## Crops

Stronger global economic growth beginning in 2003 provides a more favorable demand setting for field crops, supporting longer run increases in consumption, trade, and prices. A continued strong U.S. dollar and trade competition from areas such as Brazil, Argentina, and the Black Sea region are factors constraining U.S. exports, however.

Near-term acreage projections for 2003 and 2004 indicate a response to drought-related production shortfalls and higher prices for many crops in 2002. U.S. plantings for eight major field crops rise from 249 million acres in 2002 to about 253 million acres in 2003. Acreage falls back to about 248 million in 2005 before growing slowly to about 252 million by 2012 in response to growing demand and rising market prices.

Baseline assumptions for field crops reflect provisions of the Farm Security and Rural Investment Act of 2002 ( 2002 Farm Act), which is assumed to continue through the projection period. The new farm legislation introduces some new policies to the array of agricultural commodity programs. However, in many ways, the 2002 Farm Act extends provisions of the 1996 Farm Act and the ad hoc emergency spending bills of 1998-2001. For example, marketing assistance loans existed under previous U.S. farm law, direct payments replace production flexibility contract payments of the 1996 Farm Act, and counter-cyclical payments are intended to institutionalize the market loss assistance payments of the past several years.

The 2002 Farm Act continues planting flexibility provisions, giving farmers almost complete flexibility in deciding which crops to plant. Producers are permitted to plant all cropland acreage on the farm to any crop, except for some limitations on planting fruits, vegetables, and wild rice on base acres. The land must be kept in an agricultural or conserving use (as determined by the Secretary), and farmers must comply with certain conservation and wetland provisions.

## Crop Revenues under the 2002 Farm Act

Corn market revenues and program payments at different price levels illustrate some properties of incomesupport provisions of the 2002 Farm Act. Corn program provisions for the 2002 crop are used in this illustration. Revenue calculations are for a farm with 100 acres of corn, 100 acres of corn base, corn yields of 135 bushels an acre, a program-payment yield of 103 bushels an acre used for direct payments, and an updated payment yield for counter-cyclical payments (CCPs) of 120 bushels an acre. In this example, it is assumed that the farmer has chosen to plant the same crop as the acreage base on the 100 acres.

- The portions of the accompanying figure labeled "Market revenue" represent receipts from the marketplace, which increase as market prices rise.
- The triangle labeled "LDP/MLG" represents marketing loan benefits in the form of loan deficiency payments (LDPs) and/or marketing loan gains (MLGs) that supplement market revenues at market prices below the loan rate ( $\$ 1.98$ for corn). As prices fall below the loan rate, marketing loan benefits rise and fully offset declines in market revenues since these program benefits are available for all production of loan eligible commodities.
- The area of the figure labeled "Counter-cyclical" represents the counter-cyclical payments under the 2002 Farm Act. Counter-cyclical payments are linked to market prices, with payments provided when prices are below the target price minus the direct payment rate ( $\$ 2.60$ minus $\$ 0.28$, or $\$ 2.32$, for corn). Payments increase as prices decline below $\$ 2.32$ until they reach the loan rate ( $\$ 1.98$ for corn). For prices below the loan rate, counter-cyclical payments are at their maximum and do not change. Counter-cyclical payments do not fully offset reductions in market revenues as prices fall from $\$ 2.32$ to $\$ 1.98$ because payments are made on 85 percent of the fixed acreage base and are paid on CCP payment yields rather than actual yields, and thus do not change with the farm's production.
- The area of the figure labeled "Direct payments" are fixed payments of $\$ 0.28$ a bushel for corn, paid on 85 percent of the acreage base and a payment yield. These payments do not change with market prices or the farm's production.

Corn revenues under the 2002 Farm Act, basic case


Note: Assumes 100 acres of corn, 100 acres of corn base, 135 bushels/acre yield, 103 bushels/acre direct payment yield, and 120 bushels/acre counter-cyclical payment yield.
Source: Economic Research Service, USDA, AIB 778, http://www.ers.usda.gov/publications/aib778/.

## Counter-Cyclical Payments Likely to Overlap Marketing Loan Benefits

Counter-cyclical payments are likely to overlap with counter-cyclical aspects of marketing loan benefits in certain price ranges.

- In the figure in the previous box, marketing loan benefits are assumed only for season-average prices below the loan rate. However, marketing loans have enabled farmers to attain per unit revenues that, on average, exceed commodity loan rates when prices are relatively low. Many farmers use a two-step marketing procedure in which they receive program benefits when prices are seasonally low (and marketing loan benefits seasonally high) and then sell the crop later in the marketing year when prices have risen.
- The accompanying chart includes a representative level of $\$ 0.20$ a bushel for corn for the expected above-loan-rate revenue facilitated by marketing loans when prices are low, based on the experience of recent years. With this expectation, average per unit market receipts and marketing loan benefits are kept from falling below $\$ 2.18$. As a result, expected countercyclical payments overlap with counter-cyclical aspects of marketing loan benefits in the price range from $\$ 1.98$ to $\$ 2.18$, in effect providing two counter-cyclical benefits to farmers. As season-average prices fall in this price range, both counter-cyclical payments and marketing loan benefits rise, causing total revenues to increase.


Note: Assumes 100 acres of corn, 100 acres of corn base, 135 bushels/acre yield, 103 bushels/acre direct payment yield, and 120 bushels/acre counter-cyclical payment yield. Assumes per unit revenue facilitated by marketing loan exceeds loan rate by an average of 20 cents/bushel.

Source: Economic Research Service, USDA, AIB 778, http://www.ers.usda.gov/publications/aib778/.


Under the voluntary Conservation Reserve Program (CRP), farmland owners submit bids to retire highly erodible and other environmentally sensitive cropland from production for 10-15 years. CRP enrollment is designed to enhance environmental quality and improve wildlife habitat. Farmers receive a cost-share payment to establish a permanent cover crop and annual rental payments for retiring land and maintaining specified conservation practices.

- The maximum CRP area is increased to 39.2 million acres under the 2002 Farm Act, up from 36.4 million acres under the 1996 Act. The expansion of the CRP under the 2002 Farm Act will reduce land available for crop production somewhat, with about 60 percent of the reserve allocated to the eight major field crops.


Global economic recovery underlies longrun growth in U.S. exports, but gains in trade are constrained by a strong U.S. dollar and by expanding competition in some key export markets.

- U.S. corn exports are projected to increase at a faster rate than in the 1980s and 1990s. The U.S. corn sector increases its trade share of the global corn market although competition from Argentina and Eastern Europe result in their corn trade shares increasing as well.
- U.S. wheat exports decline through 2005/06 because of a recovery in exports from Canada and Australia following droughts in 2002 as well as large exports from the Black Sea region and the EU. As global wheat trade strengthens, U.S. exports rise through the remainder of the projections, although competition holds the U.S. trade share relatively flat in 2005-12 at levels below those of the late 1990s.
- U.S. exports of soybeans rise only moderately in the baseline, reflecting slow growth in domestic production and increased foreign competition, particularly from South America.
U.S. exports: Rice and cotton

U.S. rice and cotton exports show little or no growth through most of the baseline period.
- After falling slightly in 2003 from a record high level in 2002, rice exports rise moderately through 2007 as gains in production are stronger than domestic market needs and price differentials between domestic and world rice prices weaken. In the longer run, U.S. rice exports fall as domestic use outstrips production growth, raising the price differential between U.S. and Asian rice.
- Upland cotton exports remain relatively stable in the baseline, near 10 million bales annually, as foreign competition strengthens and keeps U.S. cotton exports from expanding above the recent 75 -year high. With world cotton trade expanding throughout the projections, the U.S. share of global exports declines but is still about 30 percent in 2012/13.

