## U.S. Crops

The U.S. crops sector responds in the short term to relatively high prices in 2011/12. Planted area for 8 major field crops in 2012 is projected to reach 251 million acres, the second-largest acreage level of the past 10 years.

Over the longer run, steady global economic growth provides a foundation for crop demand.
Increases in corn-based ethanol production in the United States are projected to slow, although the large expansion in recent years keeps corn use for ethanol high. In combination, global economic growth and continued increases in U.S. production of corn-based ethanol support longer run gains in global consumption and trade. Prices fall from current high levels but remain historically high for many crops. Although prices and plantings decline over the next several years, strong demand and high prices provide economic incentives to hold projected plantings near 245 million acres over much of the rest of the projection period.

Projections for field crops reflect provisions of the Food, Conservation, and Energy Act of 2008 ( 2008 Farm Act), which are assumed to continue through the projection period. Acreage enrolled in the Conservation Reserve Program (CRP) is projected to decline to under 30 million acres over the next few years before rising back to close to 32 million acres throughout the remainder of the projections.

The 45-cents-per-gallon tax credit available to blenders of ethanol, the 54-cents-per-gallon tariff on imported fuel ethanol, and the \$1-per-gallon tax credit for blending biodiesel expired at the end of 2011 and are assumed to not be reinstated.
U.S. planted area: Eight major crops 1/


1/ The eight major crops are corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans.

## U.S. corn: Feed and residual use, ethanol, and exports



Continuing high levels of domestic corn-based ethanol production and gains in exports keep corn demand high. Following a projected near-term expansion of corn plantings to 94 million acres in 2012, continuing strong producer returns keep corn acreage in a range of 89 million to 92 million acres over the projection period. Planted area for other feed grains remains steady.

- Most ethanol production in the United States currently uses corn as the feedstock. Smaller gains for corn-based ethanol are projected over the next 10 years than have occurred in recent years. This result reflects only moderate near-term growth followed by declines in overall gasoline consumption in the United States (which is mostly a 10-percent ethanol blend (E10)), constraints in the E15 (15-percent ethanol blend) market, and the small size of the E85 (85-percent ethanol blend) market. Nonetheless, a strong presence of ethanol in the sector continues, with about 36 percent of total corn use expected to go to ethanol production during the projection period.
- Feed and residual use of corn rises from recent low levels as meat production picks up, corn supplies rise, and corn prices moderate. Also supporting gains in feed use of corn is a slowdown in the growth of production of distillers grains, a coproduct of dry mill ethanol production, as corn-based ethanol expansion moderates.
- Food and industrial use of corn (other than for ethanol production) is projected to rise over the next decade. Use of corn for high fructose corn syrup, glucose, and dextrose increases at less than half the rate of population growth, limited by consumer dietary concerns and changes in tastes and preferences. Other food uses of corn are also projected to rise more slowly than the increase in population. Starch use of corn, such as in the production of drywall, responds to economic growth and industrial demand, rising faster than population throughout the projection period.
- U.S. corn exports rise in response to stronger global demand for feed grains to support growth in meat production. Export gains are particularly strong to China, which accounts for almost half the overall growth in global corn imports. The United States remains the world's largest corn exporter, but the U.S. share of global corn trade is lower than was once typical, averaging less than 50 percent over the projection period. The decline in share is due in part to larger use of corn for ethanol production in the United States.
U.S. wheat: Domestic use and exports


Strong wheat prices and expected net returns boost wheat plantings for 2012. However, with relatively weak overall demand growth for wheat, producer returns initially fall and then rise less than returns for other crops in subsequent years. This leads to a decline in wheat plantings to about 51 million acres by the end of the projection period, continuing a long-term general downward trend since the early 1980s.

- Domestic demand for wheat reflects a relatively mature market. Food use of wheat is projected to show moderate gains, generally in line with U.S. population increases.
- Feed use of wheat, a lower value market for the crop, increases in 2012/13 reflecting favorable prices relative to corn in the summer. After declining in 2013/14, wheat feed use rises somewhat over the remainder of the projection period as weaker prices relative to corn allow competition of wheat with corn in feed rations.
- U.S. wheat exports decline slowly to 900 million bushels annually by the end of the projection period. U.S. wheat trade faces competition from the Black Sea region, whose wheat exports rise from 26 to 29 percent of global trade over the next decade. EU wheat exports rebound from low 2011/12 levels (market share of 12 percent), with their market share increasing to over 16 percent by 2021/22. For the same time period, the U.S. market share declines from 19 percent to less than 16 percent.


## U.S. soybeans: Domestic use and exports


U.S. soybean plantings decline in 2012, reflecting competition from corn, but then expand to 76 million acres by 2014. Over the rest of the projection period, growth in both domestic use and export demand keep prices and producer returns favorable enough to hold soybean plantings steady.

- Lower U.S. livestock production since the 2008 peak and increased availability of distillers grains and canola meal have lowered demand for soybean meal as a livestock feed in recent years, thereby reducing domestic soybean crush. As increases in meat production resume, soybean crush is projected to follow.
- Strong global demand for soybeans, particularly in China, boosts soybean trade over the projection period. Even though U.S. soybean exports are projected to rise, competition from South America leads to a reduction in the U.S. share of global soybean trade from 37 percent in 2011/12 to about 32 percent by 2021/22.
- U.S. soybean oil exports also face strong competition from South America. Argentina, in particular, is a competitive exporter of soybean products because its graduated export taxes favor exports of soybean products over soybeans. Strong growth in biodiesel production in Argentina limits the country's soybean oil export growth. Nonetheless, Argentina is projected to account for more than half of global trade of both soybean oil and soybean meal.
- Soybean oil used to produce methyl esters (biodiesel) in the United States grows to 4.3 billion pounds by the end of the projection period, representing about 19 percent of total use of U.S. soybean oil and supporting the production of close to 600 million gallons of biodiesel. This growth is spurred by the mandate of 1 billion gallons of biomass-based diesel use starting in 2012 and by biodiesel demand to meet a portion of the Renewable Fuel Standard's advanced biofuel mandate. Other first-use vegetable oils, animal fats, and recycled vegetable oils are also used as feedstocks to produce biodiesel.


## U.S. farm-level prices: Corn, wheat, and soybeans



Weather was an important factor reducing global wheat production (especially in Russia) in 2010 and lowering U.S. corn yields in 2010 and 2011. These supply shocks combined with strengthening global agricultural demand to increase grain and oilseed prices in 2010/11 and 2011/12. (For further discussion of the 2010-11 price spike, see Why Have Food Commodity Prices Risen Again? by Ronald Trostle, Daniel Marti, Stacey Rosen, and Paul Westcott, June 2011, http://www.ers.usda.gov/Publications/WRS1103/.) Market responses to these high prices are projected to reduce prices over the next couple of years. Nonetheless, U.S. prices for corn, wheat, and soybeans are projected to remain historically high. The continuing influence of several long-term factors-including global growth in population and per capita income, a depreciating U.S. dollar, increasing costs for crude petroleum, rising biofuel production, and slower growth in agricultural productivity-underlies these price projections.

- After declining from their current high levels, corn prices are projected to increase beyond 2013/14 due to growth in feed use, exports, and demand for corn by ethanol producers.
- Strengthening demand for soybeans and soybean products holds soybean prices high throughout the projection period. Similar to the price projections for corn, after near-term market adjustments reduce soybean prices from recent highs, prices for soybeans rise moderately after 2013/14 through the rest of the projection period.
- Wheat prices also decline through 2013/14 reflecting near-term market adjustments. Subsequent projected price increases for wheat are more moderate than those for corn and soybeans, with some decline in wheat prices toward the end of the projection period as U.S. wheat exports fall.


## U.S. rice: Domestic and residual use and exports



Near-term adjustments in the U.S. rice sector reflect different market conditions in 2011/12 for long-grain rice compared to medium- and short-grain rice. U.S. area planted to all types of rice is projected to rebound in 2012 from 2011's overall low level and then rise gradually over the next decade. Long-grain plantings rise throughout the projections, while medium- and short-grain area initially declines in 2012 from a high level in 2011 before rising in subsequent years. Moderate expansion in U.S. food use of rice is projected to continue over the next decade. U.S. rice exports increase as well, but after rebounding from a low level in 2011/12, U.S. rice exports beyond 2013/14 grow somewhat more slowly than overall global rice trade. Nonetheless, long-run gains in producer returns after 2014 support rising U.S. rice acreage.

- Domestic use of rice is projected to grow slightly faster than population growth. Imports of aromatic varieties of rice from Asia account for a growing share of domestic use in the projections.
- U.S. rice exports are projected to increase over the next decade. Increases over the next two years reflect a rebound from the low levels of 2011/12. The U.S. market share of global rice trade declines beyond 2013/14.
- Continued growth of U.S. rough-rice exports to Latin America (nearly all long-grain rice) is projected to account for most of the overall expansion of U.S. rice exports.
- Total U.S. rice stocks decline in the initial years of the projections, reducing the stocks-touse ratio to a more sustainable level of 13 percent to 14 percent. Over the latter part of the projections, total rice stocks rise moderately to hold the stocks-to-use ratio in this range. Long-grain stocks build from relatively tight levels (an ending stocks-to-use ratio of 11.6 percent in 2011/12) caused by reduced area and production in 2011. In contrast, mediumand short-grain stocks fall from relatively larger levels (an ending stocks-to-use ratio of 26 percent in 2011/12) resulting from large area and production in 2011.
- Prices for long-grain rice decline for several years as stocks rebuild, but prices then rise later in the projections period. In contrast, medium- and short-grain rice prices rise throughout the projections as stocks fall from relatively high levels. As a result, the gap widens between prices for medium- and short-grain rice compared to prices for long-grain rice as the corresponding markets adjust to their different near-term conditions.


