## Crops

Near-term weakness in the global economy diminishes demand growth for crops over the next several years. However, steady economic growth assumed later in the projections provides a more favorable demand setting. Although corn-based ethanol production in the United States is projected to slow, the large expansion in recent years keeps this use of corn high. In combination, these factors support longer run increases in global consumption and trade, with prices, although lower than in early 2008, remaining at historically high levels.

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. An important change in the 2008 Farm Act was the reduction in the maximum acreage enrollment in the Conservation Reserve Program (CRP). Rather than the previous cap on enrollment of 39.2 million acres, the new farm legislation sets the maximum at 32 million acres, beginning on October 1, 2009. With CRP enrollment at 34.8 million acres on September 30, 2008, this policy change provides some additional cropland for potential use in production rather than tightening cropland availability over the projection period.

Sustained high prices prompted by strong demand combined with reduced CRP enrollment keep U.S. cropland use high in the projections. Although declining somewhat from the high plantings in 2008 of over 252 million acres, projected plantings for the 8 major field crops remain near 250 million acres over the next 10 years.

## U.S. planted area: Eight major crops 1/



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


Plantings of different crops are influenced by expected net returns. Net returns are determined by market prices, yields, and production costs, with returns augmented by marketing loan benefits when prices are low. Producer planting decisions are also affected by revenue protection available through the Federal Crop Insurance program and the new Average Crop Revenue Election (ACRE) program, which starts in 2009 under the 2008 Farm Act.

- A gradual shift to corn away from other crops reflects the high levels of domestic cornbased ethanol production and gains in exports that keep corn demand and producer returns strong. Following a decline in 2008, corn acreage increases to 90 million acres by 2011 and remains at or above that level over the remainder of the projection period.
- Soybean plantings decline over the next several years, but remain above 70 million acres as net returns remain favorable.
- Wheat plantings decline from the high level of 2008 as producer returns are lower. Wheat acreage falls below 60 million acres in the longer run as weak demand growth reduces the crop's competitiveness for land relative to other crops.


## Corn-based Ethanol Expansion Projected To Slow

Ethanol production in the United States has increased rapidly over the past several years, from less than 3 billion gallons in 2003 to over 9 billion gallons in 2008. Most ethanol production in the United States currently uses corn as the feedstock, with close to a third of total corn use expected to go to ethanol production in the 2008/09 corn crop year.

These projections assume the tax credit available to blenders of ethanol and the 54-cent-per-gallon tariff on imported fuel ethanol remain in effect. While expansion in the ethanol industry continues, smaller gains for corn-based ethanol are projected, largely reflecting moderate growth in overall gasoline consumption in the United States. By the end of the projection period, ethanol production accounts for about 35 percent of corn use and corn-based ethanol production exceeds 9 percent of annual gasoline consumption. The continued presence of ethanol demand in the corn sector, in combination with other long-term factors, holds prices for corn and many other crops well above their historical levels, although season-average annual prices are not projected to reach the record highs seen in the first half of 2008.

## U.S. com: Use for ethanol production


U.S. com use


## U.S. com: Feed use, ethanol, and exports

Billion bushels


Domestic corn use grows throughout the projection period, largely reflecting increases in corn used in the production of ethanol. Global economic growth underlies increases in U.S. corn exports.

- Continued increases are projected for corn used to produce ethanol over the next 10 years, although the pace slows from the rapid gains of the past several years. Projected gains after 2009/10 are largely in line with moderate expected increases in overall gasoline usage in the United States.
- Feed and residual use of corn bottoms out in the initial years due to reduced meat production and increased feeding of distillers grains, a coproduct of dry mill ethanol production. Feed use rises through the rest of the projections as meat production picks up and growth in availability of distillers grains slows with the reduced pace of corn-based ethanol expansion.
- Gains in food and industrial uses of corn (other than for ethanol production) are projected to be smaller than increases in population. Consumer dietary concerns and other changes in tastes and preferences limit increases in the combined use of corn for high fructose corn syrup, glucose, and dextrose to about half the rate of population gain. Starch use initially declines due to the slowing U.S. economy, but grows moderately thereafter.
- U.S. corn exports rise in response to stronger global demand for feed grains to support growth in meat production, with the U.S. share of global corn trade holding in the 55-60 percent range.
U.S. wheat: Domestic use and exports


Overall demand in the U.S. wheat sector grows slowly through the projection period.

- Domestic demand for wheat reflects a relatively mature market. Food use of wheat is projected to show moderate gains, generally in line with population increases.
- Feed use of wheat, a lower value use of the crop, declines through the projection period from the relatively high levels of 2008/09.
- U.S. wheat exports increase slowly over the projection period as competition from the European Union (EU), Canada, Argentina, Australia, and the Black Sea region limits further gains. In particular, wheat prices are projected at levels high enough that the EU can export wheat without subsidies, thus permitting higher EU exports. Although the U.S. market share initially increases from 22 percent in 2008/09, it falls over the latter part of the projections to about 21 percent by 2018/19.


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



Domestic use of soybeans continues to rise slowly. U.S. soybean exports remain high but with little growth as more soybeans are processed domestically.

- Declines in the livestock sector initially reduce demand for soybean meal for livestock feed, thereby lowering domestic soybean crush in the near term. However, once meat production gains resume, soybean crush will follow. Then, longrun growth in domestic soybean crush is mostly driven by increasing domestic soybean meal demand.
- U.S. soybean exports hold fairly flat near 1.2 billion bushels. While this is a historically high level of exports, competition from South America limits U.S. exports from further growth. Consequently, the U.S. market share of global soybean trade declines from 40 percent in 2009/10 to about 30 percent at the end of the projections.
- Strengthening competition from Argentina and Brazil, combined with increasing use for the growing U.S. livestock sector, lead to only small gains in U.S. soybean meal exports from 2009/10-2018/19, reducing the U.S. export share in global soybean meal trade. U.S soybean oil exports similarly face increasing competition from South America.


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



Projected farm-level prices for corn, wheat, and soybeans fall from the very high levels seen in 2007/08 and 2008/09 that reflected a number of short-term factors. However, prices are projected to remain historically high due to the influence of continuing longer term factors, including structural shifts that drive demand for these crops.

- Corn prices initially fall from their high 2008/09 level as increases in ethanol production slow and corn stocks build. In the longer run, corn prices remain higher than their pre2006 levels due to continued demand for corn to produce ethanol as well as growth in feed use and exports.
- Land-use competition from corn keeps soybean acreage from rising and holds soybean prices high throughout the projections.
- As for other crops, wheat prices decline from current levels in the early years of the projections, although they remain historically high. Price increases in the latter years of the projections are moderate as yield gains mostly offset demand increases (despite falling acreage), keeping stocks relatively stable.


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



Continued expansion in domestic food use of rice is projected over the next decade. U.S. rice exports increase as well, but somewhat slower than overall growth in global rice trade.

- Domestic use of rice is projected to grow somewhat 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 as the U.S. price difference over Asian competitors falls, increasing U.S. competitiveness in global markets. Exports of rough rice to Latin America are expected to continue increasing, and account for most of the U.S. export expansion.
- Stocks of rice gradually increase in the projection period, keeping the stocks-to-use ratio at 11-12 percent.
- Global rice prices fall over the next several years from recent highs. Over the latter part of the projections, global prices increase about 2.5 percent per year, approaching $\$ 11$ per hundredweight (rough basis) at the end of the projection period. These price increases largely reflect tightening global stocks due to slow yield growth and little ability to expand area in most producing countries. This effect is partially offset by declining global per capita disappearance, largely due to dietary shifts away from staple foods in Asia as incomes rise.
- U.S. rice prices follow a similar pattern to global prices, initially declining from the high levels of 2008/09 before rising in the latter years of the projections. By the end of the projection period, U.S. rice prices increase to $\$ 12$ per hundredweight.


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


U.S. mill use of upland cotton continues to decline in the projections while upland cotton exports rise after 2010/11.

- The decline in mill use of cotton is projected to continue over the next decade. At the end of the projection period, domestic mill use is projected to represent less than one-fourth of total use. Underlying this projection, apparel imports by the United States increase over the next 10 years, reducing domestic apparel production and lowering the apparel industry's demand for fabric and yarn produced in the United States.
- U.S. upland cotton exports are projected to decline through 2010/11, reflecting a reduction in acreage and production and diminished availability of stocks. Exports then grow moderately, accounting for over three-fourths of U.S. cotton use by the end of the projection period. As a consequence, while the U.S. cotton trade share initially falls below 30 percent, it then rebounds to nearly 34 percent by the end of the projection period.
- Cotton stocks decline in the first several years of the projections as some acreage shifts to other crops. As projected cotton prices strengthen after 2009/10, improved net returns provide economic incentives for cotton acreage to rise, and stocks increase through the end of the projections.


Two primary determinants of the U.S. sugar projections are implementation of the sugar and energy provisions of the 2008 Farm Act and increased imports of sugar from Mexico.