Stocks-to-use ratios: Corn, wheat, and soybeans

U.S. stocks-to-use ratios for corn and wheat initially increase from relatively low levels at the end of 2002/03, before declining through the remainder of the baseline as domestic use and exports rise faster than production. The stocks-to-use ratio for soybeans is relatively flat throughout the projections.


The stocks-to-use ratio for cotton declines from recent high levels and becomes relatively stable toward the end of the projections. The rice stocks-to-use ratio initially rises due to large domestic production, but then gradually falls through the rest of the baseline as domestic use strengthens and outstrips production growth.


Projected prices for corn, wheat, and soybeans reflect, in part, movements in stocks-to-use ratios.

- Prices decline over the next several years as production recovers from the reduced levels of the 2002 crops.
- Prices for corn, wheat, and soybeans rise during the remainder of the baseline as growth in demand outpaces gains in production.


Aggregate U.S. crop area increases sharply in 2003, due mainly to rising corn and wheat plantings as farmers respond to reduced supplies and higher prices in 2002. As production rebounds and prices decline, acreage falls through 2005. For the remainder of the projections, acreage increases as producers respond to generally rising net returns as demand and prices strengthen.

- Area planted to the eight major U.S. crops is expected to rise from 249 million acres to about 253 million in 2003, fall back to 248 million in 2005, and then gradually rise to about 252 million acres by 2012. Plantings remain considerably below the recent high level of over 260 million acres in 1996. Corn, wheat, and soybeans account for about 85 percent of this acreage.
- Marketing loan benefits have a direct impact on net returns for some crops through much of the baseline, thus influencing the aggregate level of plantings as well as the cropping mix in the projections.
- Corn and wheat acreage each rise in 2003, particularly wheat, in response to reduced supplies and high market prices in 2002/03. Plantings fall back over the following 2 years as supplies rebound and prices decline. Marketing loan benefits largely offset market price movements and, thus, hold corn plantings flat in 2005-07 and wheat acreage flat in 2005-10. Additional acreage is attracted to these crops in later years as net returns increase.
- Soybean area planted declines in 2003 due to higher returns for competing crops, particularly corn. Soybean acreage then is expected to increase slightly through the rest of the projection period in response to growing demand and higher prices and net returns. Marketing loan benefits also support soybean net returns and acreage in 2004-06.


## Corn: Domestic use and exports



Domestic corn use is strong in the initial years and continues growing throughout the period.

- Feed and residual use is relatively unchanged in the initial years with fewer cattle on feed and lower pork production offsetting increases in poultry output. Feed use then rises through the remainder of the projections as meat production increases.
- Major growth is expected for ethanol use (see box, page 30) as many States ban methyl tertiary butyl ether (MTBE) as a fuel oxygenate.
- Gains in high-fructose corn syrup (HFCS) and most other food and industrial components are projected to be smaller than in the past decade. These are mature markets, with projected gains largely reflecting population growth.
- U.S. corn exports rise faster than global trade with the United States increasing its market share. China's corn exports drop as its livestock sector expands. However, the U.S. corn sector faces increased competition from Argentina and Eastern Europe, which increase their shares of the global corn trade market.


## Ethanol Production Boosts Demand for U.S. Corn

Corn used for fuel alcohol has grown sharply since the early 1980s. As a result of this growth, fuel alcohol has become the largest component within the food, seed, and industrial (FSI) use category and total FSI has overtaken corn exports in recent years. Fuel alcohol production and the related use of corn as a feedstock largely reflect the interaction of government incentives and policies, technology development, corn prices, prices of production co-products, and prices of energy substitutes.

Ethanol production expanded very rapidly until 1995/96, when there was a major contraction due to tight corn supplies and record high corn prices. Since then, ethanol output has rebounded, especially since methyl tertiary butyl ether (MTBE), a competing oxygenate produced from methyl alcohol, was found in groundwater supplies and government policies have encouraged ethanol use.

Ethanol production is projected to increase at an annual average rate of 3 percent a year in the baseline, slightly greater than the growth in domestic use of gasoline projected by the Department of Energy, Energy Information Administration. Production gains for ethanol are stronger in the early years of the baseline because many States are banning MTBE, with ethanol production growth then slowing to about 2 percent a year.

Corn is the major feedstock used to make ethanol, accounting for about 90 percent of production, followed by sorghum at about 8 percent. Other feedstocks include wheat, barley, wheat gluten, and some waste products and residues from agricultural processing industries such as brewing and dairy. There is limited substitution among feedstocks, largely for technical reasons. However, an increasing number of dry milling ethanol plants can switch among grains and typically use the cheapest grain available. Some of these plants routinely use sorghum as the principal feedstock but may switch to corn when sorghum supplies are tight.


## Ethanol Production Boosts Demand for U.S. Corn--continued

Policies are very important for the expansion of ethanol production. In 1998, the U.S. Congress extended the federal tax credit of 54 cents per gallon for ethanol blending to 2007 from the original expiration date of 2000, but specified 1 -cent reductions in 2001, 2003, and 2005, settling at 51 cents in 2005. The bio-energy program helped boost ethanol production in 2001 and 2002 by providing payments for additional production, thereby reducing input costs for plants that expanded output. The 2002 Farm Act extended this program through fiscal year 2006.

Policy-influenced market conditions are also critical determinants of ethanol production. More than half of all fuel ethanol is blended into conventional gasoline as a fuel or octane enhancer. Prices of ethanol relative to gasoline prices are a key component for determining how much ethanol is blended. The remaining ethanol is used for blending into reformulated gasoline for the winter carbon monoxide program, which requires the use of oxygenated gasoline for designated winter months, ${ }^{4}$ and for mandated use in other months in some locations to reduce smog. While use of oxygenates largely results from mandated clean air requirements, fuel producers can choose among competing oxygenates based on their relative prices. Some States offer incentives that also influence demand for ethanol. For instance, Illinois has a sales tax exemption for ethanol while Minnesota has mandated a year round minimum oxygen content requirement for all gasoline sold.

Net production costs relative to ethanol prices are critical to profitability and production decisions. Net costs are determined by the cost of corn or other feedstock adjusted for the market value of co-products from ethanol production. Ethanol wet mills produce corn gluten feed, corn gluten meal, corn oil, and carbon dioxide as co-products, while dry mills produce distillers dried grains with solubles (DDGS) and carbon dioxide co-products.

The baseline assumes that each 56 pound bushel of corn that goes into dry mill ethanol production results in 17.5 pounds of DDGS as a co-product. The protein content of DDGS for beef cattle is about 30 percent, compared to about 50 percent for soybean meal and about 10 percent for corn. ${ }^{5}$ The energy value of DDGS falls between those of corn and soybean meal. Thus, the baseline assumes that the DDGS co-product of dry mill ethanol production substitutes for about a 50-50 split of corn and soybean meal in feed rations, or about 8.75 pounds each of corn and soybean meal for each corn bushel used for ethanol production.
${ }^{4}$ The intent of the oxygenate in the winter carbon monoxide program is to offset the increased carbon monoxide levels emitted from gasoline engines due to hard starting and lengthy warm-up periods in cold weather.
${ }^{5}$ Source: National Research Council, Nutrient Requirements of Beef Cattle, Seventh Revised Edition, Update 2000.

## Wheat: Domestic use and exports



Demand in the U.S. wheat sector grows slowly, with steady domestic market gains and moderate long-term increases in exports.

