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Cotton and Wool Outlook

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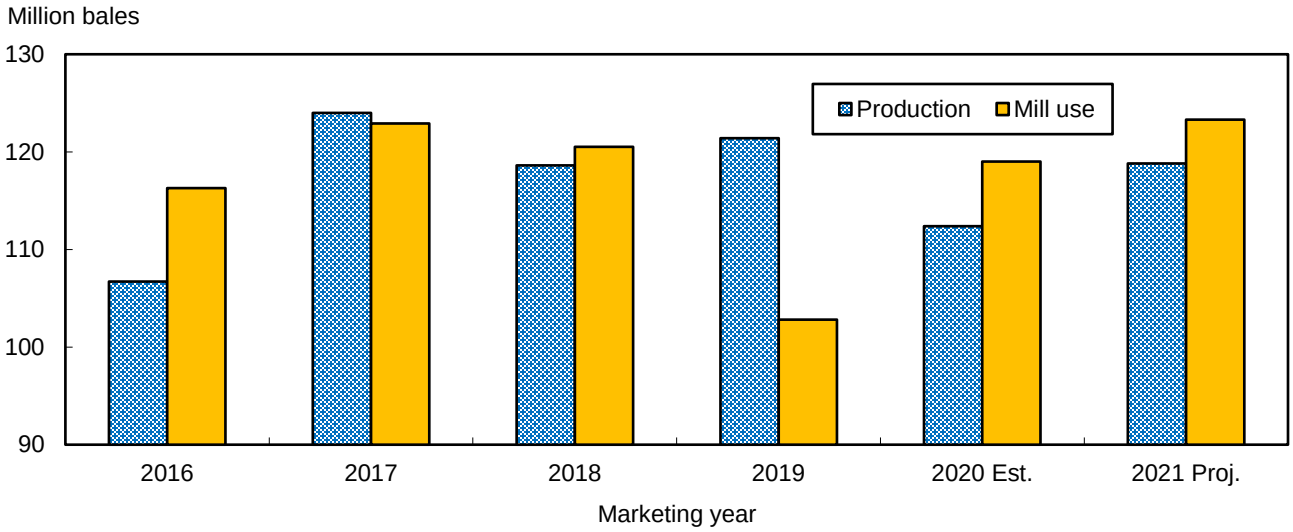
World Cotton Mill Use Projected Above Production in 2021/22

The latest U.S. Department of Agriculture (USDA) cotton projections for 2021/22 (August-July) include higher estimates for both global cotton production (+5.7 percent) and mill use (+3.6 percent) than in 2020/21 (figure 1). World cotton mill use is projected at 123.3 million bales in 2021/22, the third highest on record and led by China, India, and Pakistan. Global cotton production is projected at 118.8 million bales in 2021/22—near the 4-year average—with top producers India, China, and the United States accounting for more than 60 percent of the total.

Furthermore, global cotton mill use is forecast above production for a second consecutive season, reducing ending stocks to 87.2 million bales, 5 percent below 2020/21 and the lowest in 3 years. Meanwhile, world cotton trade is expected to remain at one of its highest levels on record in support of global mill use growth. With cotton demand rising and the world stocks-to-use ratio projected lower, 2021/22 global cotton prices are projected to remain above recent years.

Figure 1
Global cotton production and mill use



Note: 1 bale = 480 pounds.

Source: USDA, *World Agricultural Supply and Demand Estimates* reports.

