 planting decisions likely based more on market return expectations than program benefits.

Last season, U.S. cotton planted area was 14.2 million acres—the highest in 4 years—and the general consensus within the industry is that cotton acreage will increase further in 2006. At the end of March, USDA's National Agricultural Statistics Service will provide its first survey-based producer intentions of 2006 crop acreage. Meanwhile, the National Cotton Council published results last week from its annual acreage survey that indicated cotton area in 2006 would rise 1.7 percent to 14.44 million acres. Similarly, USDA is currently projecting that 2006 U.S. cotton acreage will range between last season's 14.2 million and 14.6 million acres.

Attractive cotton prices—relative to alternative crop prices—and record cotton yields achieved nationally in 2004 and 2005 are expected to keep area in cotton production in 2006. As a result, USDA's initial 2006 cotton area projection of 14.4 million acres is the highest in 5 years but only about 1.5 percent above the 2005 area. Some area recently in corn production may move into cotton as the high cost of fertilizer and irrigation push corn production costs to levels that reduce net return potential;

thus, plantings are likely to increase in the Southeast, Delta, and Southwest. Total planted area in the West is likely to remain the same, with some shift from upland to ELS cotton due to relative price prospects.

While planted area is projected to rise in 2006, a more normal abandonment of about 9 percent—similar to the 5-year average—is expected, compared with the last 2 seasons of approximately 4 percent. This higher abandonment rate implies a projected harvested area of 13.1 million acres, 4 percent below the current season’s harvested estimate of 13.7 million. The current historically dry conditions in much of the Southwest are moderating early-season forecasts of harvested area and yield. As of February 1st, soil moisture in Lubbock was the lowest in over 30 years. With the crop on the Texas High Plains normally planted in May, there is still time to receive adequate moisture to produce a normal or better-than-average crop. Analysis of data since 1980 indicates that, for the seven driest years, the Texas yield per planted acre exceeded the trend three times and fell below the trend four times. Given average conditions, the national yield in 2006 is forecast to decline from the two best yields on record. With USDA’s assumptions of more normal weather and crop conditions in 2006, the U.S. average yield is projected at 770 pounds per harvested acre, below the 10-year trend but equal to the average over the last 4 crop years.

Based on these assumptions, U.S. cotton production in 2006 would total 21 million bales, with a range around the estimate between 20.5 and 21.5 million bales. At this level, 2006 cotton production would decrease considerably from the 23-plus million-bale crops of the last two years. Despite the potential decline in the cotton crop, and given the current beginning stocks estimate of 7 million bales, U.S. cotton supply in 2006/07 would total about 28 million bales, remaining one of the largest of the past four decades.

### Mill Use and Exports

U.S. cotton domestic mill use is projected to fall 5 percent in 2006/07 to 5.6 million bales. Macroeconomic conditions are expected to be favorable, and U.S. consumers are likely to add more than 1.0 million bales of retail cotton use. However, cotton textile exports are anticipated to remain flat and textile imports will continue to challenge U.S. mills for market share. Cotton textile imports rose an average of 1.85 million bales for the last two marketing years and will more than offset the probable increase in consumer use even if, as anticipated, they grow at a reduced rate in 2006/07.

USDA is projecting 17.0 million bales of U.S. exports for 2006/07, due mainly to the large U.S. exportable supply, combined with anticipated strong foreign demand. This projection incorporates recent legislation to eliminate the Step 2 program on August 1, 2006; however, the U.S. is forecast to maintain a 39-percent share of world trade next season as available supplies in all major exporting countries are tapped to meet strong world consumption, especially by China.

### **U.S. and Foreign Ending Stocks, 2006/07**

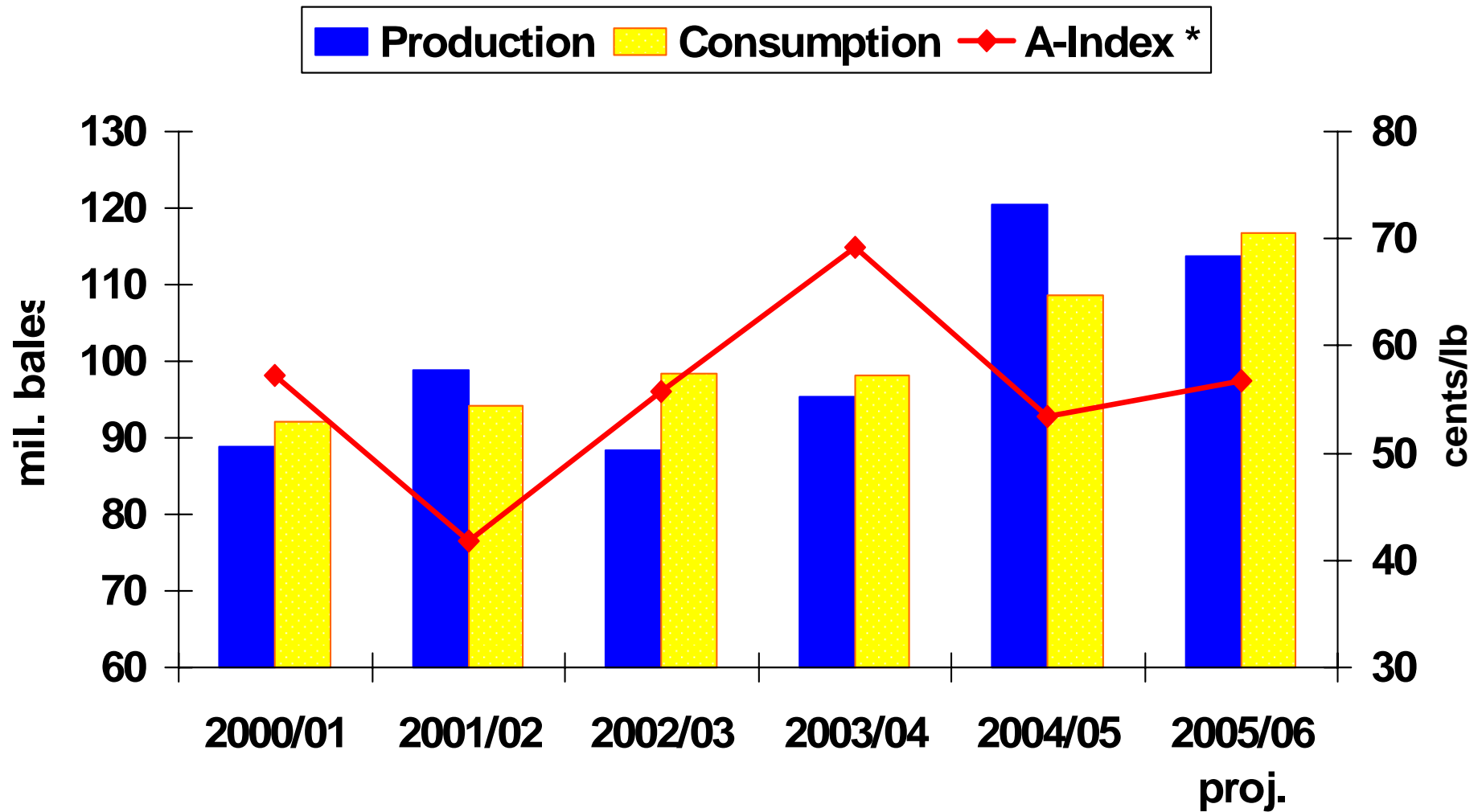
USDA’s projections include a 7-percent reduction in world ending stocks to a level of 49.4 million bales and a stocks-to-use ratio of just over 40 percent, well below the 5-year average of about 48 percent. World stocks have declined over time partly because China’s mills, who are the world’s largest cotton consumers and importers, hold minimal stocks, relying on foreign suppliers to deliver cotton “just-in-time.” Stocks in China also include government-held reserves, but at much lower levels than during the 1990’s. The stocks-to-use ratios for the U.S., as well as for foreign countries other than China, are projected to fall to their lowest level since 2003/04.

# World Cotton Balance Sheet

(mil. bales)

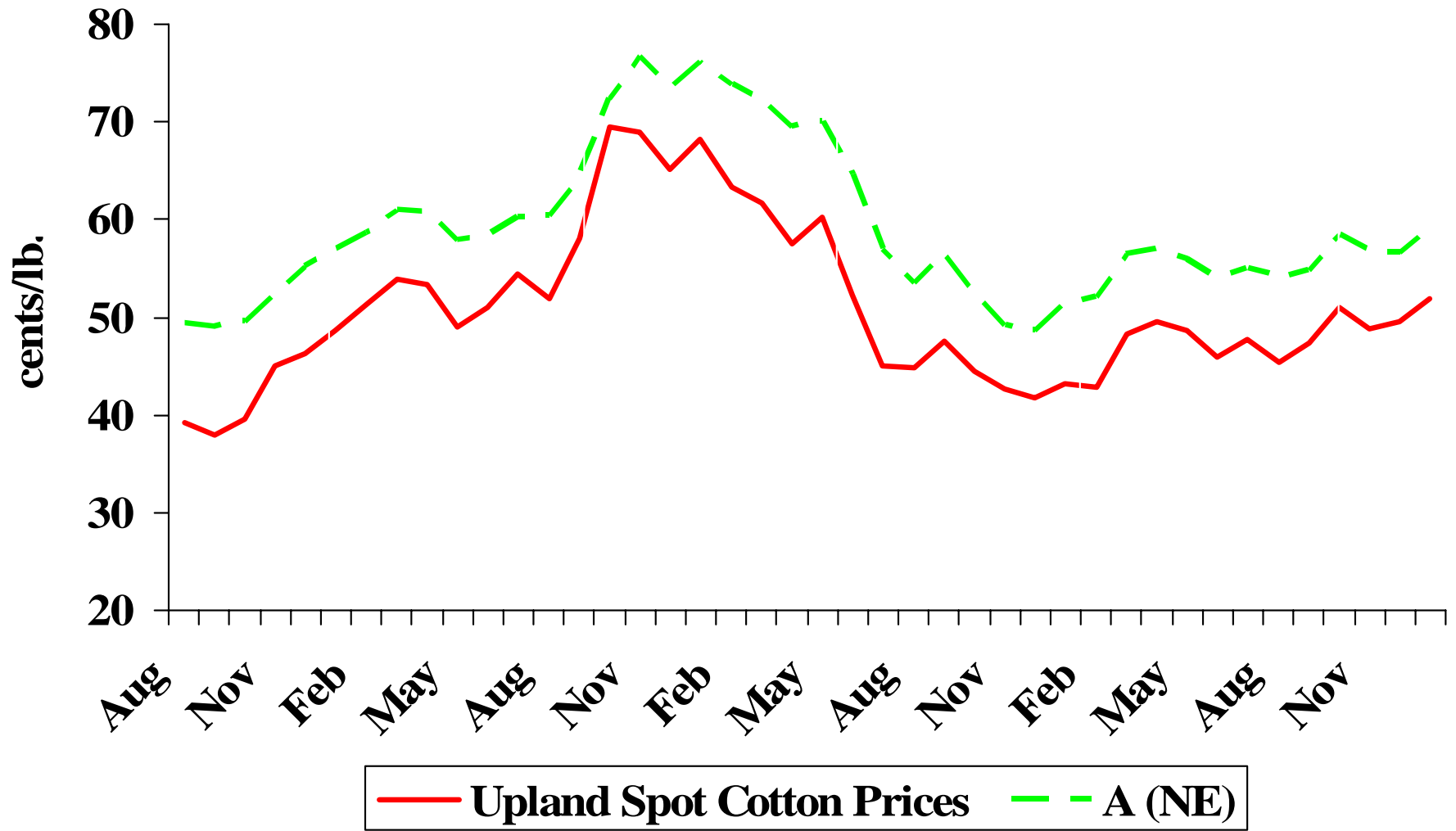
	<u>2004/05</u>	<u>2005/06</u>
<b>Beg. Stocks</b>	<b>42.9</b>	<b>54.1</b>
<b>Production</b>	<b>120.4</b>	<b>113.8</b>
<b>Imports</b>	<b><u>33.1</u></b>	<b><u>42.4</u></b>
<b>Total Supply</b>	<b><u>196.4</u></b>	<b><u>210.3</u></b>
<b>Consumption</b>	<b>108.6</b>	<b>116.8</b>
<b>Exports</b>	<b><u>34.7</u></b>	<b><u>41.8</u></b>
<b>Total Use</b>	<b><u>143.3</u></b>	<b><u>158.6</u></b>
<b>Residual</b>	<b>-1.1</b>	<b>-1.3</b>
<b>Ending Stocks</b>	<b>54.1</b>	<b>52.9</b>