- The 2008 Farm Act increased the raw sugar loan rate from 18 cents per pound in the 2008 crop year to 18.25 cents per pound in the 2009 crop year, to 18.50 cents per pound in the 2010 crop year, and to 18.75 cents per pound in the 2011 and 2012 crop years. The refined beet sugar loan rate is specified to equal 128.5 percent of the raw cane sugar loan rate. Marketing allotments for sugar are set annually at a level not less than 85 percent of estimated sugar deliveries for domestic human consumption.
- Higher support prices help to keep sugar competitive with alternative crops. Beet sugar production averages 5.089 million short tons, raw value (STRV) per year over the projections, while cane sugar production averages 3.822 million STRV. Both of these projections are about 9 percent higher than production in the 6-year period covered by the 2002 Farm Act. Higher support prices also help to preserve processing capacity. Beet processing capacity is projected to increase 3.3 percent in the Red River Valley of the Northern Plains and 2.2 percent in the Pacific Northwest, while capacity in the Great Lakes and Great Plains regions are down marginally. Cane processing is about the same at the end of the projection period as it was at the beginning. (The proposed sale of sugarcane land by the U.S. Sugar Corporation in Florida was not included in these projections.)
- The 2008 Farm Act also introduced the Feedstock Flexibility Program, which requires the diversion of sugar from food use to ethanol producers, if needed, to keep sugar prices above levels at which sugar processors might otherwise forfeit sugar under loan to the Commodity Credit Corporation (CCC). Consequently, there are no sugar loan forfeitures projected because of USDA purchases of sugar under this program. These purchases are projected to begin in 2013/14, with the largest projected purchases in 2014/15. Purchase levels are then somewhat lower over the remaining years of the projections. From 2013/14 through the end of the projection period, U.S. sugar prices are at the minimum level to avoid forfeiture-about 21.30 cents per pound for raw sugar (No. 16 NY contract).
U.S. sugar imports


Increased U.S. imports of sugar from Mexico are a result of increased use of high fructose corn syrup (HFCS) in Mexico and duty-free sweetener trade (sugar and HFCS) between the United States and Mexico. After a phase-in period, HFCS use by Mexico's beverage industry is assumed to be 75 percent of total sweetener demand by that industry.

- Although there are fluctuations in sugar exports from Mexico to the United States through 2014/15, on average these exports increase by 159,000 STRV per year. After this period, Mexican sugar consumption increases annually by about 50,000 tons (resulting in per capita consumption rising only slightly) and Mexican sugar exports to the United States drop by a corresponding amount.
- Raw and refined sugar tariff-rate quotas (TRQs) are established at the beginning of the marketing year at the minimum levels required to comply with international trade agreements approved by the U.S. Congress. There are no projections of any midyear increases in TRQs throughout the projection period.


## Value of horticultural trade



Farm sales of horticultural crops are projected to grow by 2.1 percent annually over the next decade, reaching $\$ 71.6$ billion in calendar year 2018, up from $\$ 58$ billion in 2008. U.S. horticultural trade continues to become increasingly important, both in terms of the export share of production and the import share of consumption.

- Within horticultural products, vegetables and melons continue to rank first in farm sales value over both fruits and nuts and greenhouse and nursery crops. Annual growth over the next 10 years is expected to be fastest for fruits and tree nuts, at 2.6 percent, followed by vegetables at 2.0 percent, and nursery crops at 1.6 percent.
- The volume of farm production of horticultural crops is projected to rise annually at 0.4 percent. Total vegetable production volume is projected to expand at 0.6 percent annually and fruit production is forecast to decline on average by 0.1 percent in the next decade. The gradual increases in U.S. vegetable production volume hold gains in producer prices for vegetables at an annual 1.3 percent rate through the next decade. Combined with average price increases of 2.7 percent for fruits and nuts, farm produce prices are estimated to increase by 1.9 percent annually in the projection period.
- The average growth of U.S. horticultural import value is forecast at 3.7 percent from fiscal year (FY) 2009 to 2018. The value of exports is forecast to grow at 3 percent, with both fruits and vegetables averaging 2.8 percent in the next 10 years. Import growth and export growth of fresh-market vegetables and fruits exceed that of their processed products. The U.S. trade deficit in horticulture crops and products increases from $\$ 14$ billion in FY 2008 to more than $\$ 21$ billion in FY 2018. Of the total $\$ 28$ billion U.S. exports of horticultural products in FY 2018, fruits and nuts contribute $\$ 12.8$ billion and vegetables represent $\$ 6.5$ billion. Total imports of $\$ 50.5$ billion in FY 2018 include $\$ 16$ billion worth of fruits and nuts, and $\$ 12$ billion of vegetables and vegetable products.
- Imports will increasingly supplement the domestic supply of horticulture crops and products. The share of imports in U.S. consumption of horticulture crops and products (based on dollar value) is projected to climb from 48 percent in 2008 to 54 percent by FY 2018. Horticultural exports are projected to increase their share of U.S. production value from 36 percent in FY 2008 to 39 percent in FY 2018. The import and export shares of fruits and nuts are about twice as large as the corresponding import and export shares of vegetables.

Table 4. Summary policy variables for major field crops, 2008-2018

|  | Marketing assistanceDirect payment loan rate |  |  | Target price |  | Counter-cyclical trigger |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | rate | 2008-2009 | 2010-2018 | 2008-2009 | 2010-2018 | 2008-2009 | 2010-2018 |
|  | Dollars ${ }^{1}$ |  |  |  |  |  |  |
| Corn | 0.28 | 1.95 | 1.95 | 2.63 | 2.63 | 2.35 | 2.35 |
| Sorghum | 0.35 | 1.95 | 1.95 | 2.57 | 2.63 | 2.22 | 2.28 |
| Barley | 0.24 | 1.85 | 1.95 | 2.24 | 2.63 | 2.00 | 2.39 |
| Oats | 0.024 | 1.33 | 1.39 | 1.44 | 1.79 | 1.416 | 1.766 |
| Wheat | 0.52 | 2.75 | 2.94 | 3.92 | 4.17 | 3.40 | 3.65 |
| Rice | 2.35 | 6.50 | 6.50 | 10.50 | 10.50 | 8.15 | 8.15 |
| Upland cotton | 0.0667 | 0.52 | 0.52 | 0.7125 | 0.7125 | 0.6458 | 0.6458 |
| Soybeans | 0.44 | 5.00 | 5.00 | 5.80 | 6.00 | 5.36 | 5.56 |

Table 5. Conservation Reserve Program acreage assumptions

|  | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Million acres |  |  |  |  |  |  |  |  |  |  |  |  |
| Crop allocation |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 6.3 | 6.2 | 6.1 | 5.7 | 5.4 | 5.4 | 5.4 | 5.4 | 5.6 | 5.7 | 5.7 | 5.7 |
| Sorghum | 1.0 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 |
| Barley | 0.9 | 0.7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 |
| Oats | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Wheat | 8.8 | 8.9 | 8.7 | 8.2 | 7.8 | 7.7 | 7.7 | 7.8 | 8.0 | 8.2 | 8.2 | 8.2 |
| Upland cotton | 1.6 | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 | 1.4 |
| Soybeans | 5.8 | 4.9 | 4.8 | 4.5 | 4.3 | 4.2 | 4.2 | 4.3 | 4.4 | 4.5 | 4.5 | 4.5 |
| Subtotal | 24.8 | 23.5 | 23.0 | 21.6 | 20.5 | 20.4 | 20.3 | 20.6 | 21.2 | 21.6 | 21.6 | 21.6 |
| Other | 12.0 | 11.3 | 11.0 | 10.3 | 9.8 | 9.8 | 9.8 | 9.9 | 10.2 | 10.3 | 10.4 | 10.4 |
| Total | 36.8 | 34.8 | 34.0 | 31.9 | 30.3 | 30.2 | 30.1 | 30.5 | 31.4 | 31.9 | 32.0 | 32.0 |

Table 6. Planted and harvested acreage for major field crops, long-term projections

|  | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Million acres |  |  |  |  |  |  |  |  |  |  |  |
| Planted acreage, eight major crops |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 93.6 | 85.9 | 88.0 | 89.0 | 90.0 | 90.0 | 90.0 | 90.0 | 90.0 | 90.5 | 90.5 | 90.5 |
| Sorghum | 7.7 | 8.3 | 7.8 | 7.6 | 7.6 | 7.5 | 7.5 | 7.4 | 7.4 | 7.4 | 7.4 | 7.3 |
| Barley | 4.0 | 4.2 | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Oats | 3.8 | 3.2 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Wheat | 60.4 | 63.0 | 60.5 | 60.5 | 61.0 | 60.5 | 60.0 | 60.0 | 59.5 | 59.5 | 59.5 | 59.5 |
| Rice | 2.8 | 2.9 | 3.0 | 3.0 | 3.0 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Upland cotton | 10.5 | 9.2 | 8.4 | 8.8 | 9.5 | 9.7 | 9.8 | 9.9 | 10.0 | 10.1 | 10.2 | 10.3 |
| Soybeans | 64.7 | 75.9 | 74.0 | 73.0 | 72.0 | 71.5 | 71.5 | 71.0 | 71.0 | 71.0 | 71.0 | 71.0 |
| Total | 247.5 | 252.6 | 249.2 | 249.3 | 250.5 | 249.6 | 249.3 | 248.8 | 248.4 | 249.0 | 249.1 | 249.1 |
| Harvested acreage, eight major crops |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 86.5 | 78.2 | 80.8 | 81.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 83.3 | 83.3 | 83.3 |
| Sorghum | 6.8 | 7.4 | 6.8 | 6.6 | 6.6 | 6.5 | 6.5 | 6.4 | 6.4 | 6.4 | 6.4 | 6.3 |
| Barley | 3.5 | 3.8 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Oats | 1.5 | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Wheat | 51.0 | 55.7 | 51.4 | 51.4 | 51.9 | 51.4 | 51.0 | 51.0 | 50.6 | 50.6 | 50.6 | 50.6 |
| Rice | 2.7 | 2.9 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.1 | 3.1 | 3.1 |
| Upland cotton | 10.2 | 7.6 | 7.6 | 7.9 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 |
| Soybeans | 64.1 | 74.4 | 73.0 | 72.1 | 71.1 | 70.6 | 70.6 | 70.1 | 70.1 | 70.1 | 70.1 | 70.1 |
| Total | 226.3 | 231.4 | 227.6 | 227.8 | 229.0 | 228.0 | 227.7 | 227.2 | 226.9 | 227.6 | 227.7 | 227.7 |

