



# Cotton and Wool Outlook: September 2023

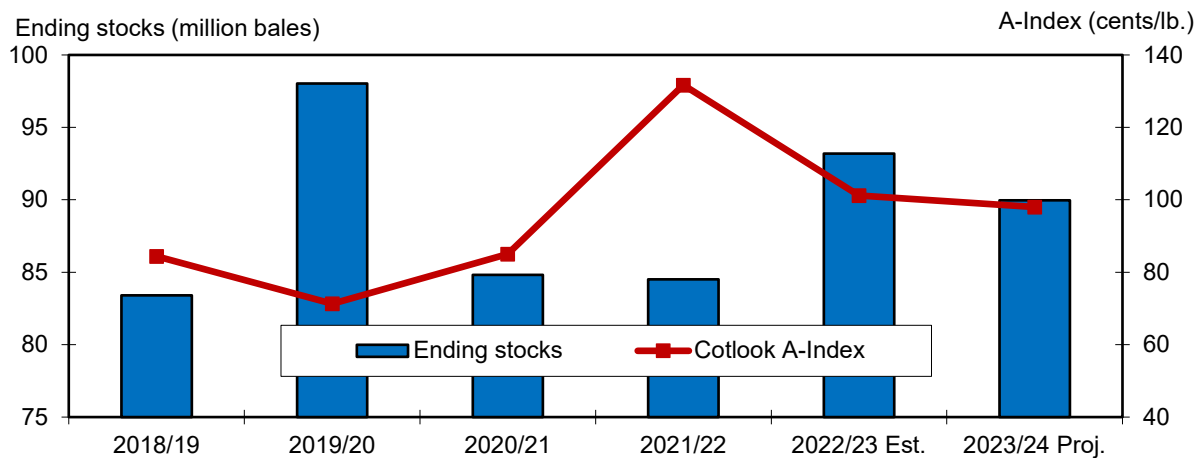
Leslie Meyer and Taylor Dew

## Lower 2023/24 Global Cotton Production Helps Reduce Ending Stocks

The latest U.S. Department of Agriculture (USDA) cotton projections for 2023/24 (August–July) indicate that global cotton production will decrease 6.3 million bales (5 percent) to 112.4 million bales, the second lowest since 2016/17. China, India, and the United States lead the global production decline, while Pakistan indicates a rebound from the previous year. The global cotton yield is estimated to decrease 5 percent from 2022/23 to 770 kilograms per hectare.

World cotton mill use in 2023/24 is projected to increase by 5.0 million bales (4.5 percent) to 115.9 million bales. World trade expectations (43.3 million bales) show a considerable increase (17 percent) from 2022/23, as higher cotton imports support stock replenishment and the anticipated recovery in global cotton mill use in 2023/24. With global mill use projected above production this season, 2023/24 ending stocks are forecast to decrease 3.2 million bales (3.5 percent) to 90.0 million bales (figure 1). Despite lower stocks, prices are expected to remain near the year-ago level.

Figure 1  
**Global cotton stocks and prices**



Note: 1 bale = 480 pounds.

Source: USDA, Economic Research Service using data from Cotlook and USDA, Interagency Commodity Estimates