# World Production, Consumption, and Prices 2000/01 to 2005/06

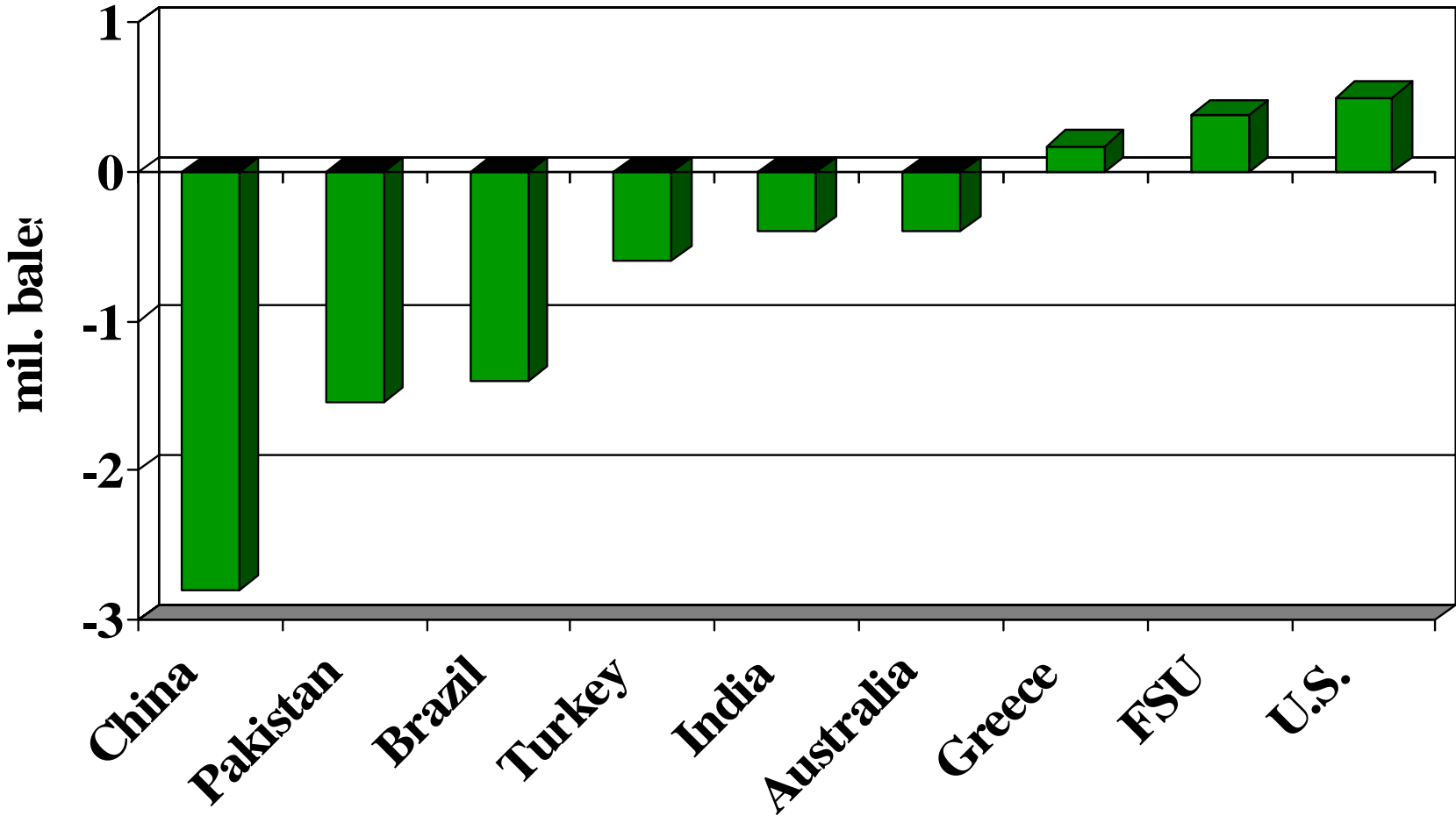


\*2005/06 Aug-Jan avg.