Table 7. Selected supply, use, and price variables for major field crops, long-term projections

|  | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Yields ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 151.1 | 153.8 | 157.0 | 159.0 | 161.0 | 163.0 | 165.0 | 167.0 | 169.0 | 171.0 | 173.0 | 175.0 |
| Sorghum | 74.2 | 63.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 |
| Barley | 60.4 | 63.6 | 65.5 | 66.1 | 66.8 | 67.4 | 68.0 | 68.6 | 69.2 | 69.8 | 70.4 | 71.0 |
| Oats | 60.9 | 63.5 | 63.5 | 63.9 | 64.2 | 64.6 | 65.0 | 65.3 | 65.7 | 66.1 | 66.5 | 66.8 |
| Wheat | 40.5 | 44.9 | 43.0 | 43.3 | 43.6 | 43.9 | 44.2 | 44.5 | 44.8 | 45.1 | 45.4 | 45.7 |
| Rice | 7,185 | 6,959 | 7,138 | 7,209 | 7,281 | 7,353 | 7,414 | 7,481 | 7,548 | 7,603 | 7,664 | 7,725 |
| Upland cotton | 864 | 827 | 850 | 865 | 880 | 890 | 900 | 910 | 920 | 930 | 940 | 950 |
| Soybeans | 41.7 | 39.3 | 42.6 | 43.0 | 43.5 | 43.9 | 44.3 | 44.8 | 45.2 | 45.6 | 46.1 | 46.5 |
| Production ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 13,074 | 12,020 | 12,685 | 13,005 | 13,330 | 13,495 | 13,660 | 13,830 | 13,995 | 14,245 | 14,410 | 14,580 |
| Sorghum | 505 | 465 | 435 | 420 | 420 | 415 | 415 | 410 | 410 | 410 | 410 | 405 |
| Barley | 212 | 239 | 230 | 230 | 235 | 235 | 240 | 240 | 240 | 245 | 245 | 250 |
| Oats | 92 | 89 | 95 | 95 | 95 | 95 | 100 | 100 | 100 | 100 | 100 | 100 |
| Wheat | 2,067 | 2,500 | 2,210 | 2,225 | 2,265 | 2,255 | 2,255 | 2,270 | 2,265 | 2,280 | 2,295 | 2,310 |
| Rice | 197.5 | 203.5 | 213.0 | 215.1 | 217.3 | 219.4 | 224.9 | 227.0 | 229.0 | 234.4 | 236.3 | 238.2 |
| Upland cotton | 18,355 | 13,069 | 13,500 | 14,200 | 15,800 | 16,100 | 16,500 | 16,900 | 17,300 | 17,600 | 18,000 | 18,400 |
| Soybeans | 2,676 | 2,921 | 3,110 | 3,100 | 3,095 | 3,100 | 3,130 | 3,140 | 3,170 | 3,195 | 3,230 | 3,260 |
| Exports ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 2,436 | 1,900 | 2,000 | 2,025 | 2,050 | 2,075 | 2,100 | 2,125 | 2,150 | 2,175 | 2,200 | 2,225 |
| Sorghum | 278 | 140 | 140 | 140 | 145 | 150 | 160 | 170 | 180 | 190 | 200 | 210 |
| Barley | 41 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Oats | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Wheat | 1,264 | 1,000 | 1,000 | 1,025 | 1,050 | 1,050 | 1,050 | 1,075 | 1,075 | 1,075 | 1,075 | 1,075 |
| Rice | 107.9 | 107.0 | 109.0 | 111.5 | 114.0 | 116.0 | 118.0 | 120.0 | 122.0 | 124.5 | 127.0 | 129.0 |
| Upland cotton | 12,820 | 12,500 | 10,800 | 10,500 | 11,000 | 11,700 | 12,200 | 12,700 | 13,200 | 13,600 | 14,000 | 14,400 |
| Soybeans | 1,161 | 1,020 | 1,175 | 1,200 | 1,200 | 1,180 | 1,180 | 1,175 | 1,175 | 1,180 | 1,190 | 1,200 |
| Soybean meal | 9,200 | 8,600 | 8,400 | 8,500 | 8,700 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 |
| Ending stocks ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 1,624 | 1,124 | 1,004 | 1,029 | 1,174 | 1,274 | 1,329 | 1,344 | 1,339 | 1,424 | 1,514 | 1,589 |
| Sorghum | 53 | 68 | 68 | 68 | 68 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Barley | 68 | 68 | 68 | 67 | 71 | 70 | 74 | 77 | 75 | 78 | 81 | 83 |
| Oats | 67 | 62 | 64 | 65 | 66 | 62 | 62 | 62 | 62 | 61 | 60 | 59 |
| Wheat | 306 | 603 | 616 | 620 | 640 | 647 | 645 | 640 | 621 | 613 | 611 | 620 |
| Rice | 29.4 | 25.4 | 27.9 | 29.0 | 28.9 | 27.9 | 29.3 | 30.0 | 29.6 | 31.2 | 31.3 | 30.2 |
| Upland cotton | 9,905 | 6,137 | 4,522 | 3,957 | 4,542 | 4,777 | 4,962 | 5,097 | 5,182 | 5,217 | 5,302 | 5,437 |
| Soybeans | 205 | 205 | 257 | 261 | 246 | 235 | 235 | 229 | 232 | 235 | 237 | 238 |
| Prices ${ }^{3}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 4.20 | 4.40 | 4.00 | 3.90 | 3.80 | 3.70 | 3.65 | 3.70 | 3.75 | 3.75 | 3.75 | 3.75 |
| Sorghum | 4.08 | 3.80 | 3.50 | 3.45 | 3.40 | 3.30 | 3.25 | 3.30 | 3.35 | 3.35 | 3.35 | 3.35 |
| Barley | 4.02 | 5.00 | 4.30 | 4.15 | 4.00 | 3.90 | 3.85 | 3.90 | 3.95 | 3.95 | 3.95 | 3.95 |
| Oats | 2.63 | 2.90 | 2.50 | 2.45 | 2.40 | 2.35 | 2.30 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 |
| Wheat | 6.48 | 6.85 | 5.75 | 5.60 | 5.50 | 5.35 | 5.30 | 5.40 | 5.45 | 5.45 | 5.45 | 5.45 |
| Rice | 12.80 | 15.00 | 12.50 | 11.45 | 10.90 | 10.60 | 10.80 | 11.03 | 11.27 | 11.52 | 11.78 | 12.04 |
| Upland cotton | 0.593 | 0.500 | 0.500 | 0.550 | 0.600 | 0.605 | 0.610 | 0.615 | 0.620 | 0.625 | 0.630 | 0.635 |
| Soybeans | 10.10 | 9.85 | 8.85 | 8.75 | 8.75 | 8.70 | 8.60 | 8.70 | 8.75 | 8.75 | 8.75 | 8.80 |
| Soybean oil | 0.520 | 0.395 | 0.350 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 |
| Soybean meal | 335.9 | 285.0 | 260.0 | 255.0 | 252.5 | 251.0 | 246.0 | 249.0 | 250.5 | 250.5 | 250.5 | 252.0 |

[^0]Table 8. U.S. corn Iong-term projections

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 93.6 | 85.9 | 88.0 | 89.0 | 90.0 | 90.0 | 90.0 | 90.0 | 90.0 | 90.5 | 90.5 | 90.5 |
| Harvested acres | 86.5 | 78.2 | 80.8 | 81.8 | 82.8 | 82.8 | 82.8 | 82.8 | 82.8 | 83.3 | 83.3 | 83.3 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 151.1 | 153.8 | 157.0 | 159.0 | 161.0 | 163.0 | 165.0 | 167.0 | 169.0 | 171.0 | 173.0 | 175.0 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 1,304 | 1,624 | 1,124 | 1,004 | 1,029 | 1,174 | 1,274 | 1,329 | 1,344 | 1,339 | 1,424 | 1,514 |
| Production | 13,074 | 12,020 | 12,685 | 13,005 | 13,330 | 13,495 | 13,660 | 13,830 | 13,995 | 14,245 | 14,410 | 14,580 |
| Imports | 20 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Supply | 14,398 | 13,659 | 13,824 | 14,024 | 14,374 | 14,684 | 14,949 | 15,174 | 15,354 | 15,599 | 15,849 | 16,109 |
| Feed \& residual | 5,974 | 5,300 | 5,300 | 5,350 | 5,400 | 5,450 | 5,525 | 5,600 | 5,675 | 5,725 | 5,775 | 5,850 |
| Food, seed, \& industrial | 4,364 | 5,335 | 5,520 | 5,620 | 5,750 | 5,885 | 5,995 | 6,105 | 6,190 | 6,275 | 6,360 | 6,445 |
| Ethanol for fuel | 3,026 | 4,000 | 4,200 | 4,300 | 4,425 | 4,550 | 4,650 | 4,750 | 4,825 | 4,900 | 4,975 | 5,050 |
| Domestic use | 10,338 | 10,635 | 10,820 | 10,970 | 11,150 | 11,335 | 11,520 | 11,705 | 11,865 | 12,000 | 12,135 | 12,295 |
| Exports | 2,436 | 1,900 | 2,000 | 2,025 | 2,050 | 2,075 | 2,100 | 2,125 | 2,150 | 2,175 | 2,200 | 2,225 |
| Total use | 12,774 | 12,535 | 12,820 | 12,995 | 13,200 | 13,410 | 13,620 | 13,830 | 14,015 | 14,175 | 14,335 | 14,520 |
| Ending stocks | 1,624 | 1,124 | 1,004 | 1,029 | 1,174 | 1,274 | 1,329 | 1,344 | 1,339 | 1,424 | 1,514 | 1,589 |
| Stocks/use ratio, percent | 12.7 | 9.0 | 7.8 | 7.9 | 8.9 | 9.5 | 9.8 | 9.7 | 9.6 | 10.0 | 10.6 | 10.9 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 4.20 | 4.40 | 4.00 | 3.90 | 3.80 | 3.70 | 3.65 | 3.70 | 3.75 | 3.75 | 3.75 | 3.75 |
| Loan rate | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 226 | 301 | 308 | 305 | 309 | 312 | 316 | 319 | 322 | 326 | 330 | 334 |
| Per bushel | 1.50 | 1.95 | 1.96 | 1.92 | 1.92 | 1.92 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 | 1.91 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 408 | 376 | 320 | 315 | 303 | 291 | 287 | 299 | 311 | 315 | 319 | 323 |


| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 7.7 | 8.3 | 7.8 | 7.6 | 7.6 | 7.5 | 7.5 | 7.4 | 7.4 | 7.4 | 7.4 | 7.3 |
| Harvested acres | 6.8 | 7.4 | 6.8 | 6.6 | 6.6 | 6.5 | 6.5 | 6.4 | 6.4 | 6.4 | 6.4 | 6.3 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 74.2 | 63.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 | 64.0 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 32 | 53 | 68 | 68 | 68 | 68 | 63 | 63 | 63 | 63 | 63 | 63 |
| Production | 505 | 465 | 435 | 420 | 420 | 415 | 415 | 410 | 410 | 410 | 410 | 405 |
| Imports | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Supply | 537 | 518 | 503 | 488 | 488 | 483 | 478 | 473 | 473 | 473 | 473 | 468 |
| Feed \& residual | 172 | 240 | 225 | 210 | 205 | 200 | 185 | 170 | 160 | 150 | 140 | 125 |
| Food, seed, \& industrial | 35 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| Domestic | 207 | 310 | 295 | 280 | 275 | 270 | 255 | 240 | 230 | 220 | 210 | 195 |
| Exports | 278 | 140 | 140 | 140 | 145 | 150 | 160 | 170 | 180 | 190 | 200 | 210 |
| Total use | 484 | 450 | 435 | 420 | 420 | 420 | 415 | 410 | 410 | 410 | 410 | 405 |
| Ending stocks | 53 | 68 | 68 | 68 | 68 | 63 | 63 | 63 | 63 | 63 | 63 | 63 |
| Stocks/use ratio, percent | 11.0 | 15.1 | 15.6 | 16.2 | 16.2 | 15.0 | 15.2 | 15.4 | 15.4 | 15.4 | 15.4 | 15.6 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 4.08 | 3.80 | 3.50 | 3.45 | 3.40 | 3.30 | 3.25 | 3.30 | 3.35 | 3.35 | 3.35 | 3.35 |
| Loan rate | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 132 | 166 | 159 | 160 | 163 | 166 | 168 | 170 | 172 | 174 | 177 | 179 |
| Per bushel | 1.77 | 2.64 | 2.48 | 2.50 | 2.55 | 2.59 | 2.62 | 2.65 | 2.69 | 2.73 | 2.76 | 2.80 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 171 | 73 | 65 | 61 | 54 | 46 | 40 | 41 | 42 | 40 | 38 | 35 |

Table 10. U.S. barley long-term projections

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 4.0 | 4.2 | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| Harvested acres | 3.5 | 3.8 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 60.4 | 63.6 | 65.5 | 66.1 | 66.8 | 67.4 | 68.0 | 68.6 | 69.2 | 69.8 | 70.4 | 71.0 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 69 | 68 | 68 | 68 | 67 | 71 | 70 | 74 | 77 | 75 | 78 | 81 |
| Production | 212 | 239 | 230 | 230 | 235 | 235 | 240 | 240 | 240 | 245 | 245 | 250 |
| Imports | 32 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Supply | 312 | 333 | 323 | 323 | 327 | 331 | 335 | 339 | 342 | 345 | 348 | 356 |
| Feed \& residual | 34 | 80 | 70 | 70 | 70 | 75 | 75 | 75 | 80 | 80 | 80 | 85 |
| Food, seed, \& industrial | 168 | 160 | 160 | 161 | 161 | 161 | 161 | 162 | 162 | 162 | 162 | 163 |
| Domestic | 203 | 240 | 230 | 231 | 231 | 236 | 236 | 237 | 242 | 242 | 242 | 248 |
| Exports | 41 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Total use | 244 | 265 | 255 | 256 | 256 | 261 | 261 | 262 | 267 | 267 | 267 | 273 |
| Ending stocks | 68 | 68 | 68 | 67 | 71 | 70 | 74 | 77 | 75 | 78 | 81 | 83 |
| Stocks/use ratio, percent | 27.9 | 25.7 | 26.7 | 26.2 | 27.7 | 26.8 | 28.4 | 29.4 | 28.1 | 29.2 | 30.3 | 30.4 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 4.02 | 5.00 | 4.30 | 4.15 | 4.00 | 3.90 | 3.85 | 3.90 | 3.95 | 3.95 | 3.95 | 3.95 |
| Loan rate | 1.85 | 1.85 | 1.85 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 111 | 141 | 141 | 141 | 143 | 145 | 147 | 149 | 150 | 152 | 154 | 156 |
| Per bushel | 1.84 | 2.22 | 2.15 | 2.13 | 2.14 | 2.15 | 2.16 | 2.16 | 2.17 | 2.18 | 2.19 | 2.20 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 132 | 177 | 141 | 134 | 124 | 118 | 115 | 119 | 123 | 123 | 124 | 124 |

Table 11. U.S. oats long-term projections

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 3.8 | 3.2 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Harvested acres | 1.5 | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 60.9 | 63.5 | 63.5 | 63.9 | 64.2 | 64.6 | 65.0 | 65.3 | 65.7 | 66.1 | 66.5 | 66.8 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 51 | 67 | 62 | 64 | 65 | 66 | 62 | 62 | 62 | 62 | 61 | 60 |
| Production | 92 | 89 | 95 | 95 | 95 | 95 | 100 | 100 | 100 | 100 | 100 | 100 |
| Imports | 123 | 105 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Supply | 265 | 260 | 257 | 259 | 260 | 261 | 262 | 262 | 262 | 262 | 261 | 260 |
| Feed \& residual | 121 | 120 | 115 | 115 | 115 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Food, seed, \& industrial | 75 | 75 | 75 | 76 | 76 | 76 | 77 | 77 | 77 | 78 | 78 | 78 |
| Domestic | 196 | 195 | 190 | 191 | 191 | 196 | 197 | 197 | 197 | 198 | 198 | 198 |
| Exports | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Total use | 199 | 198 | 193 | 194 | 194 | 199 | 200 | 200 | 200 | 201 | 201 | 201 |
| Ending stocks | 67 | 62 | 64 | 65 | 66 | 62 | 62 | 62 | 62 | 61 | 60 | 59 |
| Stocks/use ratio, percent | 33.7 | 31.3 | 33.2 | 33.5 | 34.0 | 31.2 | 31.0 | 31.0 | 31.0 | 30.3 | 29.9 | 29.4 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 2.63 | 2.90 | 2.50 | 2.45 | 2.40 | 2.35 | 2.30 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 |
| Loan rate | 1.33 | 1.33 | 1.33 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 | 1.39 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 82 | 106 | 107 | 107 | 109 | 110 | 112 | 113 | 114 | 116 | 118 | 119 |
| Per bushel | 1.34 | 1.67 | 1.68 | 1.67 | 1.69 | 1.70 | 1.72 | 1.73 | 1.74 | 1.76 | 1.77 | 1.79 |

Returns over variable costs (dollars per acre):

| Net returns | 78 | 78 | 52 | 50 | 45 | 42 | 38 | 40 | 40 | 39 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Note: Marketing year beginning June 1 for oats.

Table 12. U.S. wheat long-term projections

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 60.4 | 63.0 | 60.5 | 60.5 | 61.0 | 60.5 | 60.0 | 60.0 | 59.5 | 59.5 | 59.5 | 59.5 |
| Harvested acres | 51.0 | 55.7 | 51.4 | 51.4 | 51.9 | 51.4 | 51.0 | 51.0 | 50.6 | 50.6 | 50.6 | 50.6 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 40.5 | 44.9 | 43.0 | 43.3 | 43.6 | 43.9 | 44.2 | 44.5 | 44.8 | 45.1 | 45.4 | 45.7 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 456 | 306 | 603 | 616 | 620 | 640 | 647 | 645 | 640 | 621 | 613 | 611 |
| Production | 2,067 | 2,500 | 2,210 | 2,225 | 2,265 | 2,255 | 2,255 | 2,270 | 2,265 | 2,280 | 2,295 | 2,310 |
| Imports | 113 | 100 | 100 | 105 | 105 | 110 | 110 | 115 | 115 | 120 | 120 | 125 |
| Supply | 2,635 | 2,905 | 2,913 | 2,946 | 2,990 | 3,005 | 3,012 | 3,030 | 3,020 | 3,021 | 3,028 | 3,046 |
| Food | 948 | 960 | 965 | 974 | 983 | 992 | 1,001 | 1,010 | 1,019 | 1,028 | 1,037 | 1,046 |
| Seed | 88 | 82 | 82 | 82 | 82 | 81 | 81 | 80 | 80 | 80 | 80 | 80 |
| Feed \& residual | 30 | 260 | 250 | 245 | 235 | 235 | 235 | 225 | 225 | 225 | 225 | 225 |
| Domestic | 1,066 | 1,302 | 1,297 | 1,301 | 1,300 | 1,308 | 1,317 | 1,315 | 1,324 | 1,333 | 1,342 | 1,351 |
| Exports | 1,264 | 1,000 | 1,000 | 1,025 | 1,050 | 1,050 | 1,050 | 1,075 | 1,075 | 1,075 | 1,075 | 1,075 |
| Total use | 2,330 | 2,302 | 2,297 | 2,326 | 2,350 | 2,358 | 2,367 | 2,390 | 2,399 | 2,408 | 2,417 | 2,426 |
| Ending stocks | 306 | 603 | 616 | 620 | 640 | 647 | 645 | 640 | 621 | 613 | 611 | 620 |
| Stocks/use ratio, percent | 13.1 | 26.2 | 26.8 | 26.7 | 27.2 | 27.4 | 27.2 | 26.8 | 25.9 | 25.5 | 25.3 | 25.6 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 6.48 | 6.85 | 5.75 | 5.60 | 5.50 | 5.35 | 5.30 | 5.40 | 5.45 | 5.45 | 5.45 | 5.45 |
| Loan rate | 2.75 | 2.75 | 2.75 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 | 2.94 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 97 | 133 | 141 | 125 | 127 | 129 | 130 | 132 | 134 | 135 | 137 | 139 |
| Per bushel | 2.39 | 2.97 | 3.28 | 2.89 | 2.91 | 2.93 | 2.95 | 2.96 | 2.98 | 3.00 | 3.02 | 3.04 |

