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Cotton Outlook

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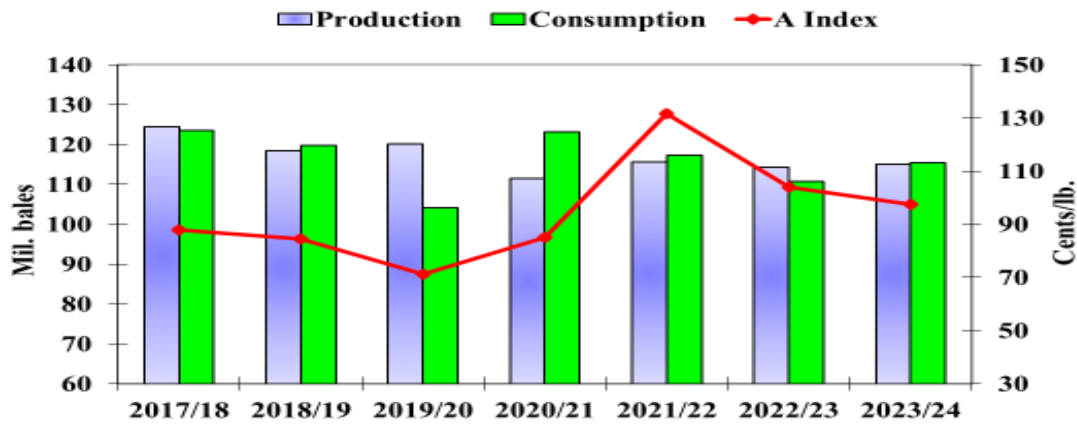
THE WORLD AND UNITED STATES COTTON OUTLOOK

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 U.S. Department of Agriculture

Introduction

The U.S. Department of Agriculture’s (USDA’s) first 2023/24 global cotton projections anticipate that world consumption will slightly exceed production, lowering global stocks by 500,000 bales. World cotton area and production are each projected to rise less than 1 percent, with projections for harvested area and yield prospects for the major producing countries nearly offsetting. Global cotton consumption is anticipated to increase after consecutive seasons of decline, as the world economy is expected to slowly improve. China’s imports are projected to rise from 2022/23’s level as its economic growth increases and the textile industry continues to expand. The A-Index is forecast to decline modestly from the decade high price levels of the past two seasons to average 97 cents per pound.

**World Production, Consumption, and Prices
 2017/18 through 2023/24 projection**



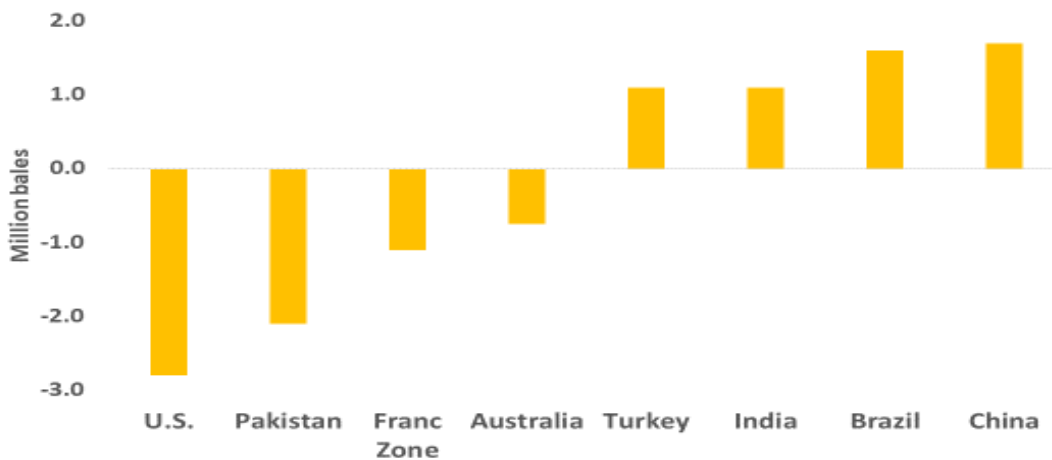
U.S. cotton production in 2023/24 is expected to rise to 15.8 million bales, despite lower planted area. Higher production is anticipated due to a 20-percent increase in harvested area, as abandonment is reduced dramatically from the record level seen in 2022/23. Domestic mill use is forecast to improve but remains at a relatively low level in 2023/24, with exports also projected higher at 13.8 million bales consistent with an average U.S. share of global trade. Ending stocks and the stocks-to-use ratio are forecast modestly lower.

World Cotton Situation, 2022/23

World Cotton Production, 2022/23

Global 2022/23 cotton production is down more than 1.0 percent from the previous year to 114.4 million bales, attributable to decreases in the United States, Pakistan, and the Franc Zone. In the largest single-country decrease for the year, U. S. production declined more than 16.0 percent with significantly lower area harvested, especially in Texas. U.S. 2022/23 area harvested was down nearly 30 percent to 3.0 million hectares, and a record yield of 1,062 kg/hectare, was up from the previous year's 918 kg, but the gain did not offset the loss in area. Pakistan's production plummeted to 3.9 million bales, the lowest in nearly 40 years and attributable to historic flooding earlier in the 2022/23 marketing year. For the Southern Hemisphere, Australia's production is projected down on lower area harvested and Brazil's production is forecast higher as yield rebounds from the previous year's weather-reduced level.

Estimated Changes in World Production, 2022/23 compared with 2021/22



Currently, the top producing countries include China, India, the United States and Brazil. China's 2022/23 crop—the world's largest—is estimated at 28.5 million bales, up 1.7 million bales from the previous year. Area harvested is estimated down despite an increase in Xinjiang on lower plantings in Eastern China, where cotton production continued its downward trend as producers shift to other crops. China's yield is estimated at a record 2,068 kg/hectare due to a combination of a higher share for Xinjiang—where yields are about double those in Eastern China—and unusually good weather in Xinjiang during the 2022/23 growing season.

China first replaced the United States as the world's largest cotton-producing country in 1980, and then maintained that rank for nearly 35 years starting in 1982. In 2015, China relinquished the top rank following significant reforms to its support for producers and as rising wages reduced the profitability of cotton farming in the Yellow River and Yangtze River basins in China's east. As India's yield growth has faltered, China has periodically recovered its rank as the top producer. For 2022/23, India is the second largest cotton producer with production estimated at 25.5 million bales, up roughly 5 percent from the preceding year on a slightly higher area harvested with yield remaining unchanged.