# World and U.S. Spot Cotton Prices Aug 2002 to Jan 2006

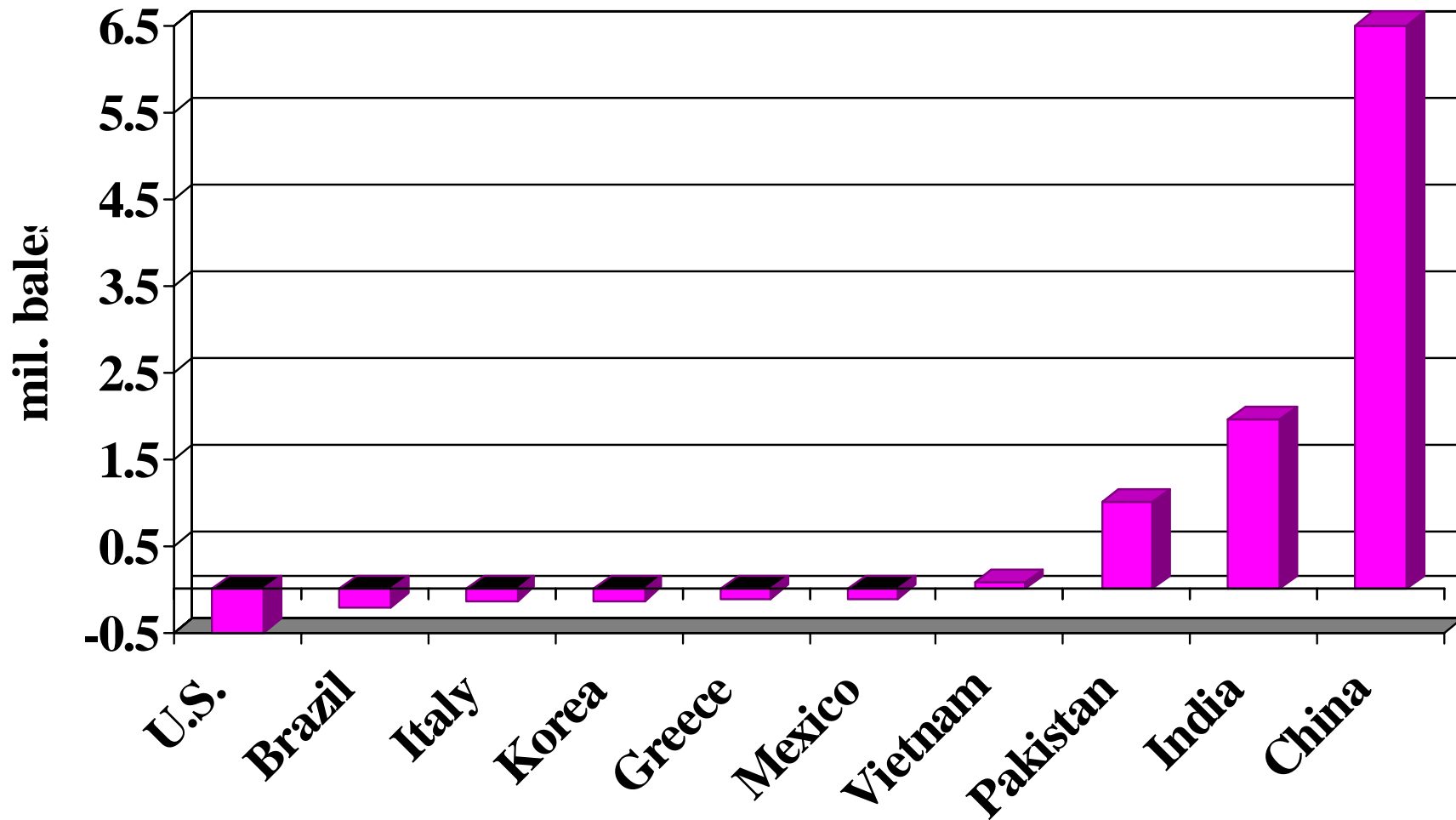


# Estimated Changes in World Production, 2005/06 vs. 04/05



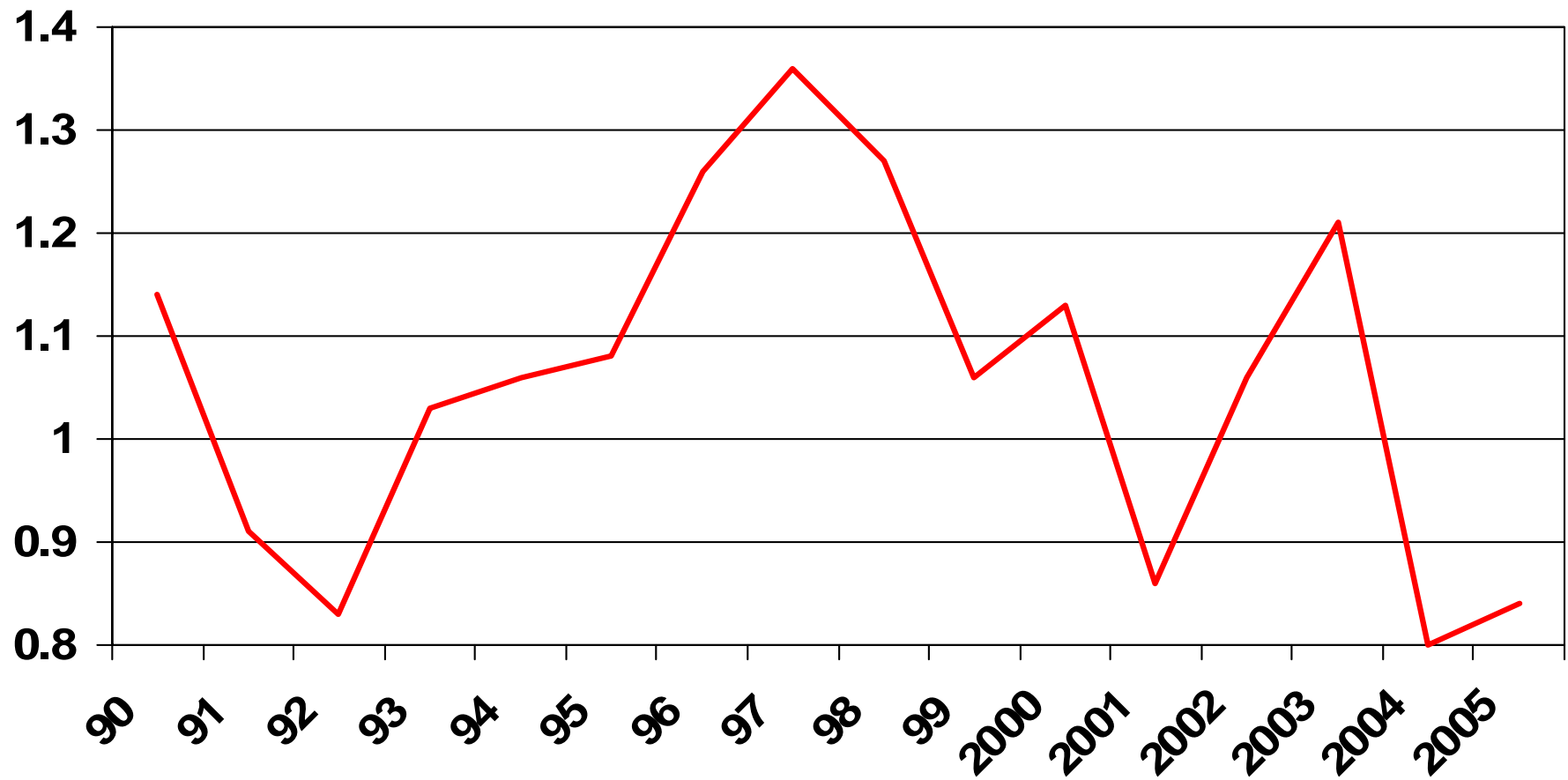


# Estimated Changes in World Consumption, 2005/06 vs. 04/05



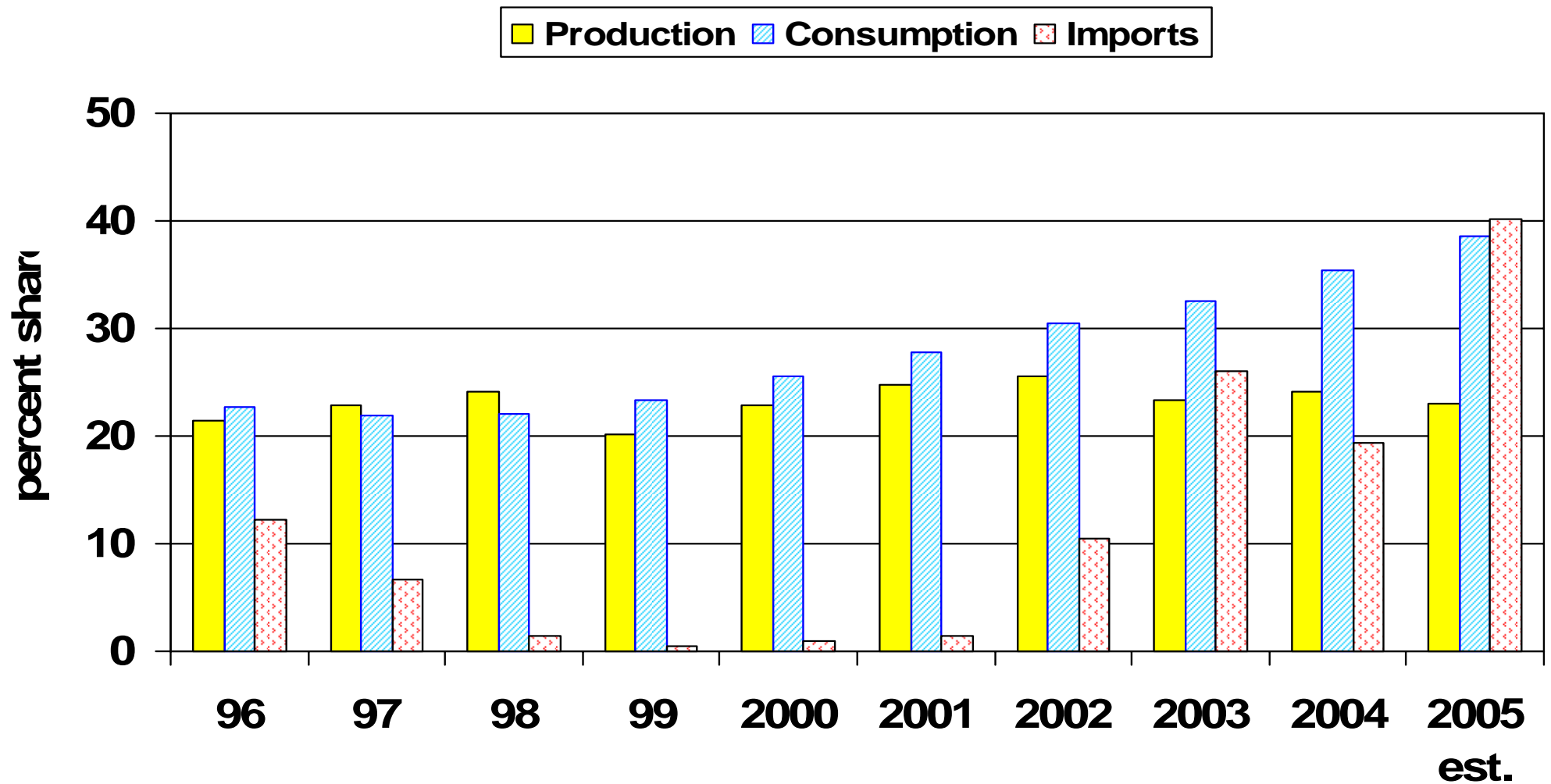
# World Cotton-to-Polyester Price Ratio

(Source: Cotton Outlook)



# China's Share of World Production, Consumption, and Imports

1996/97 – 2005/06 est.

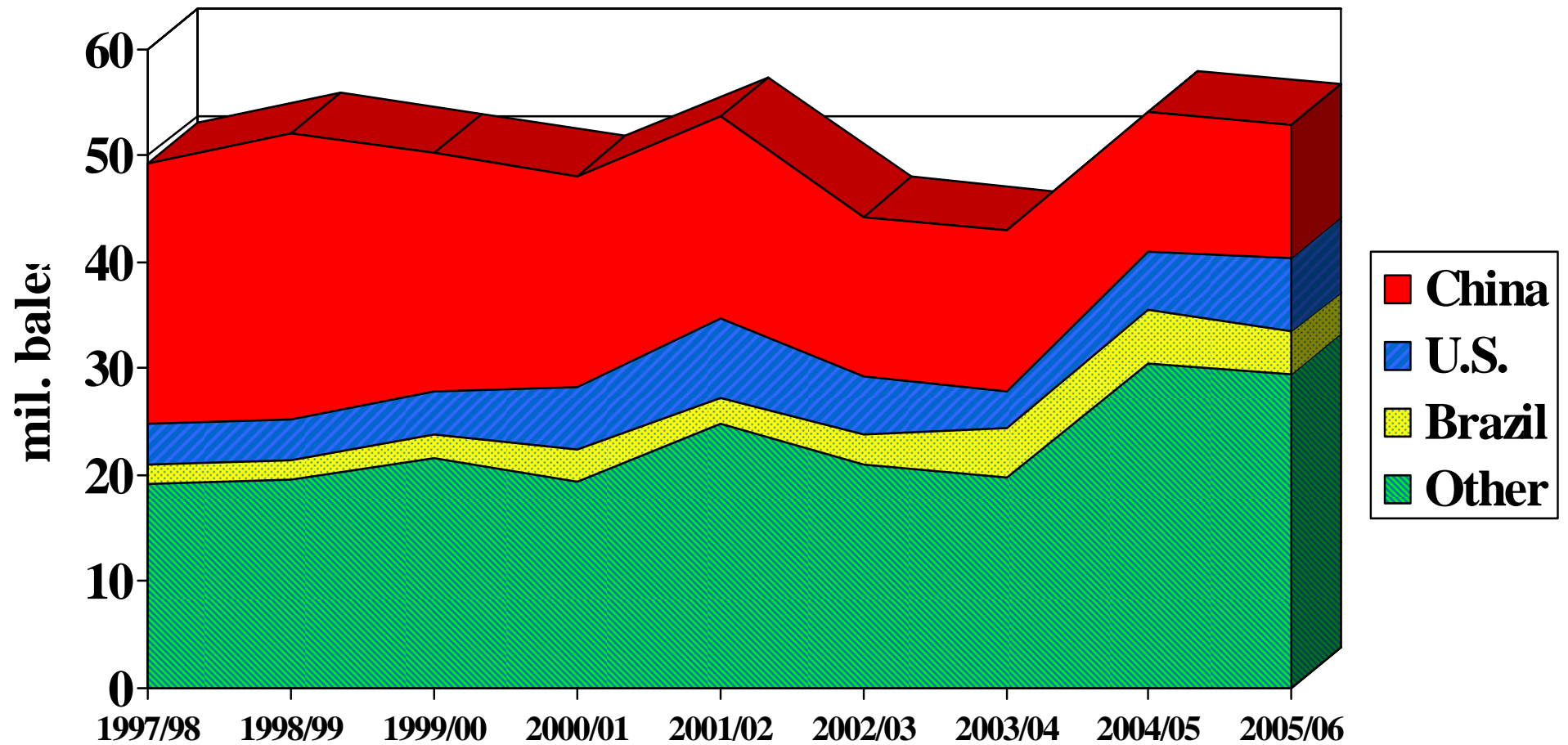


# China Cotton Balance Sheet

mil. bales

	<u>2004/05</u>	<u>2005/06</u>