## U.S. upland cotton: Domestic mill use and exports



High cotton prices led to a large increase in cotton plantings in 2011, but record high abandonment resulted in a year-to-year decline in production, keeping prices high. With prices falling in the initial years of the projections and rising only moderately in subsequent years, producer returns are reduced and upland cotton plantings decline over the next decade. U.S. mill use of upland cotton levels off in the projections while cotton exports rise.

- The decline in U.S. mill use of cotton since the late 1990s reflects a gradual, long-term movement of spinning capacity to developing countries. However, U.S. mill use is projected to remain stable over the next decade, which will support demand for U.S. textile product exports, mainly to other countries in the Western Hemisphere. Nonetheless, with raw cotton exports rising somewhat, domestic mill use is projected to represent about 21 percent of total use at the end of the projection period, down from an average of 24 percent in the past 5 years and more than 60 percent in the late 1990s. Underlying this projection are continued increases in U.S. apparel imports from Asia, which will reduce domestic apparel production and lower the apparel industry's demand for fabric and yarn produced in the United States.
- U.S. upland cotton exports are projected to rebound over the next several years from the low levels of 2011/12 and then grow moderately in the remainder of the projection period in response to strong global demand. While the U.S. share of global cotton trade initially rises, this share declines later in the projection period. Nonetheless, with a global trade share projected at 34 percent in 2021/22, the United States remains the world's largest exporter of cotton.


## U.S. sugar: Domestic production, use, and imports



- Projected growth in U.S. beet and cane sugar production over the next decade is modest. Beet sugar production in 2021 is projected at 5.20 million short tons, raw value (STRV), about 8.4 percent higher than in 2012. Cane sugar production is projected at 3.54 million STRV, about 4.7 percent higher than in 2012.
- Sweetener availability is assumed at 121.4 pounds per capita during the projection period. Sweeteners are defined as the sum of refined sugar, sugar in imported products, and high fructose corn syrup (HFCS). Sugar in imported products (accounting for 6.1 percent of sweetener demand in 2010/11) grows at 1 percent per year. A general decline in HFCS use since 2002 has moderated in recent years as the decrease in carbonated soft drink consumption has slowed. As a result, HFCS use levels out for several years at the start of the projection period. HFCS use is projected to rise somewhat over the latter part of the decade as sweetener demand increases and relative prices between HFCS and sugar become more stable. Sugar deliveries for human use average 11.97 million STRV over the projection period, with annual growth just under 1 percent a year.
- The North American Free Trade Agreement removed all duties and quantitative restrictions on sugar and sweetener trade between Mexico and the United States as of January 1, 2008. Increased Mexican sugar exports to the United States since then facilitated a shift away from HFCS use by U.S. food and beverage manufacturers. These exports are projected to average 1.64 million metric tons, raw value over the next decade, representing about 15 percent of U.S. sugar consumption. Three conditions in Mexico underlie this projection. First, beverage and food manufacturers in Mexico continue to substitute lower cost HFCS (mostly imported from the United States) for now more expensive domestic sugar. Second, remunerative prices in Mexico favor modest expansion of sugarcane area and increased sugar production. Third, the Mexican Government has showed willingness to import sugar from other nations to replenish low sugar supplies caused by large exports to the U.S. market.
- World sugar prices are projected to remain above pre-2009 levels. The average U.S. raw sugar price over the projection period is 29.58 cents per pound, with a high of 34.17 cents in 2015/16 and a low of 26.89 cents in 2012/13. The margin between U.S. and world raw sugar prices averages 10.32 cents per pound over the projection period. The U.S. refining margin is projected to average 6.99 cents per pound, implying a refined beet sugar average price of 36.57 cents per pound.
- There are no sugar loan forfeitures and there are no USDA-Commodity Credit Corporation purchases of sugar for ethanol in the projections because raw cane and refined beet sugar prices remain above the minimum prices that avoid forfeiture.


## Value of U.S. horticultural trade



Farm sales of horticultural crops are projected to grow by 1.5 percent annually over the next decade, reaching $\$ 69.2$ billion in calendar year 2021, up from $\$ 59.6$ billion in 2011.

- The value of farm sales of fruit and tree nuts is projected to grow at an annual rate of 2.0 percent over the next decade. Fruit and tree nuts are projected to rank first among horticultural products in terms of farm sales value with a share of 39 percent. Farm sales value of vegetables and melons is projected to grow 1.6 percent per year, while farm sales of greenhouse and nursery crops are projected to grow at an annual rate of 0.5 percent.
- The volume of U.S. farm production of horticultural crops is projected to rise by 0.8 percent annually. Vegetables and melons lead this growth at an annual rate of 1 percent, reaching 146 billion pounds in 2021. Fruit and nut production expands by 0.3 percent per year to 66 billion pounds in 2021.
- Producer prices for vegetables are projected to rise at 0.6 percent per year. Producer prices for fruits rise by 1.5 percent per year due to slower production growth than for vegetables.
- U.S. per capita use of fruits and tree nuts increases from 269 pounds in 2011 to 274 pounds by 2021, an annual average growth rate of 0.2 percent. Per capita use of vegetables is anticipated to grow from 417 pounds in 2011 to 439 pounds in 2021, an average growth rate of 0.5 percent per year. The total supply of fruits, nuts, and vegetables over the next decade, both domestic and imported, is projected to grow at an average rate of 1.3 percent per year.
- Imports increasingly supplement domestic production of horticultural crops and products. By 2021, imports are projected to supply 45 percent of domestic fruit and nut use and 25 percent of vegetable use, in terms of farm weight. In 2011, these shares were 40 percent and 21 percent, respectively.
- The export market becomes more important for U.S. horticultural producers. In 2021, exports are projected to be the destination for 26 percent of U.S. fruit and nut production, up from 24 percent in 2011, while about 14 percent of vegetable production will be sold abroad, up marginally from 2011.
- The value of U.S. horticultural imports is projected to increase by 4.9 percent annually over the next decade, compared with 8.0 percent on average during the past decade, reaching $\$ 63.7$ billion in fiscal year 2021 (fiscal 2021 covers October 2020-September 2021). Fruit and nut imports account for $\$ 22.3$ billion, while vegetable imports account for $\$ 15.5$ billion. U.S. horticultural exports are projected to reach $\$ 38.7$ billion in fiscal year 2021. Of this amount, fruit and nuts contribute $\$ 18.4$ billion, and vegetables contribute $\$ 7.9$ billion. The U.S. trade deficit in horticultural crops and products is projected to expand from $\$ 13.5$ billion in fiscal year 2011 to $\$ 25.0$ billion in fiscal year 2021.

Table 17. Acreage for major field crops and Conservation Reserve Program (CRP) assumptions, long-term projections

|  | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Million acres |  |  |  |  |  |  |  |  |  |  |  |
| Planted acreage, eight major crops |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 88.2 | 91.9 | 94.0 | 90.0 | 89.5 | 90.0 | 90.5 | 91.0 | 91.0 | 91.5 | 91.5 | 92.0 |
| Sorghum | 5.4 | 5.5 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Barley | 2.9 | 2.6 | 3.2 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Oats | 3.1 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Wheat | 53.6 | 54.4 | 56.5 | 54.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 51.0 |
| Rice | 3.6 | 2.7 | 3.0 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Upland cotton | 10.8 | 14.4 | 12.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.8 | 11.7 | 11.7 | 11.6 | 11.6 |
| Soybeans | 77.4 | 75.0 | 74.0 | 75.5 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 |
| Total | 245.0 | 249.0 | 251.2 | 246.0 | 243.9 | 244.4 | 245.0 | 245.5 | 245.4 | 245.9 | 245.8 | 245.3 |
| Harvested acreage, eight major crops |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 81.4 | 83.9 | 86.8 | 82.8 | 82.3 | 82.8 | 83.3 | 83.8 | 83.8 | 84.3 | 84.3 | 84.8 |
| Sorghum | 4.8 | 4.4 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| Barley | 2.5 | 2.2 | 2.8 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| Oats | 1.3 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Wheat | 47.6 | 45.7 | 47.5 | 45.5 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 42.9 |
| Rice | 3.6 | 2.6 | 3.0 | 3.0 | 3.1 | 3.1 | 3.1 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Upland cotton | 10.5 | 9.6 | 9.6 | 10.4 | 10.4 | 10.4 | 10.4 | 10.3 | 10.3 | 10.3 | 10.2 | 10.2 |
| Soybeans | 76.6 | 73.7 | 73.1 | 74.6 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 |
| Total | 228.3 | 223.0 | 229.0 | 225.2 | 223.5 | 224.0 | 224.5 | 225.0 | 225.0 | 225.5 | 225.4 | 225.0 |
| CRP acreage assumptions, crop allocation based on historical plantings ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 5.4 | 5.4 | 5.2 | 5.1 | 5.3 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Sorghum | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Barley | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Oats | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Wheat | 8.1 | 8.0 | 7.7 | 7.6 | 7.9 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 | 8.2 |
| Cotton | 1.2 | 1.2 | 1.1 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Soybeans | 4.6 | 4.5 | 4.3 | 4.3 | 4.4 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 |
| Subtotal | 20.9 | 20.8 | 20.0 | 19.6 | 20.5 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| Other | 10.5 | 10.4 | 10.0 | 9.8 | 10.2 | 10.7 | 10.6 | 10.7 | 10.7 | 10.7 | 10.7 | 10.7 |
| Total CRP | 31.4 | 31.2 | 30.0 | 29.4 | 30.7 | 32.0 | 31.9 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 |
| Total planted plus CRP | 276.4 | 280.1 | 281.2 | 275.4 | 274.6 | 276.4 | 276.9 | 277.4 | 277.4 | 277.9 | 277.8 | 277.3 |

$1 /$ CRP crop allocations are based on 2010 planted acreage by State (NASS).