2022/23 China Supply and Demand

China's 2022/23 consumption is expected to rise slightly to 36.0 million bales after falling to its second-lowest level in 7 years. Imports are forecast at 7.8 million bales, practically unchanged from the previous year. A significant portion of recent imports are believed to have been destined for state reserves instead of private mill consumption. China's 2022/23 ending stocks are expected to be near the five-year average at 37.4 million bales.

China Cotton Supply and Demand 2021/22 and 2022/23

Attribute	Unit	2021/22	2022/23	Change (%)
Beginning Stocks	mil. bales	37.8	37.3	-1.3
Area Harvested	mil. HA	3.3	3.1	-3.2
Production	mil. bales	26.8	28.5	6.3
Imports	"	7.8	7.8	-1.1
Total Supply	"	72.4	73.6	1.6
Exports	"	0.1	0.1	4.2
Use	"	35.0	36.0	2.9
Total Use	"	35.1	36.1	2.9
Ending Stocks	"	37.3	37.4	0.3
State Reserve	"	12.9	12.8	-0.8
Stock to Use %	%	106.2	103.6	-2.6

As the world's largest cotton consumer and importer of cotton lint and yarn, China's supply and use situation is crucial to the overall direction and vitality of the global cotton supply chain. Ongoing COVID-19 lockdowns, slowing domestic and global purchases of apparel, declining yarn prices relative to cotton lint, and significantly lower cotton product exports have drastically slowed China's consumption over the past 2 years with significant negative effects on global consumption.

2022/23 World Consumption

World cotton consumption in 2022/23 is expected to fall to its second-lowest level in 8 years at 110.7 million bales. Consumption declines are expected for most major consuming countries excluding China, with India and Pakistan witnessing the most significant downfalls. A lower world consumption forecast reflects the slowing of overall global demand for cotton finished goods, and a downward phase in the oscillations in inventory demand and mill use that were initiated by the onset of the COVID pandemic in February 2020.

World Cotton Supply and Demand 2021/22 and 2022/23

Attribute	Unit	2021/22	2022/23	Change (%)
Beginning Stocks	mil. bales	86.7	85.2	-1.7
Area Harvested	mil. HA	32.3	31.4	-2.9
Production	mil. bales	115.7	114.4	-1.2
Imports	"	42.7	40.4	-5.2
Total Supply	"	202.4	199.6	-1.4
Exports	"	42.9	40.4	-5.8
Use	"	117.3	110.7	-5.7
Total Use	"	117.0	110.6	-5.5
Ending Stocks	"	85.2	89.1	4.5
Stock to Use %	%	72.6	80.5	7.9

Declining supplies, lower profit margins for spinning mills, falling yarn orders from fabric and apparel companies, and higher inflation levels have all pressured global consumption. India is expected to witness the largest year-over-year decline for all cotton consumers. Significantly lower beginning stocks, falling exports of textiles (yarn and fabric) and cotton products, and less competitive yarn export prices are pressuring India's consumption prospects. Higher spot prices for India cotton relative to other major spinners have eroded India's stature as a competitive yarn exporter to China.

Pakistan consumption in 2022/23 is down to the lowest projected level in over 20 years, at 8.8 million bales. Constrained supplies have severely pressured use. Domestic production is estimated at its lowest level in nearly 40 years at 3.9 million bales and imports are unchanged from the previous year. Severe issues with financing imports have limited mills' ability to offset declining production with imports.

Global cotton consumption is now projected at its second-lowest level in nearly a decade. If realized, this would reduce annual cotton use by nearly 6.0 million bales below the previous year and more than 11.4 million below 2 years prior.

2022/23 World Trade and Stocks

World trade is forecast down to the lowest level in 6 years amidst lower global consumption and exportable supplies. Bangladesh is projected as the largest importer once again, at 7.9 million bales, but still below the level imported the previous year. Imports are forecast unchanged from the previous year in China and Pakistan. Turkey is expected to witness the most significant decline, with imports projected down more than 1.2 million bales compared with the previous year to 4.3 million bales due to lower consumption and higher production.

Australia exports are forecast at their second-highest level at 6.0 million bales with the 2022 harvest projected at Australia's highest level. Brazil exports are projected up to 8.0 million bales on higher exportable supplies. Both U.S. and India exports are forecast down on lower supplies and global demand.

World ending stocks are projected at 89.1 million bales, up nearly 4.0 million from the previous year and the highest level since 2019/20. India stocks are expected to witness the most significant rise on sharply lower total use and higher production.

U.S. Cotton Situation, 2022/23

Area and Production

U.S. all-cotton production in 2022/23 is estimated at 14.7 million bales, 16 percent below last season's crop but similar to 2020/21, which was the lowest since 2015/16. Cotton planted acreage in 2022—at 13.8 million acres—increased approximately 22.5 percent from the year before but nearly matches 2019/20 and is one of the highest plantings of the last decade. The U.S. abandonment rate is estimated at a record 46 percent, due to drought conditions in the Southwest, primarily in Texas. As a result, the U.S. harvested area estimate fell to 7.4 million acres—a 28-percent decrease from 2021/22 and the smallest harvested acreage since 1983/84—while the yield was the highest on record at 947 pounds per harvested acre. Upland production is estimated at approximately 14.2 million bales—3 million bales below 2021—with an average yield of 939 pounds per harvested acre, surpassing the previous record of 895 pounds set in 2017. Extra-long staple (ELS) cotton production is estimated at 474,000 bales, a rebound from last year's nearly 35-year low.