# Domestic Outlook

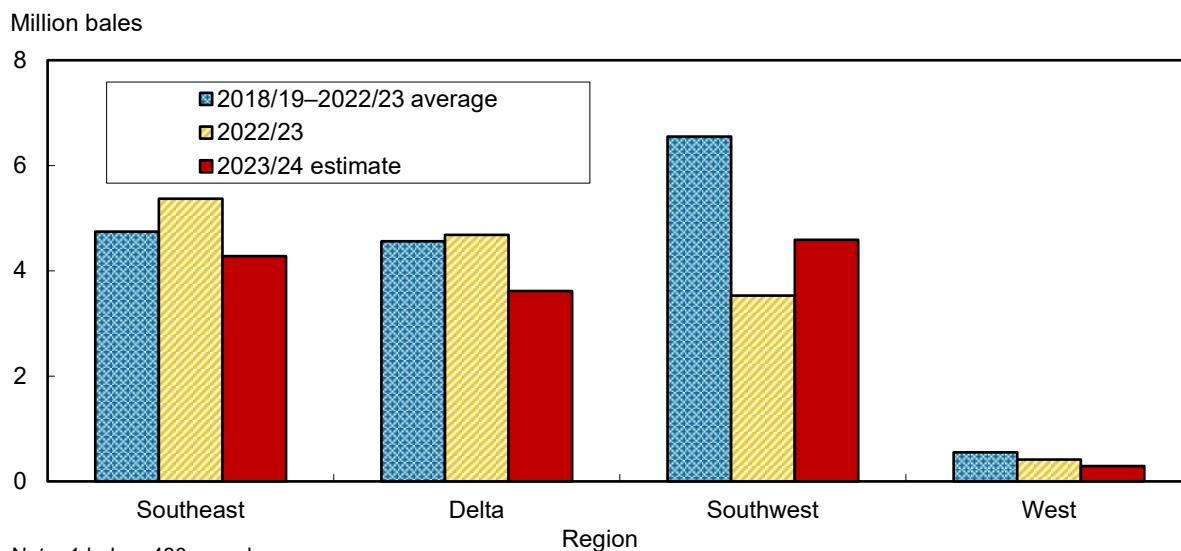
## U.S. 2023/24 Cotton Crop Forecast Lower in September

USDA's September *Crop Production* report forecasts 2023/24 U.S. cotton production at 13.1 million bales, 860,000 bales lower than the August estimate and 1.3 million bales (9 percent) below the 2022/23 crop. The smaller September forecast is attributable to a lower area projection that more than offset a slightly higher yield estimate. If realized, the 2023/24 U.S. cotton crop would be the smallest crop since 2015/16.

U.S. cotton planted area for 2023/24 was reduced nearly 8 percent in September based on acreage reported to USDA's Farm Service Agency (FSA). Planted acreage is estimated at 10.2 million acres by USDA's National Agricultural Statistics Service (NASS), while harvested area is projected at 8.0 million acres, 7 percent below the August forecast. U.S. 2023/24 abandonment is projected at approximately 21.5 percent, compared with last season's 47 percent. The national yield is forecast at 786 pounds per harvested acre this season, compared with the 3-year average of 874 pounds. For current production estimates by State, see table 10 published separately with this report.

Upland cotton production in 2023/24 is forecast at 12.8 million bales, nearly 9 percent (1.2 million bales) below 2022/23 and 22 percent below the 5-year average of 16.4 million bales. During the past 20 years, the September upland production forecast was above the final estimate 11 times and below it 9 times. Past differences between the September forecast and the final production estimate indicate a two out of three chance for the 2023/24 upland crop to range between 11.8 million and 13.7 million bales. Compared with last season, 2023/24 upland production is expected to decrease in three of the four Cotton Belt regions, with the Southwest being the exception (figure 2).

Figure 2  
**U.S. regional upland cotton production**



Note: 1 bale = 480 pounds.

Source: USDA, Economic Research Service using data from USDA, National Agricultural Statistics Service, *Crop Production* reports.

Upland cotton production in the Southwest in 2023/24 is forecast at approximately 4.6 million bales, about 1.1 million bales above last season's crop that was adversely affected by extreme dry conditions. The 2022/23 Southwest production was the lowest since 1992/93 as 2022/23 abandonment reached a record 73 percent. For 2023/24, upland planted area for the region is estimated at 6.1 million acres and harvested acreage is projected at 3.9 million acres, or an abandonment rate of 35 percent. The Southwest yield is forecast at 558 pounds per harvested acre in 2023/24—the lowest in 20 years—as this season's excessive heat reduced yields.