Table 18. U.S. corn long-term projections

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 88.2 | 91.9 | 94.0 | 90.0 | 89.5 | 90.0 | 90.5 | 91.0 | 91.0 | 91.5 | 91.5 | 92.0 |
| Harvested acres | 81.4 | 83.9 | 86.8 | 82.8 | 82.3 | 82.8 | 83.3 | 83.8 | 83.8 | 84.3 | 84.3 | 84.8 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Bushels/harvested acre | 152.8 | 146.7 | 164.0 | 166.0 | 168.0 | 170.0 | 172.0 | 174.0 | 176.0 | 178.0 | 180.0 | 182.0 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 1,708 | 1,128 | 843 | 1,623 | 1,683 | 1,588 | 1,508 | 1,473 | 1,483 | 1,453 | 1,468 | 1,468 |
| Production | 12,447 | 12,310 | 14,235 | 13,745 | 13,825 | 14,075 | 14,330 | 14,580 | 14,750 | 15,005 | 15,175 | 15,435 |
| Imports | 28 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Supply | 14,182 | 13,453 | 15,093 | 15,383 | 15,523 | 15,678 | 15,853 | 16,068 | 16,248 | 16,473 | 16,658 | 16,918 |
| Feed \& residual | 4,792 | 4,600 | 5,225 | 5,400 | 5,450 | 5,500 | 5,575 | 5,650 | 5,725 | 5,825 | 5,900 | 6,000 |
| Food, seed, \& industrial | 6,428 | 6,410 | 6,370 | 6,350 | 6,385 | 6,470 | 6,555 | 6,635 | 6,720 | 6,805 | 6,890 | 6,975 |
| Ethanol and by-products | 5,021 | 5,000 | 4,950 | 4,925 | 4,950 | 5,025 | 5,100 | 5,175 | 5,250 | 5,325 | 5,400 | 5,475 |
| Domestic use | 11,220 | 11,010 | 11,595 | 11,750 | 11,835 | 11,970 | 12,130 | 12,285 | 12,445 | 12,630 | 12,790 | 12,975 |
| Exports | 1,835 | 1,600 | 1,875 | 1,950 | 2,100 | 2,200 | 2,250 | 2,300 | 2,350 | 2,375 | 2,400 | 2,425 |
| Total use | 13,054 | 12,610 | 13,470 | 13,700 | 13,935 | 14,170 | 14,380 | 14,585 | 14,795 | 15,005 | 15,190 | 15,400 |
| Ending stocks | 1,128 | 843 | 1,623 | 1,683 | 1,588 | 1,508 | 1,473 | 1,483 | 1,453 | 1,468 | 1,468 | 1,518 |
| Stocks/use ratio, percent | 8.6 | 6.7 | 12.0 | 12.3 | 11.4 | 10.6 | 10.2 | 10.2 | 9.8 | 9.8 | 9.7 | 9.9 |
| Price (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 5.18 | 6.70 | 5.00 | 4.30 | 4.40 | 4.45 | 4.50 | 4.50 | 4.55 | 4.60 | 4.65 | 4.65 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 278 | 327 | 335 | 333 | 333 | 336 | 339 | 345 | 350 | 356 | 362 | 368 |
| Per bushel | 1.82 | 2.23 | 2.04 | 2.00 | 1.98 | 1.97 | 1.97 | 1.98 | 1.99 | 2.00 | 2.01 | 2.02 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 514 | 656 | 485 | 381 | 406 | 421 | 435 | 438 | 450 | 463 | 475 | 478 |

Table 19. U.S. sorghum long-term projections

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 5.4 | 5.5 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Harvested acres | 4.8 | 4.4 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 | 5.2 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Bushels/harvested acre | 71.8 | 55.5 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 | 65.3 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 41 | 27 | 28 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
| Production | 345 | 246 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 |
| Imports | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Supply | 387 | 273 | 368 | 383 | 383 | 383 | 383 | 383 | 383 | 383 | 383 | 383 |
| Feed \& residual | 124 | 65 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| Food, seed, \& industrial | 85 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| Domestic use | 209 | 155 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Exports | 150 | 90 | 155 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 | 170 |
| Total use | 359 | 245 | 325 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 | 340 |
| Ending stocks | 27 | 28 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
| Stocks/use ratio, percent | 7.5 | 11.4 | 13.2 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| Price (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 5.02 | 6.50 | 4.65 | 4.05 | 4.15 | 4.20 | 4.25 | 4.25 | 4.30 | 4.30 | 4.35 | 4.35 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 147 | 173 | 178 | 180 | 182 | 183 | 186 | 189 | 193 | 197 | 201 | 205 |
| Per bushel | 2.05 | 3.12 | 2.73 | 2.76 | 2.78 | 2.81 | 2.85 | 2.90 | 2.96 | 3.01 | 3.07 | 3.13 |

Returns over variable costs (dollars per acre):

| Net returns | 213 | 188 | 126 | 84 | 89 | 91 | 92 | 88 | 88 | 84 | 83 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Note: Marketing year beginning September 1 for sorghum. |  |  |  |  |  |  | 80 |  |  |  |  |

Table 20. U.S. barley long-term projections

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 2.9 | 2.6 | 3.2 | 3.1 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Harvested acres | 2.5 | 2.2 | 2.8 | 2.7 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Bushels/harvested acre | 73.1 | 69.6 | 68.4 | 69.0 | 69.6 | 70.2 | 70.8 | 71.4 | 72.0 | 72.7 | 73.3 | 73.9 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 115 | 89 | 55 | 67 | 73 | 74 | 77 | 81 | 82 | 84 | 83 | 84 |
| Production | 180 | 156 | 192 | 186 | 181 | 183 | 184 | 186 | 187 | 189 | 191 | 192 |
| Imports | 9 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Supply | 305 | 255 | 267 | 273 | 274 | 277 | 281 | 287 | 289 | 293 | 294 | 296 |
| Feed \& residual | 50 | 30 | 30 | 30 | 30 | 30 | 30 | 35 | 35 | 40 | 40 | 45 |
| Food, seed, \& industrial | 159 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 | 160 |
| Domestic | 208 | 190 | 190 | 190 | 190 | 190 | 190 | 195 | 195 | 200 | 200 | 205 |
| Exports | 8 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Total use | 216 | 200 | 200 | 200 | 200 | 200 | 200 | 205 | 205 | 210 | 210 | 215 |
| Ending stocks | 89 | 55 | 67 | 73 | 74 | 77 | 81 | 82 | 84 | 83 | 84 | 81 |
| Stocks/use ratio, percent | 41.2 | 27.5 | 33.5 | 36.5 | 37.0 | 38.5 | 40.5 | 40.0 | 41.0 | 39.5 | 40.0 | 37.7 |
| Price (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 3.86 | 5.70 | 5.20 | 4.50 | 4.60 | 4.65 | 4.70 | 4.70 | 4.75 | 4.75 | 4.80 | 4.80 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 132 | 153 | 157 | 157 | 158 | 160 | 162 | 165 | 168 | 171 | 174 | 178 |
| Per bushel | 1.81 | 2.20 | 2.30 | 2.28 | 2.27 | 2.28 | 2.29 | 2.31 | 2.33 | 2.35 | 2.38 | 2.40 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 150 | 244 | 199 | 153 | 162 | 167 | 171 | 171 | 174 | 174 | 178 | 177 |