Domestic Outlook

U.S. 2021 Cotton Crop Forecast Lower in August

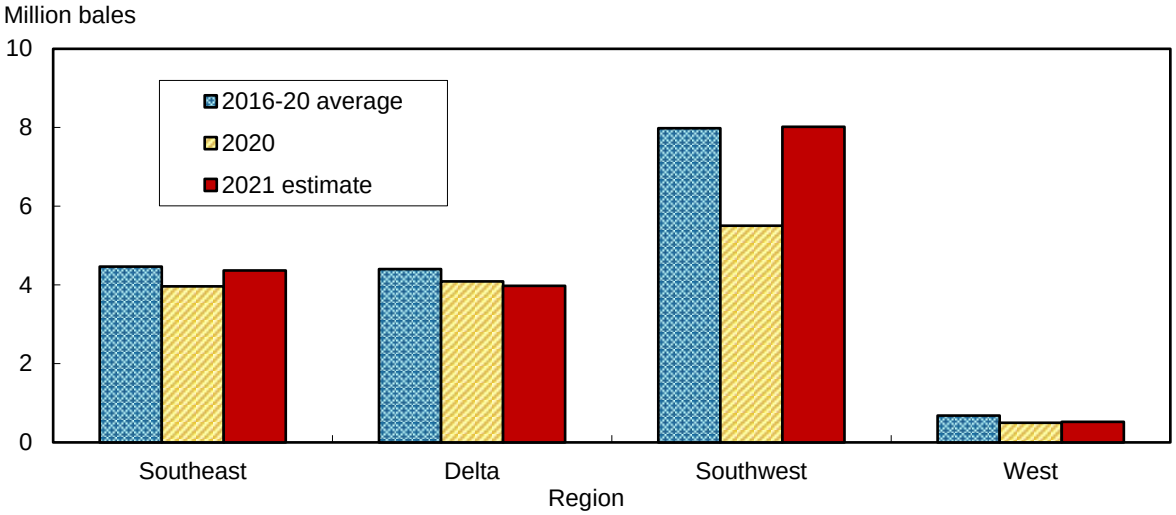
According to USDA's first survey-based forecast of the 2021 cotton crop, U.S. cotton production is estimated at approximately 17.3 million bales, compared with July's projection of 17.8 million bales and last season's final estimate of 14.6 million bales. Compared with 2020, harvested area is forecast significantly (25 percent) higher, but a lower national yield is expected to limit the production increase this season.

Based on the August forecast, 2021 cotton planted acreage is estimated at 11.7 million acres—the area indicated in the June *Acreage* report and the lowest in 5 years. However, U.S. harvested acreage is projected at nearly 10.4 million acres this season, indicating an abandonment rate of about 11.5 percent, compared with approximately 31.5 percent last season. The U.S. cotton yield is forecast at 800 pounds per harvested acre in 2021, below last season's 847 pounds and the lowest since 2015.

Upland cotton production in 2021 is forecast at 16.9 million bales, 20 percent (2.8 million bales) above 2020 but still one of the smallest crops of the previous 5 years. During the past 20 years, the August upland production forecast was above the final estimate 12 times and below it 8 times. Past differences between the August forecast and the final production estimates indicate a two out of three chance for the 2021 upland crop to range between 15.3 million and 18.4 million bales.

Compared with 2020, U.S. upland production is expected to increase in three of the four Cotton Belt regions this season, with the Delta declining slightly (figure 2). Based on the August estimates, the 2021 Southwest upland crop is forecast at 8.0 million bales (47.5 percent of the U.S. crop), above the 5.5 million bales reported in 2020 but similar to the 5-year average. With improved growing conditions this season, the 2021 Southwest abandonment is projected at 17.5 percent, the lowest in 5 years. The Southwest yield is forecast at 638 pounds per harvested

Figure 2
U.S. regional upland cotton production



Note: 1 bale = 480 pounds.
Source: USDA, National Agricultural Statistics Service, *Crop Production* reports.

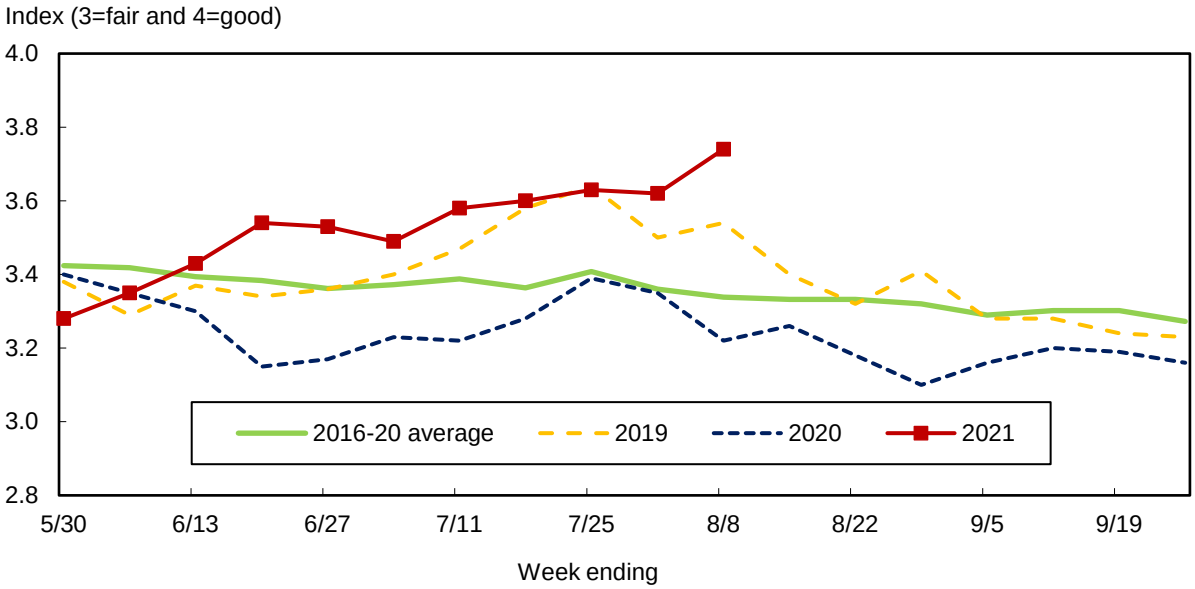
acre in 2021—compared with 692 pounds last season—as a larger percentage of the lower-yielding dryland area is expected to be harvested which reduces the region's overall yield.