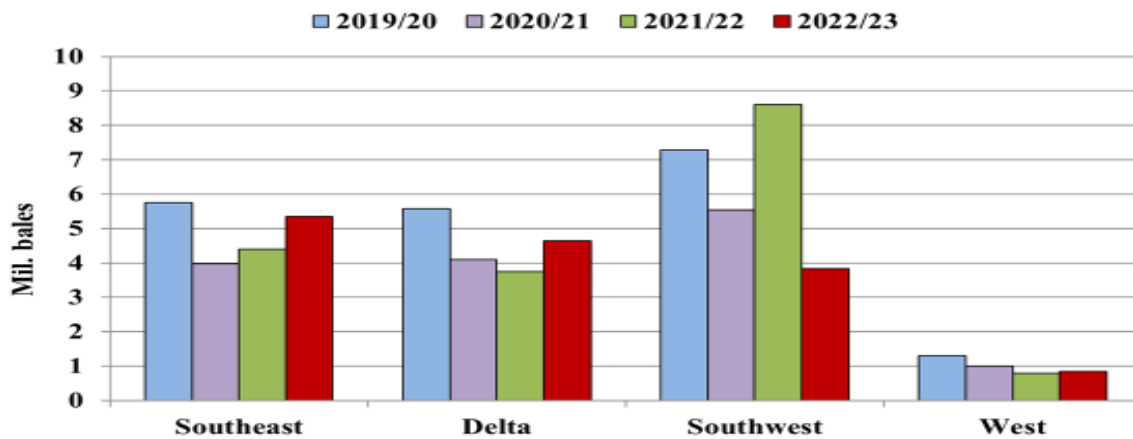
U.S. Cotton Area, Abandonment, Yield, and Production

	Unit	2018/19	2019/20	2020/21	2021/22	2022/23
Planted acres	mil. acres	14.1	13.7	12.1	11.2	13.8
Harvested acres	mil. acres	10.0	11.5	8.2	10.3	7.4
Abandonment rate	%	29.1	16.3	32.0	8.4	45.9
Yield/harvested acre	lbs./acre	882	831	853	819	947
Production	mil. Bales	18.4	19.9	14.6	17.5	14.7

Compared with last season, 2022 upland cotton production was smaller in two of the four Cotton Belt regions. In the Southwest, the upland cotton crop was 4.8 million bales lower than the 2021 crop, and, at 3.8 million bales, it was the lowest since 2011. With the major decline, the Southwest region accounted for only 27 percent of the total U.S. upland production in 2022/23, compared with a 5-year average of 45 percent. Dry conditions throughout the planting and growing season kept conditions unfavorable for cotton in the Southwest region. These conditions resulted in a record abandonment of 71 percent, compared with the previous season's 12 percent. Meanwhile, the Southwest yield rose 8 percent from the previous year to 731 pounds per harvested acre and was the highest in four years.

Southeast cotton production, on the other hand, increased 22 percent in 2022 to nearly 5.4 million bales, 700,000 bales above the 3-year average and contributed 38 percent of the U.S. upland crop. Cotton area rebounded from the previous two years to about 2.7 million acres—the highest since 2019—as area shifted back from corn. Relatively favorable growing conditions lifted the Southeast yield (978 pounds per harvested acre) above the 3-year average of 896 pounds to the second highest on record.

U.S. Cotton Regional Production, 2019/20 to 2022/23



Meanwhile, 2022 Delta cotton production had the greatest percentage increase of the four regions, rising 24 percent from the previous year to nearly 4.7 million bales. The region's highest crop in three years accounted for 33 percent of the total 2022 U.S. upland production. Planted area increased to 2.1 million acres while harvested acreage reached 2 million acres, both the highest since 2019. Delta abandonment was above average in 2022, with dry conditions during the summer reducing the region's yield prospects to 1,110 pounds per harvested acre.

Upland area in the West decreased slightly to 173,000 acres, continuing a 5-year decline in planted area to the lowest since 2015. The region's yield increased to 1,445 pounds per harvested acre, the highest since 2016's record yield of 1,538 pounds per harvested acre. Although the

higher yield partially offset the reduced planted area in 2022, upland production in the West totaled only 411,000 bales—the lowest in almost 9 decades—accounting for 3 percent of the U.S. upland crop in 2022.

Planted area of ELS cotton—grown mainly in the West—rebounded from the recent low in 2021, with planted area at 183,000 acres. With a forecast yield of 1,277 pounds per harvested acre, the lowest since 2010, ELS production reached 474,000 bales, an increase from 2021’s 35-year low. California accounted for 76 percent of total ELS production in 2022.

U.S. Cotton Supply and Demand
2021/22 and 2022/23 est.

	<u>Unit</u>	<u>2021/22</u>	<u>2022/23</u>	<u>Change</u> <u>(%)</u>
Beg. Stocks	mil bales	3.2	3.8	19.0
Production	"	17.5	14.7	-16.2
Imports	"	0.0	0.0	0.0
Total supply	"	20.7	18.4	-10.8
Mill use	"	2.6	2.1	-17.6
Exports	"	14.6	12.0	-17.9
Total use	"	17.2	14.1	-17.9
Ending stocks	"	3.8	4.3	14.7
Stocks-to-use	%	21.8	30.5	8.7
Farm price	cents/lb.	91.4	83.0	-9.2

Domestic Mill Use and Consumer Demand

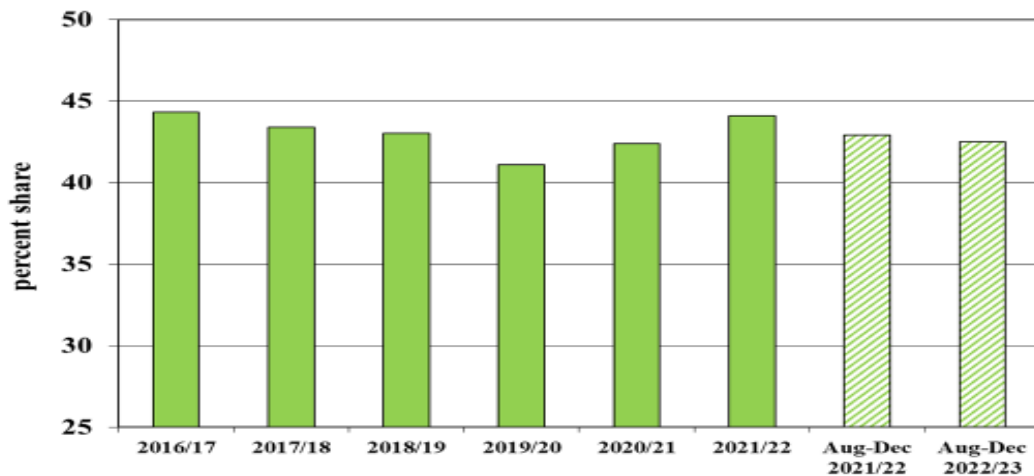
U.S. cotton mill use in 2022/23 is forecast at 2.1 million bales, a significant decrease from last season’s 2.55 million bales and the lowest in over a century. Mill use is expected to decrease this season as a sluggish global economy and the effects of inflation on consumer purchasing power has reduced demand for apparel products. Consequently, upstream inventory levels of semi-processed products, like yarn and fabric, have risen and limited mill use this season. During the first 5 months of 2022/23, U.S. cotton mill use reached only 0.9 million bales, 14 percent below a year earlier. Similarly, the pace of cotton mill use during the remaining months of this season is expected to underperform last year. Mill use in 2022/23 is forecast to slip below the 2.15 million bales recorded in 2019/20, when use fell due to the initial large downward shock from the Coronavirus pandemic.