Table 21. U.S. oats long-term projections

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 3.1 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 |
| Harvested acres | 1.3 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Bushels/harvested acre | 64.3 | 57.1 | 65.4 | 65.8 | 66.2 | 66.6 | 67.0 | 67.5 | 67.9 | 68.3 | 68.7 | 69.1 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 80 | 68 | 42 | 43 | 44 | 45 | 46 | 47 | 49 | 50 | 46 | 43 |
| Production | 81 | 54 | 65 | 66 | 66 | 67 | 67 | 68 | 68 | 68 | 69 | 69 |
| Imports | 85 | 90 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Supply | 247 | 211 | 207 | 209 | 210 | 212 | 213 | 215 | 217 | 218 | 215 | 212 |
| Feed \& residual | 102 | 90 | 85 | 85 | 85 | 85 | 85 | 85 | 85 | 90 | 90 | 90 |
| Food, seed, \& industrial | 74 | 76 | 76 | 77 | 77 | 78 | 78 | 78 | 79 | 79 | 79 | 79 |
| Domestic | 176 | 166 | 161 | 162 | 162 | 163 | 163 | 163 | 164 | 169 | 169 | 169 |
| Exports | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total use | 179 | 169 | 164 | 165 | 165 | 166 | 166 | 166 | 167 | 172 | 172 | 172 |
| Ending stocks | 68 | 42 | 43 | 44 | 45 | 46 | 47 | 49 | 50 | 46 | 43 | 40 |
| Stocks/use ratio, percent | 38.0 | 24.9 | 26.2 | 26.7 | 27.3 | 27.7 | 28.3 | 29.5 | 29.9 | 26.7 | 25.0 | 23.3 |
| Price (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 2.52 | 3.40 | 2.85 | 2.50 | 2.55 | 2.55 | 2.60 | 2.60 | 2.65 | 2.65 | 2.70 | 2.70 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 96 | 114 | 116 | 116 | 117 | 118 | 120 | 122 | 124 | 126 | 129 | 131 |
| Per bushel | 1.50 | 1.99 | 1.78 | 1.77 | 1.77 | 1.77 | 1.78 | 1.80 | 1.83 | 1.85 | 1.87 | 1.90 |

Returns over variable costs (dollars per acre):

| Net returns | 66 | 81 | 70 | 48 | 52 | 52 | 55 | 54 | 56 | 55 | 57 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Table 22. U.S. wheat long-term projections Item

2010/11 2011/1

| Item | /20 2020/21 2021/22 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 53.6 | 54.4 | 56.5 | 54.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 51.0 |
| Harvested acres | 47.6 | 45.7 | 47.5 | 45.5 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 43.8 | 42.9 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Bushels/harvested acre | 46.3 | 43.7 | 44.6 | 45.0 | 45.3 | 45.7 | 46.0 | 46.4 | 46.8 | 47.1 | 47.5 | 47.8 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 976 | 862 | 828 | 887 | 891 | 822 | 760 | 730 | 707 | 701 | 697 | 726 |
| Production | 2,207 | 1,999 | 2,120 | 2,050 | 1,985 | 2,000 | 2,015 | 2,030 | 2,050 | 2,065 | 2,080 | 2,050 |
| Imports | 97 | 120 | 110 | 110 | 115 | 115 | 120 | 120 | 125 | 125 | 130 | 130 |
| Supply | 3,279 | 2,982 | 3,058 | 3,047 | 2,991 | 2,937 | 2,895 | 2,880 | 2,882 | 2,891 | 2,907 | 2,906 |
| Food | 926 | 940 | 948 | 956 | 964 | 972 | 980 | 988 | 996 | 1,004 | 1,012 | 1,020 |
| Seed | 71 | 78 | 73 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 69 | 69 |
| Feed \& residual | 132 | 160 | 200 | 180 | 185 | 185 | 190 | 190 | 190 | 195 | 200 | 200 |
| Domestic | 1,128 | 1,178 | 1,221 | 1,206 | 1,219 | 1,227 | 1,240 | 1,248 | 1,256 | 1,269 | 1,281 | 1,289 |
| Exports | 1,289 | 975 | 950 | 950 | 950 | 950 | 925 | 925 | 925 | 925 | 900 | 900 |
| Total use | 2,417 | 2,153 | 2,171 | 2,156 | 2,169 | 2,177 | 2,165 | 2,173 | 2,181 | 2,194 | 2,181 | 2,189 |
| Ending stocks | 862 | 828 | 887 | 891 | 822 | 760 | 730 | 707 | 701 | 697 | 726 | 717 |
| Stocks/use ratio, percent | 35.7 | 38.5 | 40.9 | 41.3 | 37.9 | 34.9 | 33.7 | 32.5 | 32.1 | 31.8 | 33.3 | 32.8 |
| Price (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 5.70 | 7.40 | 6.00 | 5.75 | 5.80 | 5.85 | 5.90 | 5.90 | 5.95 | 5.95 | 5.90 | 5.90 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 104 | 122 | 126 | 126 | 126 | 128 | 129 | 132 | 134 | 136 | 139 | 142 |
| Per bushel | 2.26 | 2.80 | 2.81 | 2.79 | 2.79 | 2.79 | 2.81 | 2.84 | 2.86 | 2.90 | 2.93 | 2.96 |

Returns over variable costs (dollars per acre):

| Net returns | 159 | 201 | 142 | 133 | 136 | 140 | 142 | 142 | 144 | 144 | 141 | 140 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Note: Marketing year beginning June 1 for wheat. |  |  |  |  |  |  |  |  |  |  |  |  |

Table 23. U.S. soybeans and products long-term projections

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Soybeans |  |  |  |  |  |  |  |  |  |  |  |  |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 77.4 | 75.0 | 74.0 | 75.5 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 |
| Harvested | 76.6 | 73.7 | 73.1 | 74.6 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 | 75.1 |
| Yield: bushels/harvested acre | 43.5 | 41.3 | 44.0 | 44.5 | 44.9 | 45.4 | 45.8 | 46.3 | 46.7 | 47.2 | 47.6 | 48.1 |
| Supply (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, September 1 | 151 | 215 | 195 | 209 | 206 | 212 | 208 | 208 | 208 | 207 | 206 | 204 |
| Production | 3,329 | 3,046 | 3,215 | 3,315 | 3,370 | 3,405 | 3,440 | 3,475 | 3,505 | 3,540 | 3,575 | 3,610 |
| Imports | 14 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Total supply | 3,495 | 3,275 | 3,425 | 3,539 | 3,591 | 3,632 | 3,663 | 3,698 | 3,728 | 3,762 | 3,796 | 3,829 |
| Disposition (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Crush | 1,648 | 1,635 | 1,650 | 1,680 | 1,705 | 1,730 | 1,755 | 1,785 | 1,810 | 1,835 | 1,860 | 1,885 |
| Seed and residual | 130 | 120 | 136 | 138 | 139 | 139 | 140 | 140 | 141 | 141 | 142 | 142 |
| Exports | 1,501 | 1,325 | 1,430 | 1,515 | 1,535 | 1,555 | 1,560 | 1,565 | 1,570 | 1,580 | 1,590 | 1,595 |
| Total disposition | 3,280 | 3,080 | 3,216 | 3,333 | 3,379 | 3,424 | 3,455 | 3,490 | 3,521 | 3,556 | 3,592 | 3,622 |
| Carryover stocks, August 31 |  |  |  |  |  |  |  |  |  |  |  |  |
| Total ending stocks | 215 | 195 | 209 | 206 | 212 | 208 | 208 | 208 | 207 | 206 | 204 | 207 |
| Stocks/use ratio, percent | 6.6 | 6.3 | 6.5 | 6.2 | 6.3 | 6.1 | 6.0 | 6.0 | 5.9 | 5.8 | 5.7 | 5.7 |
| Price (dollars per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Soybean price, farm | 11.30 | 12.60 | 11.00 | 10.30 | 10.55 | 10.70 | 10.80 | 10.90 | 11.00 | 11.15 | 11.25 | 11.35 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 134 | 150 | 154 | 155 | 156 | 157 | 159 | 162 | 164 | 166 | 169 | 171 |
| Per bushel | 3.08 | 3.63 | 3.49 | 3.48 | 3.47 | 3.47 | 3.48 | 3.49 | 3.51 | 3.52 | 3.54 | 3.56 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 358 | 371 | 330 | 303 | 318 | 328 | 335 | 343 | 350 | 360 | 367 | 375 |
| Soybean oil (million pounds) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, October 1 | 3,406 | 2,425 | 2,080 | 1,925 | 1,890 | 1,840 | 1,830 | 1,810 | 1,785 | 1,700 | 1,610 | 1,510 |
| Production | 18,888 | 18,670 | 18,860 | 19,220 | 19,520 | 19,825 | 20,130 | 20,490 | 20,795 | 21,105 | 21,410 | 21,715 |
| Imports | 160 | 185 | 135 | 145 | 155 | 165 | 175 | 185 | 195 | 205 | 215 | 225 |
| Total supply | 22,454 | 21,280 | 21,075 | 21,290 | 21,565 | 21,830 | 22,135 | 22,485 | 22,775 | 23,010 | 23,235 | 23,450 |
| Domestic disappearance | 16,779 | 17,700 | 18,000 | 18,300 | 18,625 | 18,950 | 19,275 | 19,600 | 19,925 | 20,250 | 20,575 | 20,925 |
| For methyl ester | 2,550 | 3,600 | 3,800 | 3,900 | 3,950 | 4,000 | 4,050 | 4,100 | 4,150 | 4,200 | 4,250 | 4,300 |
| Exports | 3,250 | 1,500 | 1,150 | 1,100 | 1,100 | 1,050 | 1,050 | 1,100 | 1,150 | 1,150 | 1,150 | 1,150 |
| Total demand | 20,029 | 19,200 | 19,150 | 19,400 | 19,725 | 20,000 | 20,325 | 20,700 | 21,075 | 21,400 | 21,725 | 22,075 |
| Ending stocks, September 30 | 2,425 | 2,080 | 1,925 | 1,890 | 1,840 | 1,830 | 1,810 | 1,785 | 1,700 | 1,610 | 1,510 | 1,375 |
| Soybean oil price (dollars per lb) | 0.532 | 0.550 | 0.500 | 0.490 | 0.490 | 0.500 | 0.500 | 0.503 | 0.505 | 0.508 | 0.510 | 0.513 |
| Soybean meal (thousand short tons) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, October 1 | 302 | 350 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Production | 39,251 | 38,835 | 39,160 | 39,885 | 40,510 | 41,135 | 41,735 | 42,360 | 42,985 | 43,610 | 44,210 | 44,810 |
| Imports | 180 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 |
| Total supply | 39,732 | 39,350 | 39,625 | 40,350 | 40,975 | 41,600 | 42,200 | 42,825 | 43,450 | 44,075 | 44,675 | 45,275 |
| Domestic disappearance | 30,282 | 30,250 | 30,400 | 30,850 | 31,300 | 31,800 | 32,300 | 32,800 | 33,300 | 33,800 | 34,300 | 34,800 |
| Exports | 9,100 | 8,800 | 8,925 | 9,200 | 9,375 | 9,500 | 9,600 | 9,725 | 9,850 | 9,975 | 10,075 | 10,175 |
| Total demand | 39,382 | 39,050 | 39,325 | 40,050 | 40,675 | 41,300 | 41,900 | 42,525 | 43,150 | 43,775 | 44,375 | 44,975 |
| Ending stocks, September 30 | 350 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Soybean meal price (dollars per ton) | 345.52 | 325.00 | 285.00 | 260.00 | 271.50 | 274.00 | 278.50 | 282.00 | 286.50 | 292.50 | 296.00 | 299.00 |
| Crushing yields (pounds per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Soybean oil | 11.46 | 11.42 | 11.43 | 11.44 | 11.45 | 11.46 | 11.47 | 11.48 | 11.49 | 11.50 | 11.51 | 11.52 |
| Soybean meal | 47.64 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 | 47.50 |
| Crush margin (dollars per bushel) | 3.03 | 1.40 | 1.48 | 1.48 | 1.51 | 1.54 | 1.55 | 1.57 | 1.61 | 1.64 | 1.65 | 1.66 |