<b>Beg. Stocks</b>	<b>15.0</b>	<b>13.1</b>
<b>Production</b>	<b>29.0</b>	<b>26.2</b>
<b>Imports</b>	<b><u>6.4</u></b>	<b><u>17.0</u></b>
<b>Total Supply</b>	<b><u>50.3</u></b>	<b><u>56.3</u></b>
<b>Consumption</b>	<b>38.5</b>	<b>45.0</b>
<b>Exports</b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>
<b>Total Use</b>	<b><u>38.5</u></b>	<b><u>45.0</u></b>
<b>Residual</b>	<b>-1.3</b>	<b>-1.3</b>
<b>Ending Stocks</b>	<b>13.1</b>	<b>12.5</b>

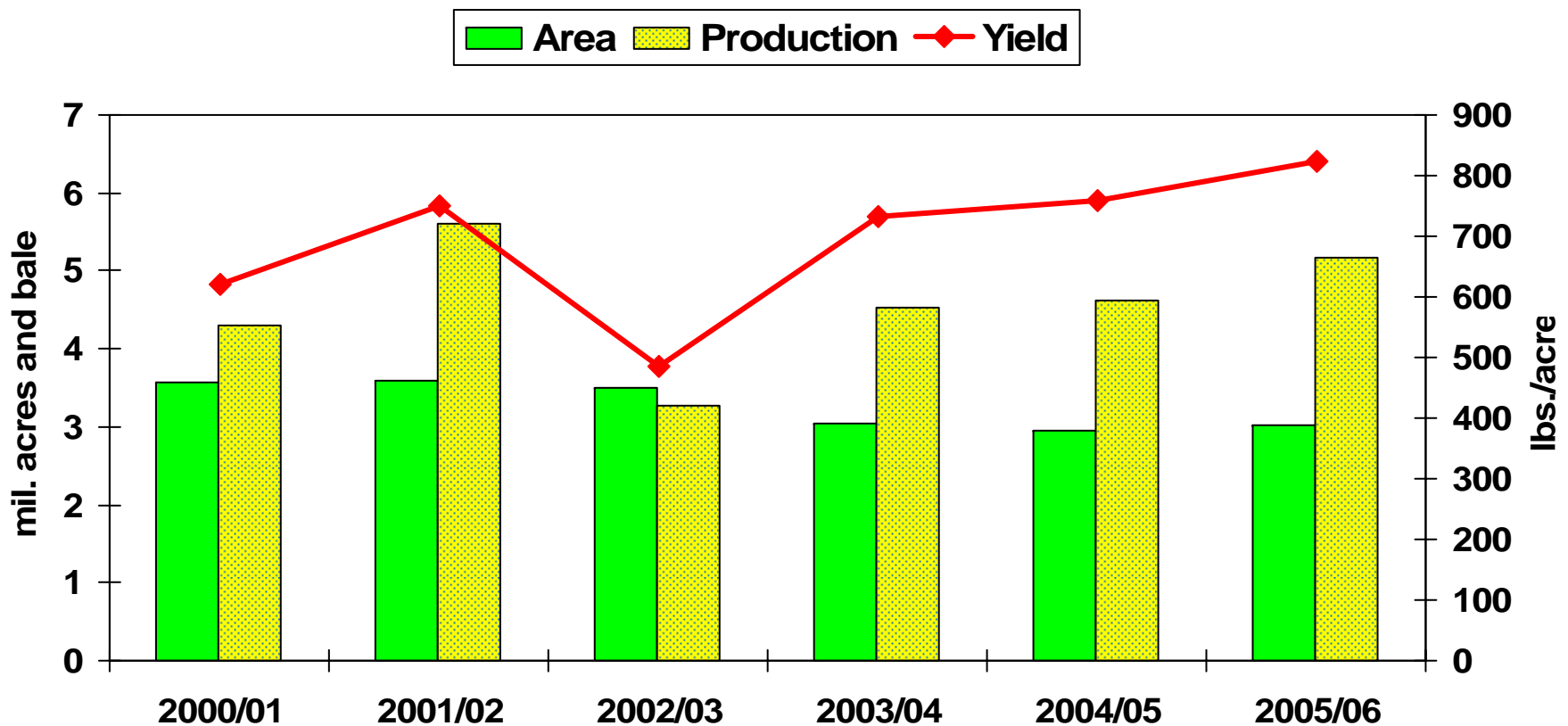
# U.S., China, Brazil, & Other Foreign Stocks through 2005/06