U.S. consumer demand for textile and apparel products generally follows the global economy. With the U.S. and global GDP significantly lower in calendar year 2022, total U.S. fiber product imports also decreased. Based on 2022 data, fiber product imports declined 9 percent—compared

with a year earlier—with cotton and synthetic fiber products accounting for 92 percent of total imports. Similarly, total U.S. fiber product exports decreased 8 percent in 2022, with synthetic fiber products showing considerable declines while cotton product exports were unchanged.

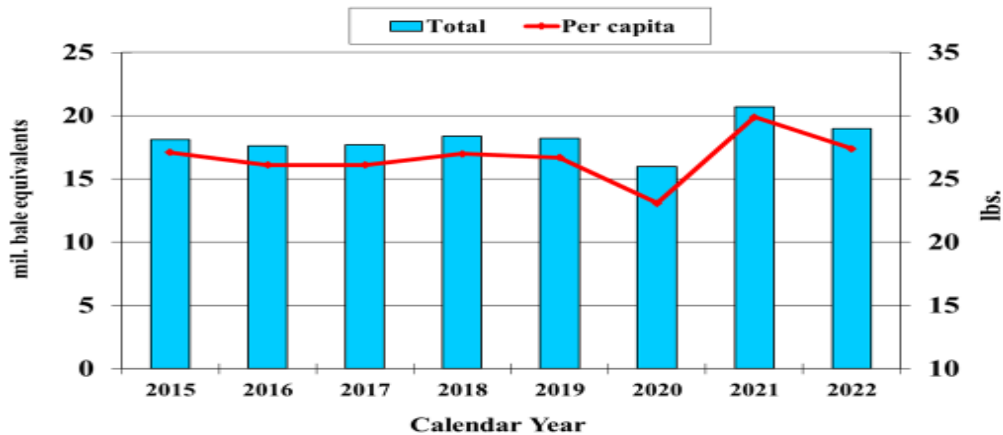
In calendar 2022, U.S. cotton textile and apparel imports decreased 8 percent to 19.6 million bale-equivalents—the second lowest in over a decade—while synthetic product imports declined 10 percent. Despite the decline in 2022 total imports and competitively priced synthetic fibers (like polyester) and athleisure clothing demand continuing, the U.S. cotton product import share rose marginally from 2021. In calendar 2022, the cotton product import share approached 44 percent, compared with approximately 43.5 percent in 2021. In contrast, synthetic product imports accounted for 48 percent of the total in calendar 2022, compared with 49 percent in 2021.

**Cotton’s Share of U.S. Textile Imports,
2016/17 to Aug-Dec 2022/23**
(raw-fiber-equivalent basis)



U.S. cotton product exports were unchanged during 2022 at approximately 3 million bale-equivalents. Meanwhile, U.S. domestic consumption of cotton (mill use plus net textile trade) in calendar 2022 is estimated to have declined to 19 million bale-equivalents, compared with 20.7 million bale-equivalents in 2021, but the second highest in over a decade. U.S. per capita cotton consumption in 2022 is also estimated lower than the previous year at approximately 27.5 pounds, compared with nearly 30 pounds in 2021 and the 5-year average of 26.5 pounds.

U.S. Domestic Cotton Consumption: Total and Per Capita



World Cotton Outlook, 2023/24

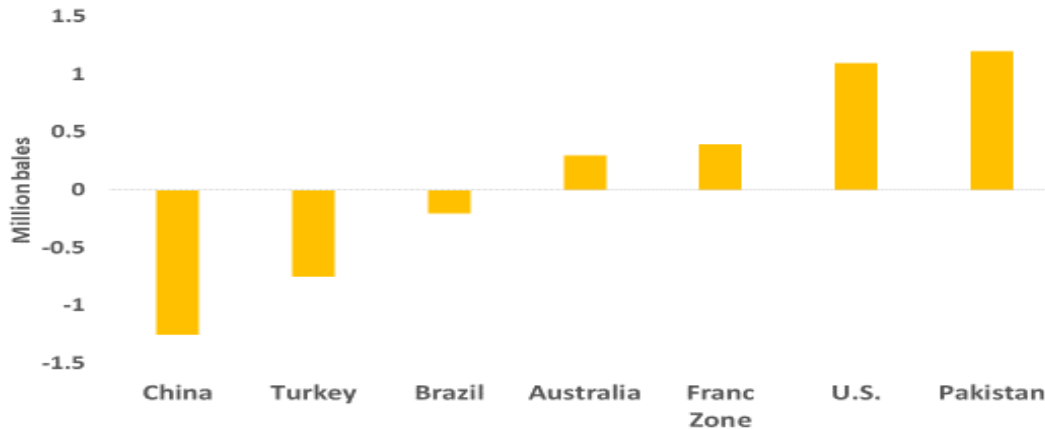
World Cotton Production, 2023/24

World cotton production in 2023/24 is expected to rise marginally from the year before (up 0.5 percent or 600,000 bales) to 115.0 million bales as larger expected crops in the United States and Pakistan offset projected declines in China and Turkey. Globally, the offsetting factors are on the one hand generally more favorable expected weather—more normal weather—versus less favorable prices. In January 2023, the A Index relative to U.S. Gulf corn prices and Rotterdam U.S. soybean prices was about one-third lower than a year earlier, and between 4 and 16 percent lower than in January 2021.

Less favorable prices are expected to result in lower planted area across a wide range of countries, including the United States, China, India, Turkey, and West Africa's Franc Zone. But, in the United States, harvested area is expected to rise as abandonment retreats from the record-high realized in 2022/23 due to extremely low precipitation in West Texas. Weather-driven harvested area increases are also expected in Pakistan and Australia, where unusually severe rainfall and flooding drove area down in 2022/23.