In the Southeast, 2021 production is projected at nearly 4.4 million bales (26 percent of the U.S. crop), 10 percent above 2020. While area is similar to a year ago, the 2021 Southeast yield is forecast at 905 pounds per harvested acre, the fourth highest on record. For the Delta, the 2021 cotton crop is estimated slightly lower at 4.0 million bales (23.5 percent of the U.S. crop) and the lowest in 5 years. Marginally lower harvested area in the Delta is nearly offset by a yield of 1,136 pound per harvested acre, the third highest on record.

In the West, upland production is projected at 525,000 bales in 2021, slightly above last season. This season's upland cotton area is similar to 2020, while the yield is expected to improve to 1,340 pounds per harvested acre, slightly below the 5-year average. The West accounts for 3 percent of the total U.S. upland crop. In addition, extra-long staple (ELS) cotton production—primarily grown in the West—is forecast at 371,000 bales. Lower area and yield are expected to keep the 2021 ELS crop at its smallest since 1995.

U.S. cotton crop development is running behind both last season and the 5-year average. As of August 8, 63 percent of the cotton area was setting bolls, compared with 69 percent in 2020 and 68 percent for the 2016-20 average. Similarly, only 5 percent of the area had bolls opening, compared with 9 percent last year and 11 percent for the 5-year average. Of note, Texas had bolls opening on only 5 percent of its area, compared with the 5-year average of 15 percent. In contrast, Mississippi had bolls opening on 22 percent of its area, compared with the 2016-20 average of 6 percent. With the Texas crop's development running considerably behind this season, weather conditions over the next 2 months will be critical for yield. Currently, 2021 U.S. cotton crop conditions are above the last several seasons (figure 3). As of August 8, 65 percent of the cotton area was rated "good" or "excellent," compared with 42 percent last year, while 7 percent was rated "poor" or "very poor," compared with 23 percent a year ago.

Figure 3
U.S. cotton crop conditions



Source: USDA, *Crop Progress* reports.

U.S. Cotton Exports and Stocks Adjusted

U.S. cotton exports and stocks for 2021/22 and 2020/21 were revised in August. For 2021/22, exports are forecast at 15.0 million bales—down 200,000 bales from the July forecast. The lower 2021/22 forecast is attributable to the reduced crop expectations reported this month. And, with relatively low beginning stocks, the smallest U.S. cotton supply since 2015/16 is projected to limit U.S. exports this season.

For 2020/21, the U.S. export estimate also decreased slightly in August to 16.35 million bales; however, exports in 2020/21 remain the second highest on record, behind 2005/06's shipments of nearly 17.7 million bales. Complete data for 2020/21 U.S. cotton exports will be available in September, as the final estimate will be based on reported shipments in USDA's *U.S. Export Sales* and reports by the U.S. Department of Commerce, Bureau of the Census.

Despite lower U.S. exports in 2021/22, the United States is forecast to remain the world's leading cotton exporter, with the U.S. share of world trade projected near 32.5 percent in 2021/22, compared with 34 percent the year before. Nevertheless, U.S. cotton exports are forecast to account for about 86 percent of U.S. cotton demand in 2021/22, similar to the average of the past 4 years. Meanwhile, U.S. cotton mill use is projected at 2.5 million bales in 2021/22, up from 2.3 million bales the year before.