In the Southeast, 2023/24 cotton production is forecast at nearly 4.3 million bales, 20 percent below 2022/23. The lower production this season is attributable to reduced area and a lower yield. With the smallest cotton harvested area (2.2 million acres) since 2016/17 and a 6-percent reduction in yield—forecast at 927 pounds per harvested acre—the 2023/24 Southeast crop is projected to be its lowest in 3 years. In the Delta, 2023/24 cotton production is expected to approach 3.6 million bales, 23 percent below a year earlier and the result of lower area and yield. The Delta's harvested area is estimated at 1.6 million acres with a yield forecast at 1,081 pounds per harvested acre, the smallest in 6 years. The Delta crop is projected below the 5-year average of nearly 4.6 million bales.

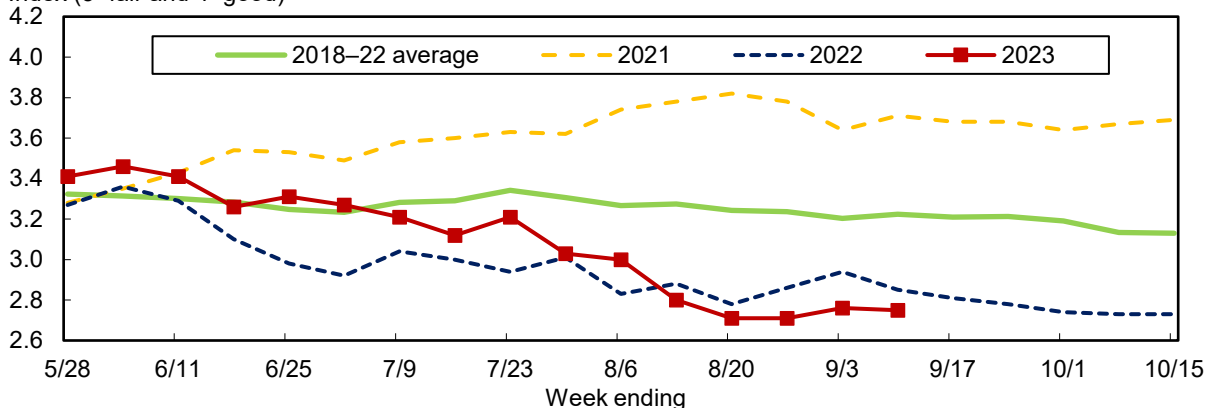
In the West, the 2023/24 upland cotton crop is projected at 294,000 bales, the lowest in 9 decades, as area is forecast to be the smallest in more than a century. Planted acreage is estimated at 121,000 acres and harvested area is projected at 110,000 acres or about 1 percent of the U.S. upland cotton area. The upland yield expectation of 1,283 pounds per harvested acre is the lowest in 4 years. Extra-long staple (ELS) cotton—primarily grown in the West—is projected at 356,000 bales in 2023/24, the second lowest ELS crop in nearly 30 years. ELS harvested area is forecast at 141,100 acres, and yield is estimated at 1,211 pounds per harvested acre in 2023/24.

U.S. cotton crop development in September is running near last season and the 5-year average. As of September 10, 43 percent of the cotton area had bolls opening, compared with 48 percent in 2022 and 42 percent for the 2018–22 average. Texas and Georgia—the States with the largest cotton area—had bolls opening on 41 and 38 percent of their respective area, compared with 5-year averages of 39 and 47 percent. Louisiana had bolls opening on 79 percent of its area—slightly above average—while California had bolls opening on 10 percent of its area, compared with its 2018–22 average of 23 percent. U.S. cotton crop conditions moved below last season's level in August as the excessive heat this summer reduced crop prospects (figure 3).