- Domestic wheat demand is a relatively mature market. Food use increases less than the rate of population growth, in line with recent trends since the mid 1990s as consumers have adjusted diets to include fewer carbohydrates. Feed use of wheat rebounds from relatively low levels in 2002/03, with yearly levels largely reflecting prices of wheat relative to corn.
- U.S. wheat exports decline through 2005/06 as wheat production in Canada and Australia rebounds from drought-reduced levels in 2002 and competition continues from the EU and from nontraditional exporters of the Black Sea region. As global wheat trade expands over the remainder of the baseline, U.S. exports rise as well, but the U.S. market share remains relatively low at near 21 percent as all major wheat exporters gain proportionately.


## Soybeans: Domestic use and exports



- Growth in domestic soybean crush is largely driven by increasing demand for domestic soybean meal, mostly because of rising feed demand for expanding pork and poultry production.
- U.S. soybean exports show little or no growth in the baseline and decline towards the end of the projections, largely due to strong competition from Brazil. Consequently, the soybean trade market share for the United States continues to decline.
- U.S. exports of soybean meal and soybean oil also face competition from South American producers. Product market trade competition comes relatively more from Argentina, reflecting the predominantly export orientation of crushing in that country.

Upland cotton: Domestic mill use and exports


Domestic mill use of upland cotton declines slowly through the projection period. Annual exports of about 10 million bales remain above domestic mill use as cotton is exported for processing in developing countries with lower labor costs.

- After 2004, import quotas that have protected the U.S. textile industry will be completely eliminated, per the Uruguay Round's Agreement on Textiles and Clothing. Without the quotas originally instituted under the Multi-Fiber Arrangement (MFA), apparel imports rise, reducing the apparel industry's demand for fabric and yarn produced in the United States, and the U.S. spinning industry contracts.
- Some increase in U.S. yarn and fabric exports is likely as a result of tariff reductions in other countries. However, the effects of these tariff adjustments are not expected to offset the impact of reduced U.S. apparel production on domestic mill use.


Steady growth in domestic food use of rice is projected. U.S. rice exports rise somewhat from 2003 to 2007 as large per-acre yields raise production and total supplies. Rising supplies reduce the price differential between U.S and foreign rice. By the latter part of the projections, continued expansion in domestic use outstrips supply growth, causing U.S. rice exports to contract.

- The expansion in domestic food use of rice reflects a growing share of U.S. population of Asian and Latin American descent, a continuing emphasis on healthier life styles, and the greater use of rice for processed foods, including pet foods.
- Continued expansion in domestic use of rice pushes U.S. prices higher relative to Asian competitors later in the projection period, a factor underlying weaker exports after 2008.


Slowly declining relative prices of U.S. sugar crops compared with alternative crops result in modest reductions in area planted and harvested in the baseline. Nominal sugar and sugar crop prices are expected to be at or above levels consistent with current sugar loan rates. Prices of alternative crops are projected to decline from recent high levels through fiscal year (FY) 2005, but are then expected to increase modestly to FY 2013.

- Despite declining acreage, U.S. sugar production will grow over the next 10 years. Trend improvements in sugarcane and sugarbeet growing, harvesting, and processing are reflected in projected gains in sugar produced per acre and technical improvements result in higher sugar yields.
- Total domestic deliveries are projected to increase slightly faster than the rate of population growth in the baseline, rising from about 10 million short tons, raw value (STRV) in FY 2004 to 11.2 million STRV in FY 2013.
- Baseline projections for sugar are very sensitive to sweetener developments in Mexico. The Mexican tax on soft drinks that use high fructose corn syrup increases Mexican demand for domestically produced sugar. Sugar available for export to the United States is projected to average 253,000 STRV a year in FY 2004-13.
- In the United States, total sugar imports less imports for re-export programs average 1.496 million STRV a year, below the 1.532 million STRV trigger for the suspension of marketing allotments. Application of marketing allotments guarantees that U.S. sugar prices are at, or above, the minimum price level to avoid forfeitures to the Commodity Credit Corporation. Stocks held by processors that cannot be marketed because of the allotments (blocked stocks) average 761,000 STRV a year in FY 2004-13.


Both flue-cured and burley tobacco production, which together account for 95 percent of total U.S. leaf production, are expected to decline during the baseline period. Both are grown under a quota program. The marketing quota for both is determined by manufacturers' purchase intentions, the last 3 years' average exports, and an adjustment to maintain a specified reserve stock level. Manufacturers' purchase intentions have declined as cigarette output levels have fallen and imported tobacco use has risen. Furthermore, exports of both flue-cured and burley have slipped in the past 5 years as world leaf stocks are at sufficient levels and U.S. tobacco faces strong price competition from foreign producers such as Brazil and Zimbabwe. Loan reserve stocks have been adequate recently and adjustments have further reduced quota levels. Tobacco prices will continue to edge up as price supports increase.

- Declining cigarette consumption and exports combined with increased use of imported leaf reduce the volume of domestic leaf used by the cigarette manufacturing industry.
- U.S. cigarette consumption is falling 1 to 2 percent per year. As cigarette smoking in public places becomes more restricted and both prices and taxes increase, cigarette smokers are reducing per capita and total consumption even though about the same proportion of the population smokes.
- Cigarette exports peaked in 1996 and have been declining steadily since then. Exports during calendar 2002 are expected to be about 135 billion pieces, about the same as 2001. Exports are expected maintain this level.
- Use of imported cigarette leaf has ballooned in the last few years. The imported component of U.S.-manufactured cigarettes reached 51 percent in 2000, then slipped to 48 percent in 2001. Manufacturers use less expensive imported leaf to produce more economical blends and reduce manufacturing costs. Imported leaf is expected to continue to displace domestic leaf in U.S. cigarettes.


The United States remains a net importer of horticultural products (fruit and nuts, vegetables, and greenhouse and nursery products). Exports continue to be crucial to the success of the U.S. horticultural sector, averaging about 22 percent of production value during the baseline period.

- Grapes, oranges, apples, fresh and processed potatoes, and processed tomatoes are among the leading horticultural export commodities.
- Major export markets for U.S. horticultural products include Canada, Japan, and Southeast Asian nations.
- Imports will continue to play an important role in the domestic supply of fresh vegetables during the winter months and, increasingly, during other times of the year.
- Major U.S. horticultural imports include bananas, grapes, frozen concentrated orange juice, potatoes, and tomatoes from Mexico, Chile, Canada, and Brazil.

Table 4. Summary baseline policy variables

|  | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Target prices |  | Dollars ${ }^{1}$ |  |  |  |  |  |  |  |  |  |
| Corn | 2.60 | 2.60 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 | 2.63 |
| Sorghum | 2.54 | 2.54 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 | 2.57 |
| Barley | 2.21 | 2.21 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 | 2.24 |
| Oats | 1.40 | 1.40 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 | 1.44 |
| Wheat | 3.86 | 3.86 | 3.92 | 3.92 | 3.92 | 3.92 | 3.92 | 3.92 | 3.92 | 3.92 | 3.92 |
| Rice | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 |
| Upland cotton | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 | 0.724 |
| Soybeans | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 | 5.80 |
| Marketing assistance loan rates |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 1.98 | 1.98 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Sorghum | 1.98 | 1.98 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 | 1.95 |
| Barley | 1.88 | 1.88 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 |
| Oats | 1.35 | 1.35 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| Wheat | 2.80 | 2.80 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 |
| Rice | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 |
| Upland cotton | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 |
| Soybeans | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 | 5.00 |

## Direct payment rates

| Corn | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sorghum | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| Barley | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| Oats | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 | 0.024 |
| Wheat | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 | 0.52 |
| Rice | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 | 2.35 |
| Upland cotton | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 | 0.0667 |
| Soybeans | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| Counter-cyclical payment rates ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 0.00 | 0.12 | 0.25 | 0.25 | 0.20 | 0.15 | 0.10 | 0.10 | 0.05 | 0.00 | 0.00 |
| Sorghum | 0.00 | 0.09 | 0.22 | 0.27 | 0.22 | 0.17 | 0.12 | 0.12 | 0.07 | 0.00 | 0.00 |
| Barley | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Oats | 0.00 | 0.026 | 0.086 | 0.086 | 0.086 | 0.086 | 0.066 | 0.066 | 0.016 | 0.00 | 0.00 |
| Wheat | 0.00 | 0.09 | 0.45 | 0.55 | 0.55 | 0.50 | 0.40 | 0.30 | 0.20 | 0.15 | 0.10 |
| Rice | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 | 1.65 |
| Soybeans | 0.00 | 0.21 | 0.36 | 0.31 | 0.26 | 0.16 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |

1/ Units are dollars per bushel except for upland cotton (per pound) and rice (per hundredweight)
2/ Counter-cyclical payment rates for upland cotton are not shown because USDA is prohibited from publishing cotton price projections.