With U.S. cotton demand expected to exceed production in 2021/22, ending stocks are projected to decrease to 3.0 million bales—compared with 2020/21's estimate of 3.2 million bales—and reach its lowest level in 5 years. The stocks-to-use ratio is expected to remain at a relatively low 17 percent for a second consecutive season. Along with the low U.S. stocks, an expanding global cotton demand is supporting prices. For 2021/22, the upland cotton farm price is forecast at 80 cents per pound, up from an estimated 66.5 cents per pound in 2020/21 and the highest price since 2011/12. See the Highlight section in this report for a comparison of this season's futures price levels relative to their recent history.

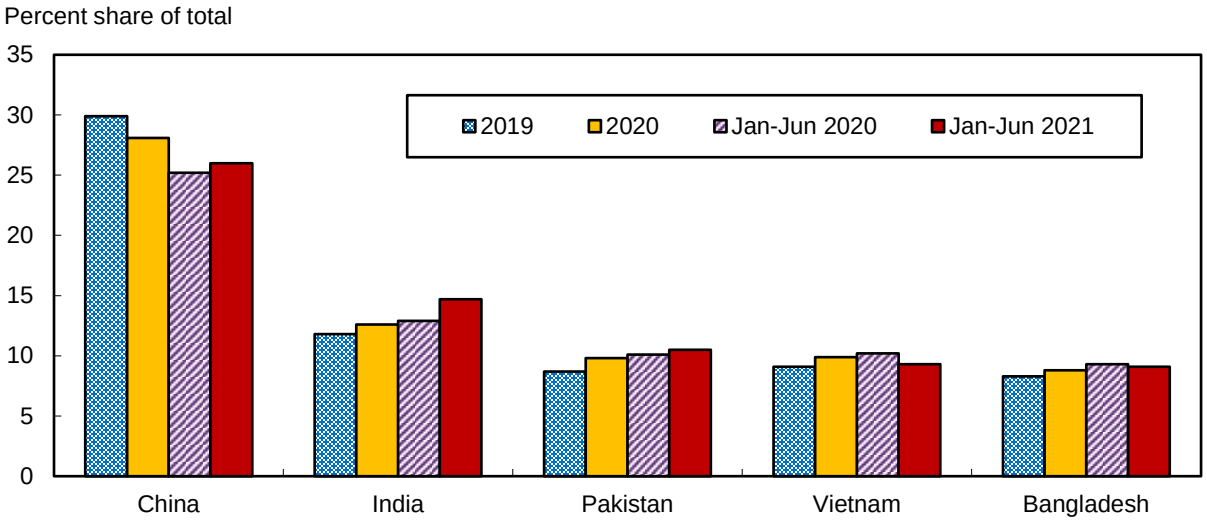
U.S. Cotton Product Trade Rebounding in 2021

Total U.S. cotton textile and apparel trade increased considerably during the first half of 2021, compared with the corresponding 2020 period that was significantly impacted by COVID-19. U.S. cotton product imports totaled the equivalent of 9.7 million 480-pound bales of raw cotton during January-June 2021 versus 6.5 million bales for the first 6 months of 2020. Similarly, cotton product exports increased to 1.5 million bale-equivalents from 1.0 million bale-equivalents. Consequently, the cotton textile and apparel trade deficit increased nearly 48 percent during the first half of 2021, reaching 8.2 million bale-equivalents.

U.S. cotton product imports are sourced from numerous countries, but the bulk of imports remains concentrated among a few suppliers. During the first half of 2021, the top 5 countries accounted for nearly 70 percent of total U.S. cotton product imports, slightly above the same period in 2020 (figure 4). While China continues to be the United States' leading cotton product supplier (26 percent market share in 2021), India's share of the U.S. market continues to expand, reaching 15 percent during January-June 2021. Likewise, export opportunities appear to be expanding slightly for other cotton product suppliers over the last several years, with Pakistan, Vietnam, and Bangladesh each contributing approximately 10 percent of U.S. cotton product imports in 2021, compared with less than 9 percent in 2019.

Figure 4

Leading suppliers of U.S. cotton textile and apparel imports



Sources: USDA, Economic Research Service and U.S. Department of Commerce, Bureau of the Census.