Figure 3

**U.S. cotton crop conditions**

Index (3=fair and 4=good)



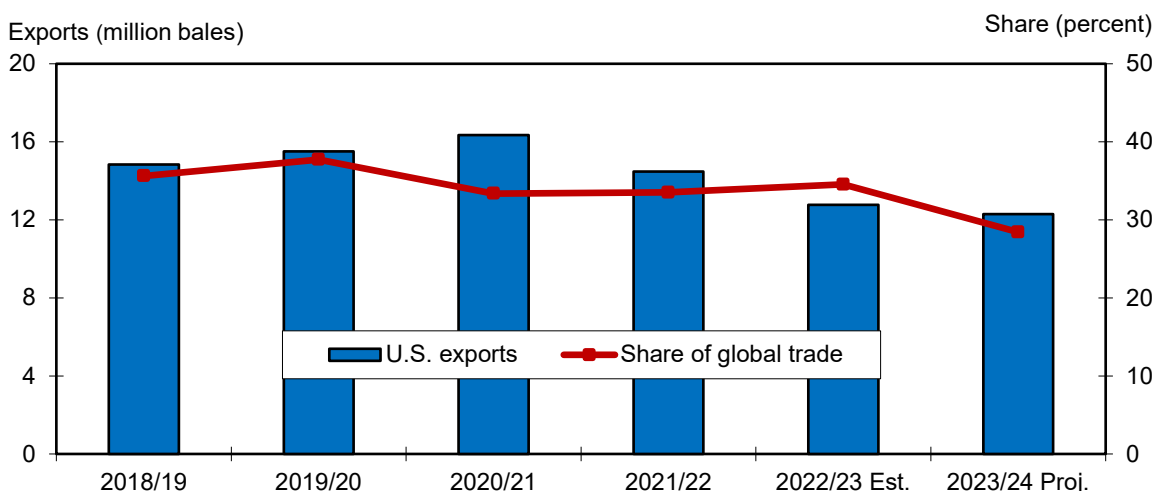
Source: USDA, Economic Research Service using data from USDA, *Crop Progress* reports.

In fact, 2023 U.S. cotton crop conditions are the lowest at this point in the season since 2011. As of September 10, 29 percent of the cotton area was rated “good” or “excellent,” compared with 33 percent last year, while 41 percent was rated “poor” or “very poor,” compared with 37 percent a year ago.

## U.S. Cotton Demand and Stocks Reduced in September

The estimate for U.S. cotton demand for 2023/24 was lowered slightly (200,000 bales) in September to 14.45 million bales, with U.S. exports accounting for the decrease. U.S. cotton exports are projected at 12.3 million bales in 2023/24, nearly 4 percent below the previous year as reduced supplies and competition from other producers this season limit U.S. export prospects. With world trade projected to rebound 17 percent to near the 2021/22 level and U.S. exports forecast lower than last season, the U.S. share of global trade in 2023/24 is projected to fall below 30 percent for the first time since 2015/16. For 2023/24, the U.S. share is forecast at 28.4 percent, compared with a 3-year average of nearly 34 percent (figure 4). U.S. cotton mill use remains forecast at 2.15 million bales in 2023/24, 100,000 bales above 2022/23.

Figure 4  
**U.S. cotton exports and share of global trade**



Note: 1 bale = 480 pounds.

Source: USDA, Economic Research Service using data from USDA, *World Agricultural Supply and Demand Estimates* reports.

Based on the latest supply and demand estimates, the U.S. ending stocks estimate for 2023/24 is now forecast at 3.0 million bales, slightly below last month but 29 percent lower than the revised beginning stocks. The U.S. stocks-to-use ratio is expected to be 21 percent in 2023/24, down from a stocks-to-use ratio the year before of almost 29 percent. With slightly lower U.S. cotton stocks and a tighter stocks-to-use ratio, the average farm price is expected to remain near the year-ago level. The 2023/24 upland cotton farm price is forecast at 80 cents per pound, up 1 cent from August but still below an estimated 82 cents per pound in 2022/23. The final 2022/23 upland farm price estimate will be released by USDA, NASS at the end of September.