Table 5. Conservation Reserve Program acreage assumptions

|  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Million acres |  |  |  |  |  |  |  |  |  |  |  |  |
| Crop allocation |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 4.9 | 5.0 | 5.0 | 5.2 | 5.6 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 | 5.7 |
| Sorghum | 1.0 | 1.0 | 1.0 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Barley | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| Oats | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Wheat | 7.2 | 7.3 | 7.4 | 7.7 | 8.3 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 | 8.4 |
| Upland cotton | 1.4 | 1.4 | 1.4 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| Soybeans | 4.7 | 4.8 | 4.8 | 5.0 | 5.4 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Subtotal | 20.5 | 20.7 | 20.9 | 21.7 | 23.6 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 |
| Other | 13.1 | 13.3 | 13.4 | 14.0 | 15.1 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 |
| Total | 33.6 | 34.0 | 34.4 | 35.7 | 38.7 | 39.2 | 39.2 | 39.2 | 39.2 | 39.2 | 39.2 | 39.2 |

Table 6. Planted and harvested acreage for major field crops, baseline projections

| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Million acres
Planted area, 8 major crops

|  | 75.8 | 78.8 | 80.5 | 80.0 | 79.0 | 79.0 | 79.0 | 79.5 | 80.0 | 80.0 | 80.0 | 80.5 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Corn | 70.3 | 9.3 | 9.0 | 9.1 | 9.2 | 9.2 | 9.3 | 9.3 | 9.4 | 9.5 | 9.5 | 9.6 |
| Sorghum | 5.0 | 5.1 | 5.0 | 5.0 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 |
| Barley | 4.4 | 5.0 | 5.0 | 4.7 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Oats | 59.6 | 60.4 | 65.0 | 62.0 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 61.0 | 61.5 |
| Wheat | 3.3 | 3.2 | 3.3 | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Rice | 15.5 | 14.1 | 13.8 | 14.1 | 14.2 | 14.2 | 14.1 | 14.1 | 14.0 | 14.0 | 13.9 | 13.9 |
| Upland cotton | 74.1 | 73.0 | 71.5 | 72.5 | 72.5 | 72.8 | 72.8 | 72.8 | 73.0 | 73.0 | 73.0 | 73.3 |
| Soybeans | 248.0 | 248.9 | 253.1 | 250.7 | 248.2 | 248.5 | 248.5 | 249.0 | 249.7 | 249.8 | 250.2 | 251.6 |

Harvested area, 8 major crops

|  | 68.8 | 70.5 | 73.5 | 73.0 | 72.0 | 72.0 | 72.0 | 72.5 | 73.0 | 73.0 | 73.0 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Corn | 8.6 | 7.5 | 7.7 | 7.8 | 7.9 | 7.9 | 8.0 | 8.0 | 8.1 | 8.2 | 8.2 |
| Sorghum | 4.3 | 4.1 | 4.4 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Barley | 1.9 | 2.1 | 2.5 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Oats | 48.6 | 45.8 | 54.2 | 51.8 | 50.5 | 50.5 | 50.5 | 50.5 | 50.5 | 50.5 | 50.9 |
| Wheat | 3.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| Rice | 13.6 | 12.6 | 12.4 | 12.7 | 12.8 | 12.8 | 12.7 | 12.7 | 12.6 | 12.6 | 12.5 |
| Upland cotton | 73.0 | 71.8 | 70.2 | 71.2 | 71.2 | 71.4 | 71.4 | 71.4 | 71.7 | 71.7 | 71.7 |
| Soybeans | 222.1 | 217.6 | 228.1 | 226.3 | 224.1 | 224.3 | 224.3 | 224.8 | 225.6 | 225.7 | 226.0 |
| $\quad$ Total |  |  |  |  |  |  |  | 227.3 |  |  |  |