International Outlook

World Cotton Production Higher in 2021/22

Global cotton production is projected at 118.8 million bales this season, 6.4 million bales (nearly 6 percent) above 2020/21 but nearly 2.6 million bales (2 percent) below 2019/20. Larger cotton crops are forecast for most of the major cotton-producing countries in 2021/22, with China a notable exception. Global cotton harvested area in 2021/22 is forecast to rise nearly 6 percent to 33.3 million hectares (82.3 million acres). Generally favorable conditions are expected to support the global cotton yield this season, with the yield forecast at 777 kilograms (kg) per hectare (693 pounds per acre) in 2021/22, similar to the previous year.

For India—the leading producer in 2021/22—cotton production is forecast at 29.0 million bales, 700,000 bales (2.5 percent) above 2020/21 as an improvement in yield more than offsets a slight decrease in area. For 2021/22, India's area is forecast at 12.9 million hectares while the projected yield (489 kg per hectare) is above the 3-year average. India is expected to account for more than 24 percent of the world's cotton production.

China's 2021/22 cotton crop, on the other hand, is projected 9 percent lower at 26.75 million bales, as reduced area and yield are forecast this season. Area is decreased approximately 4.5 percent to 3.1 million hectares while the national yield declines from 2020/21's record (1,976 kg per hectare) to 1,879 kg per hectare. China is expected to account for 22.5 percent of global cotton production in 2021/22.

In addition to the higher U.S. crop prospects, cotton production is projected to increase in Brazil, Pakistan, and Australia. For Brazil, production is forecast at 12.5 million bales in 2021/22, nearly 1.8 million bales above 2020/21, as area rebounds moderately and yield is forecast at a record 1,814 kg per hectare. Brazil is the fourth largest producer, accounting for 10.5 percent of the global cotton crop in 2021/22. For Pakistan, cotton production is forecast at 5.0 million bales in 2021/22, 500,000 bales above the year before. Although competing crop prospects reduced Pakistan's cotton area in 2021/22, a rebound in yield from a 3-decade low accounted for the production increase. Australia's 2021/22 cotton crop is forecast to increase dramatically (+57 percent) as drought conditions there have eased. Both Australia's cotton area (475,000 hectares) and production (4.4 million bales) are forecast at their highest since 2017/18.

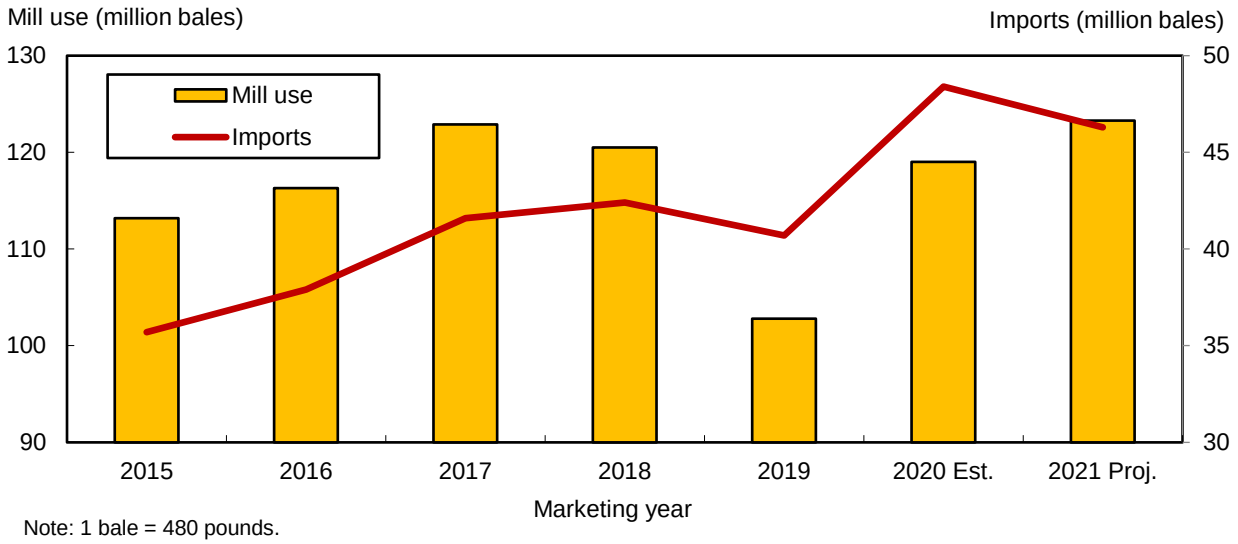
Global Cotton Mill Use Improves Further in 2021/22

World cotton mill use in 2021/22 is forecast at 123.3 million bales, approximately 3.5 percent (4.3 million bales) above 2020/21 and the highest since 2007/08 when 123.8 million bales were used. The global economy's recovery from the COVID-19 pandemic is supporting the expected rise in cotton mill use in 2021/22. As consumer demand for cotton products improves, all major cotton-spinning countries are forecast to increase their cotton mill use. Textile mills in these countries are expected to have access to plentiful supplies of domestic as well as imported cotton in 2021/22 (figure 5).