## Revisions to 2022/23 U.S. Cotton Demand and Stocks

Estimates for U.S. cotton demand and stocks were revised in September with the release of complete marketing year data for 2022/23. Data from USDA’s FSA and NASS confirmed that

U.S. cotton mill use in 2022/23 totaled 2.05 million bales, 500,000 bales below 2021/22 and the lowest in over a century. U.S. cotton exports were also below 2021/22, reaching approximately 12.8 million bales in 2022/23. The export estimate was obtained by averaging cotton shipments data reported by the U.S. Department of Commerce's Bureau of the Census and USDA's *U.S. Export Sales* reports; this procedure is consistent with the calculation used for the previous five seasons when considerable differences between these sources of trade data were also observed. In addition, U.S. cotton stocks data collected and reported by various USDA agencies led to the computation of ending stocks for 2022/23, which are estimated at 4.25 million bales, compared with 4.05 million bales for 2021/22. For details on the calculation of U.S. cotton ending stocks, see the Highlight section in this report.

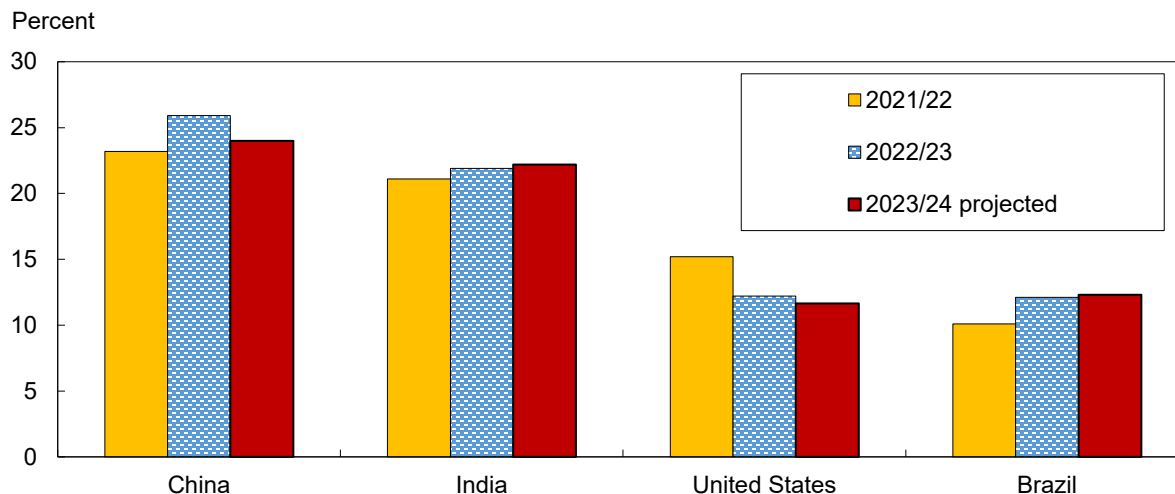
# International Outlook

## World Cotton Production Forecast Lower in 2023/24

Global cotton production is projected at 112.4 million bales this season, 1.7 million bales below last month's projection and 6.3 million bales lower than 2022/23. Except for Pakistan, smaller cotton crops are forecast for the major producing countries in 2023/24. World cotton harvested area in 2023/24 is forecast at approximately 31.8 million hectares (78.5 million acres), slightly below 2022/23—with increases in the United States and Pakistan offset by declines in India, China, Australia, and elsewhere. The global cotton yield is forecast at 770 kilograms (kg) per hectare (687 pounds per acre) in 2023/24, about 2 percent below the previous 3-year average.

For China—the projected top producing country this year—2023/24 cotton harvested area is forecast 8 percent lower at 2.9 million hectares (7.2 million acres), with cotton acreage concentrated in the high-yielding Xinjiang region. Overall growing conditions this season appear favorable after an early-season setback. The national yield is forecast at 2,027 kg per hectare in 2023/24, a decrease from last season's record of 2,122 kg per hectare. China's 2023/24 cotton crop is projected at 27.0 million bales, compared with last season's 30.7 million bales. China is expected to contribute 24 percent of world cotton production in 2023/24, compared with 26 percent a year earlier (figure 5).

Figure 5  
**Share of total cotton production by major producer**



Source: USDA, Economic Research Service based on USDA, *World Agricultural Supply and Demand Estimates* reports.