Note: Marketing year beginning September 1 for soybeans; October 1 for soybean oil and soybean meal.
1/ Soybean oil used for methyl ester for production of biodiesel, history from the U.S. Department of Commerce.

Table 24a. U.S. rice long-term projections, total rice, rough basis

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (thousand acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 3,636 | 2,693 | 3,000 | 3,075 | 3,110 | 3,145 | 3,170 | 3,185 | 3,200 | 3,215 | 3,225 | 3,235 |
| Harvested | 3,615 | 2,624 | 2,967 | 3,041 | 3,076 | 3,111 | 3,136 | 3,150 | 3,165 | 3,179 | 3,189 | 3,199 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Pounds/harvested acre | 6,725 | 7,167 | 7,196 | 7,264 | 7,334 | 7,403 | 7,468 | 7,530 | 7,599 | 7,660 | 7,727 | 7,793 |

Supply and use (million hundredweight):

| Beginning stocks | 36.5 | 48.5 | 37.5 | 37.6 | 37.0 | 36.8 | 36.3 | 35.4 | 35.5 | 35.7 | 35.8 | 36.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Production | 243.1 | 188.1 | 213.5 | 220.9 | 225.6 | 230.3 | 234.2 | 237.2 | 240.5 | 243.5 | 246.4 | 249.3 |
| Imports | 18.3 | 19.0 | 19.6 | 20.1 | 20.7 | 21.2 | 21.8 | 22.4 | 22.9 | 23.5 | 24.1 | 24.8 |
| Total supply | 297.9 | 255.5 | 270.6 | 278.7 | 283.2 | 288.4 | 292.2 | 295.0 | 298.9 | 302.7 | 306.4 | 310.7 |
| Domestic use and residual | 137.8 | 127.0 | 131.0 | 133.4 | 134.8 | 136.2 | 137.6 | 139.0 | 140.4 | 141.8 | 143.3 | 144.8 |
| Exports | 111.6 | 91.0 | 102.0 | 108.3 | 111.6 | 115.9 | 119.2 | 120.5 | 122.8 | 125.1 | 126.4 | 128.7 |
| Total use | 249.5 | 218.0 | 233.0 | 241.7 | 246.4 | 252.1 | 256.8 | 259.5 | 263.2 | 266.9 | 269.7 | 273.5 |
| Ending stocks | 48.5 | 37.5 | 37.6 | 37.0 | 36.8 | 36.3 | 35.4 | 35.5 | 35.7 | 35.8 | 36.7 | 37.2 |
| Stocks/use ratio, percent | 19.4 | 17.2 | 16.2 | 15.3 | 14.9 | 14.4 | 13.8 | 13.7 | 13.6 | 13.4 | 13.6 | 13.6 |
| Prices (dollars per hundredweight): |  |  |  |  |  |  |  |  |  |  |  |  |
| Average farm price | 12.70 | 14.50 | 14.00 | 13.70 | 13.60 | 13.80 | 14.00 | 14.20 | 14.40 | 14.60 | 14.90 | 15.10 |

Variable costs of production (dollars):

|  | 465 | 531 | 547 | 553 | 558 | 564 | 571 | 580 | 590 | 601 | 611 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Per acre | 6.91 | 7.42 | 7.60 | 7.62 | 7.61 | 7.61 | 7.65 | 7.71 | 7.77 | 7.84 | 7.91 |
| Per hundredweight | 7.98 |  |  |  |  |  |  |  |  |  |  |

Returns over variable costs (dollars per acre):

| Net returns | 389 | 508 | 461 | 442 | 440 | 458 | 475 | 489 | 504 | 518 | 540 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Note: Marketing year beginning August 1 for rice.

Table 24b. U.S. rice long-term projections, long-grain rice, rough basis

| Item | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (thousand acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 2,841 | 1,791 | 2,250 | 2,300 | 2,325 | 2,350 | 2,370 | 2,380 | 2,390 | 2,400 | 2,405 | 2,410 |
| Harvested | 2,826 | 1,736 | 2,223 | 2,272 | 2,297 | 2,322 | 2,342 | 2,351 | 2,361 | 2,371 | 2,376 | 2,381 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Pounds/harvested acre | 6,486 | 6,769 | 6,903 | 6,981 | 7,062 | 7,137 | 7,213 | 7,284 | 7,356 | 7,428 | 7,502 | 7,576 |
| Supply and use (million hundredweight): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 23.0 | 35.6 | 17.6 | 21.1 | 22.2 | 23.2 | 23.3 | 22.9 | 23.4 | 23.8 | 24.1 | 25.0 |
| Production | 183.3 | 117.5 | 153.5 | 158.6 | 162.2 | 165.7 | 168.9 | 171.2 | 173.7 | 176.1 | 178.2 | 180.4 |
| Imports | 15.8 | 16.5 | 17.0 | 17.4 | 17.9 | 18.3 | 18.8 | 19.3 | 19.7 | 20.2 | 20.7 | 21.3 |
| Total supply | 222.2 | 169.6 | 188.1 | 197.2 | 202.2 | 207.3 | 210.9 | 213.4 | 216.8 | 220.1 | 223.1 | 226.6 |
| Domestic use \& residual | 108.5 | 92.0 | 97.0 | 99.0 | 100.0 | 101.0 | 102.0 | 103.0 | 104.0 | 105.0 | 106.1 | 107.2 |
| Exports | 78.0 | 60.0 | 70.0 | 76.0 | 79.0 | 83.0 | 86.0 | 87.0 | 89.0 | 91.0 | 92.0 | 94.0 |
| Total use | 186.5 | 152.0 | 167.0 | 175.0 | 179.0 | 184.0 | 188.0 | 190.0 | 193.0 | 196.0 | 198.1 | 201.2 |
| Ending stocks | 35.6 | 17.6 | 21.1 | 22.2 | 23.2 | 23.3 | 22.9 | 23.4 | 23.8 | 24.1 | 25.0 | 25.4 |
| Stocks/use ratio, percent | 19.1 | 11.6 | 12.7 | 12.7 | 13.0 | 12.6 | 12.2 | 12.3 | 12.3 | 12.3 | 12.6 | 12.6 |
| Price (dollars per hundredweight): |  |  |  |  |  |  |  |  |  |  |  |  |
| Average farm price | 11.10 | 14.00 | 13.20 | 12.70 | 12.60 | 12.70 | 12.90 | 13.10 | 13.30 | 13.50 | 13.70 | 14.00 |