Returns over variable costs (dollars per acre):

| Net returns | 166 | 185 | 111 | 118 | 113 | 106 | 104 | 108 | 111 | 110 | 110 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Note: Marketing year beginning June 1 for wheat. |  |  |  |  |  |  |  |  |  |  |  |


| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Soybeans |  |  |  |  |  |  |  |  |  |  |  |  |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 64.7 | 75.9 | 74.0 | 73.0 | 72.0 | 71.5 | 71.5 | 71.0 | 71.0 | 71.0 | 71.0 | 71.0 |
| Harvested | 64.1 | 74.4 | 73.0 | 72.1 | 71.1 | 70.6 | 70.6 | 70.1 | 70.1 | 70.1 | 70.1 | 70.1 |
| Yield/harvested acre (bushels) | 41.7 | 39.3 | 42.6 | 43.0 | 43.5 | 43.9 | 44.3 | 44.8 | 45.2 | 45.6 | 46.1 | 46.5 |
| Supply (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, September 1 | 574 | 205 | 205 | 257 | 261 | 246 | 235 | 235 | 229 | 232 | 235 | 237 |
| Production | 2,676 | 2,921 | 3,110 | 3,100 | 3,095 | 3,100 | 3,130 | 3,140 | 3,170 | 3,195 | 3,230 | 3,260 |
| Imports | 10 | 7 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| Total supply | 3,260 | 3,133 | 3,320 | 3,362 | 3,361 | 3,351 | 3,370 | 3,380 | 3,404 | 3,432 | 3,470 | 3,502 |
| Disposition (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Crush | 1,801 | 1,745 | 1,720 | 1,735 | 1,750 | 1,770 | 1,790 | 1,810 | 1,830 | 1,850 | 1,875 | 1,895 |
| Seed and residual | 92 | 162 | 168 | 166 | 165 | 166 | 166 | 166 | 167 | 167 | 168 | 169 |
| Exports | 1,161 | 1,020 | 1,175 | 1,200 | 1,200 | 1,180 | 1,180 | 1,175 | 1,175 | 1,180 | 1,190 | 1,200 |
| Total disposition | 3,055 | 2,928 | 3,063 | 3,101 | 3,115 | 3,116 | 3,136 | 3,151 | 3,172 | 3,197 | 3,233 | 3,264 |
| Carryover stocks, August 31 |  |  |  |  |  |  |  |  |  |  |  |  |
| Total ending stocks | 205 | 205 | 257 | 261 | 246 | 235 | 235 | 229 | 232 | 235 | 237 | 238 |
| Stocks/use ratio, percent | 6.7 | 7.0 | 8.4 | 8.4 | 7.9 | 7.5 | 7.5 | 7.3 | 7.3 | 7.4 | 7.3 | 7.3 |
| Prices (dollars per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Loan rate | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Soybean price, farm | 10.10 | 9.85 | 8.85 | 8.75 | 8.75 | 8.70 | 8.60 | 8.70 | 8.75 | 8.75 | 8.75 | 8.80 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 105 | 130 | 132 | 132 | 134 | 135 | 136 | 138 | 139 | 140 | 141 | 143 |
| Per bushel | 2.51 | 3.32 | 3.10 | 3.08 | 3.08 | 3.08 | 3.08 | 3.07 | 3.07 | 3.07 | 3.07 | 3.07 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 316 | 257 | 245 | 244 | 247 | 247 | 245 | 252 | 257 | 259 | 262 | 266 |
| Soybean oil (million pounds) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, October 1 | 3,085 | 2,471 | 2,016 | 1,786 | 1,801 | 1,816 | 1,886 | 1,916 | 1,951 | 1,941 | 1,916 | 1,881 |
| Production | 20,568 | 19,895 | 19,610 | 19,795 | 19,985 | 20,230 | 20,480 | 20,725 | 20,970 | 21,220 | 21,525 | 21,775 |
| Imports | 65 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 |
| Total supply | 23,718 | 22,416 | 21,686 | 21,651 | 21,866 | 22,136 | 22,466 | 22,751 | 23,041 | 23,291 | 23,581 | 23,806 |
| Domestic disappearance | 18,272 | 18,100 | 18,000 | 18,100 | 18,350 | 18,550 | 18,750 | 18,950 | 19,150 | 19,375 | 19,600 | 19,850 |
| For methyl ester ${ }^{1}$ | 2,983 | 3,100 | 3,100 | 3,200 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 | 3,300 |
| Exports | 2,975 | 2,300 | 1,900 | 1,750 | 1,700 | 1,700 | 1,800 | 1,850 | 1,950 | 2,000 | 2,100 | 2,100 |
| Total demand | 21,247 | 20,400 | 19,900 | 19,850 | 20,050 | 20,250 | 20,550 | 20,800 | 21,100 | 21,375 | 21,700 | 21,950 |
| Ending stocks, September 30 | 2,471 | 2,016 | 1,786 | 1,801 | 1,816 | 1,886 | 1,916 | 1,951 | 1,941 | 1,916 | 1,881 | 1,856 |
| Soybean oil price (dollars per lb) | 0.520 | 0.395 | 0.350 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 | 0.345 |
| Soybean meal (thousand short tons) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, October 1 | 346 | 294 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Production | 42,242 | 41,491 | 40,935 | 41,235 | 41,635 | 42,085 | 42,585 | 43,085 | 43,585 | 44,085 | 44,585 | 45,085 |
| Imports | 140 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 | 165 |
| Total supply | 42,728 | 41,950 | 41,400 | 41,700 | 42,100 | 42,550 | 43,050 | 43,550 | 44,050 | 44,550 | 45,050 | 45,550 |
| Domestic disappearance | 33,234 | 33,050 | 32,700 | 32,900 | 33,100 | 33,500 | 34,000 | 34,500 | 35,000 | 35,500 | 36,000 | 36,500 |
| Exports | 9,200 | 8,600 | 8,400 | 8,500 | 8,700 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 | 8,750 |
| Total demand | 42,434 | 41,650 | 41,100 | 41,400 | 41,800 | 42,250 | 42,750 | 43,250 | 43,750 | 44,250 | 44,750 | 45,250 |
| Ending stocks, September 30 | 294 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Soybean meal price (dollars per ton) | 335.94 | 285.00 | 260.00 | 255.00 | 252.50 | 251.00 | 246.00 | 249.00 | 250.50 | 250.50 | 250.50 | 252.00 |
| Crushing yields (pounds per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Soybean oil | 11.42 | 11.40 | 11.40 | 11.41 | 11.42 | 11.43 | 11.44 | 11.45 | 11.46 | 11.47 | 11.48 | 11.49 |
| Soybean meal | 46.90 | 47.56 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 | 47.60 |
| Crush margin (dollars per bushel) | 3.72 | 1.43 | 1.33 | 1.26 | 1.20 | 1.22 | 1.20 | 1.18 | 1.17 | 1.17 | 1.17 | 1.16 |

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

Table 14. U.S. rice long-term projections, rough basis

| Item | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (thousand acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 2,761 | 2,940 | 3,000 | 3,000 | 3,000 | 3,000 | 3,050 | 3,050 | 3,050 | 3,100 | 3,100 | 3,100 |
| Harvested | 2,748 | 2,924 | 2,984 | 2,984 | 2,984 | 2,984 | 3,034 | 3,034 | 3,034 | 3,083 | 3,083 | 3,083 |
| Yields (pounds per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 7,185 | 6,959 | 7,138 | 7,209 | 7,281 | 7,353 | 7,414 | 7,481 | 7,548 | 7,603 | 7,664 | 7,725 |
| Supply and use (million hundredweight): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 39.3 | 29.4 | 25.4 | 27.9 | 29.0 | 28.9 | 27.9 | 29.3 | 30.0 | 29.6 | 31.2 | 31.3 |
| Production | 197.5 | 203.5 | 213.0 | 215.1 | 217.3 | 219.4 | 224.9 | 227.0 | 229.0 | 234.4 | 236.3 | 238.2 |
| Imports | 23.9 | 25.5 | 26.4 | 27.3 | 28.3 | 29.3 | 30.3 | 31.3 | 32.4 | 33.6 | 34.8 | 36.0 |
| Total supply | 260.7 | 258.4 | 264.8 | 270.3 | 274.6 | 277.6 | 283.0 | 287.7 | 291.4 | 297.6 | 302.3 | 305.4 |
| Domestic use and residual | 123.3 | 126.0 | 127.9 | 129.8 | 131.7 | 133.7 | 135.7 | 137.7 | 139.8 | 141.9 | 144.0 | 146.2 |
| Exports | 107.9 | 107.0 | 109.0 | 111.5 | 114.0 | 116.0 | 118.0 | 120.0 | 122.0 | 124.5 | 127.0 | 129.0 |
| Total use | 231.2 | 233.0 | 236.9 | 241.3 | 245.7 | 249.7 | 253.7 | 257.7 | 261.8 | 266.4 | 271.0 | 275.2 |
| Ending stocks | 29.4 | 25.4 | 27.9 | 29.0 | 28.9 | 27.9 | 29.3 | 30.0 | 29.6 | 31.2 | 31.3 | 30.2 |
| Stocks/use ratio, percent | 12.7 | 10.9 | 11.8 | 12.0 | 11.8 | 11.2 | 11.6 | 11.6 | 11.3 | 11.7 | 11.5 | 11.0 |
| Milling rate, percent | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 | 70.5 |
| Prices (dollars per hundredweight): |  |  |  |  |  |  |  |  |  |  |  |  |
| World price | 11.53 | 13.50 | 11.00 | 10.00 | 9.50 | 9.25 | 9.50 | 9.78 | 10.02 | 10.27 | 10.53 | 10.79 |
| Average market price | 12.80 | 15.00 | 12.50 | 11.45 | 10.90 | 10.60 | 10.80 | 11.03 | 11.27 | 11.52 | 11.78 | 12.04 |
| Loan rate | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 414 | 511 | 497 | 499 | 507 | 514 | 520 | 527 | 533 | 540 | 547 | 554 |
| Per hundredweight | 5.76 | 7.35 | 6.96 | 6.93 | 6.97 | 6.99 | 7.02 | 7.04 | 7.06 | 7.10 | 7.13 | 7.17 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns | 506 | 532 | 396 | 326 | 286 | 265 | 280 | 299 | 318 | 336 | 356 | 377 |