India's 2023/24 cotton area is projected at 12.6 million hectares (31.1 million acres), down 3 percent from last year as area for alternative crops was favored over cotton. With the lower harvested area forecast and a national yield projected about unchanged at 432 kg per hectare, India's cotton crop is projected at 25.0 million bales, nearly 4 percent (1 million bales) below the 2022/23 season. India is expected to account for 22 percent of the global cotton crop in 2023/24.

Production forecasts for other major foreign cotton countries are mixed in 2023/24. Cotton production in Brazil is projected at 13.8 million bales in 2023/24, a decrease of 600,000 bales (4 percent) from 2022/23's record. A yield decrease of nearly 5 percent to 1,799 kg per hectare accounts for the lower crop, with harvested area similar to a year earlier. Despite the crop forecast decline, Brazil is expected to account for 12 percent of global cotton production in 2023/24, a share that is marginally above that of the United States. Brazil is now forecast to rank as the third largest producer in 2023/24.

Australia's cotton crop is forecast to decrease 400,000 bales (7 percent) to 5.4 million bales in 2023/24, as dryland area is expected to be limited when planting begins in October. Harvested area is projected 20 percent lower at 520,000 hectares in 2023/24. With a larger share of the area devoted to irrigation, the national yield is forecast at 2,283 kg per hectare, the second highest on record.

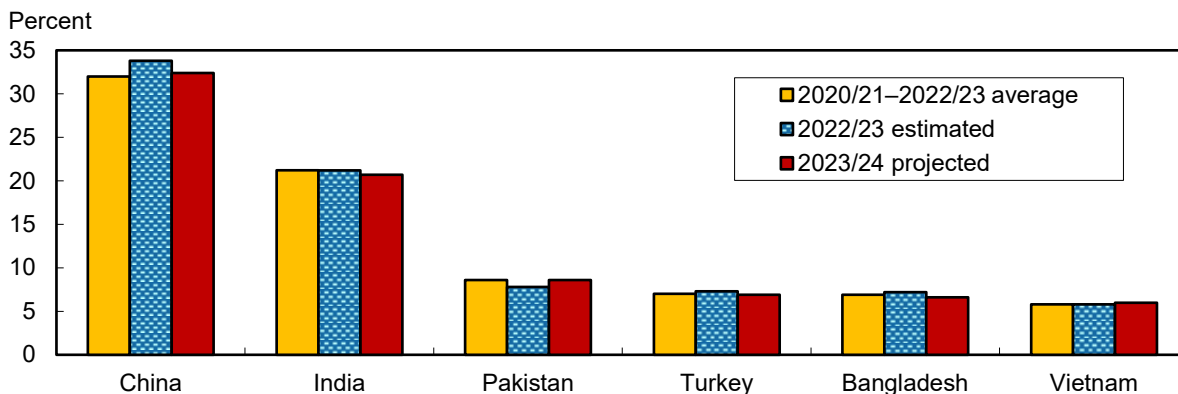
Cotton production in Pakistan is projected to recover considerably to 6.5 million bales in 2023/24, as harvested area rebounds from last season's floods that reduced area to its lowest in more than 45 years. Pakistan's yield also is forecast to improve to 544 kg per hectare, above the 3-year average. Cotton production in Greece was reduced significantly as historic flooding occurred in the major cotton growing region in early September. Greece's 2023/24 cotton production (1.1 million bales) was reduced nearly 18 percent this month with lower area and yield projected. While the effects are still emerging, USDA will continue to assess the situation.

## Global Cotton Mill Use Expected Higher in 2023/24

World cotton mill use in 2023/24 is forecast at 115.9 million bales, 4.5 percent (5 million bales) above 2022/23 but similar to the 2021/22 level. Growth in demand for textile and apparel products and relatively lower cotton fiber prices this season are expected to support the increase. Cotton mill use is forecast to equal or exceed last season for each of the major cotton-spinning countries in 2023/24, with China and India leading the way.