# Southeast Region

## Upland Cotton Area, Production, and Yield

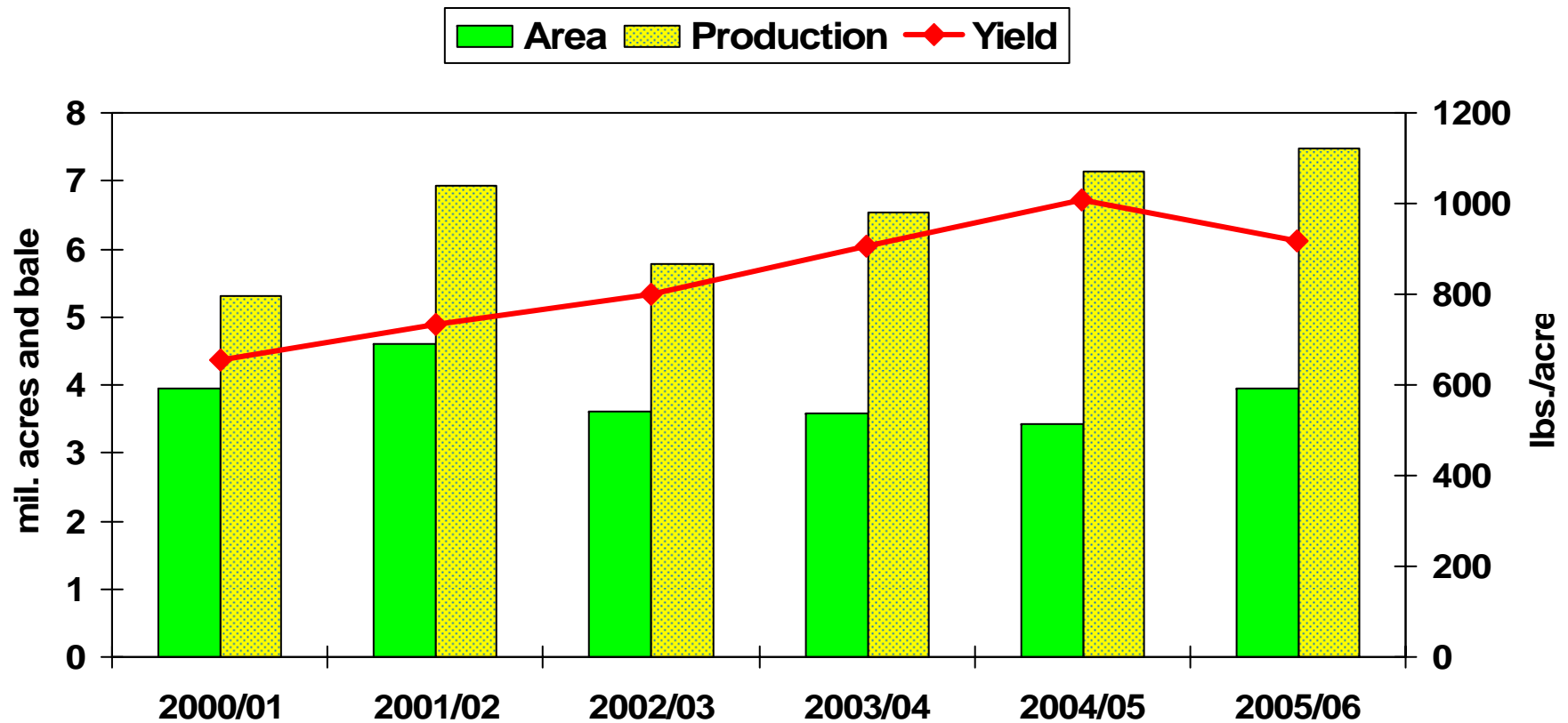
2000/01 to 2005/06



# Delta Region

## Upland Cotton Area, Production, and Yield

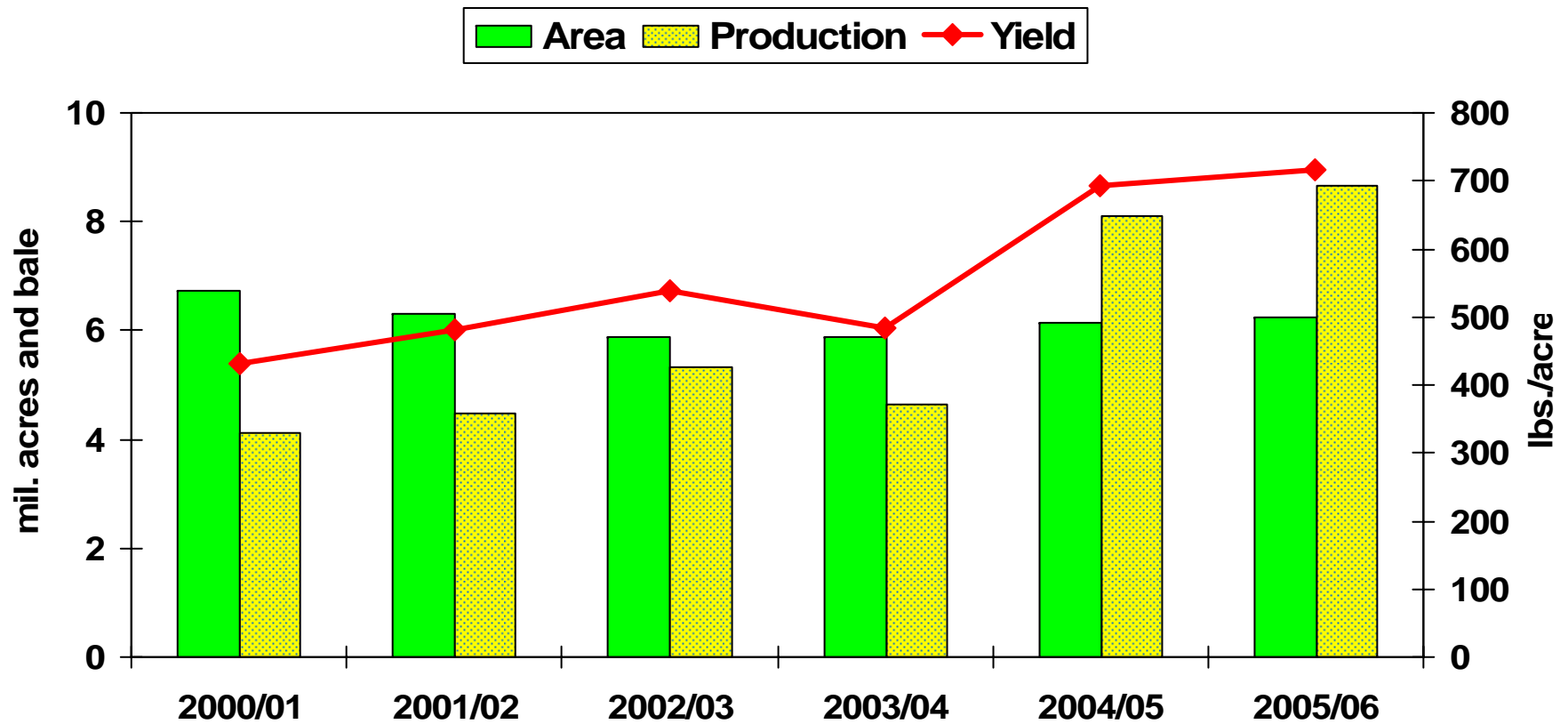
2000/01 to 2005/06



# Southwest Region

## Upland Cotton Area, Production, and Yield

2000/01 to 2005/06

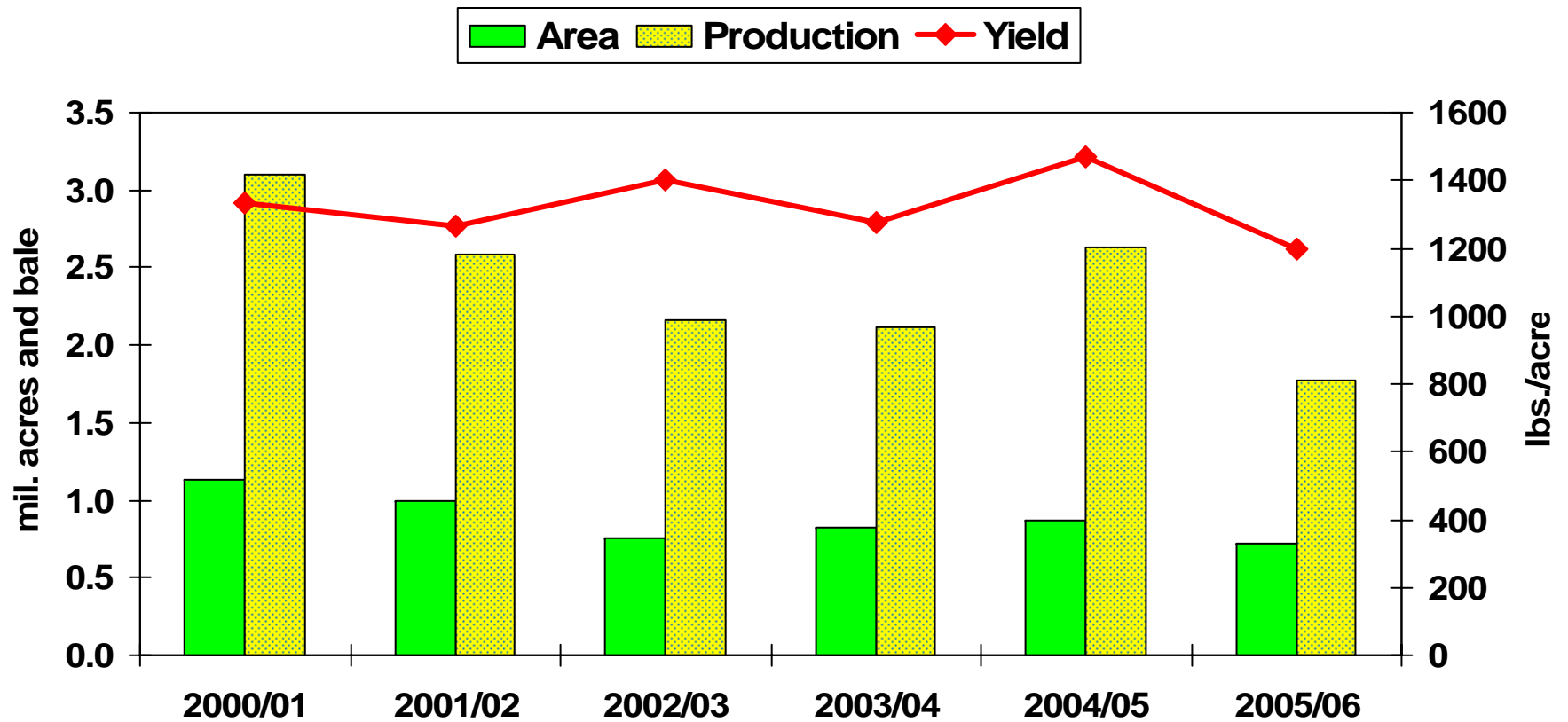




# Far West Region

## Upland Cotton Area, Production, and Yield

2000/01 to 2005/06

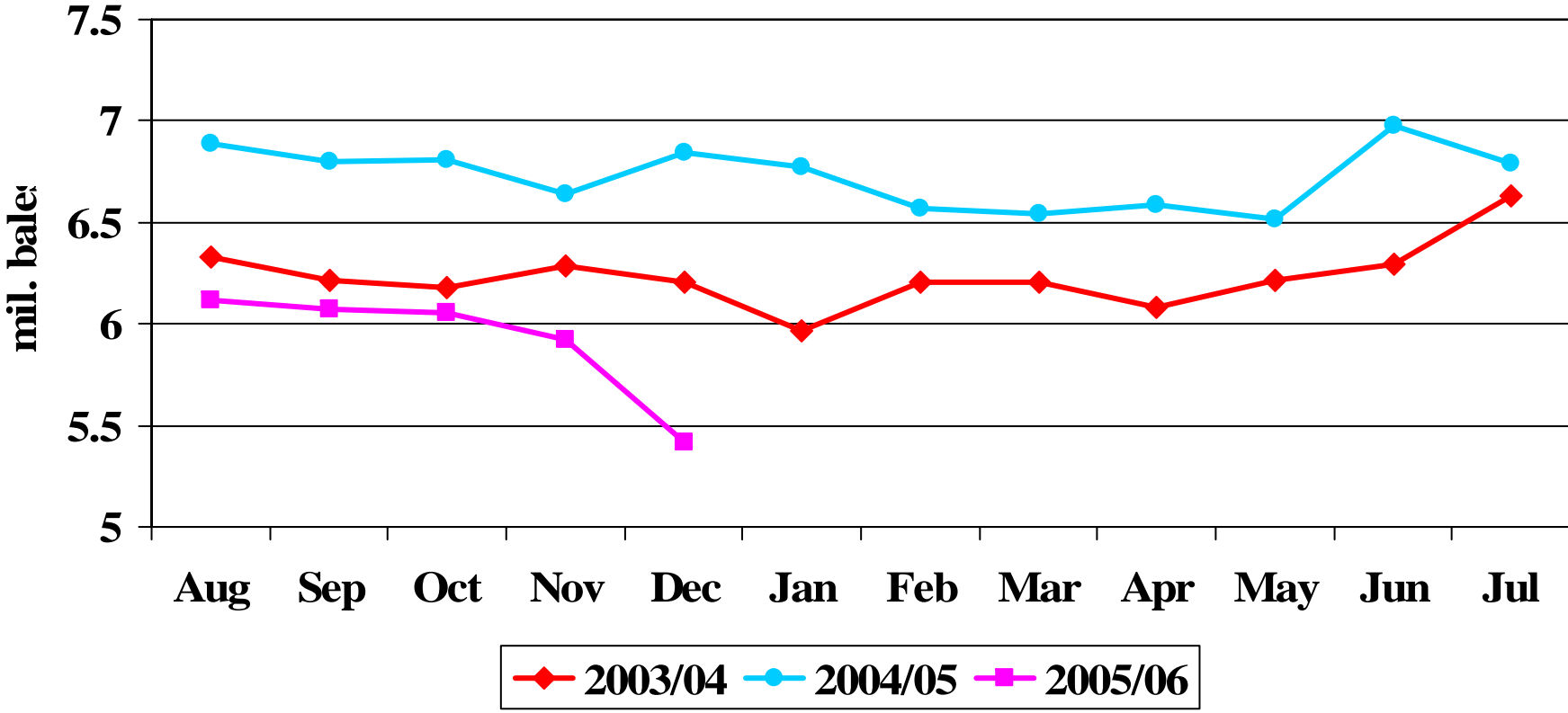


# U.S. Cotton Supply-Demand Estimates

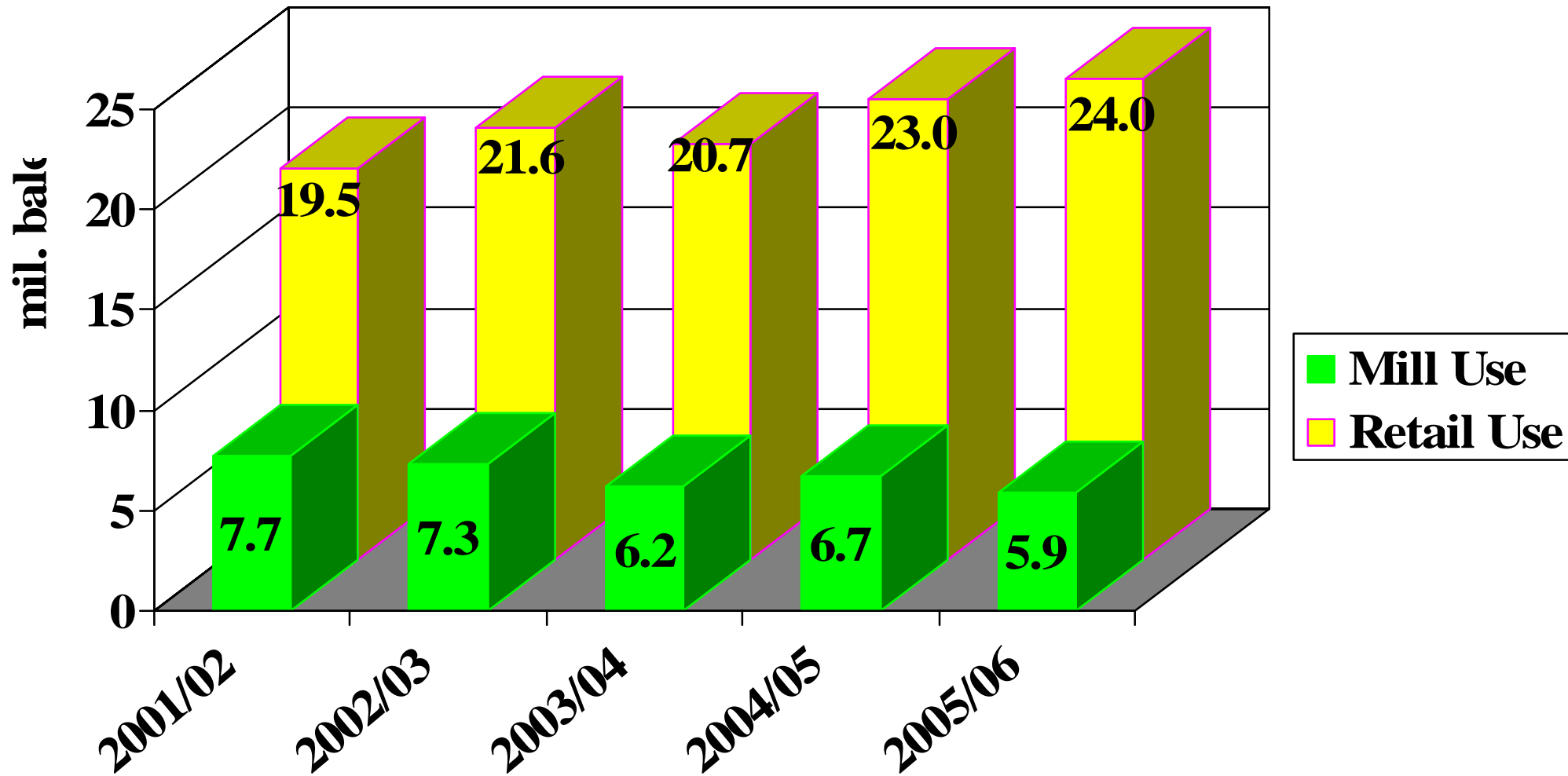
mil. bales

	<u>2004/05</u>	<u>2005/06</u>
<b>Beg. Stocks</b>	<b>3.5</b>	<b>5.5</b>
<b>Production</b>	<b>23.3</b>	<b>23.7</b>
<b>Imports</b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>
<b>Total Supply</b>	<b><u>26.8</u></b>	<b><u>29.3</u></b>
<b>Consumption</b>	<b>6.7</b>	<b>5.9</b>
<b>Exports</b>	<b><u>14.4</u></b>	<b><u>16.4</u></b>
<b>Total Use</b>	<b><u>21.1</u></b>	<b><u>22.3</u></b>
<b>Ending Stocks</b>	<b>5.5</b>	<b>7.0</b>