|  | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Yields ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 138.2 | 127.6 | 139.7 | 141.4 | 143.1 | 144.8 | 146.5 | 148.2 | 149.9 | 151.6 | 153.3 | 155.0 |
| Sorghum | 59.9 | 50.7 | 67.8 | 68.3 | 68.8 | 69.3 | 69.8 | 70.3 | 70.8 | 71.3 | 71.8 | 72.3 |
| Barley | 58.2 | 54.9 | 62.1 | 62.7 | 63.3 | 63.9 | 64.5 | 65.1 | 65.7 | 66.3 | 66.9 | 67.5 |
| Oats | 61.4 | 56.8 | 61.0 | 61.4 | 61.8 | 62.2 | 62.6 | 63.0 | 63.4 | 63.8 | 64.2 | 64.6 |
| Wheat | 40.2 | 35.4 | 40.5 | 40.8 | 41.1 | 41.4 | 41.7 | 42.0 | 42.3 | 42.6 | 42.9 | 43.2 |
| Rice | 6,429 | 6,611 | 6,675 | 6,741 | 6,809 | 6,871 | 6,926 | 6,978 | 7,031 | 7,084 | 7,137 | 7,191 |
| Upland cotton | 694 | 653 | 640 | 642 | 644 | 646 | 648 | 650 | 652 | 654 | 656 | 658 |
| Soybeans | 39.6 | 37.5 | 39.7 | 40.1 | 40.5 | 40.9 | 41.3 | 41.7 | 42.1 | 42.5 | 42.9 | 43.3 |
| Production ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 9,507 | 9,003 | 10,270 | 10,320 | 10,305 | 10,425 | 10,550 | 10,745 | 10,945 | 11,065 | 11,190 | 11,395 |
| Sorghum | 515 | 381 | 520 | 535 | 545 | 545 | 560 | 560 | 575 | 585 | 590 | 600 |
| Barley | 249 | 227 | 275 | 275 | 285 | 290 | 290 | 295 | 295 | 300 | 300 | 305 |
| Oats | 117 | 119 | 155 | 135 | 125 | 125 | 125 | 125 | 125 | 130 | 130 | 130 |
| Wheat | 1,957 | 1,616 | 2,195 | 2,115 | 2,075 | 2,090 | 2,105 | 2,120 | 2,135 | 2,150 | 2,185 | 2,220 |
| Rice | 213.0 | 212.0 | 215.4 | 217.8 | 219.5 | 221.2 | 222.8 | 224.5 | 225.6 | 227.3 | 228.7 | 230.3 |
| Upland cotton | 19,602 | 17,180 | 16,500 | 17,000 | 17,200 | 17,200 | 17,100 | 17,200 | 17,100 | 17,200 | 17,100 | 17,100 |
| Soybeans | 2,891 | 2,690 | 2,785 | 2,855 | 2,885 | 2,920 | 2,950 | 2,975 | 3,020 | 3,045 | 3,075 | 3,115 |
| Exports ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 1,889 | 1,925 | 2,000 | 2,100 | 2,200 | 2,275 | 2,325 | 2,400 | 2,500 | 2,600 | 2,650 | 2,700 |
| Sorghum | 241 | 245 | 240 | 250 | 255 | 260 | 265 | 270 | 275 | 280 | 285 | 290 |
| Barley | 27 | 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Oats | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Wheat | 961 | 950 | 900 | 875 | 875 | 925 | 950 | 975 | 1,000 | 1,000 | 1,025 | 1,050 |
| Rice | 94.1 | 100.0 | 97.0 | 97.5 | 98.0 | 98.5 | 99.0 | 99.0 | 98.0 | 97.0 | 96.0 | 95.0 |
| Upland cotton | 10,603 | 10,325 | 10,000 | 10,000 | 10,050 | 10,050 | 10,100 | 10,100 | 10,000 | 10,000 | 10,000 | 10,000 |
| Soybeans | 1,063 | 890 | 910 | 935 | 940 | 940 | 940 | 940 | 935 | 930 | 925 | 925 |
| Soybean meal | 7,475 | 6,200 | 6,700 | 6,900 | 7,100 | 7,250 | 7,325 | 7,400 | 7,475 | 7,525 | 7,600 | 7,675 |
| Ending stocks ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 1,599 | 848 | 1,148 | 1,348 | 1,348 | 1,308 | 1,258 | 1,243 | 1,243 | 1,178 | 1,103 | 1,098 |
| Sorghum | 59 | 36 | 56 | 66 | 76 | 76 | 76 | 71 | 71 | 71 | 71 | 71 |
| Barley | 93 | 73 | 80 | 85 | 99 | 111 | 117 | 121 | 119 | 115 | 110 | 108 |
| Oats | 63 | 58 | 83 | 87 | 80 | 82 | 83 | 83 | 82 | 85 | 82 | 83 |
| Wheat | 777 | 358 | 534 | 656 | 713 | 710 | 692 | 659 | 611 | 578 | 574 | 575 |
| Rice | 39.0 | 39.0 | 41.9 | 44.4 | 45.9 | 46.4 | 45.6 | 44.1 | 42.3 | 40.8 | 39.2 | 37.6 |
| Upland cotton | 7,098 | 6,412 | 5,450 | 5,000 | 4,750 | 4,550 | 4,250 | 4,100 | 4,000 | 4,050 | 4,050 | 4,100 |
| Soybeans | 208 | 185 | 190 | 205 | 210 | 210 | 210 | 200 | 200 | 200 | 200 | 205 |
| Prices ${ }^{3}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Corn | 1.97 | 2.40 | 2.20 | 2.10 | 2.10 | 2.15 | 2.20 | 2.25 | 2.25 | 2.30 | 2.40 | 2.40 |
| Sorghum | 1.95 | 2.45 | 2.10 | 2.00 | 1.95 | 2.00 | 2.05 | 2.10 | 2.10 | 2.15 | 2.25 | 2.25 |
| Barley | 2.22 | 2.60 | 2.35 | 2.30 | 2.30 | 2.30 | 2.35 | 2.40 | 2.40 | 2.45 | 2.50 | 2.50 |
| Oats | 1.59 | 1.80 | 1.35 | 1.25 | 1.25 | 1.30 | 1.30 | 1.35 | 1.35 | 1.40 | 1.45 | 1.45 |
| Wheat | 2.78 | 3.80 | 3.25 | 2.95 | 2.85 | 2.85 | 2.90 | 3.00 | 3.10 | 3.20 | 3.25 | 3.30 |
| Rice | 4.17 | 3.85 | 3.82 | 3.88 | 3.95 | 4.05 | 4.18 | 4.34 | 4.53 | 4.72 | 4.92 | 5.13 |
| Soybeans | 4.35 | 5.40 | 5.15 | 5.00 | 5.05 | 5.10 | 5.20 | 5.35 | 5.40 | 5.50 | 5.60 | 5.60 |
| Soybean oil | 0.165 | 0.210 | 0.238 | 0.240 | 0.235 | 0.230 | 0.225 | 0.225 | 0.228 | 0.233 | 0.240 | 0.248 |
| Soybean meal | 167.7 | 170.0 | 158.5 | 150.0 | 154.0 | 158.0 | 163.5 | 169.0 | 169.5 | 170.5 | 170.0 | 166.0 |

[^0]Table 8. U.S. corn baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 75.8 | 78.8 | 80.5 | 80.0 | 79.0 | 79.0 | 79.0 | 79.5 | 80.0 | 80.0 | 80.0 | 80.5 |
| Harvested acres | 68.8 | 70.5 | 73.5 | 73.0 | 72.0 | 72.0 | 72.0 | 72.5 | 73.0 | 73.0 | 73.0 | 73.5 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 138.2 | 127.6 | 139.7 | 141.4 | 143.1 | 144.8 | 146.5 | 148.2 | 149.9 | 151.6 | 153.3 | 155.0 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 1,899 | 1,599 | 848 | 1,148 | 1,348 | 1,348 | 1,308 | 1,258 | 1,243 | 1,243 | 1,178 | 1,103 |
| Production | 9,507 | 9,003 | 10,270 | 10,320 | 10,305 | 10,425 | 10,550 | 10,745 | 10,945 | 11,065 | 11,190 | 11,395 |
| Imports | 10 | 15 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Supply | 11,416 | 10,618 | 11,128 | 11,478 | 11,663 | 11,783 | 11,868 | 12,013 | 12,198 | 12,318 | 12,378 | 12,508 |
| Feed \& residual | 5,874 | 5,675 | 5,700 | 5,700 | 5,750 | 5,800 | 5,850 | 5,900 | 5,950 | 6,000 | 6,050 | 6,100 |
| Food, seed, \& industrial | 2,054 | 2,170 | 2,280 | 2,330 | 2,365 | 2,400 | 2,435 | 2,470 | 2,505 | 2,540 | 2,575 | 2,610 |
| Fuel alcohol use | 714 | 820 | 915 | 950 | 970 | 990 | 1,010 | 1,030 | 1,050 | 1,070 | 1,090 | 1,110 |
| Domestic use | 7,928 | 7,845 | 7,980 | 8,030 | 8,115 | 8,200 | 8,285 | 8,370 | 8,455 | 8,540 | 8,625 | 8,710 |
| Exports | 1,889 | 1,925 | 2,000 | 2,100 | 2,200 | 2,275 | 2,325 | 2,400 | 2,500 | 2,600 | 2,650 | 2,700 |
| Total use | 9,817 | 9,770 | 9,980 | 10,130 | 10,315 | 10,475 | 10,610 | 10,770 | 10,955 | 11,140 | 11,275 | 11,410 |
| Ending stocks | 1,599 | 848 | 1,148 | 1,348 | 1,348 | 1,308 | 1,258 | 1,243 | 1,243 | 1,178 | 1,103 | 1,098 |
| Stocks/use ratio, percent | 16.3 | 8.7 | 11.5 | 13.3 | 13.1 | 12.5 | 11.9 | 11.5 | 11.3 | 10.6 | 9.8 | 9.6 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 1.97 | 2.40 | 2.20 | 2.10 | 2.10 | 2.15 | 2.20 | 2.25 | 2.25 | 2.30 | 2.40 | 2.40 |
| Loan rate | 1.89 | 1.98 | 1.98 | 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 | 171.33 | 170.94 | 175.18 | 177.97 | 180.85 | 184.12 | 187.41 | 190.62 | 193.62 | 196.50 | 199.46 | 202.48 |
| Per bushel | 1.24 | 1.34 | 1.25 | 1.26 | 1.26 | 1.27 | 1.28 | 1.29 | 1.29 | 1.30 | 1.30 | 1.31 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 117.51 | 135.30 | 132.16 | 126.04 | 126.82 | 127.20 | 134.89 | 142.83 | 143.66 | 152.18 | 168.46 | 169.52 |