For the top six cotton-spinning countries—China, India, Pakistan, Turkey, Bangladesh, and Vietnam—mill use is forecast to account for a combined 81 percent of the world total in 2023/24, slightly below last season. For China, cotton mill use is projected at 37.5 million bales in 2023/24, unchanged from 2022/23. China is the leading cotton spinner by far, accounting for approximately one-third of global cotton mill use (figure 6).

Figure 6  
**Share of total cotton consumption by major spinner**



Source: USDA, Economic Research Service based on USDA, *World Agricultural Supply and Demand Estimates* reports.

India's mill use is forecast at 24 million bales—21 percent of the world total—in 2023/24, 2 percent (500,000 bales) above the year before. For Pakistan, 2023/24 cotton mill use is projected to rise 15 percent (1.3 million bales) to 10.0 million bales, as its textile industry rebounds from the supply reductions of last season. Pakistan is expected to contribute 9 percent of the global total. Above-average growth rates are also forecast for cotton mill use in Turkey, Bangladesh, and Vietnam. In Turkey, 2023/24 cotton mill use is forecast to increase more than 6.5 percent to 8.0 million bales (7 percent of the world total). Mill use in Bangladesh is estimated 8.5 percent higher at 7.7 million bales (6.5 percent of the total), while Vietnam's mill use is forecast to expand 7 percent to 6.9 million bales (6 percent of the total).

## World Cotton Trade Forecast Higher; Stocks To Decline

Global cotton trade is forecast at 43.3 million bales in 2023/24, 6.3 million bales (17 percent) above last season as the expected increase in global cotton mill use supports the higher cotton trade and China's imports rebound from the previous season's 5-year low. With U.S. cotton supplies limited once again this season, Brazil is expected to be the leading beneficiary of higher world trade in 2023/24. The United States is forecast to export 12.3 million bales this season, accounting for 28 percent of world cotton exports. Cotton exports for Brazil in 2023/24 are forecast at a record 11.8 million bales, or a 27-percent share of global trade. Exports for India and the African Franc Zone countries are projected to rise this season as well. Australia's exports, in contrast, are projected to decline nearly 6 percent in 2023/24 to 5.8 million bales, following last season's record-tying exports of 6.2 million bales.

Higher imports are expected this season for the major importing countries, except Pakistan. For China, imports are forecast at 10.0 million bales (+3.8 million bales) in 2023/24. Imports by Bangladesh are forecast at 7.7 million bales (+1.2 million bales), and Vietnam's imports are expected to reach 6.9 million bales (+430,000 bales). Turkey's imports are projected to rise 5 percent to 4.4 million bales in 2023/24, while imports by Pakistan are seen declining nearly 6.5 percent to 4.2 million bales as production rebounds.

Based on the latest cotton supply and demand estimates, global cotton ending stocks for 2023/24 are projected at 90.0 million bales, 3.5 percent (3.2 million bales) below last year. While stocks in India and Pakistan are forecast to increase in 2023/24, cotton stocks are expected to decrease in China (-600,000 bales), Brazil (-1.3 million bales), and the United States (-1.25 million bales). China's ending stocks are forecast at 36.8 million bales, while Brazil's and India's cotton stocks are forecast at 15.1 and 12.0 million bales, respectively. Ending stocks in China, Brazil, and India continue to account for the largest portion of global stocks in 2023/24—41 percent, 17 percent, and 13 percent, respectively. Combined they account for 71 percent of world cotton stocks, while the United States accounts for only 3 percent of 2023/24 stocks.



# Highlight

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## The U.S. Cotton Ending Stocks Calculation for 2022/23

U.S. cotton supply, demand, and stocks estimates are updated monthly in USDA's *World Agricultural Supply and Demand Estimates (WASDE)* report. During most of the marketing year, the ending stocks estimate is a function of the cotton supply estimate for the season minus the cotton demand estimate; in addition—in most months—a nominal quantity is added or subtracted to allow ending stocks to round to the nearest 100,000 bales. However, once the season has ended, USDA's cotton Interagency Commodity Estimates Committee (ICEC) is tasked with finalizing ending stocks based on actual stock surveys and other relevant data.