# Seasonally Adjusted Annual Mill Use Rates by month since August 2003

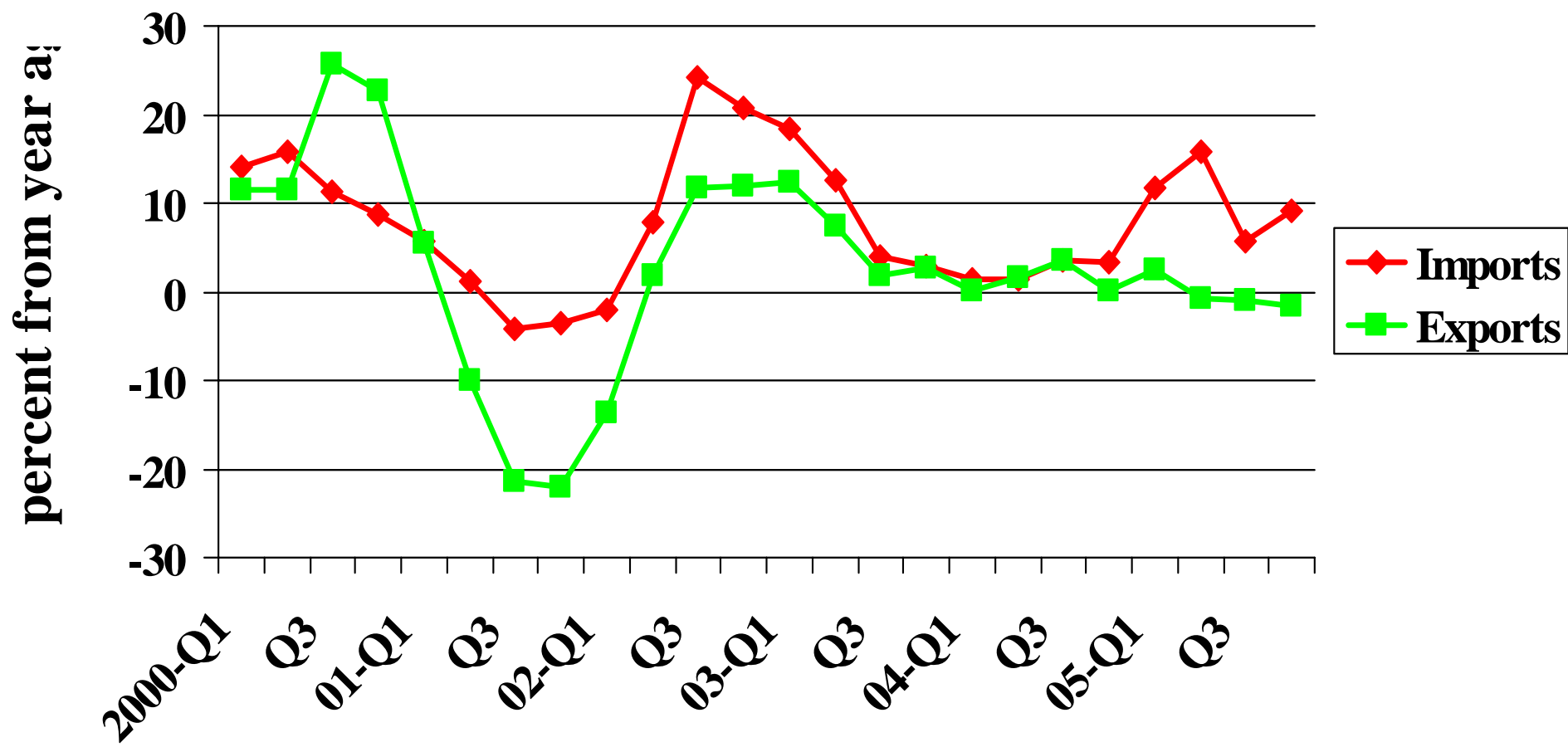


# U.S. Retail Consumption and Share of U.S. Mills



# Cotton Textile Trade Growth Rates

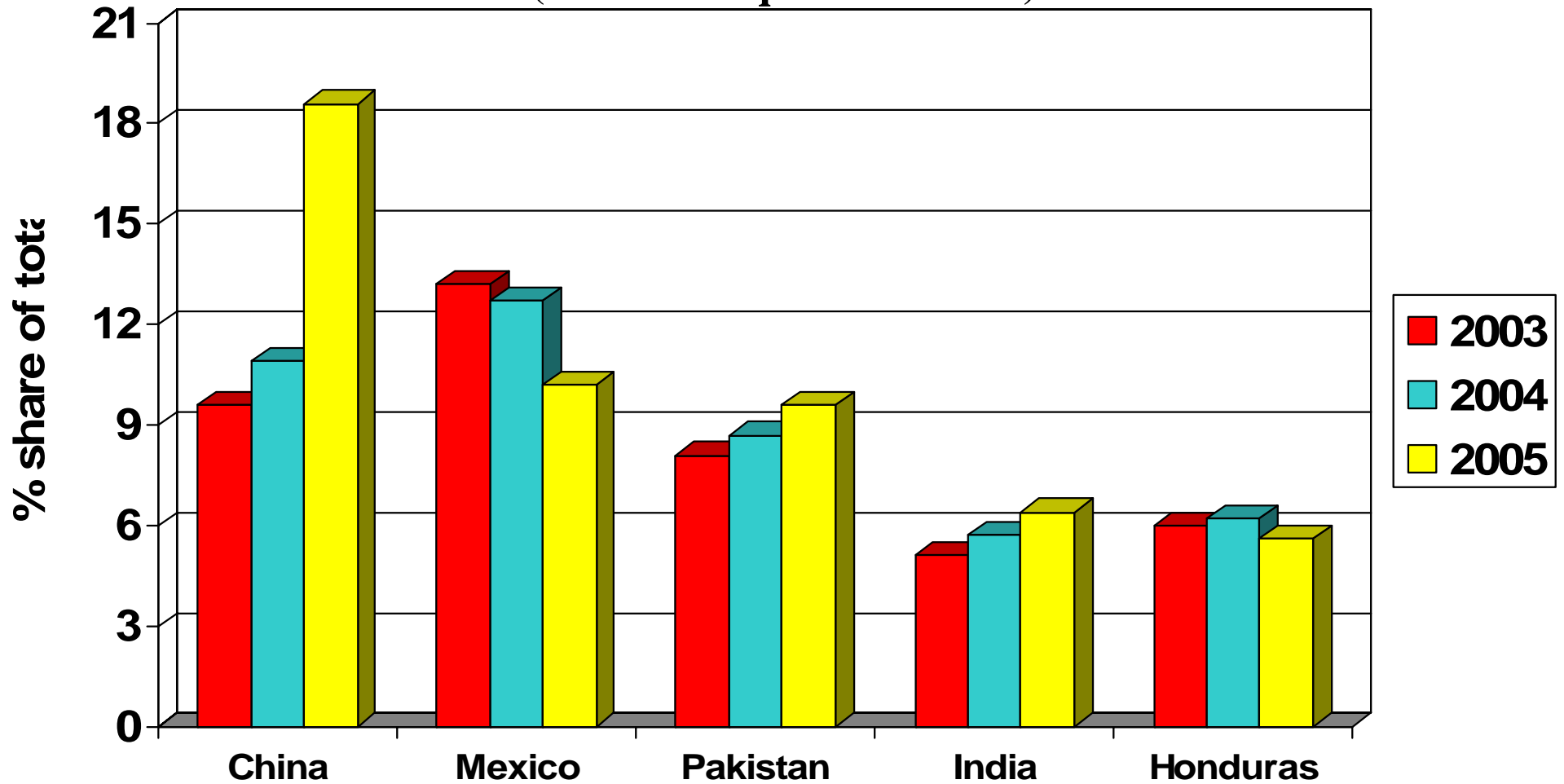
(CY 2000 thru 4<sup>th</sup> quarter 2005)



# U.S. Cotton Textile Imports

## Share by Origin for Top 5 Suppliers

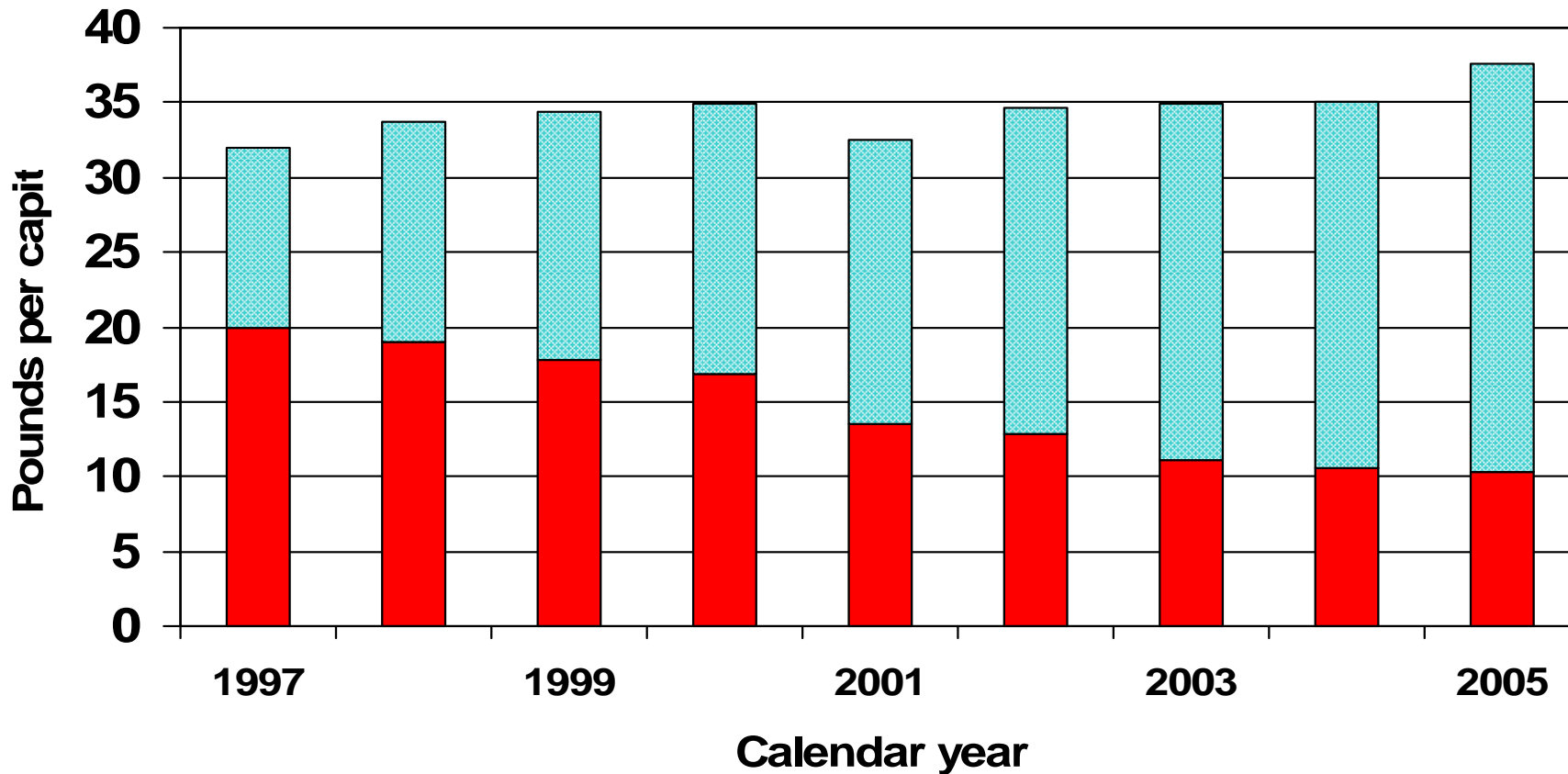
(raw fiber equivalent basis)



# U.S. Retail Cotton Consumption

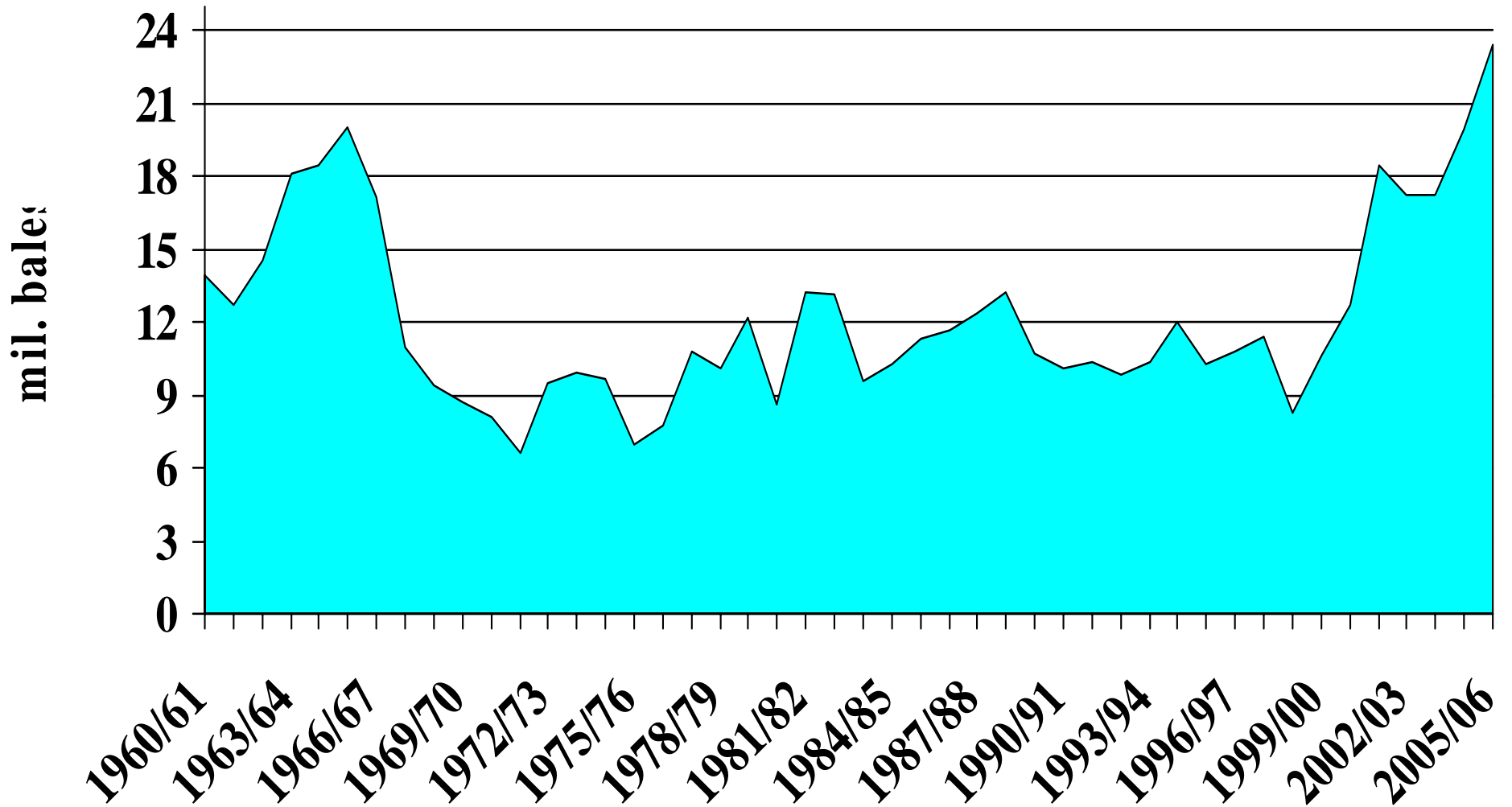
(raw fiber equivalent basis)