[^1]Table 9. U.S. sorghum baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 10.3 | 9.3 | 9.0 | 9.1 | 9.2 | 9.2 | 9.3 | 9.3 | 9.4 | 9.5 | 9.5 | 9.6 |
| Harvested acres | 8.6 | 7.5 | 7.7 | 7.8 | 7.9 | 7.9 | 8.0 | 8.0 | 8.1 | 8.2 | 8.2 | 8.3 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 59.9 | 50.7 | 67.8 | 68.3 | 68.8 | 69.3 | 69.8 | 70.3 | 70.8 | 71.3 | 71.8 | 72.3 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 42 | 59 | 36 | 56 | 66 | 76 | 76 | 76 | 71 | 71 | 71 | 71 |
| Production | 515 | 381 | 520 | 535 | 545 | 545 | 560 | 560 | 575 | 585 | 590 | 600 |
| Imports | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Supply | 556 | 441 | 556 | 591 | 611 | 621 | 636 | 636 | 646 | 656 | 661 | 671 |
| Feed \& residual | 211 | 115 | 205 | 215 | 215 | 215 | 220 | 215 | 215 | 215 | 210 | 210 |
| Food, seed, \& industrial | 45 | 45 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| Domestic | 256 | 160 | 260 | 275 | 280 | 285 | 295 | 295 | 300 | 305 | 305 | 310 |
| Exports | 241 | 245 | 240 | 250 | 255 | 260 | 265 | 270 | 275 | 280 | 285 | 290 |
| Total use | 497 | 405 | 500 | 525 | 535 | 545 | 560 | 565 | 575 | 585 | 590 | 600 |
| Ending stocks | 59 | 36 | 56 | 66 | 76 | 76 | 76 | 71 | 71 | 71 | 71 | 71 |
| Stocks/use ratio, percent | 11.9 | 8.9 | 11.2 | 12.6 | 14.2 | 13.9 | 13.6 | 12.6 | 12.3 | 12.1 | 12.0 | 11.8 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 1.95 | 2.45 | 2.10 | 2.00 | 1.95 | 2.00 | 2.05 | 2.10 | 2.10 | 2.15 | 2.25 | 2.25 |
| Loan rate | 1.71 | 1.98 | 1.98 | 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 | 97.79 | 96.98 | 99.22 | 100.85 | 102.45 | 104.21 | 105.96 | 107.68 | 109.34 | 110.97 | 112.64 | 114.31 |
| Per bushel | 1.63 | 1.91 | 1.46 | 1.48 | 1.49 | 1.50 | 1.52 | 1.53 | 1.54 | 1.56 | 1.57 | 1.58 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 19.61 | 27.23 | 48.58 | 45.99 | 45.47 | 44.78 | 44.11 | 43.46 | 42.88 | 42.32 | 48.91 | 48.36 |


| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 5.0 | 5.1 | 5.0 | 5.0 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 |
| Harvested acres | 4.3 | 4.1 | 4.4 | 4.4 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 58.2 | 54.9 | 62.1 | 62.7 | 63.3 | 63.9 | 64.5 | 65.1 | 65.7 | 66.3 | 66.9 | 67.5 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 106 | 93 | 73 | 80 | 85 | 99 | 111 | 117 | 121 | 119 | 115 | 110 |
| Production | 249 | 227 | 275 | 275 | 285 | 290 | 290 | 295 | 295 | 300 | 300 | 305 |
| Imports | 24 | 25 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 40 | 40 |
| Supply | 380 | 345 | 383 | 390 | 405 | 424 | 436 | 447 | 451 | 454 | 455 | 455 |
| Feed \& residual | 88 | 80 | 100 | 100 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 130 |
| Food, seed, \& industrial | 172 | 172 | 173 | 175 | 176 | 178 | 179 | 181 | 182 | 184 | 185 | 187 |
| Domestic | 260 | 252 | 273 | 275 | 276 | 283 | 289 | 296 | 302 | 309 | 315 | 317 |
| Exports | 27 | 20 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Total use | 287 | 272 | 303 | 305 | 306 | 313 | 319 | 326 | 332 | 339 | 345 | 347 |
| Ending stocks | 93 | 73 | 80 | 85 | 99 | 111 | 117 | 121 | 119 | 115 | 110 | 108 |
| Stocks/use ratio, percent | 32.4 | 26.8 | 26.4 | 27.9 | 32.4 | 35.5 | 36.7 | 37.1 | 35.8 | 33.9 | 31.9 | 31.1 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 2.22 | 2.60 | 2.35 | 2.30 | 2.30 | 2.30 | 2.35 | 2.40 | 2.40 | 2.45 | 2.50 | 2.50 |
| Loan rate | 1.65 | 1.88 | 1.88 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 | 1.85 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 88.49 | 87.85 | 89.95 | 91.49 | 93.01 | 94.71 | 96.42 | 98.10 | 99.67 | 101.20 | 102.76 | 104.34 |
| Per bushel | 1.52 | 1.60 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.51 | 1.52 | 1.53 | 1.54 | 1.55 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 44.21 | 54.89 | 70.27 | 68.40 | 68.41 | 68.23 | 68.05 | 67.91 | 67.86 | 67.87 | 67.83 | 67.78 |


| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 4.4 | 5.0 | 5.0 | 4.7 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Harvested acres | 1.9 | 2.1 | 2.5 | 2.2 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 61.4 | 56.8 | 61.0 | 61.4 | 61.8 | 62.2 | 62.6 | 63.0 | 63.4 | 63.8 | 64.2 | 64.6 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 73 | 63 | 58 | 83 | 87 | 80 | 82 | 83 | 83 | 82 | 85 | 82 |
| Production | 117 | 119 | 155 | 135 | 125 | 125 | 125 | 125 | 125 | 130 | 130 | 130 |
| Imports | 96 | 100 | 110 | 110 | 110 | 115 | 115 | 115 | 120 | 120 | 120 | 125 |
| Supply | 286 | 282 | 323 | 328 | 322 | 320 | 322 | 323 | 328 | 332 | 335 | 337 |
| Feed \& residual | 148 | 150 | 165 | 165 | 165 | 160 | 160 | 160 | 165 | 165 | 170 | 170 |
| Food, seed, \& industrial | 72 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 |
| Domestic | 220 | 222 | 238 | 239 | 240 | 236 | 237 | 238 | 244 | 245 | 251 | 252 |
| Exports | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Total use | 223 | 224 | 240 | 241 | 242 | 238 | 239 | 240 | 246 | 247 | 253 | 254 |
| Ending stocks | 63 | 58 | 83 | 87 | 80 | 82 | 83 | 83 | 82 | 85 | 82 | 83 |
| Stocks/use ratio, percent | 28.3 | 25.9 | 34.6 | 36.1 | 33.1 | 34.5 | 34.7 | 34.6 | 33.3 | 34.4 | 32.4 | 32.7 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 1.59 | 1.80 | 1.35 | 1.25 | 1.25 | 1.30 | 1.30 | 1.35 | 1.35 | 1.40 | 1.45 | 1.45 |
| Loan rate | 1.21 | 1.35 | 1.35 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 | 1.33 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 54.42 | 53.95 | 55.39 | 56.24 | 57.16 | 58.18 | 59.18 | 60.15 | 61.08 | 61.99 | 62.94 | 63.89 |
| Per bushel | 0.89 | 0.95 | 0.91 | 0.92 | 0.92 | 0.94 | 0.95 | 0.95 | 0.96 | 0.97 | 0.98 | 0.99 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 44.43 | 48.29 | 39.16 | 37.70 | 37.39 | 36.99 | 36.60 | 36.24 | 35.92 | 35.62 | 35.29 | 34.95 |