Cotton mill use in China—the leading cotton spinner—is projected at 41.0 million bales in 2021/22, 1 million bales (2.5 percent) above 2020/21 and the highest since a similar amount was used in 2017/18. For India, cotton product export growth is supporting increased cotton mill use there, with a record 25.5 million bales forecast for 2021/22, 1.5 million bales (nearly 6.5 percent) above the year before. For Pakistan, 2021/22 cotton mill use is projected to expand

modestly to 10.6 million bales, 200,000 bales (2 percent) above 2020/21 as the spinning volume moves closer to the pre-pandemic levels. Higher cotton mill use is also forecast for Bangladesh, Turkey, and Vietnam, with cotton mill use forecast at 8.5 million bales (+100,000 bales), 8.2 million bales (+500,000 bales), and 7.6 million bales (+300,000 bales), respectively.

Figure 5
Global cotton mill use and imports



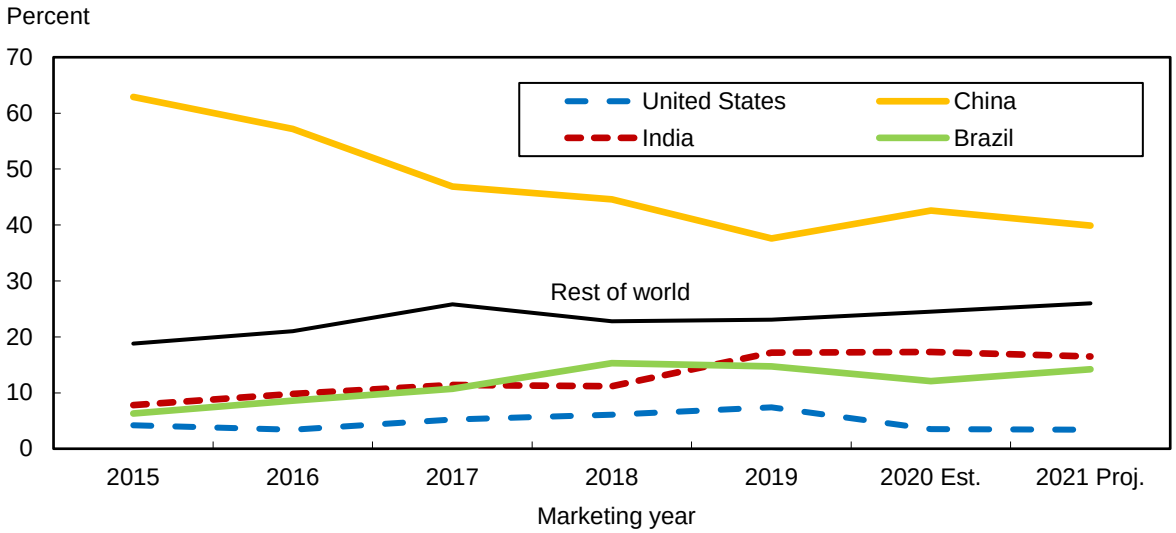
Note: 1 bale = 480 pounds.
Source: USDA, *World Agricultural Supply and Demand Estimates* reports.

World Cotton Trade and Stocks Decline

Global cotton trade is forecast at nearly 46.3 million bales in 2021/22, compared with 48.0 million bales in 2020/21. Despite the projected increase in world cotton mill use in 2021/22, lower imports are expected this season by China, Bangladesh, and Turkey. Meanwhile, export reductions are forecast mainly for the United States and Brazil, as lower supplies in these countries are expected to limit shipments in 2021/22; larger crops in Australia and Mali are forecast to benefit exports there. While U.S. cotton exports are forecast to decline 8 percent to 15.0 million bales in 2021/22, Brazil's exports are projected at 8.2 million bales, 2.8 million bales below 2020/21's record. In contrast, Australia's cotton exports are forecast to rise nearly 2.2 million bales to 3.5 million bales in 2021/22.