In the case of India—the world's second largest cotton producer—the impacts of lower prices and better weather are expected to be about offsetting, and the crop is projected to be virtually unchanged from the 25.5 million bales harvested in 2022/23. India's yields have proven difficult to forecast in recent years, but an on-going shift to a more neutral Southern Oscillation Index holds promise for some recovery from India's poor yield performance of the preceding 2 years, and a 3 percent yield increase back to the five-year median is projected.

Estimated Changes in World Production, 2023/24 compared with 2022/23



For the world’s largest producer—China—an expected return to more normal weather means lower expected yields are forecast. Cotton processing in Xinjiang (ginning and classing) of the 2022/23 crop has in recent months increasingly validated expectations that Xinjiang weather conditions were remarkably favorable in 2022/23 and yields high. A drop back down to trend yields for Xinjiang in 2023/24, combined with lower area in Xinjiang and the minor cotton-producing provinces in China’s East, is expected to result in a 1.3-million-bale year-to-year decline in cotton output, the largest projected single-country decline for 2023/24.

The next largest decline is expected in Turkey, a much smaller producer than China at 4.2 million bales compared to China’s expected 27.3-million-bale crop. As in Xinjiang, weather and cotton yields were very favorable in Turkey in 2022/23, and the combination of more normal weather, lower yields, and reduced area is expected to result in a 750,000-bale year-to-year reduction in the crop.

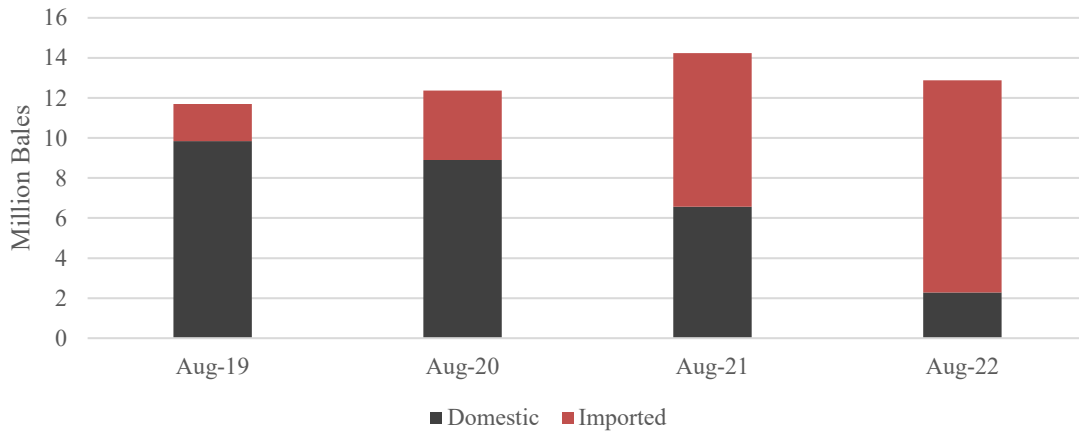
On the plus side, Pakistan’s 2023/24 crop is expected to rebound 1.2 million bales from its flood-damaged level in the previous year. The projected increase in U.S. production is the next largest foreseen, a 1.1-million-bale gain, followed by the Franc Zone’s yield-driven increase of 400,000 bales, and Australia’s expected 300,000-bale gain as high reservoir levels support expected irrigated plantings there.

USDA Projections for China, 2023/24

China's production and ending stocks are forecast down from the year before in 2023/24 while consumption is expected to rise. The IMF forecasts China's GDP growth at 5.2 and 4.5 percent for calendar years 2023 and 2024, respectively, and these higher levels compared with 2022 are expected to support greater cotton consumption. Rising household savings fostered during the COVID lockdowns are also expected to support greater domestic purchases of cotton finished goods.

China's State Reserve sold more than 4.6 million bales during the 2021/22 marketing year, however, all sales took place from August through December 2021. Since that time, no sales have been conducted. Roughly 400,000 bales of domestic cotton have been purchased since the end of calendar year 2021, and imported cotton is expected to comprise most of the reserves in state-owned warehouses. Of the imported reserves, U.S. cotton is estimated to account for the majority. Total reserve levels are expected at the preferred level ranging from 12 to 14 million bales or roughly 4 months of cotton consumption.

**USDA Estimation of China's State Reserve Stocks
(as of August 1)**



China Cotton Supply and Demand 2022/23 and 2023/24

Attribute	Unit	2022/23	2023/24	Change (%)
Beginning Stocks	mil. bales	37.3	37.4	0.3
Area Harvested	mil. HA	3.0	3.0	-1.7
Production	mil. bales	28.5	27.3	-4.4
Imports	"	7.8	8.5	9.7
Total Supply	"	73.6	73.2	-0.5
Exports	"	0.1	0.1	-20.0
Use	"	36.0	37.0	2.8
Total Use	"	36.1	37.1	2.7
Ending Stocks	"	37.4	36.1	-3.6
State Reserve	"	12.8	12.8	0.0
Stock to Use %	%	103.6	97.3	-6.4

World Cotton Consumption, 2023/24

World cotton consumption is expected to partly rebound from the previous year's decline to 115.5 million bales. This projected 4.8-million-bale increase implies a growth rate of 4.4 percent, more than double the 1.7 percent average annual rate of global cotton consumption growth realized since 1960/61. Despite this large increase, 2023/24 cotton consumption is expected only marginally above the previous 5-year average. Marketing years 2021/22 and 2022/23 have witnessed two consecutive large annual consumption declines, following an extraordinary 18-percent-rebound in 2020/21. In 2023/24, more favorable economic fundamentals and the expected continued dampening of the post-COVID oscillations of demand along the supply chain are expected to together result in an above average rate of growth in global consumption.

Factors favoring increased world cotton consumption in 2023/24 include a lagged 27 percent decline in the inflation-adjusted A Index during 2022/23 and a slight acceleration of global economic activity from a projected 2.9 percent in calendar year 2023 to 3.1 percent in 2024.

Another important factor driving consumption in 2023/24 is the unusual inventory dynamics introduced into fiber and textile supply chains by the COVID-19 shock early in calendar year 2020. The combination of the pandemic-related pause in consumer and producer mobility early in 2020 and the shift from services to goods spending over-loaded global supply chains. Lagging shipments of goods in calendar years 2020 and 2021 eventually arrived and in part attributed to inflated inventories in 2022. Global clothing retailers responded with unusually large reductions

in orders, driving the inventory build-up back down the supply chain to yarn stocks, which drove spinning activity around the world to unusually low levels in the second half of calendar 2022. Concern about the level of world economic activity in 2022 and 2023 was another factor behind the unusual decline in clothing orders, but consumer demand in 2022 proved surprisingly resilient, and expectations for 2023 have recently improved. In January, the International Monetary Fund raised its prediction of world economic output growth in 2023 from 2.7 percent to 2.9 percent.