Table 12. U.S. wheat baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted acres | 59.6 | 60.4 | 65.0 | 62.0 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | 61.0 | 61.5 |
| Harvested acres | 48.6 | 45.8 | 54.2 | 51.8 | 50.5 | 50.5 | 50.5 | 50.5 | 50.5 | 50.5 | 50.9 | 51.4 |
| Yields (bushels per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 40.2 | 35.4 | 40.5 | 40.8 | 41.1 | 41.4 | 41.7 | 42.0 | 42.3 | 42.6 | 42.9 | 43.2 |
| Supply and use (million bushels): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 876 | 777 | 358 | 534 | 656 | 713 | 710 | 692 | 659 | 611 | 578 | 574 |
| Production | 1,957 | 1,616 | 2,195 | 2,115 | 2,075 | 2,090 | 2,105 | 2,120 | 2,135 | 2,150 | 2,185 | 2,220 |
| Imports | 108 | 80 | 100 | 105 | 110 | 115 | 115 | 115 | 115 | 120 | 120 | 120 |
| Supply | 2,941 | 2,474 | 2,653 | 2,754 | 2,841 | 2,918 | 2,930 | 2,927 | 2,909 | 2,881 | 2,883 | 2,914 |
| Food | 928 | 930 | 935 | 940 | 945 | 950 | 955 | 960 | 965 | 970 | 975 | 980 |
| Seed | 82 | 86 | 84 | 83 | 83 | 83 | 83 | 83 | 83 | 83 | 84 | 84 |
| Feed \& residual | 193 | 150 | 200 | 200 | 225 | 250 | 250 | 250 | 250 | 250 | 225 | 225 |
| Domestic | 1,203 | 1,166 | 1,219 | 1,223 | 1,253 | 1,283 | 1,288 | 1,293 | 1,298 | 1,303 | 1,284 | 1,289 |
| Exports | 961 | 950 | 900 | 875 | 875 | 925 | 950 | 975 | 1,000 | 1,000 | 1,025 | 1,050 |
| Total use | 2,164 | 2,116 | 2,119 | 2,098 | 2,128 | 2,208 | 2,238 | 2,268 | 2,298 | 2,303 | 2,309 | 2,339 |
| Ending stocks | 777 | 358 | 534 | 656 | 713 | 710 | 692 | 659 | 611 | 578 | 574 | 575 |
| Stocks/use ratio, percent | 35.9 | 16.9 | 25.2 | 31.3 | 33.5 | 32.2 | 30.9 | 29.1 | 26.6 | 25.1 | 24.9 | 24.6 |
| Prices (dollars per bushel): |  |  |  |  |  |  |  |  |  |  |  |  |
| Farm price | 2.78 | 3.80 | 3.25 | 2.95 | 2.85 | 2.85 | 2.90 | 3.00 | 3.10 | 3.20 | 3.25 | 3.30 |
| Loan rate | 2.58 | 2.80 | 2.80 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 | 2.75 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 66.31 | 65.51 | 67.30 | 68.49 | 69.71 | 71.08 | 72.44 | 73.75 | 74.98 | 76.17 | 77.40 | 78.64 |
| Per bushel | 1.65 | 1.85 | 1.66 | 1.68 | 1.70 | 1.72 | 1.74 | 1.76 | 1.77 | 1.79 | 1.80 | 1.82 |

Returns over variable costs (dollars per acre):

| Net returns $^{1}$ | 49.06 | 69.01 | 64.33 | 55.95 | 55.64 | 55.19 | 54.75 | 54.35 | 56.15 | 60.15 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1/ Net returns include estimates of marketing loan benefits. |  |  |  |  |  |  |  |  |  |  |

Table 13. U.S. rice baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 3,335 | 3,231 | 3,250 | 3,254 | 3,247 | 3,242 | 3,240 | 3,240 | 3,232 | 3,231 | 3,228 | 3,225 |
| Harvested | 3,314 | 3,207 | 3,227 | 3,231 | 3,224 | 3,219 | 3,217 | 3,217 | 3,209 | 3,208 | 3,205 | 3,202 |
| Yields (pounds per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Yield/harvested acre | 6,429 | 6,611 | 6,675 | 6,741 | 6,809 | 6,871 | 6,926 | 6,978 | 7,031 | 7,084 | 7,137 | 7,191 |
| Supply and use (million cwt): |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | 28.5 | 39.0 | 39.0 | 41.9 | 44.4 | 45.9 | 46.4 | 45.6 | 44.1 | 42.3 | 40.8 | 39.2 |
| Production | 213.0 | 212.0 | 215.4 | 217.8 | 219.5 | 221.2 | 222.8 | 224.5 | 225.6 | 227.3 | 228.7 | 230.3 |
| Imports | 13.2 | 13.0 | 12.0 | 12.4 | 12.7 | 13.1 | 13.5 | 13.9 | 14.3 | 14.8 | 15.2 | 15.7 |
| Total supply | 254.7 | 264.0 | 266.4 | 272.0 | 276.6 | 280.3 | 282.7 | 284.0 | 284.0 | 284.4 | 284.7 | 285.1 |
| Domestic use and residual | 121.7 | 125.0 | 127.5 | 130.1 | 132.7 | 135.4 | 138.1 | 140.9 | 143.7 | 146.6 | 149.5 | 152.5 |
| Exports | 94.1 | 100.0 | 97.0 | 97.5 | 98.0 | 98.5 | 99.0 | 99.0 | 98.0 | 97.0 | 96.0 | 95.0 |
| Total use | 215.8 | 225.0 | 224.5 | 227.6 | 230.7 | 233.9 | 237.1 | 239.9 | 241.7 | 243.6 | 245.5 | 247.5 |
| Ending stocks (million cwt.) | 39.0 | 39.0 | 41.9 | 44.4 | 45.9 | 46.4 | 45.6 | 44.1 | 42.3 | 40.8 | 39.2 | 37.6 |
| Stocks/use ratio, percent | 18.1 | 17.3 | 18.6 | 19.5 | 19.9 | 19.8 | 19.2 | 18.4 | 17.5 | 16.7 | 15.9 | 15.2 |
| Milling rate, percent | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 | 69.0 |
| Prices (dollars per cwt.): |  |  |  |  |  |  |  |  |  |  |  |  |
| Premium | 0.84 | 0.45 | 0.22 | 0.17 | 0.13 | 0.12 | 0.13 | 0.17 | 0.23 | 0.29 | 0.36 | 0.43 |
| World price | 3.33 | 3.40 | 3.60 | 3.71 | 3.82 | 3.93 | 4.05 | 4.17 | 4.30 | 4.43 | 4.56 | 4.70 |
| Average market price | 4.17 | 3.85 | 3.82 | 3.88 | 3.95 | 4.05 | 4.18 | 4.34 | 4.53 | 4.72 | 4.92 | 5.13 |
| 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 | 322 | 320 | 327 | 332 | 338 | 344 | 350 | 356 | 362 | 368 | 374 | 380 |
| Per cwt. | 5.01 | 4.84 | 4.89 | 4.93 | 4.96 | 5.01 | 5.06 | 5.11 | 5.15 | 5.19 | 5.24 | 5.28 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 160 | 140 | 122 | 117 | 114 | 111 | 109 | 109 | 111 | 113 | 116 | 119 |

Table 14. U.S. upland cotton baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | $2005 / 06$ | $2006 / 07$ | $2007 / 08$ | $2008 / 09$ | $2009 / 10$ | $2010 / 11$ | $2011 / 12$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