Table 24c. U.S. rice long-term projections, medium- and short-grain rice, rough basis

| Item | $2010 / 11$ | $2011 / 12$ | $2012 / 13$ | $2013 / 14$ | $2014 / 15$ | $2015 / 16$ | $2016 / 17$ | $2017 / 18$ | $2018 / 19$ | $2019 / 20$ | $2020 / 21$ | $2021 / 22$ |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Table 25. U.S. upland cotton long-term projections Item

2010/11 2011/12 2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21 2021/22

| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Planted acres | 10.8 | 14.4 | 12.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.8 | 11.7 | 11.7 | 11.6 | 11.6 |
| Harvested acres | 10.5 | 9.6 | 9.6 | 10.4 | 10.4 | 10.4 | 10.4 | 10.3 | 10.3 | 10.3 | 10.2 | 10.2 |
| Yield: |  |  |  |  |  |  |  |  |  |  |  |  |
| Pounds/harvested acre | 805 | 781 | 810 | 810 | 815 | 820 | 825 | 830 | 835 | 840 | 845 | 850 |
| Supply and use (thousand bales): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 2,929 | 2,572 | 3,730 | 4,445 | 5,110 | 5,375 | 5,440 | 5,505 | 5,370 | 5,335 | 5,400 | 5,365 |
| Production | 17,600 | 15,563 | 16,200 | 17,600 | 17,700 | 17,800 | 17,900 | 17,800 | 17,900 | 18,000 | 18,000 | 18,100 |
| Imports | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Supply | 20,531 | 18,140 | 19,930 | 22,045 | 22,810 | 23,175 | 23,340 | 23,305 | 23,270 | 23,335 | 23,400 | 23,465 |
| Domestic use | 3,874 | 3,775 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 | 3,725 |
| Exports | 13,881 | 10,625 | 11,750 | 13,200 | 13,700 | 14,000 | 14,100 | 14,200 | 14,200 | 14,200 | 14,300 | 14,300 |
| Total use | 17,755 | 14,400 | 15,475 | 16,925 | 17,425 | 17,725 | 17,825 | 17,925 | 17,925 | 17,925 | 18,025 | 18,025 |
| Ending stocks | 2,572 | 3,730 | 4,445 | 5,110 | 5,375 | 5,440 | 5,505 | 5,370 | 5,335 | 5,400 | 5,365 | 5,430 |
| Stocks/use ratio, percent | 14.5 | 25.9 | 28.7 | 30.2 | 30.8 | 30.7 | 30.9 | 30.0 | 29.8 | 30.1 | 29.8 | 30.1 |
| Price (dollars per pound): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 0.815 | 0.900 | 0.800 | 0.700 | 0.705 | 0.710 | 0.715 | 0.720 | 0.725 | 0.730 | 0.735 | 0.740 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 474 | 515 | 534 | 540 | 545 | 552 | 560 | 570 | 580 | 590 | 600 | 611 |
| Per pound | 0.59 | 0.66 | 0.66 | 0.67 | 0.67 | 0.67 | 0.68 | 0.69 | 0.69 | 0.70 | 0.71 | 0.72 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 288 | 332 | 246 | 142 | 146 | 149 | 150 | 150 | 149 | 148 | 147 | 146 |

Table 26. U.S. sugar long-term projections

| Item | Units | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 | 2021/22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sugarbeets |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted area | 1,000 acres | 1,171 | 1,238 | 1,144 | 1,146 | 1,147 | 1,163 | 1,172 | 1,167 | 1,153 | 1,145 | 1,142 | 1,138 |
| Harvested area | 1,000 acres | 1,156 | 1,208 | 1,102 | 1,104 | 1,104 | 1,120 | 1,129 | 1,124 | 1,110 | 1,102 | 1,099 | 1,096 |
| Yield | Tons/acre | 27.6 | 23.9 | 26.3 | 26.4 | 26.5 | 26.6 | 26.7 | 26.8 | 26.9 | 27.0 | 27.1 | 27.2 |
| Production | Mil. s. tons | 31.9 | 28.9 | 28.9 | 29.1 | 29.3 | 29.8 | 30.1 | 30.1 | 29.9 | 29.8 | 29.8 | 29.9 |
| Sugarcane |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Harvested area | 1,000 acres | 819 | 828 | 827 | 817 | 817 | 821 | 824 | 821 | 819 | 819 | 819 | 818 |
| Yield | Tons/acre | 33.2 | 32.5 | 34.2 | 34.4 | 34.6 | 34.7 | 34.9 | 35.1 | 35.3 | 35.4 | 35.6 | 35.8 |
| Production | Mil. s. tons | 27.2 | 26.9 | 28.3 | 28.1 | 28.2 | 28.5 | 28.7 | 28.8 | 28.9 | 29.0 | 29.2 | 29.3 |
| Supply: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 1,000 s. tons | 1,498 | 1,487 | 1,212 | 1,698 | 1,731 | 1,772 | 1,778 | 1,780 | 1,794 | 1,818 | 1,834 | 1,848 |
| Production | 1,000 s. tons | 7,836 | 7,885 | 8,170 | 8,214 | 8,284 | 8,437 | 8,554 | 8,594 | 8,595 | 8,626 | 8,680 | 8,731 |
| Beet sugar | 1,000 s. tons | 4,663 | 4,525 | 4,793 | 4,851 | 4,902 | 5,018 | 5,103 | 5,130 | 5,118 | 5,129 | 5,162 | 5,195 |
| Cane sugar | 1,000 s. tons | 3,174 | 3,360 | 3,377 | 3,362 | 3,382 | 3,419 | 3,450 | 3,464 | 3,478 | 3,497 | 3,517 | 3,536 |
| Total imports | 1,000 s. tons | 3,698 | 3,455 | 4,025 | 3,756 | 3,980 | 3,830 | 3,725 | 3,794 | 3,965 | 4,040 | 4,075 | 4,121 |
| TRQ imports | 1,000 s. tons | 1,693 | 1,520 | 1,878 | 1,730 | 1,720 | 1,497 | 1,491 | 1,666 | 1,823 | 1,896 | 1,953 | 2,029 |
| Mexico | 1,000 s. tons | 1,705 | 1,581 | 1,792 | 1,671 | 1,905 | 1,978 | 1,879 | 1,773 | 1,787 | 1,789 | 1,767 | 1,736 |
| Other imports | 1,000 s. tons | 300 | 355 | 355 | 355 | 355 | 355 | 355 | 355 | 355 | 355 | 355 | 355 |
| Total supply | 1,000 s. tons | 13,033 | 12,827 | 13,408 | 13,668 | 13,995 | 14,039 | 14,057 | 14,168 | 14,354 | 14,483 | 14,589 | 14,699 |
| Use: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports | 1,000 s. tons | 248 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| Domestic deliveries | 1,000 s. tons | 11,310 | 11,415 | 11,510 | 11,737 | 12,023 | 12,061 | 12,076 | 12,174 | 12,337 | 12,449 | 12,542 | 12,638 |
| Miscellaneous | 1,000 s. tons | -12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total use | 1,000 s. tons | 11,546 | 11,615 | 11,710 | 11,937 | 12,223 | 12,261 | 12,276 | 12,374 | 12,537 | 12,649 | 12,742 | 12,838 |
| CCC surplus disbursements ${ }^{1}$ | 1,000 s. tons | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ending stocks | 1,000 s. tons | 1,487 | 1,212 | 1,698 | 1,731 | 1,772 | 1,778 | 1,780 | 1,794 | 1,818 | 1,834 | 1,848 | 1,861 |
| Raw sugar price: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| New York (No. 16) | Cents/lb. | 39.41 | 38.20 | 26.89 | 27.70 | 32.03 | 34.17 | 30.79 | 28.76 | 28.86 | 28.95 | 28.83 | 28.83 |
| Raw sugar loan rate | Cents/lb. | 18.50 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 |
| Beet sugar loan rate | Cents/lb. | 23.77 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 |
| Grow er prices: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sugarbeets | Dol./ton | 61.70 | 61.28 | 55.92 | 49.92 | 51.86 | 54.78 | 54.70 | 52.45 | 51.53 | 51.63 | 51.63 | 51.56 |
| Sugarcane | Dol./ton | 41.70 | 44.40 | 37.10 | 37.05 | 39.80 | 41.32 | 39.59 | 38.22 | 38.19 | 38.29 | 38.25 | 38.27 |