World Cotton Supply and Demand 2022/23 and 2023/24

Attribute	Unit	2022/23	2023/24	Change (%)
Beginning Stocks	mil. bales	85.2	89.1	4.5
Area Harvested	mil. HA	31.4	31.5	0.3
Production	mil. bales	114.4	115.0	0.5
Imports	"	40.4	42.5	5.1
Total Supply	"	199.6	204.1	2.2
Exports	"	40.4	42.5	5.2
Use	"	110.7	115.5	4.4
Total Use	"	110.6	115.5	4.4
Ending Stocks	"	89.1	88.6	-0.6
Stock to Use %	%	80.5	76.7	-3.8

World spinning activity showed signs of rebounding from its unusual lows towards the end of calendar 2022, and as the pandemic-induced oscillation of inventories along the supply chain move to the downside this will drive global cotton spinning to begin 2023/24 at a much higher level than was realized for most of 2022/23. As the pandemic shock recedes further into the past, inventory trends are likely to return closer to normal, sustaining higher world cotton consumption in 2023/24.

Although disruptions to supply chains have eased, supporting the forecast of inventory normalization and higher cotton consumption, there are significant uncertainties in the outlook. One is the impact of consumers' continued shift from purchases goods back to services. Another is the expected impact of global financial tightening by central banks around much of the world in response to elevated inflation. In addition, the ongoing military conflict in Eastern Europe has contributed to uncertainty regarding global economic growth. This uncertainty is particularly acute for Europe, and the European Union and United Kingdom combined are the world's largest consumer of consumer products made from cotton fiber.

World Trade and Stocks, 2023/24

World trade in 2023/24 is projected at 42.5 million bales, more than 2 million above the previous year and slightly below the level in 2021/22. Higher exportable supplies and global consumption are expected to support greater world trade.

World ending stocks are estimated at 88.6 million bales and down slightly from the previous year. Despite slightly lower ending stocks and higher global consumption, 2023/24 price levels are forecast down in both the United States and internationally. After 2022/23 levels fell from an 11-year high, the A Index's marketing year average in 2023/24 is forecast down once again at 97 cents/pound.

U.S. Cotton Outlook, 2023/24

Area, Production, and Supply

The early USDA projection for 2023 U.S. cotton planted area is 10.9 million acres, 21 percent below 2022's 13.8 million acres and the lowest since 2016. Historically, the relationship between expected harvest prices for cotton relative to corn and soybeans has played an important role in the cotton area planted. Cotton harvest futures prices from mid-January through mid-February 2023 averaged 17 cents (17 percent) below price expectations in early 2022. For the same period, 2023 harvest prices for corn were 3 percent higher while soybean prices were marginally lower. Consequently, these relative crop prices indicate that cotton is less competitive this year compared with alternative crops. In addition, cotton's high production costs are expected to further limit producer net returns.

Planted acreage decisions this spring likely will be influenced by additional factors including the cotton farmers' experiences during the previous season, insurance reference prices, and the soil moisture conditions heading into planting season. Cotton yields per harvested acre in 2022 were above or near the previous season's level in each of the Cotton Belt regions, with the Southeast experiencing their second-highest yield on record. On the other hand, drought conditions in the Southwest led to record abandonment (71 percent) in the region and reduced production prospects considerably. However, producers' financial losses were limited somewhat last season with a relatively high crop insurance reference price. Meanwhile, the 2023 reference price is significantly (17 percent) lower and may lead to reduced plantings. Additionally, despite improved moisture conditions, drought conditions remain for most of the Southwest region providing further uncertainty as the 2023 spring planting season approaches.

U.S. Cotton Area, Yield, and Production
2022/23 and 2023/24 proj.

	Unit	2022/23	2023/24	<u>Change</u> (%)
Planted area	mil. acres	13.76	10.90	-20.8
Harvested area	"	7.44	8.90	19.6
Abandonment rate	%	45.9	18.3	-27.6
Yield/harvested acre	lbs./acre	947	852	-10.0
Production	mil. bales	14.68	15.80	7.6

The USDA area projection is approximately 4.5 percent (520,000) below the recent National Cotton Council (NCC) survey, which indicated 2023 cotton plantings slightly above 11.4 million acres. The NCC survey was released on February 12, reflecting responses received from mid-December through mid-January. Survey respondents reported expected decreases in 2023 upland cotton area for each of the four Cotton Belt regions.

In the Southeast, the NCC survey indicated that cotton acreage would decline 9.5 percent in 2023, as area planted to soybeans, corn, peanuts, and wheat were expected to increase. For the Delta, a 16-percent decrease in cotton acreage was projected, with gains in soybeans, corn, and wheat expected. In the Southwest, the survey showed cotton area declining nearly 20 percent, as acreage shifts to corn, sorghum, and wheat. In the West, the NCC reported that upland cotton area would decline significantly (34 percent) due to limitations on irrigation water availability, with gains expected for corn and wheat. The survey indicated that total ELS cotton area would be similar to 2022. USDA's first survey of producer planting intentions—*Prospective Plantings*—will be conducted in early March and published on March 31, 2023.

For the purposes of this analysis, 2023 cotton plantings of 10.9 million acres (-21 percent) are estimated to result in harvested area of 8.9 million acres, approximately 19.5 percent above 2022. The projected national abandonment rate of 18 percent is based on 10-year regional averages, with the 2023 Southwest abandonment rate estimated slightly above average. Southwest abandonment rates are highly variable—demonstrated by 2021's rate of 12 percent followed by 2022's record of 71 percent—and conditions later this spring will have a considerable impact on cotton plantings and the U.S. crop size. The latest NOAA seasonal outlook for the Southwest indicates that drought conditions are forecast to remain or develop over much of the region's cotton growing area at least through May.