■ Mill use share ■ Net import share



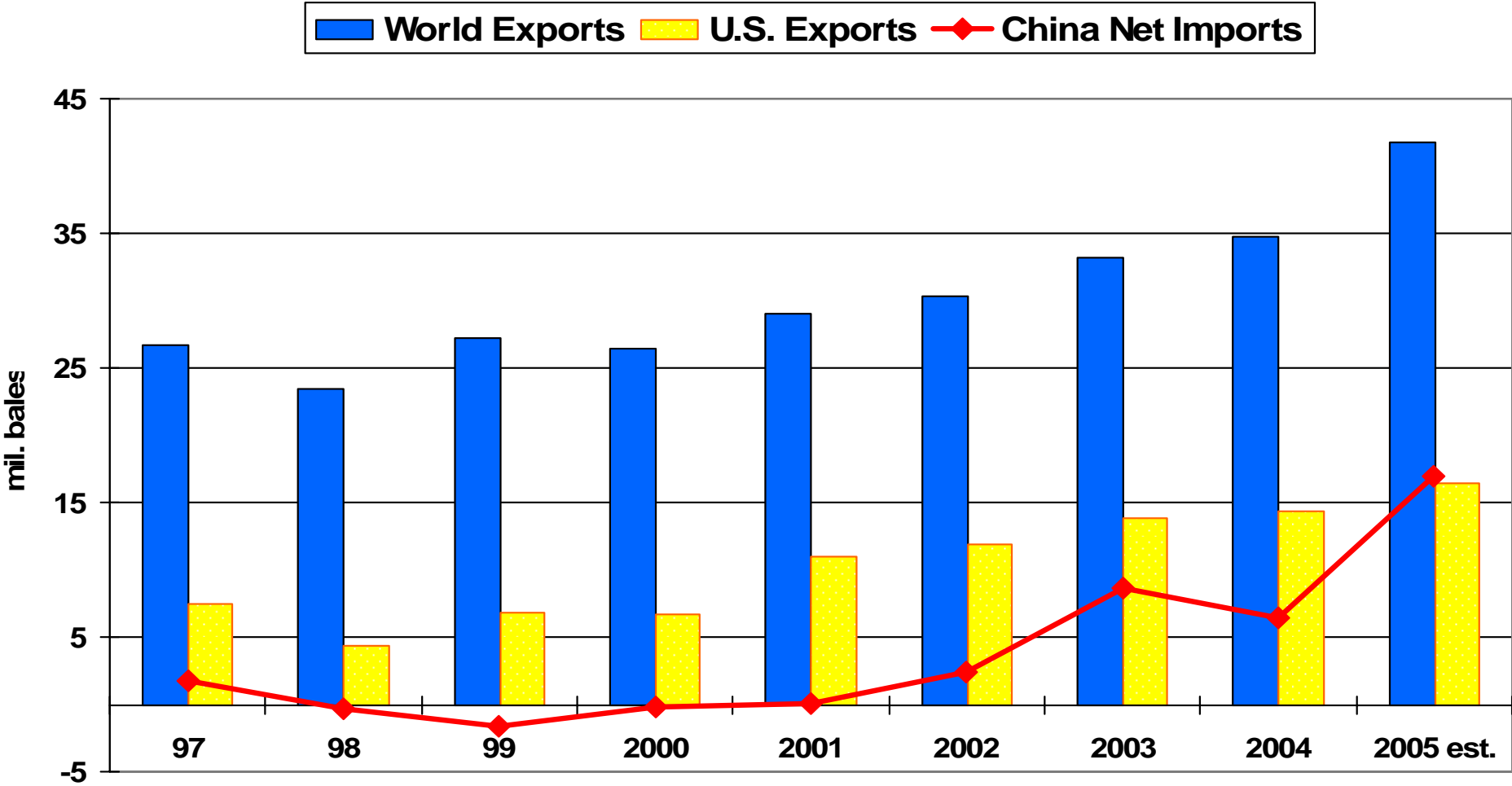
# US Exportable Supply Highest in over 100 Years

(exportable supply = total supply - mill use)

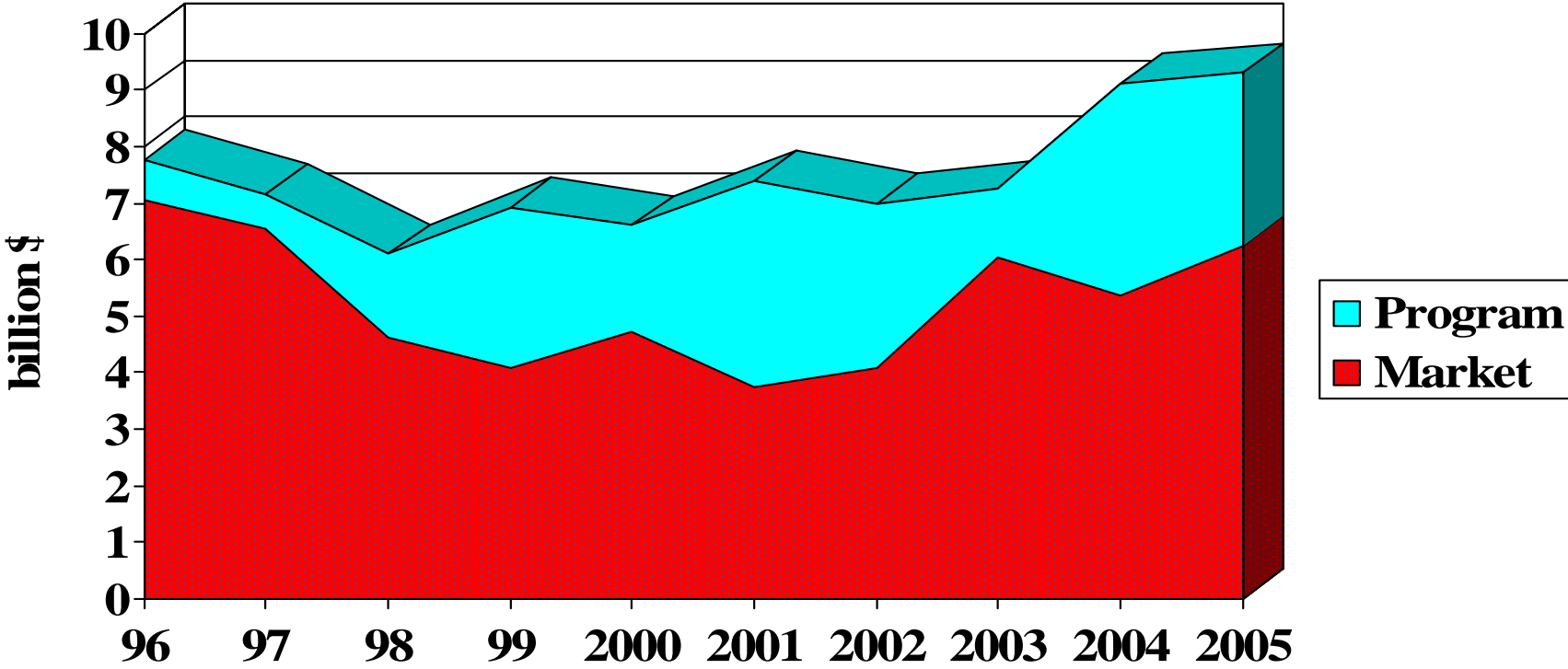




# U.S. Exports Assisted by Growth in China Imports



# Gross Cotton Farm Income 1996/97 through 2005/06 est.

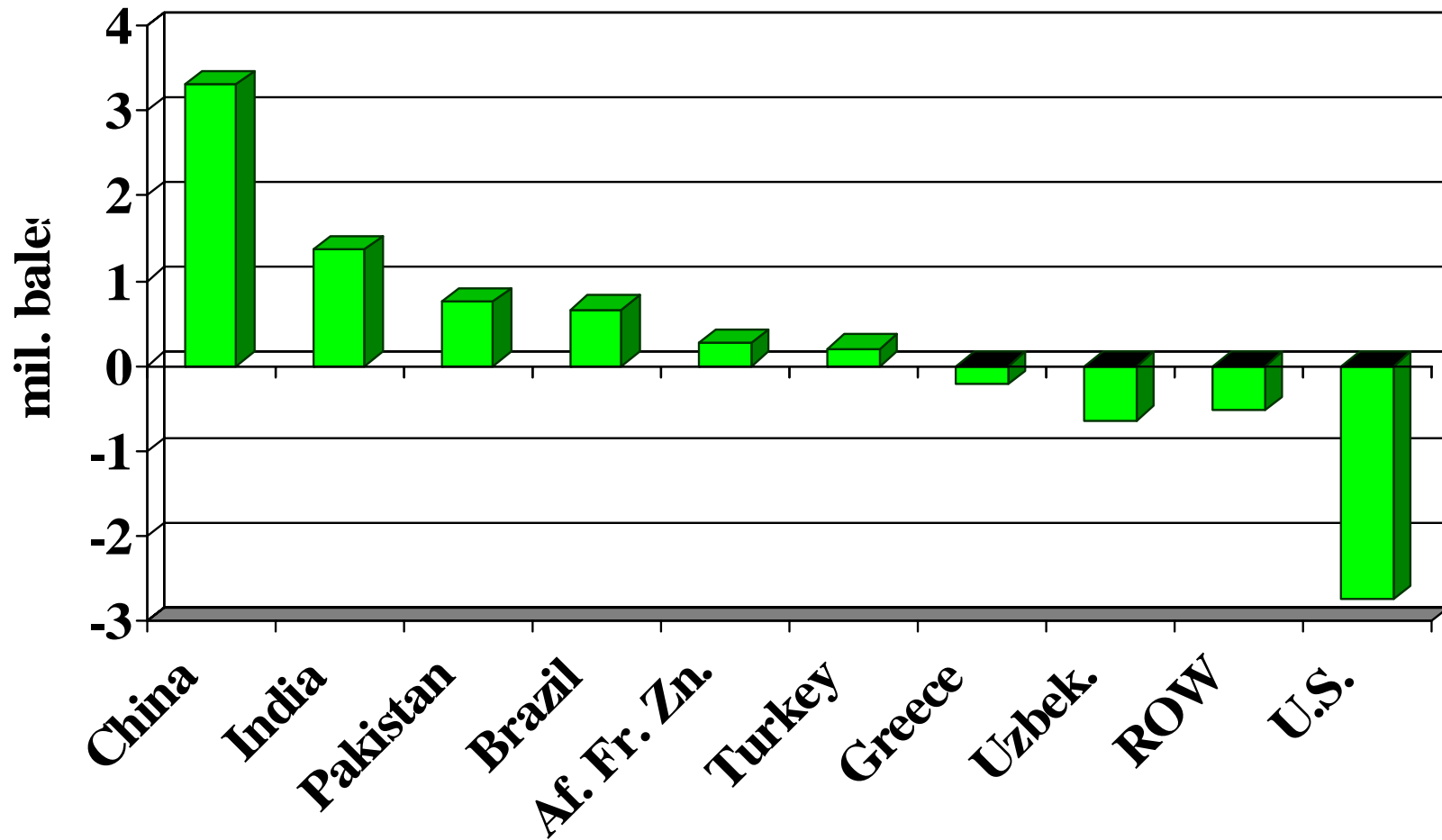


# World Cotton Balance Sheet

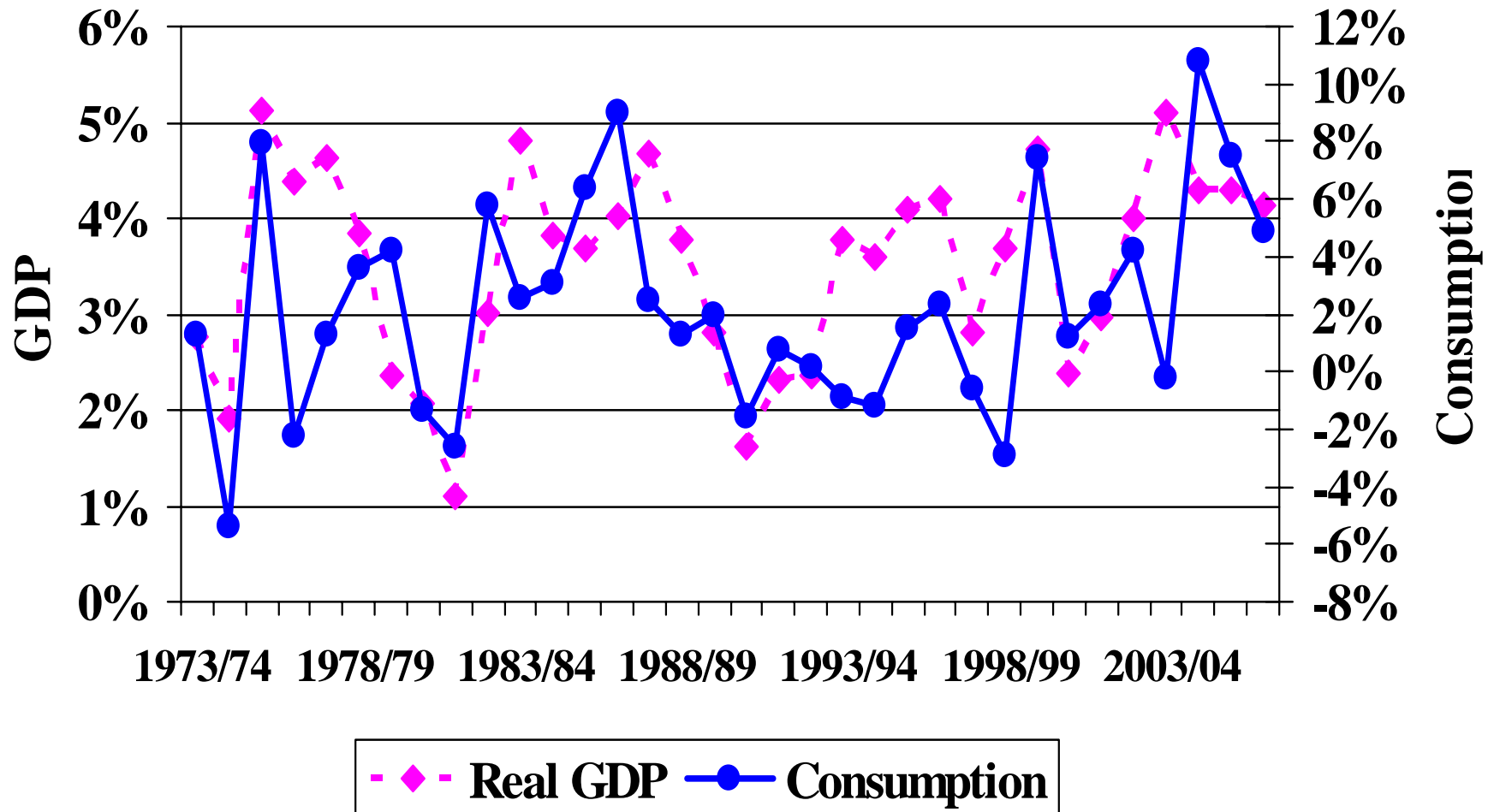
(mil. bales)