Table 15. U.S. upland cotton long-term projections
Item

| 2017 | $2018 / 19$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Planted acres | 10.5 | 9.2 | 8.4 | 8.8 | 9.5 | 9.7 | 9.8 | 9.9 | 10.0 | 10.1 | 10.2 | 10.3 |
| Harvested acres | 10.2 | 7.6 | 7.6 | 7.9 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 |
| Yields (pounds per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 864 | 827 | 850 | 865 | 880 | 890 | 900 | 910 | 920 | 930 | 940 | 950 |
| Supply and use (thousand bales): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 9,338 | 9,905 | 6,137 | 4,522 | 3,957 | 4,542 | 4,777 | 4,962 | 5,097 | 5,182 | 5,217 | 5,302 |
| Production | 18,355 | 13,069 | 13,500 | 14,200 | 15,800 | 16,100 | 16,500 | 16,900 | 17,300 | 17,600 | 18,000 | 18,400 |
| Imports | 6 | 5 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Supply | 27,699 | 22,979 | 19,647 | 18,732 | 19,767 | 20,652 | 21,287 | 21,872 | 22,407 | 22,792 | 23,227 | 23,712 |
| Domestic use | 4,573 | 4,365 | 4,315 | 4,265 | 4,215 | 4,165 | 4,115 | 4,065 | 4,015 | 3,965 | 3,915 | 3,865 |
| Exports | 12,820 | 12,500 | 10,800 | 10,500 | 11,000 | 11,700 | 12,200 | 12,700 | 13,200 | 13,600 | 14,000 | 14,400 |
| Total use | 17,393 | 16,865 | 15,115 | 14,765 | 15,215 | 15,865 | 16,315 | 16,765 | 17,215 | 17,565 | 17,915 | 18,265 |
| Ending stocks | 9,905 | 6,137 | 4,522 | 3,957 | 4,542 | 4,777 | 4,962 | 5,097 | 5,182 | 5,217 | 5,302 | 5,437 |
| Stocks/use ratio, percent | 56.9 | 36.4 | 29.9 | 26.8 | 29.9 | 30.1 | 30.4 | 30.4 | 30.1 | 29.7 | 29.6 | 29.8 |

Prices (dollars per pound):

| Farm price | 0.593 | 0.500 | 0.500 | 0.550 | 0.600 | 0.605 | 0.610 | 0.615 | 0.620 | 0.625 | 0.630 | 0.635 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Loan rate | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 421 | 491 | 493 | 498 | 507 | 514 | 522 | 530 | 538 | 546 | 555 | 564 |
| Per pound | 0.49 | 0.59 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.58 | 0.59 | 0.59 | 0.59 |

Returns over variable costs (dollars per acre):

| Net returns ${ }^{1}$ | 205 | 150 | 152 | 151 | 170 | 174 | 178 | 183 | 188 | 193 | 198 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Note: Marketing year beginning August 1 for upland cotton. |  |  |  |  |  |  |  |  |  |  |  |
| 1/ Net returns include estimates of marketing loan benefits. |  |  |  |  |  |  |  |  |  |  |  |

Table 16. U.S. sugar long-term projections

| Item | Units | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sugarbeets |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted area | 1,000 acres | 1,269 | 1,080 | 1,408 | 1,306 | 1,261 | 1,301 | 1,311 | 1,310 | 1,297 | 1,287 | 1,296 | 1,300 |
| Harvested area | 1,000 acres | 1,247 | 1,053 | 1,356 | 1,264 | 1,227 | 1,264 | 1,273 | 1,267 | 1,249 | 1,239 | 1,248 | 1,252 |
| Yield | Tons/acre | 25.6 | 26.6 | 26.0 | 25.7 | 25.7 | 25.8 | 25.9 | 25.9 | 26.0 | 26.1 | 26.3 | 26.4 |
| Production | Mil. s. tons | 31.9 | 28.0 | 35.2 | 32.5 | 31.5 | 32.6 | 32.9 | 32.9 | 32.5 | 32.4 | 32.8 | 33.0 |
| Sugarcane |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Harvested area | 1,000 acres | 832 | 830 | 843 | 840 | 840 | 832 | 840 | 850 | 839 | 833 | 836 | 838 |
| Yield | Tons/acre | 35.1 | 34.7 | 34.3 | 34.6 | 34.6 | 34.7 | 34.7 | 34.7 | 34.8 | 34.9 | 35.0 | 35.1 |
| Production | Mil. s. tons | 29.2 | 28.8 | 29.0 | 29.0 | 29.1 | 28.9 | 29.2 | 29.5 | 29.2 | 29.1 | 29.3 | 29.4 |
| Supply: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | $1,000 \mathrm{~s}$. tons | 1,799 | 1,690 | 907 | 1,646 | 1,425 | 1,535 | 1,703 | 1,805 | 1,790 | 1,751 | 1,746 | 1,776 |
| Production | $1,000 \mathrm{~s}$. tons | 8,150 | 7,681 | 9,139 | 8,794 | 8,701 | 8,894 | 9,032 | 9,113 | 9,066 | 9,076 | 9,205 | 9,308 |
| Beet sugar | $1,000 \mathrm{~s}$. tons | 4,721 | 4,225 | 5,405 | 5,026 | 4,907 | 5,103 | 5,183 | 5,198 | 5,171 | 5,175 | 5,259 | 5,323 |
| Cane sugar | 1,000 s. tons | 3,429 | 3,456 | 3,734 | 3,768 | 3,794 | 3,792 | 3,849 | 3,916 | 3,895 | 3,902 | 3,946 | 3,986 |
| Total imports | $1,000 \mathrm{~s}$. tons | 2,456 | 2,496 | 2,839 | 2,365 | 2,807 | 2,753 | 3,238 | 3,312 | 3,237 | 3,187 | 3,133 | 3,085 |
| TRQ imports | $1,000 \mathrm{~s}$. tons | 1,352 | 1,511 | 1,357 | 1,359 | 1,361 | 1,367 | 1,369 | 1,372 | 1,374 | 1,379 | 1,382 | 1,384 |
| Other imports | $1,000 \mathrm{~s}$. tons | 1,104 | 985 | 1,483 | 1,006 | 1,446 | 1,386 | 1,869 | 1,940 | 1,863 | 1,808 | 1,751 | 1,700 |
| Total supply | $1,000 \mathrm{~s}$. tons | 12,405 | 11,867 | 12,886 | 12,805 | 12,933 | 13,183 | 13,973 | 14,230 | 14,094 | 14,015 | 14,085 | 14,169 |
| Use: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports | 1,000 s. tons | 203 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Domestic deliveries | 1,000 s. tons | 10,781 | 10,710 | 10,990 | 11,130 | 11,148 | 11,230 | 11,308 | 11,376 | 11,433 | 11,477 | 11,519 | 11,558 |
| Miscellaneous | 1,000 s. tons | -269 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total use | 1,000 s. tons | 10,715 | 10,960 | 11,240 | 11,380 | 11,398 | 11,480 | 11,558 | 11,626 | 11,683 | 11,727 | 11,769 | 11,808 |
| CCC surplus disbursements | 1,000 s. tons | 0 | 0 | 0 | 0 | 0 | 0 | 609 | 815 | 660 | 541 | 540 | 544 |
| Ending stocks | 1,000 s. tons | 1,690 | 907 | 1,646 | 1,425 | 1,535 | 1,703 | 1,805 | 1,790 | 1,751 | 1,746 | 1,776 | 1,817 |
| Raw sugar price: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| New York (No. 16) | Cents/lb. | 23.34 | 25.66 | 23.67 | 22.67 | 22.15 | 21.53 | 21.32 | 21.31 | 21.30 | 21.30 | 21.30 | 21.29 |
| Raw sugar loan rate | Cents/lb. | 18.00 | 18.00 | 18.25 | 18.50 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 | 18.75 |
| Beet sugar loan rate | Cents/lb. | 22.90 | 23.13 | 23.45 | 23.77 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 | 24.09 |
| Grower prices: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sugarbeets | Dol.ton | 39.70 | 46.83 | 41.33 | 38.91 | 39.27 | 38.14 | 37.36 | 37.24 | 37.31 | 37.38 | 37.45 | 37.52 |
| Sugarcane | Dol.ton | 29.25 | 31.35 | 31.77 | 31.13 | 30.82 | 30.48 | 30.39 | 30.48 | 30.60 | 30.73 | 30.85 | 30.96 |