[^0]Table 27. Horticultural crops long-term supply and use projections, calendar years

| Item | Unit | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Production area ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | 1,000 acres | 11,105 | 10,660 | 10,865 | 11,084 | 11,132 | 11,182 | 11,232 | 11,285 | 11,338 | 11,394 | 11,451 | 11,492 |
| Fruit and tree nuts | 1,000 acres | 4,005 | 4,010 | 4,015 | 4,020 | 4,026 | 4,032 | 4,038 | 4,045 | 4,052 | 4,060 | 4,068 | 4,077 |
| Vegetables and melons | 1,000 acres | 7,100 | 6,650 | 6,850 | 7,064 | 7,106 | 7,150 | 7,194 | 7,240 | 7,286 | 7,334 | 7,383 | 7,415 |
| Supply |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Production, farm w eight |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts | Mil. Ibs. | 62,296 | 64,144 | 64,473 | 64,627 | 64,787 | 64,954 | 65,127 | 65,308 | 65,495 | 65,688 | 65,889 | 66,097 |
| Citrus | Mil. lbs. | 22,000 | 23,468 | 23,414 | 23,180 | 22,948 | 22,719 | 22,491 | 22,266 | 22,044 | 21,823 | 21,605 | 21,389 |
| Noncitrus | Mil. Ibs. | 35,551 | 35,835 | 36,122 | 36,411 | 36,702 | 36,996 | 37,292 | 37,590 | 37,891 | 38,194 | 38,499 | 38,807 |
| Tree nuts | Mil. Ibs. | 4,745 | 4,840 | 4,937 | 5,036 | 5,137 | 5,239 | 5,344 | 5,451 | 5,560 | 5,671 | 5,785 | 5,900 |
| Vegetables and melons ${ }^{2}$ | Mil. Ibs. | 134,909 | 132,413 | 136,316 | 137,367 | 138,432 | 139,512 | 140,606 | 141,715 | 142,839 | 143,980 | 145,136 | 146,308 |
| Fresh market | Mil. lbs. | 56,850 | 56,548 | 56,467 | 56,945 | 57,430 | 57,922 | 58,421 | 58,928 | 59,442 | 59,963 | 60,493 | 61,030 |
| Processing | Mil. Ibs. | 37,608 | 37,294 | 38,795 | 39,028 | 39,262 | 39,497 | 39,734 | 39,973 | 40,212 | 40,454 | 40,696 | 40,941 |
| Potatoes | Mil. Ibs. | 33,000 | 35,499 | 35,653 | 35,831 | 36,011 | 36,191 | 36,372 | 36,553 | 36,736 | 36,920 | 37,105 | 37,290 |
| Pulses | Mil. Ibs. | 5,475 | 3,073 | 5,401 | 5,563 | 5,730 | 5,902 | 6,079 | 6,261 | 6,449 | 6,643 | 6,842 | 7,047 |
| Total fruit, nuts, vegetables | Mil. Ibs. | 197,205 | 196,557 | 200,789 | 201,994 | 203,219 | 204,465 | 205,733 | 207,022 | 208,334 | 209,668 | 211,025 | 212,405 |
| Imports, farm w eight |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 62,923 | 64,462 | 66,088 | 67,794 | 69,545 | 71,343 | 73,189 | 75,084 | 77,029 | 79,026 | 81,077 | 83,183 |
| Fruit and tree nuts | Mil. Ibs. | 36,823 | 37,623 | 38,417 | 39,265 | 40,132 | 41,018 | 41,924 | 42,849 | 43,796 | 44,763 | 45,751 | 46,762 |
| Vegetables \& melons | Mil. Ibs. | 26,100 | 26,839 | 27,671 | 28,529 | 29,413 | 30,325 | 31,265 | 32,234 | 33,233 | 34,264 | 35,326 | 36,421 |
| Use |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports, farm w eight |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 31,013 | 33,337 | 33,820 | 34,311 | 34,810 | 35,317 | 35,832 | 36,355 | 36,888 | 37,429 | 37,979 | 38,538 |
| Fruit and tree nuts | Mil. Ibs. | 13,981 | 15,396 | 15,592 | 15,791 | 15,994 | 16,199 | 16,409 | 16,622 | 16,838 | 17,058 | 17,282 | 17,510 |
| Vegetables \& melons | Mil. Ibs. | 17,032 | 17,941 | 18,228 | 18,520 | 18,816 | 19,117 | 19,423 | 19,734 | 20,050 | 20,370 | 20,696 | 21,027 |
| Domestic use ${ }^{3}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 220,367 | 219,323 | 224,290 | 226,599 | 228,964 | 231,386 | 233,867 | 236,408 | 239,011 | 241,676 | 244,406 | 247,203 |
| Fruit and tree nuts | Mil. Ibs. | 92,055 | 93,388 | 94,390 | 95,258 | 96,150 | 97,066 | 98,006 | 98,972 | 99,963 | 100,981 | 102,024 | 103,095 |
| Vegetables \& melons | Mil. Ibs. | 128,312 | 125,936 | 129,900 | 131,341 | 132,814 | 134,321 | 135,861 | 137,436 | 139,047 | 140,696 | 142,382 | 144,108 |
| Farm sales value ${ }^{4}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts | \$ Mil. | 21,516 | 21,949 | 22,392 | 22,845 | 23,309 | 23,782 | 24,266 | 24,761 | 25,268 | 25,785 | 26,315 | 26,856 |
| Citrus | \$ Mil. | 2,974 | 3,003 | 3,033 | 3,064 | 3,094 | 3,125 | 3,157 | 3,188 | 3,220 | 3,252 | 3,285 | 3,318 |
| Noncitrus | \$ Mil. | 12,711 | 12,940 | 13,173 | 13,410 | 13,651 | 13,897 | 14,147 | 14,402 | 14,661 | 14,925 | 15,194 | 15,467 |
| Tree nuts | \$ Mil. | 5,831 | 6,006 | 6,186 | 6,372 | 6,563 | 6,760 | 6,962 | 7,171 | 7,387 | 7,608 | 7,836 | 8,071 |
| Vegetables and melons | \$ Mil. | 20,832 | 21,137 | 21,482 | 21,833 | 22,190 | 22,554 | 22,923 | 23,300 | 23,683 | 24,072 | 24,469 | 24,873 |
| Fresh market | \$ Mil. | 14,222 | 13,990 | 14,095 | 14,315 | 14,538 | 14,762 | 14,989 | 15,217 | 15,448 | 15,683 | 15,921 | 16,162 |
| Processing | \$ Mil. | 2,398 | 2,983 | 3,020 | 3,082 | 3,146 | 3,210 | 3,275 | 3,342 | 3,409 | 3,478 | 3,548 | 3,619 |
| Potatoes | \$ Mil. | 3,053 | 3,083 | 3,114 | 3,145 | 3,177 | 3,208 | 3,240 | 3,273 | 3,306 | 3,339 | 3,372 | 3,406 |
| Pulses | \$ Mil. | 1,159 | 1,082 | 1,253 | 1,291 | 1,329 | 1,373 | 1,419 | 1,468 | 1,520 | 1,573 | 1,628 | 1,685 |
| Nursery and greenhouse ${ }^{5}$ | \$ Mil. | 15,585 | 15,663 | 15,741 | 15,820 | 15,899 | 15,978 | 16,058 | 16,139 | 16,219 | 16,300 | 16,382 | 16,464 |
| Other horticulture crops ${ }^{6}$ | \$ Mil. | 783 | 802 | 823 | 843 | 864 | 886 | 908 | 931 | 954 | 978 | 1,002 | 1,027 |
| Total horticulture crops | \$ Mil. | 58,715 | 59,552 | 60,438 | 61,341 | 62,262 | 63,200 | 64,156 | 65,130 | 66,123 | 67,136 | 68,168 | 69,220 |
| Producer prices ${ }^{7}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh fruits | 2008=100 | 100.7 | 95.2 | 96.4 | 97.9 | 99.5 | 101.0 | 102.5 | 104.1 | 105.7 | 107.3 | 108.9 | 110.5 |
| Citrus | 2008=100 | 104.4 | 102.7 | 103.9 | 106.0 | 108.2 | 110.3 | 112.6 | 114.9 | 117.1 | 119.5 | 121.9 | 124.4 |
| Noncitrus | 2008=100 | 100.2 | 92.1 | 93.0 | 94.0 | 94.9 | 95.9 | 96.8 | 97.8 | 98.8 | 99.8 | 100.7 | 101.7 |
| Tree nuts | $2008=100$ | 106.3 | 128.8 | 130.1 | 131.4 | 132.7 | 134.0 | 135.3 | 136.6 | 137.9 | 139.3 | 140.7 | 142.0 |
| Vegetables | 2008=100 | 103.6 | 113.2 | 111.8 | 112.7 | 113.7 | 114.7 | 115.6 | 116.6 | 117.6 | 118.6 | 119.6 | 120.6 |
| Fresh vegetables | $2008=100$ | 110.5 | 116.0 | 110.2 | 111.0 | 111.7 | 112.5 | 113.3 | 114.0 | 114.7 | 115.5 | 116.2 | 116.9 |
| Potatoes (fresh) | 2008=100 | 67.2 | 97.6 | 85.7 | 76.2 | 76.6 | 77.0 | 77.3 | 77.7 | 78.1 | 78.5 | 78.9 | 79.3 |
| Pulses (dried) | $2008=100$ | 79.0 | 100.2 | 96.5 | 85.4 | 86.3 | 87.2 | 88.0 | 88.9 | 89.8 | 90.7 | 91.6 | 92.5 |
| Fruit, nuts, and vegetables | 2008=100 | 102.7 | 107.7 | 107.4 | 108.8 | 110.1 | 111.4 | 112.8 | 114.1 | 115.5 | 116.9 | 118.3 | 119.7 |

1/ Bearing acreage for fruit and nuts; harvested area for vegetables. 2/ Utilized production is used for potatoes. Pulses include edible dry beans and peas, lentils, and other peas. $3 /$ In farm or fresh w eight units. Stock changes are accounted for. 4/ Farm cash receipts for fresh and processing vegetables are allocated based on their relative production value shares. $5 /$ Includes floral crops, greenhouse vegetables such as tomatoes, cucumbers, sw eet and hot peppers, and fruit and vegetable transplants. 6/ Includes honey, maple syrup, hops, mint oils, taro, ginger root, and coffee from Haw aii and Puerto Rico. $7 /$ Producer price indexes for farm commodities from U.S. Bureau of Labor Statistics, converted to 2008=100. Prices for fresh fruits include melons.
Data sources: USDA, National Agricultural Statistics Service; Foreign Agricultural Service; Economic Research Service; U.S. Department of Labor, Bureau of Labor Statistics.