Global cotton ending stocks for 2021/22 are projected at 87.2 million bales, nearly 4.6 million bales (5 percent) below last season and the lowest since 2018/19. While cotton stocks in China have trended lower since 2014/15's record, stock changes elsewhere have been mixed recently as supplies are more dispersed (figure 6). At the end of 2021/22, China's cotton stocks are projected at 34.8 million bales (-4.3 million bales year-over-year), or 40 percent of global supplies versus 63 percent in 2015/16. For India, cotton stocks are forecast at about 14.4 million bales (-9 percent) at the end of 2021/22, or 16 percent of global supplies. Although U.S. cotton stocks are projected to decrease slightly in 2021/22, the U.S. share of world stocks is forecast to remain at 3 percent. On the other hand, stocks in Brazil are expected to increase to nearly 12.4 million bales, or 14 percent of the global total in 2021/22. Similarly, the rest of the world's share is projected to climb to 26 percent in 2021/22, the highest in 4 years.

Figure 6
Share of global cotton ending stocks



Source: USDA, *World Agricultural Supply and Demand Estimates* reports.

Highlight

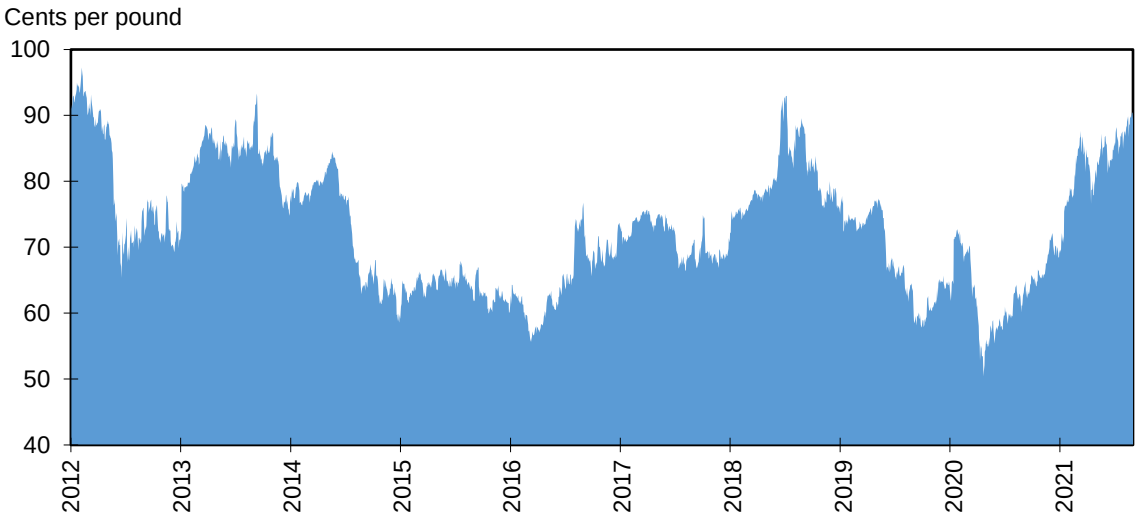
A Review of Cotton Harvest Futures: How 2021 Compares with Recent History

U.S. commodity futures markets are followed closely by its participants. Information is incorporated continuously into the futures market, with buyer and seller actions establishing the commodity's daily value. Futures prices are defined as the expected value of a commodity at a specific point in time for delivery at some future date. Futures markets are also considered an indicator of farm price expectations. For a given season, producers initially track the futures market to help direct crop planting decisions based on anticipated market returns. Once the crop is planted and throughout the growing season, producers monitor the futures market to guide pricing decisions for their anticipated harvest.

For cotton, the December futures contract is the most widely traded contract. The December contract is also recognized as the harvest contract, with most of the annual U.S. cotton harvest completed by then. While several December contracts are active at any given time, a review of the December futures prices associated with each upcoming planting/growing season are highlighted here.

Based on annual changes to U.S. and global cotton supply and demand, prices are expected to vary from season to season. Since 2012, December cotton futures (daily) prices ranged between 50 cents per pound to nearly a dollar per pound (figure 7). In addition, cotton price movements within a given futures contract can fluctuate considerably. Over the past 9-plus years, the high-to-low difference in the December futures contract (January-November closing prices) varied from 32 cents per pound in 2012 to only 8 cents per pound in 2015. And, while the 2012 difference (32 cents per pound) is noteworthy, the cotton futures market observed even greater volatility just 2 years prior in 2010, when the high-to-low difference was over 80 cents per pound.