Historically, the U.S. Census Bureau surveyed and reported end-of-season cotton stocks in three categories: stocks in public warehouses, stocks in consuming establishments, and stocks "elsewhere." The elsewhere category was partially estimated, as it included cotton in private storage and cotton in transit. The Census Bureau report was used by the cotton ICEC as "official" stocks at the end of each season, with the difference between USDA's supply and demand estimate and the Census Bureau estimate placed in a residual "unaccounted" category in the *WASDE*.

However, the Census Bureau survey was eliminated in the fall of 2011, and the cotton ICEC had to rely on incomplete data to estimate U.S. cotton ending stocks for several seasons. Beginning in 2015, USDA's NASS assumed responsibility for reporting the previously unavailable data—ELS cotton stocks in consuming establishments and all cotton stocks in private storage at season's end.

Table A shows the components used to calculate the 2022/23 and 2021/22 U.S. cotton ending stocks estimate, with adjustments made to reflect the lag between the report dates and the end of the marketing year on July 31. Since the establishment of the USDA, NASS survey in 2015, reports now exist for all stock categories except for stocks in transit (including stocks at ports). This category is estimated by the cotton ICEC using the USDA, Foreign Agricultural Service's (FAS) *Export Sales* shipment data. In addition, the calculation includes a deduction for any reported ginnings of new crop cotton before the end of the marketing year.

The ending stocks calculation shown in table A also includes a revision to the in-transit stocks estimate from a year ago for 2021/22 that adjusted ending stocks higher for that season. The unexpectedly large warehouse stocks reported this season for July 31, 2023, indicated that the in-transit stocks on July 31, 2022, were likely higher than forecast a year ago. The push to export U.S. cotton at the end of 2021/22 as prices fell and supply-chain constraints eased led to higher in-transit stocks than would normally be expected and previously estimated.

Based on the available data, U.S. cotton stocks on July 31, 2023—the end of the 2022/23 marketing year—are computed to be 4.1 million running bales or 4.25 million statistical (480-pound) bales. The 2022/23 U.S. ending stocks estimate is 200,000 bales above the revised 2021/22 estimate of 4.05 million bales. U.S. cotton ending stocks in 2022/23 are up 5 percent from 2021/22, and the stocks-to-use ratio rose 5 percentage points to 29 percent. The 2022/23 stocks are below the 5-year average, while the stocks-to-use ratio is above the average.

Table A—U.S. Department of Agriculture's U.S. cotton ending stocks calculation, 2021/22 and 2022/23

Item	Units	2021/22	2022/23
Cotton stocks components:			
(a) Stocks held in public storage and compresses 1/	1,000 running bales	2,716	3,432
(b) Preseason ginnings 2/	1,000 running bales	31	21
(c) Upland cotton mill stocks 3/	1,000 running bales	109	102
(d) Extra-long staple (ELS) cotton mill stocks 4/	1,000 running bales	4	3
(e) Stocks held in private storage 4/	1,000 running bales	286	346
(f) Stocks subtotal (a minus b plus c, d, and e)	1,000 running bales	3,084	3,862
Further adjustments:			
(g) Stocks in transit and at ports 5/	1,000 running bales	873	247
(h) Estimated ending stocks (f plus g)	1,000 running bales	3,957	4,109
(i) Adjusted cotton ending stocks	1,000 480-lb. bales	4,050	4,250

1/ Inventory data (adjusted to July 31) from the Agricultural Marketing Service's (AMS) *Bales Made Available for Shipment (BMAS)* report.

2/ Data from the National Agricultural Statistics Service's (NASS) August 2023 *Cotton Ginnings* report.

3/ Data from Farm Service Agency's (FSA) *Economic Adjustment Assistance Program* report.

4/ Data from National Agricultural Statistics Service's (NASS) September 2023 *Cotton System Consumption and Stocks* report.

5/ Estimated based on Foreign Agricultural Service's (FAS) *Export Sales* cotton shipment data early in the subsequent season.

Source: USDA, Economic Research Service based on various USDA reports.

Last update: 9/14/23.

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