Table 28. Horticultural crops long-term export and import projections, fiscal years

| Item | Unit | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Exports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh fruits | \$ Mil. | 3,807 | 4,391 | 4,574 | 4,734 | 4,899 | 5,070 | 5,247 | 5,431 | 5,620 | 5,816 | 6,020 | 6,230 |
| Citrus | \$ Mil. | 927 | 1,036 | 1,082 | 1,100 | 1,117 | 1,134 | 1,150 | 1,166 | 1,182 | 1,197 | 1,212 | 1,226 |
| Noncitrus | \$ Mil. | 2,880 | 3,354 | 3,491 | 3,634 | 3,782 | 3,936 | 4,097 | 4,264 | 4,438 | 4,619 | 4,808 | 5,004 |
| Processed fruits | \$ Mil. | 2,379 | 2,836 | 3,102 | 3,196 | 3,292 | 3,392 | 3,494 | 3,600 | 3,708 | 3,820 | 3,935 | 4,054 |
| Fruit juices | \$ Mil. | 1,152 | 1,334 | 1,373 | 1,413 | 1,454 | 1,497 | 1,541 | 1,585 | 1,632 | 1,679 | 1,728 | 1,779 |
| Tree nuts | \$ Mil. | 4,061 | 5,146 | 5,700 | 5,932 | 6,173 | 6,424 | 6,685 | 6,957 | 7,240 | 7,534 | 7,841 | 8,159 |
| Total fruit and nuts | \$ Mil. | 10,248 | 12,372 | 13,376 | 13,861 | 14,364 | 14,886 | 15,427 | 15,987 | 16,568 | 17,171 | 17,796 | 18,443 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 2,062 | 2,252 | 2,326 | 2,403 | 2,482 | 2,564 | 2,648 | 2,736 | 2,826 | 2,919 | 3,015 | 3,115 |
| Processed ${ }^{1}$ | \$ Mil. | 3,229 | 3,488 | 3,598 | 3,711 | 3,828 | 3,949 | 4,074 | 4,202 | 4,335 | 4,472 | 4,613 | 4,758 |
| Total vegetables | \$ Mil. | 5,291 | 5,739 | 5,924 | 6,114 | 6,310 | 6,513 | 6,722 | 6,938 | 7,161 | 7,391 | 7,628 | 7,873 |
| Other horticulture |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nursery and greenhouse | \$ Mil. | 337 | 351 | 370 | 375 | 381 | 386 | 392 | 397 | 403 | 408 | 414 | 420 |
| Essential oils | \$ Mil. | 1,362 | 1,479 | 1,600 | 1,667 | 1,737 | 1,810 | 1,886 | 1,965 | 2,048 | 2,134 | 2,223 | 2,316 |
| Wine | \$ Mil. | 1,004 | 1,263 | 1,500 | 1,560 | 1,623 | 1,689 | 1,757 | 1,828 | 1,901 | 1,978 | 2,058 | 2,141 |
| Beer | \$ Mil. | 327 | 349 | 370 | 382 | 395 | 408 | 422 | 436 | 450 | 465 | 481 | 497 |
| Other ${ }^{2}$ | \$ Mil. | 4,057 | 4,370 | 4,860 | 5,064 | 5,276 | 5,496 | 5,725 | 5,964 | 6,212 | 6,471 | 6,740 | 7,019 |
| Total horticulture | \$ Mil. | 22,625 | 25,923 | 28,000 | 29,024 | 30,086 | 31,188 | 32,330 | 33,515 | 34,744 | 36,018 | 37,339 | 38,710 |
| Fresh produce ${ }^{3}$ | \$ Mil. | 5,869 | 6,643 | 6,900 | 7,136 | 7,381 | 7,634 | 7,896 | 8,166 | 8,446 | 8,736 | 9,035 | 9,345 |
| Processed produce ${ }^{3}$ | \$ Mil. | 5,608 | 6,324 | 6,700 | 6,907 | 7,121 | 7,341 | 7,568 | 7,802 | 8,043 | 8,292 | 8,548 | 8,813 |
| Imports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh fruits | \$ Mil. | 6,792 | 7,125 | 7,400 | 7,711 | 8,034 | 8,372 | 8,723 | 9,089 | 9,471 | 9,869 | 10,283 | 10,715 |
| Citrus | \$ Mil. | 464 | 525 | 431 | 450 | 469 | 490 | 511 | 533 | 556 | 581 | 606 | 632 |
| Noncitrus | \$ Mil. | 6,328 | 6,600 | 6,969 | 7,261 | 7,565 | 7,882 | 8,212 | 8,556 | 8,915 | 9,288 | 9,677 | 10,083 |
| Processed fruits | \$ Mil. | 3,276 | 4,264 | 5,300 | 5,557 | 5,825 | 6,107 | 6,403 | 6,713 | 7,038 | 7,379 | 7,736 | 8,110 |
| Fruit juices | \$ Mil. | 1,280 | 1,843 | 2,500 | 2,601 | 2,706 | 2,816 | 2,930 | 3,048 | 3,171 | 3,300 | 3,433 | 3,572 |
| Tree nuts | \$ Mil. | 1,331 | 1,714 | 2,200 | 2,314 | 2,433 | 2,559 | 2,691 | 2,830 | 2,976 | 3,130 | 3,292 | 3,462 |
| Total fruit and nuts | \$ Mil. | 11,399 | 13,104 | 14,900 | 15,581 | 16,293 | 17,038 | 17,818 | 18,633 | 19,486 | 20,378 | 21,311 | 22,287 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 5,181 | 5,722 | 6,100 | 6,396 | 6,705 | 7,030 | 7,371 | 7,728 | 8,102 | 8,495 | 8,906 | 9,338 |
| Processed ${ }^{1}$ | \$ Mil. | 3,573 | 3,915 | 4,300 | 4,476 | 4,660 | 4,851 | 5,049 | 5,256 | 5,472 | 5,696 | 5,929 | 6,172 |
| Total vegetables | \$ Mil. | 8,754 | 9,636 | 10,400 | 10,872 | 11,365 | 11,881 | 12,420 | 12,984 | 13,574 | 14,191 | 14,836 | 15,510 |
| Other horticulture |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nursery and greenhouse | \$ Mil. | 1,441 | 1,522 | 1,600 | 1,620 | 1,640 | 1,660 | 1,681 | 1,702 | 1,723 | 1,744 | 1,766 | 1,788 |
| Essential oils | \$ Mil. | 2,434 | 2,534 | 2,600 | 2,731 | 2,869 | 3,014 | 3,166 | 3,326 | 3,494 | 3,670 | 3,855 | 4,050 |
| Wine | \$ Mil. | 4,258 | 4,772 | 5,300 | 5,547 | 5,805 | 6,075 | 6,358 | 6,654 | 6,963 | 7,288 | 7,627 | 7,982 |
| Beer | \$ Mil. | 3,452 | 3,512 | 3,800 | 3,920 | 4,043 | 4,171 | 4,303 | 4,438 | 4,578 | 4,723 | 4,872 | 5,025 |
| Other ${ }^{2}$ | \$ Mil. | 3,820 | 4,320 | 4,700 | 4,918 | 5,147 | 5,386 | 5,636 | 5,898 | 6,172 | 6,458 | 6,758 | 7,072 |
| Total horticulture | \$ Mil. | 35,558 | 39,400 | 43,300 | 45,189 | 47,162 | 49,225 | 51,381 | 53,634 | 55,989 | 58,451 | 61,024 | 63,714 |
| Fresh produce ${ }^{3}$ | \$ Mil. | 11,973 | 12,847 | 13,500 | 14,106 | 14,740 | 15,402 | 16,094 | 16,817 | 17,573 | 18,363 | 19,189 | 20,052 |
| Processed produce ${ }^{3}$ | \$ Mil. | 6,850 | 8,179 | 9,600 | 10,033 | 10,485 | 10,958 | 11,452 | 11,969 | 12,510 | 13,075 | 13,665 | 14,283 |
| 1 / Includes dry edible beans, peas, lentils, and potatoes. $2 /$ Includes hops, ginseng, sauces, condiments, mixed food, yeast, starches, and other products that contain horticulture ingredients. $3 /$ Includes fruits and vegetables only. |  |  |  |  |  |  |  |  |  |  |  |  |  |


[^0]:    Note: Marketing year beginning October 1 for sugar.
    $1 /$ CCC is the Commodity Credit Corporation, U.S. Department of Agriculture.