	<u>2005/06</u>	<u>2006/07</u>
<b>Beg. Stocks</b>	<b>54.1</b>	<b>52.9</b>
<b>Production</b>	<b>113.8</b>	<b>117.0</b>
<b>Imports</b>	<b><u>42.4</u></b>	<b><u>44.0</u></b>
<b>Total Supply</b>	<b><u>210.3</u></b>	<b><u>213.9</u></b>
<b>Consumption</b>	<b>116.8</b>	<b>122.5</b>
<b>Exports</b>	<b><u>41.8</u></b>	<b><u>43.5</u></b>
<b>Total Use</b>	<b><u>158.6</u></b>	<b><u>166.0</u></b>
<b>Residual</b>	<b>-1.3</b>	<b>-1.5</b>
<b>Ending Stocks</b>	<b>52.9</b>	<b>49.4</b>

# Forecast Changes in World Production, 2006/07 vs. 05/06



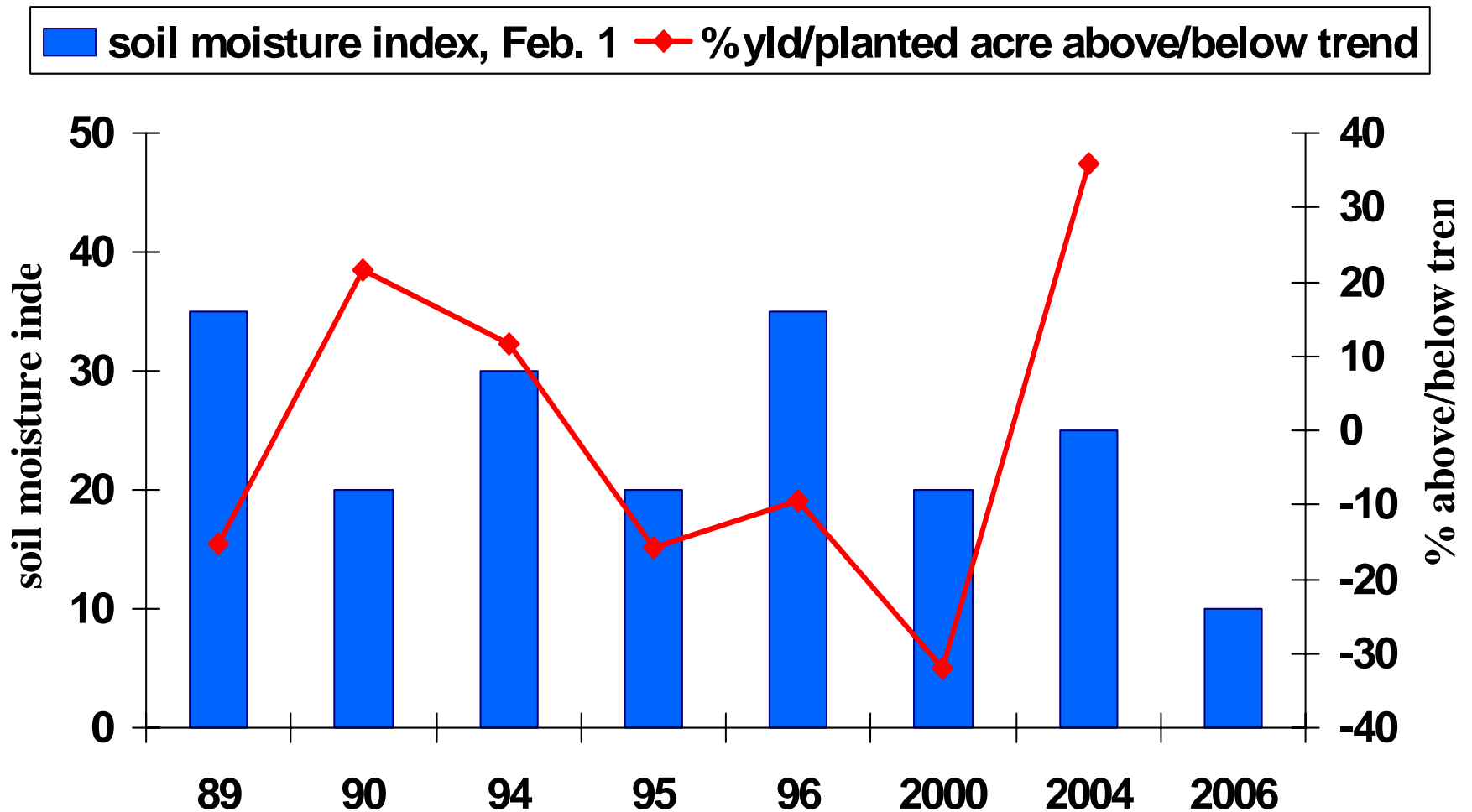
# 2006/07 World Consumption Growth Slows



# China Cotton Balance Sheet

	<u>2005/06</u>	<u>2006/07</u>
<b>Beg. Stocks</b>	<b>13.1</b>	<b>12.5</b>
<b>Production</b>	<b>26.2</b>	<b>29.5</b>
<b>Imports</b>	<b><u>17.0</u></b>	<b><u>18.5</u></b>
<b>Total Supply</b>	<b><u>56.3</u></b>	<b><u>60.5</u></b>
<b>Consumption</b>	<b>45.0</b>	<b>49.5</b>
<b>Exports</b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>
<b>Total Use</b>	<b><u>45.0</u></b>	<b><u>49.5</u></b>
<b>Residual</b>	<b>-1.3</b>	<b>-1.5</b>
<b>Ending Stocks</b>	<b>12.5</b>	<b>12.5</b>

# Soil Moisture Index, Lubbock as of Feb. 1, and Texas Yields



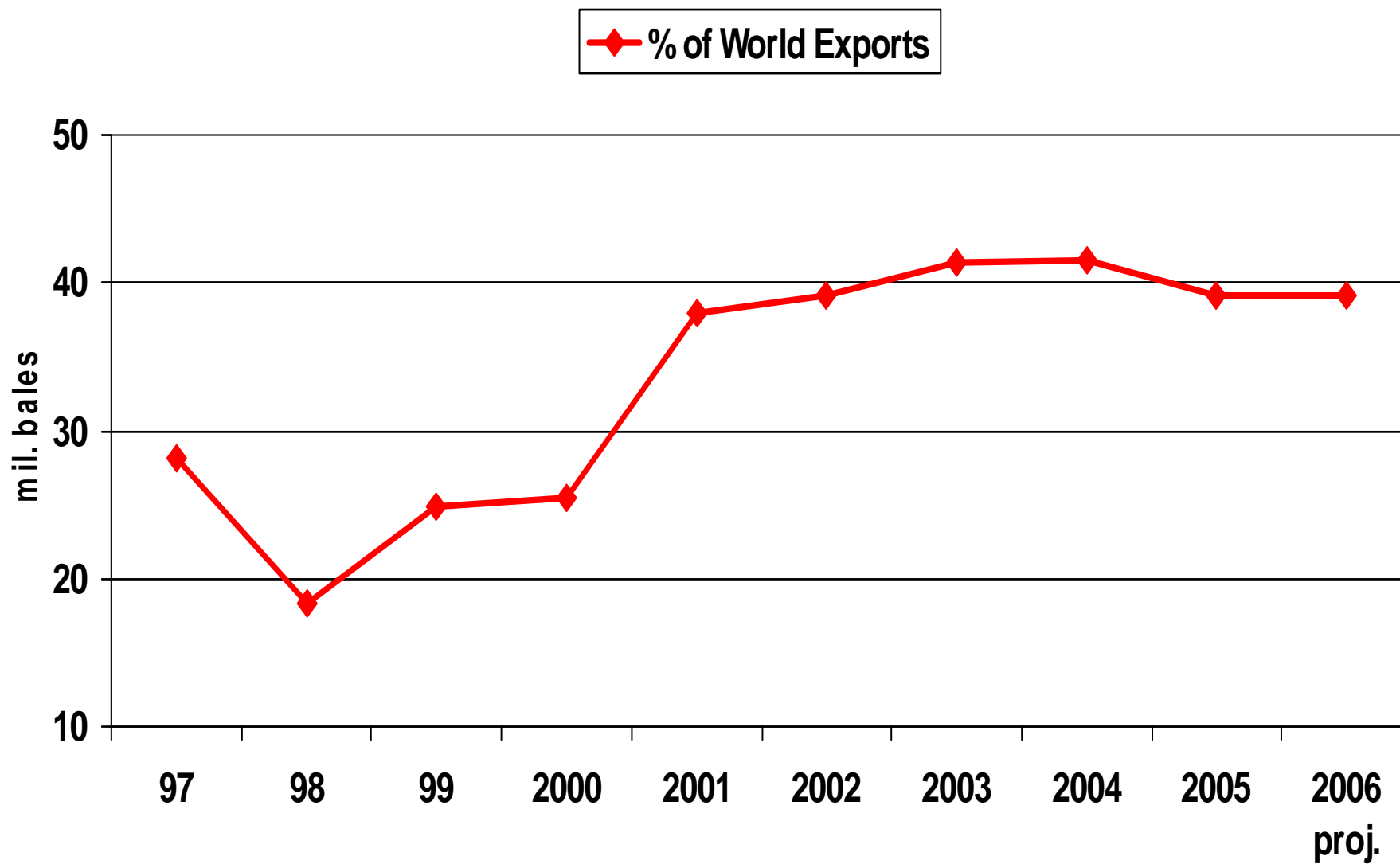
# U.S. Cotton Supply-Demand Estimates

mil. bales

	<u>2005/06</u>	<u>2006/07</u>
<b>Beg. Stocks</b>	<b>5.5</b>	<b>7.0</b>
<b>Production</b>	<b>23.7</b>	<b>21.0</b>
<b>Imports</b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>
<b>Total Supply</b>	<b><u>29.3</u></b>	<b><u>28.0</u></b>
<b>Consumption</b>	<b>5.9</b>	<b>5.6</b>
<b>Exports</b>	<b><u>16.4</u></b>	<b><u>17.0</u></b>
<b>Total Use</b>	<b><u>22.3</u></b>	<b><u>22.6</u></b>
<b>Ending Stocks</b>	<b>7.0</b>	<b>5.4</b>



# U.S. Exports Share of World Trade



# U.S. Share of World Consumption (Domestic mill use + exports)

Mill Use Exports % of World Consumption