Table 17. Horticultural crops long-term supply and use projections, calendar years

| Item | Unit | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Production area ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | 1,000 acres | 10,928 | 10,707 | 10,906 | 10,917 | 10,955 | 10,994 | 11,035 | 11,076 | 11,120 | 11,165 | 11,211 | 11,259 |
| Fruit and tree nuts | 1,000 acres | 3,908 | 3,897 | 3,895 | 3,894 | 3,893 | 3,893 | 3,893 | 3,894 | 3,894 | 3,896 | 3,898 | 3,900 |
| Vegetables and melons | 1,000 acres | 7,020 | 6,810 | 7,011 | 7,023 | 7,061 | 7,101 | 7,141 | 7,183 | 7,225 | 7,269 | 7,313 | 7,359 |
| Supply |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Production, farm weight |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts | Mil. Ibs. | 59,047 | 64,369 | 64,249 | 64,142 | 64,043 | 63,954 | 63,875 | 63,804 | 63,743 | 63,691 | 63,648 | 63,614 |
| Citrus | Mil. Ibs. | 20,934 | 25,994 | 25,604 | 25,220 | 24,842 | 24,469 | 24,102 | 23,741 | 23,384 | 23,034 | 22,688 | 22,348 |
| Noncitrus | Mil. Ibs. | 34,129 | 34,300 | 34,471 | 34,643 | 34,817 | 34,991 | 35,166 | 35,342 | 35,518 | 35,696 | 35,874 | 36,054 |
| Tree nuts | Mil. lbs. | 3,984 | 4,076 | 4,174 | 4,278 | 4,385 | 4,495 | 4,607 | 4,722 | 4,840 | 4,961 | 5,085 | 5,212 |
| Vegetables and melons | Mil. Ibs. | 141,158 | 135,778 | 136,562 | 137,858 | 138,712 | 139,576 | 140,451 | 141,337 | 142,233 | 143,140 | 144,059 | 144,988 |
| Fresh market ${ }^{2}$ | Mil. Ibs. | 60,700 | 59,950 | 59,659 | 60,358 | 61,066 | 61,784 | 62,510 | 63,247 | 63,992 | 64,748 | 65,513 | 66,288 |
| Processing ${ }^{3}$ | Mil. Ibs. | 35,777 | 34,774 | 34,370 | 34,542 | 34,473 | 34,404 | 34,335 | 34,267 | 34,198 | 34,130 | 34,062 | 33,994 |
| Potatoes | Mil. Ibs. | 44,681 | 41,055 | 42,532 | 42,958 | 43,173 | 43,388 | 43,605 | 43,823 | 44,043 | 44,263 | 44,484 | 44,706 |
| Pulses ${ }^{4}$ | Mil. Ibs. | 4,535 | 4,550 | 4,641 | 4,734 | 4,828 | 4,925 | 5,024 | 5,124 | 5,227 | 5,331 | 5,438 | 5,546 |
| Total fruit, nuts, vegetables | Mil. Ibs. | 200,470 | 200,412 | 201,074 | 202,263 | 203,018 | 203,793 | 204,588 | 205,403 | 206,238 | 207,093 | 207,968 | 208,864 |
| Imports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 41,597 | 42,197 | 42,719 | 43,734 | 45,137 | 46,586 | 48,082 | 49,628 | 51,225 | 52,874 | 54,578 | 56,337 |
| Fruit and tree nuts | Mil. lbs. | 20,928 | 20,568 | 20,780 | 21,204 | 21,780 | 22,372 | 22,980 | 23,604 | 24,246 | 24,905 | 25,581 | 26,277 |
| Vegetables \& melons | Mil. lbs. | 18,456 | 19,196 | 19,446 | 19,932 | 20,649 | 21,393 | 22,163 | 22,961 | 23,787 | 24,644 | 25,531 | 26,450 |
| Use |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Exports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 20,019 | 23,034 | 23,800 | 24,197 | 24,602 | 25,014 | 25,435 | 25,865 | 26,303 | 26,749 | 27,205 | 27,670 |
| Fruit and tree nuts | Mil. lbs. | 7,817 | 9,238 | 9,553 | 9,689 | 9,827 | 9,968 | 10,111 | 10,257 | 10,406 | 10,558 | 10,713 | 10,871 |
| Vegetables \& melons | Mil. Ibs. | 10,552 | 11,927 | 12,285 | 12,481 | 12,681 | 12,884 | 13,090 | 13,299 | 13,512 | 13,728 | 13,948 | 14,171 |
| Domestic use ${ }^{5}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit, nuts, and vegetables | Mil. Ibs. | 222,048 | 219,575 | 219,993 | 221,800 | 223,554 | 225,365 | 227,235 | 229,167 | 231,160 | 233,217 | 235,341 | 237,531 |
| Fruit and tree nuts | Mil. Ibs. | 72,159 | 75,699 | 75,476 | 75,657 | 75,997 | 76,359 | 76,744 | 77,151 | 77,582 | 78,037 | 78,516 | 79,020 |
| Vegetables \& melons | Mil. lbs. | 149,062 | 143,048 | 143,723 | 145,309 | 146,681 | 148,085 | 149,524 | 150,998 | 152,508 | 154,056 | 155,642 | 157,267 |
| Farm sales value ${ }^{6}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts | \$ Mil. | 17,765 | 18,449 | 18,922 | 19,409 | 19,909 | 20,424 | 20,954 | 21,498 | 22,059 | 22,636 | 23,229 | 23,839 |
| Citrus | \$ Mil. | 2,292 | 2,304 | 2,315 | 2,327 | 2,338 | 2,350 | 2,362 | 2,374 | 2,385 | 2,397 | 2,409 | 2,421 |
| Noncitrus | \$ Mil. | 11,502 | 12,032 | 12,345 | 12,667 | 12,997 | 13,335 | 13,682 | 14,038 | 14,404 | 14,779 | 15,164 | 15,559 |
| Tree nuts | \$ Mil. | 3,971 | 4,114 | 4,262 | 4,415 | 4,574 | 4,739 | 4,910 | 5,086 | 5,270 | 5,459 | 5,656 | 5,859 |
| Vegetables and melons | \$ Mil. | 20,865 | 21,878 | 22,313 | 22,759 | 23,213 | 23,676 | 24,149 | 24,631 | 25,123 | 25,626 | 26,138 | 26,661 |
| Fresh market ${ }^{2}$ | \$ Mil. | 6,640 | 6,739 | 6,995 | 7,149 | 7,306 | 7,467 | 7,631 | 7,799 | 7,971 | 8,146 | 8,325 | 8,509 |
| Processing ${ }^{3}$ | \$ Mil. | 2,592 | 2,833 | 3,032 | 3,086 | 3,142 | 3,198 | 3,256 | 3,314 | 3,374 | 3,435 | 3,497 | 3,560 |
| Potatoes | \$ Mil. | 2,960 | 3,233 | 3,039 | 3,096 | 3,155 | 3,215 | 3,276 | 3,339 | 3,402 | 3,467 | 3,533 | 3,600 |
| Pulses ${ }^{4}$ | \$ Mil. | 878 | 966 | 898 | 923 | 948 | 973 | 999 | 1,026 | 1,054 | 1,083 | 1,112 | 1,142 |
| Nursery and greenhouse ${ }^{7}$ | \$ Mil. | 17,179 | 17,453 | 17,733 | 18,016 | 18,305 | 18,597 | 18,895 | 19,197 | 19,505 | 19,817 | 20,134 | 20,456 |
| Total horticulture crops ${ }^{8}$ | \$ Mil. | 56,387 | 58,362 | 59,553 | 60,771 | 62,017 | 63,291 | 64,593 | 65,926 | 67,289 | 68,683 | 70,109 | 71,567 |
| Producer prices ${ }^{9}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and tree nuts | $2000=100$ | 181.1 | 172.6 | 177.3 | 182.2 | 187.2 | 192.3 | 197.5 | 202.9 | 208.4 | 214.0 | 219.7 | 225.6 |
| Citrus | $2000=100$ | 150.4 | 121.7 | 124.2 | 126.7 | 129.3 | 131.9 | 134.6 | 137.3 | 140.1 | 143.0 | 145.9 | 148.8 |
| Noncitrus | $2000=100$ | 152.2 | 158.4 | 161.7 | 165.1 | 168.6 | 172.1 | 175.7 | 179.4 | 183.1 | 187.0 | 190.9 | 194.9 |
| Tree nuts | $2000=100$ | 144.7 | 146.5 | 148.2 | 149.8 | 151.4 | 153.1 | 154.7 | 156.4 | 158.1 | 159.7 | 161.5 | 163.2 |
| Vegetables and melons | $2000=100$ | 128.6 | 140.1 | 142.1 | 143.6 | 145.5 | 147.5 | 149.5 | 151.6 | 153.6 | 155.7 | 157.8 | 159.9 |
| Fresh market | $2000=100$ | 110.1 | 113.1 | 118.0 | 119.2 | 120.4 | 121.6 | 122.9 | 124.1 | 125.4 | 126.6 | 127.9 | 129.2 |
| Processing | $2000=100$ | 120.5 | 135.5 | 146.7 | 148.6 | 151.5 | 154.6 | 157.7 | 160.8 | 164.1 | 167.3 | 170.7 | 174.1 |
| Potatoes | $2000=100$ | 147.8 | 175.7 | 159.4 | 160.8 | 163.1 | 165.3 | 167.6 | 170.0 | 172.4 | 174.8 | 177.2 | 179.7 |
| Fruit, nuts, and vegetables | 2000=100 | 145.7 | 152.1 | 155.0 | 157.6 | 160.6 | 163.6 | 166.6 | 169.8 | 172.9 | 176.2 | 179.4 | 182.8 |

$1 /$ Bearing acreage for fruit and nuts; harvested area for vegetables. 2 / Includes melons, sweet potatoes, fresh mushrooms, and California specialty vegetables. $3 /$ Major processing vegetables and agaricus mushrooms. 4/ Includes edible dry beans and peas, lentils, and other peas. 5/ Calculated by adding farm weight production to imports, then subtracting exports. Stocks are not accounted for. $6 /$ Farm cash receipts except for major fresh market and processing vegetables, which are from production values. $7 /$ Includes floral crops, greenhouse vegetables such as tomatoes, cucumbers, and colored peppers, and fruit/vegetable transplants. 8/ Includes honey, maple syrup, hops, mint oils, and coffee. 9/ Based on cash receipts of U.S. farmers relative to their farm weight production.
Data source: USDA, National Agricultural Statistics Service; Foreign Agricultural Service; Economic Research Service.