Figure 7
Daily U.S. cotton futures: December (harvest) contract



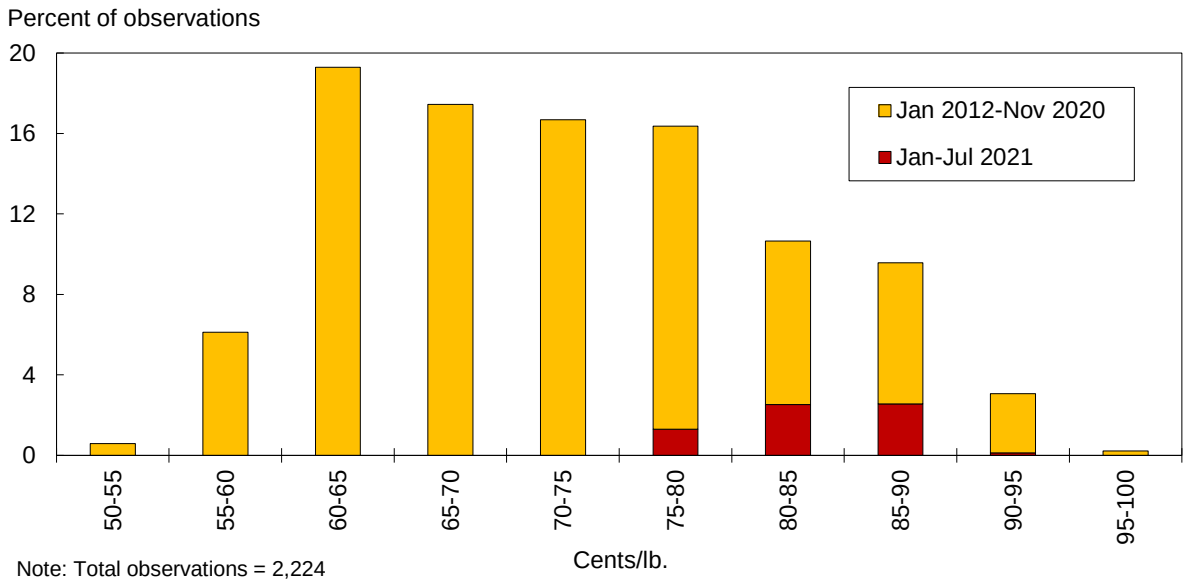
Note: Closing prices: January-November for 2012-20 and January-July for 2021.
Source: Intercontinental Exchange (ICE) futures.

So, how do 2021 cotton futures prices compare with recent years? Based on the daily closing prices from January-July, the December 2021 cotton futures contract averaged approximately 83.5 cents per pound, with a median price of 84 cents per pound. This compares with the 2012-2020 contracts that averaged 72 cents per pound, with a median price of 71 cents per pound. Additionally, the high-to-low difference in the 2021 cotton futures prices from January-July was a modest 15 cents per pound, compared with a range of 19-22 cents per pound during the previous 3 years.

In addition, the distribution of the daily December futures prices since January 2012 is evaluated in 5-cent increments. Although cotton futures ranged from 50 cents per pound to nearly a dollar over the last 9-plus years, prices at those outermost levels are highly unusual (figure 8). Between January 2012 and November 2020, December futures were below 60 cents per pound less than 7 percent of the time and they were above 90 cents per pound only 3 percent of the time. In contrast, the 60-65 cents per pound range saw the most observations—19 percent of the time since January 2012. When the range expanded 10 cents (60-75 cents per pound), 53 percent of the total observations were included.

Since January 2021, December cotton futures prices have exceeded 75 cents per pound and reached 90 cents per pound near the end of July. And, during the first 2 weeks of August, the December futures contract averaged over 91 cents per pound. Moving forward, a clearer picture of this season's cotton supply and demand will play a key role for prices through harvest. While the level at which December futures prices trade over the next several months remains uncertain, one obvious fact is that 2021 cotton prices are near the upper end of the recent historical distribution going into harvest—a situation that rarely occurs.

Figure 8
Distribution of daily U.S. cotton futures: December (harvest) contract



Note: Total observations = 2,224
Source: USDA, Economic Research Service calculations based on Intercontinental Exchange (ICE) futures.

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