USDA is forecasting a national average yield—based on regional average yields—of 852 pounds per harvested acre, compared with the 2022 record yield of 947 pounds. The 2023 U.S. cotton crop is projected at 15.8 million bales, compared with 2022's estimate of approximately 14.7 million bales. The higher production is attributable to a 20-percent increase in expected harvested area that more than offsets a 10-percent reduction in yield, as a larger share of lower-

yielding cotton is harvested in the Southwest in 2023. Lower cotton crop expectations are anticipated for each of the Cotton Belt regions, except for the Southwest, where 2023 cotton production is forecast to increase significantly. Based on higher U.S. carry-in stocks of 4.3 million bales for 2023/24 and larger production, a total supply of 20.1 million bales would be 9 percent larger than the previous season but would be the second lowest in 8 years.

U.S. Disappearance, Ending Stocks, and Farm Price

U.S. cotton mill use is projected at 2.3 million bales in 2023/24, 9.5 percent above 2022/23. Although U.S. mill use is forecast to grow at a faster pace than the world and many of the leading cotton spinning countries in 2023/24, the volume remains small, and it accounts for only 14 percent of total U.S. cotton demand. Supporting the higher mill use is a projected rebound in exports of semi-processed textile and apparel products for finishing and shipping back to U.S. consumers as global economic conditions improve. However, increased competition from foreign manufacturing of both cotton and synthetic fibers, such as polyester, is expected to keep U.S. cotton mill use near the lowest levels since the 19th century.

U.S. Cotton Supply and Demand 2022/23 and 2023/24 est.

Attribute	Unit	2022/23	2023/24	Change (%)
Beginning Stocks	mil. bales	3.75	4.3	14.7
Area Harvested	mil. HA	3.01	3.6	19.6
Production	mil. bales	14.68	15.8	7.6
Imports	"	0.01	0.0	0.0
Total Supply	"	18.44	20.1	9.0
Exports	"	12.00	13.8	15.0
Use	"	2.10	2.3	9.5
Total Use	"	14.10	16.1	14.2
Ending Stocks	"	4.30	4.0	-7.0
Stock to Use %	%	30.5	24.8	-5.7
Farm Price	cents/lb.	83.0	80.0	-3.6

U.S. cotton exports are projected to rise 15 percent in 2023/24 to 13.8 million bales, as expectations for an improved global economy and increased world cotton mill use are forecast. As a result, 2023/24 global cotton trade is also projected higher, and many of the major producing/exporting countries will likely benefit. The United States will remain the leading cotton exporter once again in 2023/24. In addition, the U.S. share of global trade is expected to rebound to near the 10-year average of 33 percent.

U.S. cotton ending stocks are forecast modestly lower in 2023/24. At a relatively low 4 million bales, ending stocks are projected 300,000 bales below 2022/23, but above the preceding two seasons. Likewise, the stocks-to-use ratio is expected to decline slightly in 2023/24 to approximately 25 percent, compared with the 5-year average of 27.5 percent. Based on the initial U.S. and global cotton supply and demand projections for 2023/24, the U.S. average price received by upland cotton producers is expected at 80 cents per pound, compared with the current 2022/23 forecast of 83 cents.

Appendix: China Cotton Policy and USDA Assumptions

Import Policy: Sliding Scale Quota Issued Starting in 2018: Calendar Year

2018

- Out-of-quota import duty is 40% ad valorem.
- 894,000 metric tons (MT) TRQ at 1% duty; calendar year basis, one-third reserved for State Enterprises.
- Sliding scale import licenses, 800,000 MT issued; valid Sept/18-Feb/19, but licenses were not fully used.
- Imports of U.S. cotton faced additional 25% duty starting in June; some imports by State Enterprises and for processing exempt from additional duties.
- Imports of foreign cotton by State Reserve.

2019

- Out-of-quota duty, TRQ, and duty-free processing imports same as previous year.
- Imports of U.S. cotton face additional 25% duty; some imports by State Enterprises and for processing exempt from additional duties.
- Imports of foreign cotton by State Reserve, but U.S. imports excluded.
- Additional access provided; additional Sliding Scale quota of 800,000 tons issued, but licenses were not fully used.

2020

- Out-of-quota duty, TRQ, and duty-free processing imports same as previous year.
- Imports of U.S. cotton face additional 25% duty; some imports by State Enterprises and for processing exempt from additional duties. On Feb. 17, 2020 China announced procedures for other importers to apply for exemptions from the additional duties.
- Imports of foreign cotton by State Reserve.
- Additional access provided; 400,000 MT issued September.

2021

- Out-of-quota duty, TRQ, and duty-free processing imports same as previous year. Updated Sliding Scale duty formula lowered expected duty payments around 2 percent.
- Imports of U.S. cotton face additional 25% duty; some imports by State Enterprises and for processing exempt from additional duties.
- Unknown level of imports of foreign cotton by State Reserve.
- Additional access provided, with additional Sliding Scale.

2022

- Out-of-quota duty, TRQ, and duty-free processing imports same as previous year.

- Imports of U.S. cotton face additional 25% duty; some imports by State Enterprises and for processing exempt from additional duties.
- Limited imports of foreign cotton by State Reserve.
- Additional access provided; additional Sliding Scale expected to be issued.

State Reserve Policy: Calendar Year

2018

- Sales from March 12 thru September 30, 2018.
- Daily offers of 30,000 MT, 2.49 million MT sold, 58 percent of total amount offered.
- Offer price based on weekly average of internal price and A Index (same as 2016 and 2017).
- Purchased 100,000-120,000 MT foreign cotton.

2019

- Sales from May 5 thru September 30, 2019.
- Daily offers of 30,000 MT, 998,500 MT sold, 91 percent of total amount offered.
- Offer price based on weekly average of internal price and A Index (same as 2016, 2017, and 2018).
- Purchased 200,000 MT foreign and 35,000 MT domestic cotton.

2020

- Sales of 2012 and 2013 stocks.
- Purchased 930,000 MT foreign and 330,000 MT domestic cotton
- Daily offers of 30,000 MT, 504,000 MT sold.
- Stock level at end of year roughly equal to that at beginning of 2018.

2021

- Sales of 2012 and 2013 stocks.
- Sales of 1.2 million MT, 97percent domestic.
- No purchases of domestic cotton.
- Approximately 425,000 MT imported cotton acquired.
- Stock level at end of year roughly equal to that at beginning of MY 2019/20.

Domestic Support Policy: Oct/Sept Marketing Year.

2016/17 - 2019/20

- Target price of 18,600 renminbi (RMB)/MT for Xinjiang.
- Xinjiang subsidy level based on difference between target price and average price received by gins during ginning period.