Table 18. Horticultural crops long-term export and import projections, fiscal years

| Item | Unit | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Exports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh fruits | \$ Mil. | 3,010 | 3,574 | 3,999 | 4,093 | 4,189 | 4,287 | 4,388 | 4,491 | 4,596 | 4,703 | 4,813 | 4,925 |
| Citrus | \$ Mil. | 668 | 856 | 1,194 | 1,199 | 1,202 | 1,205 | 1,207 | 1,208 | 1,208 | 1,207 | 1,205 | 1,202 |
| Noncitrus | \$ Mil. | 2,342 | 2,718 | 2,805 | 2,894 | 2,987 | 3,083 | 3,181 | 3,283 | 3,388 | 3,497 | 3,608 | 3,724 |
| Processed fruits | \$ Mil. | 2,013 | 2,355 | 2,414 | 2,474 | 2,536 | 2,599 | 2,664 | 2,731 | 2,799 | 2,869 | 2,941 | 3,014 |
| Fruit juices | \$ Mil. | 1,022 | 1,157 | 1,187 | 1,218 | 1,249 | 1,282 | 1,315 | 1,349 | 1,384 | 1,420 | 1,457 | 1,495 |
| Tree nuts | \$ Mil. | 3,025 | 3,487 | 3,600 | 3,726 | 3,856 | 3,991 | 4,131 | 4,276 | 4,425 | 4,580 | 4,741 | 4,906 |
| Total fruit and nuts | \$ Mil. | 8,048 | 9,415 | 10,013 | 10,293 | 10,581 | 10,878 | 11,183 | 11,497 | 11,820 | 12,153 | 12,494 | 12,846 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 1,775 | 1,941 | 2,001 | 2,063 | 2,127 | 2,193 | 2,261 | 2,331 | 2,403 | 2,478 | 2,555 | 2,634 |
| Processed ${ }^{1}$ | \$ Mil. | 2,387 | 3,015 | 3,093 | 3,174 | 3,256 | 3,341 | 3,428 | 3,517 | 3,608 | 3,702 | 3,798 | 3,897 |
| Total vegetables | \$ Mil. | 4,162 | 4,956 | 5,094 | 5,237 | 5,383 | 5,534 | 5,689 | 5,848 | 6,012 | 6,180 | 6,353 | 6,531 |
| Other horticulture |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nursery and greenhouse | \$ Mil. | 357 | 373 | 381 | 389 | 398 | 406 | 414 | 423 | 432 | 441 | 450 | 460 |
| Essential oils | \$ Mil. | 1,142 | 1,278 | 1,318 | 1,359 | 1,401 | 1,444 | 1,489 | 1,535 | 1,583 | 1,632 | 1,682 | 1,734 |
| Wine | \$ Mil. | 906 | 966 | 1,005 | 1,045 | 1,087 | 1,130 | 1,175 | 1,222 | 1,271 | 1,322 | 1,375 | 1,430 |
| Beer | \$ Mil. | 232 | 266 | 267 | 268 | 270 | 271 | 272 | 274 | 275 | 277 | 278 | 279 |
| Other ${ }^{2}$ | \$ Mil. | 3,173 | 3,541 | 3,422 | 3,549 | 3,680 | 3,816 | 3,958 | 4,104 | 4,256 | 4,413 | 4,577 | 4,746 |
| Total horticulture | \$ Mil. | 18,020 | 20,795 | 21,500 | 22,140 | 22,799 | 23,479 | 24,180 | 24,903 | 25,649 | 26,417 | 27,209 | 28,027 |
| Fresh ${ }^{3}$ | \$ Mil. | 4,786 | 5,515 | 6,000 | 6,156 | 6,316 | 6,480 | 6,649 | 6,822 | 6,999 | 7,181 | 7,368 | 7,559 |
| Processed ${ }^{3}$ | \$ Mil. | 4,399 | 5,370 | 5,600 | 5,734 | 5,872 | 6,013 | 6,157 | 6,305 | 6,456 | 6,611 | 6,770 | 6,932 |
| Export share of production ${ }^{4}$ | Percent | 32 | 36 | 36 | 36 | 37 | 37 | 37 | 38 | 38 | 38 | 39 | 39 |
| Imports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh fruits | \$ Mil. | 5,401 | 5,544 | 5,600 | 5,824 | 6,057 | 6,299 | 6,551 | 6,813 | 7,086 | 7,369 | 7,664 | 7,971 |
| Citrus | \$ Mil. | 499 | 417 | 288 | 321 | 356 | 393 | 432 | 474 | 518 | 565 | 615 | 668 |
| Noncitrus | \$ Mil. | 4,903 | 5,127 | 5,312 | 5,503 | 5,701 | 5,906 | 6,119 | 6,339 | 6,567 | 6,804 | 7,049 | 7,303 |
| Processed fruits | \$ Mil. | 3,416 | 3,984 | 4,400 | 4,572 | 4,750 | 4,935 | 5,128 | 5,328 | 5,535 | 5,751 | 5,976 | 6,209 |
| Fruit juices | \$ Mil. | 1,616 | 1,935 | 2,000 | 2,074 | 2,151 | 2,230 | 2,313 | 2,398 | 2,487 | 2,579 | 2,675 | 2,774 |
| Tree nuts | \$ Mil. | 1,078 | 1,277 | 1,400 | 1,457 | 1,517 | 1,579 | 1,644 | 1,712 | 1,782 | 1,855 | 1,931 | 2,010 |
| Total fruit and nuts | \$ Mil. | 9,896 | 10,805 | 11,400 | 11,853 | 12,324 | 12,814 | 13,323 | 13,852 | 14,403 | 14,975 | 15,570 | 16,189 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 4,165 | 4,442 | 4,500 | 4,698 | 4,905 | 5,121 | 5,346 | 5,581 | 5,827 | 6,083 | 6,351 | 6,630 |
| Processed ${ }^{1}$ | \$ Mil. | 3,149 | 3,520 | 3,700 | 3,841 | 3,987 | 4,138 | 4,295 | 4,458 | 4,628 | 4,804 | 4,986 | 5,176 |
| Total vegetables | \$ Mil. | 7,314 | 7,962 | 8,200 | 8,539 | 8,891 | 9,259 | 9,641 | 10,040 | 10,455 | 10,887 | 11,337 | 11,806 |
| Other horticulture |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Nursery and greenhouse | \$ Mil. | 1,531 | 1,514 | 1,500 | 1,541 | 1,582 | 1,625 | 1,669 | 1,714 | 1,760 | 1,808 | 1,856 | 1,906 |
| Essential oils | \$ Mil. | 2,431 | 2,653 | 2,800 | 2,864 | 2,930 | 2,998 | 3,067 | 3,137 | 3,209 | 3,283 | 3,359 | 3,436 |
| Wine | \$ Mil. | 4,543 | 4,755 | 4,800 | 4,987 | 5,182 | 5,384 | 5,594 | 5,812 | 6,039 | 6,274 | 6,519 | 6,773 |
| Beer | \$ Mil. | 3,686 | 3,662 | 3,600 | 3,701 | 3,804 | 3,911 | 4,020 | 4,133 | 4,249 | 4,368 | 4,490 | 4,616 |
| Other ${ }^{2}$ | \$ Mil. | 2,985 | 3,360 | 3,494 | 3,634 | 3,779 | 3,931 | 4,088 | 4,251 | 4,421 | 4,598 | 4,782 | 4,974 |
| Total horticulture | \$ Mil. | 32,386 | 34,712 | 35,794 | 37,119 | 38,493 | 39,920 | 41,401 | 42,939 | 44,535 | 46,193 | 47,913 | 49,700 |
| Fresh ${ }^{3}$ | \$ Mil. | 9,567 | 9,986 | 10,100 | 10,522 | 10,962 | 11,420 | 11,897 | 12,394 | 12,912 | 13,452 | 14,015 | 14,601 |
| Processed ${ }^{3}$ | \$ Mil. | 6,565 | 7,505 | 8,100 | 8,412 | 8,736 | 9,073 | 9,423 | 9,786 | 10,163 | 10,555 | 10,962 | 11,384 |
| Import share of domestic use ${ }^{4}$ | Percent | 46 | 48 | 49 | 49 | 50 | 50 | 51 | 51 | 52 | 52 | 53 | 54 |
| 1/ Includes dry edible beans, peas, lentils, and potatoes. 2/ Includes hops, ginseng, sauces, condiments, mixed food, yeast, starches, etc. that contain horticulture ingredients. $3 /$ Includes fruits and vegetables only. 4/ Percent shares are based on values. <br> Exports are free alongside ship (FAS) value at U.S. port of exportation. Imports are customs value at U.S. port of entry. <br> Data source: U.S. Department of Commerce, Bureau of the Census. |  |  |  |  |  |  |  |  |  |  |  |  |  |


[^0]:    1/ Bushels per acre except for upland cotton and rice (pounds per acre).
    2/ Million bushels except for upland cotton (thousand bales), rice (million hundredweight), and soybean meal (thousand tons).
    $3 /$ Dollars per bushel except for upland cotton and soybean oil (per pound), rice (per hundredweight), and soybean meal (per ton).