- For inland farmers, subsidy equals lesser of 2,000 RMB/MT or 60 percent of Xinjiang target price payments in given year.
- Further shift to payments being linked to production rather than area. Xinjiang yearly (2017-19) volume entitled for subsidy capped at 85 percent of 2012-14 average China cotton production. Some regions in Xinjiang have set ceilings on seedcotton yield that can be attributed to individual farmers, limiting ability of production from unregistered land to receive subsidy payments.
- Subsidy for long staple cotton at 1.3 times base rate.

2020/21-2021/22

- Xinjiang subsidy carried forward with same target price.
- Cotton subsidy to farmers in inland provinces eliminated.

2022/23

- No formal announcement yet, no major changes expected.

Other Support for Cotton

- High quality planting seeds subsidy.
- Xinjiang transport subsidy: Subsidies are provided to transport cotton lint and cotton containing yarn from Xinjiang to other regions.
- Government support for spinning in Xinjiang: Government provides direct support for spinning and for investment in spinning capacity in Xinjiang.

Appendix: U.S. Farm Policy

The Agriculture Improvement Act of 2018 (2018 Farm Bill) became law effective December 20, 2018 and will expire September, 30, 2023. At this time, it is unclear what changes may be made to U.S. farm policies in general or as they specifically relate to upland and ELS cotton. Below is background and discussion of current farm policies.

In general, many of the provisions of the 2014 Farm Bill such as Marketing Assistance Loans and the ARC/PLC programs were carried over to the 2018 Farm Bill, with some upward adjustments to loan rates for some crops and an allowance for Average Revenue Coverage and Price Loss Coverage (ARC/PLC) reference prices to rise as much as 15% above the statutory reference prices. Also, producers were required to allocate “generic” base acres (former cotton base acres before 2014) to seed cotton base acres in an amount equal to the greater of 80% of their generic base acres (up to 100% in some cases), or the average number of seed cotton acres planted on the farm during 2009-12, not to exceed total generic base acres on the farm.

For cotton, most of the farm program provisions were unchanged or modestly adjusted from the 2014 Farm Bill, with the noteworthy exception of incorporating the “seed cotton” (unginned cotton containing both lint and seed) ARC/PLC provisions from the Bipartisan Budget Act of 2018 (BBA), which made seed cotton eligible for ARC/PLC for the 2018/19 crop. The addition of seed cotton occurred after cotton lint was removed as a “covered” commodity in the 2014 Farm Bill following a successful World Trade Organization challenge of the U.S. cotton program by Brazil. Under the 2018 Farm Bill, the upland cotton marketing assistance loan rate remains between 45 and 52 cents/lb., the ELS rate was raised from \$0.7977/lb. to \$0.95/lb., and seed cotton loan rates correspond with their respective upland and ELS loan rates. The Economic Adjustment Assistance Program for domestic users of upland cotton (“EAAP”) was unchanged, aside from being renamed as the Economic Adjustment Assistance for Textile Mills program (“EAATM”). The Extra Long Staple (ELS) Competitiveness payment program remained in place but several parameters potentially affecting payments were changed.

Seed Cotton ARC/PLC Provisions

When cotton lint was removed as a covered crop in the 2014 Farm Bill, cotton base acres were eliminated and were replaced by “generic” base acres. These generic base acres, on an annual basis, could be eligible for payments based on the proportion of other covered crops planted on a farm with generic base acres.

The 2018 BBA applied only to the 2018/19 crop, but the 2018 Farm Bill applies to the 2019-23 crops. Under the BBA, owners of generic base had several options to convert generic base into seed cotton or other covered commodity base acreage, either to 80-100% seed cotton base depending on cotton planting history during 2009-12 or to the proportion of all covered crops

planted during that time period. If a producer planted no covered commodities since 2009, all generic base would become unassigned and ineligible for ARC/PLC payments.

The seed cotton ARC and PLC programs will operate with the same general parameters as they have with other covered crops during the 2014 Farm Bill. Seed cotton has a reference price of \$0.367/lb., and the effective price is the higher of \$0.25/lb. or the weighted average price of cotton lint and cottonseed. Payments equal the payment rate (if the effective price is lower than the reference price), times the payment yield, times 85% of the seed cotton base acres. The payment yield, by default, is the Counter-Cyclical Payment yield under previous legislation for lint cotton times 2.4, and the option to update yields also exists under the same conditions as for other covered commodities under the 2018 Farm Bill.

Marketing Assistance Loans

There are different provisions for upland cotton, ELS, and seed cotton marketing assistance loans (MALs) in the 2018 Farm Bill. The upland cotton and ELS MALs remains nonrecourse, meaning that producers are able to forfeit the cotton as full repayment of the MAL, but only upland cotton is eligible for Marketing Loan Benefits. The upland cotton loan rate remains between \$0.45/lb. and \$0.52/lb., based on the simple average of the preceding two crop year's Adjusted World Price (AWP), but with the new provision that the loan rate can be no less than 98% of the previous year's loan rate. The ELS loan rate, along with a number of other crops, had its loan rate raised, in this case from \$0.7977/lb. to \$0.95/lb. Seed cotton loans (unrelated to the ARC/PLC provisions discussed above) are recourse loans, requiring full repayment with interest. The loan rate for seed cotton is the same for upland cotton and ELS cotton, respectively, depending on the variety of the cotton.

Other Cotton Provisions

The other main cotton programs that were continued, with some modification in one case, are the Economic Adjustment Assistance to Textile Mills ("EAATM") program, the ELS Competitiveness Payment Program, and the upland Special Import Quota.

The EAATM program, established in 2008 under a different name, provides a fixed payment of \$0.03/lb. to domestic users (e.g., mills) of upland cotton. The payments are to be used for capital improvements such as purchasing or improving equipment, machinery, and structures.

The ELS Competitive Payment Program is designed to make payments to domestic users or exporters of ELS when, for four consecutive weeks, a) the lowest foreign price quote for a competing variety is lower than the U.S. price quote and, b) the low foreign price quote is less than a certain percentage of the U.S. loan rate (previously 134% and changed to 113% in the 2018 Farm Act). The change to 113% is offsetting to the increased loan rate but perhaps not

completely so based on an examination of historical price data. Finally, a special import quota, is continued and unchanged from prior farm bills.