Table 15. U.S. soybean and products baseline

| Item | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Soybeans |  |  |  |  |  |  |  |  |  |  |  |  |
| Area (million acres): |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted | 74.1 | 73.0 | 71.5 | 72.5 | 72.5 | 72.8 | 72.8 | 72.8 | 73.0 | 73.0 | 73.0 | 73.3 |
| Harvested | 73.0 | 71.8 | 70.2 | 71.2 | 71.2 | 71.4 | 71.4 | 71.4 | 71.7 | 71.7 | 71.7 | 71.9 |
| Yield/harvested acre (bushels) | 39.6 | 37.5 | 39.7 | 40.1 | 40.5 | 40.9 | 41.3 | 41.7 | 42.1 | 42.5 | 42.9 | 43.3 |
| Supply (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, Sep. 1 | 248 | 208 | 185 | 190 | 205 | 210 | 210 | 210 | 200 | 200 | 200 | 200 |
| Production | 2,891 | 2,690 | 2,785 | 2,855 | 2,885 | 2,920 | 2,950 | 2,975 | 3,020 | 3,045 | 3,075 | 3,115 |
| Imports | 2 | 2 | 5 | 5 | 7 | 4 | 7 | 7 | 6 | 6 | 8 | 10 |
| Total supply | 3,141 | 2,900 | 2,975 | 3,050 | 3,097 | 3,134 | 3,167 | 3,192 | 3,226 | 3,251 | 3,283 | 3,325 |
| Disposition (million bushels) |  |  |  |  |  |  |  |  |  |  |  |  |
| Crush | 1,700 | 1,660 | 1,705 | 1,740 | 1,775 | 1,810 | 1,840 | 1,875 | 1,910 | 1,940 | 1,975 | 2,010 |
| Seed and residual | 171 | 165 | 170 | 170 | 172 | 175 | 176 | 178 | 180 | 181 | 183 | 184 |
| Exports | 1,063 | 890 | 910 | 935 | 940 | 940 | 940 | 940 | 935 | 930 | 925 | 925 |
| Total disposition | 2,933 | 2,715 | 2,785 | 2,845 | 2,887 | 2,925 | 2,956 | 2,993 | 3,025 | 3,051 | 3,083 | 3,119 |
| Carryover stocks, Aug. 31 |  |  |  |  |  |  |  |  |  |  |  |  |
| Total ending stocks | 208 | 185 | 190 | 205 | 210 | 210 | 210 | 200 | 200 | 200 | 200 | 205 |
| Stocks/use ratio, percent | 7.1 | 6.8 | 6.8 | 7.2 | 7.3 | 7.2 | 7.1 | 6.7 | 6.6 | 6.6 | 6.5 | 6.6 |
| Prices (dollars per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Loan rate | 5.26 | 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 | 4.35 | 5.40 | 5.15 | 5.00 | 5.05 | 5.10 | 5.20 | 5.35 | 5.40 | 5.50 | 5.60 | 5.60 |
| Variable costs of production (dollars): |  |  |  |  |  |  |  |  |  |  |  |  |
| Per acre | 82.56 | 83.65 | 85.17 | 86.46 | 87.71 | 89.22 | 90.79 | 92.34 | 93.76 | 95.09 | 96.43 | 97.83 |
| Per bushel | 2.08 | 2.23 | 2.15 | 2.16 | 2.17 | 2.18 | 2.20 | 2.21 | 2.23 | 2.24 | 2.25 | 2.26 |
| Returns over variable costs (dollars per acre): |  |  |  |  |  |  |  |  |  |  |  |  |
| Net returns ${ }^{1}$ | 136.82 | 118.85 | 121.27 | 122.06 | 122.89 | 123.46 | 123.97 | 130.75 | 133.58 | 138.66 | 143.81 | 144.65 |
| Soybean oil (million pounds) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, Oct. 1 | 2,877 | 2,360 | 1,485 | 1,470 | 1,575 | 1,750 | 1,940 | 2,045 | 2,120 | 2,170 | 2,135 | 2,070 |
| Production | 18,898 | 18,760 | 19,265 | 19,680 | 20,095 | 20,505 | 20,865 | 21,280 | 21,700 | 22,060 | 22,475 | 22,895 |
| Imports | 45 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 |
| Total supply | 21,820 | 21,185 | 20,820 | 21,225 | 21,750 | 22,340 | 22,895 | 23,420 | 23,920 | 24,335 | 24,720 | 25,080 |
| Domestic disappearance | 16,960 | 17,400 | 17,650 | 17,950 | 18,250 | 18,600 | 18,975 | 19,350 | 19,725 | 20,100 | 20,475 | 20,850 |
| Exports | 2,500 | 2,300 | 1,700 | 1,700 | 1,750 | 1,800 | 1,875 | 1,950 | 2,025 | 2,100 | 2,175 | 2,250 |
| Total demand | 19,460 | 19,700 | 19,350 | 19,650 | 20,000 | 20,400 | 20,850 | 21,300 | 21,750 | 22,200 | 22,650 | 23,100 |
| Ending stocks, Sep. 30 | 2,360 | 1,485 | 1,470 | 1,575 | 1,750 | 1,940 | 2,045 | 2,120 | 2,170 | 2,135 | 2,070 | 1,980 |
| Soybean oil price (dollars per Ib) | 0.165 | 0.210 | 0.238 | 0.240 | 0.235 | 0.230 | 0.225 | 0.225 | 0.228 | 0.233 | 0.240 | 0.248 |
| Soybean meal (thousand short tons) |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks, Oct. 1 | 383 | 240 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Production | 40,346 | 39,470 | 40,620 | 41,460 | 42,310 | 43,160 | 43,935 | 44,710 | 45,510 | 46,310 | 47,135 | 47,960 |
| Imports | 110 | 240 | 230 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 | 240 |
| Total supply | 40,840 | 39,950 | 41,100 | 41,950 | 42,800 | 43,650 | 44,425 | 45,200 | 46,000 | 46,800 | 47,625 | 48,450 |
| Domestic disappearance | 33,124 | 33,500 | 34,150 | 34,800 | 35,450 | 36,150 | 36,850 | 37,550 | 38,275 | 39,025 | 39,775 | 40,525 |
| Exports | 7,475 | 6,200 | 6,700 | 6,900 | 7,100 | 7,250 | 7,325 | 7,400 | 7,475 | 7,525 | 7,600 | 7,675 |
| Total demand | 40,599 | 39,700 | 40,850 | 41,700 | 42,550 | 43,400 | 44,175 | 44,950 | 45,750 | 46,550 | 47,375 | 48,200 |
| Ending stocks, Sep. 30 | 240 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Soybean meal price (dollars per ton) | 167.73 | 170.00 | 158.50 | 150.00 | 154.00 | 158.00 | 163.50 | 169.00 | 169.50 | 170.50 | 170.00 | 166.00 |
| Crushing yields (pounds per bushel) |  |  |  |  |  |  |  |  |  |  |  |  |
| Soybean oil | 11.12 | 11.30 | 11.30 | 11.31 | 11.32 | 11.33 | 11.34 | 11.35 | 11.36 | 11.37 | 11.38 | 11.39 |
| Soybean meal | 47.46 | 47.54 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 | 47.70 |
| Crush margin (dollars per bushel) | 1.46 | 1.01 | 1.32 | 1.29 | 1.28 | 1.27 | 1.25 | 1.23 | 1.23 | 1.22 | 1.19 | 1.18 |

[^2]Table 16. U.S. sugar: supply, disappearance, and prices, fiscal years 1/

| Item | Units | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |  |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1/ Fiscal year is October 1 through September 30.
2/ Includes 8,000 STRV allocated to Mexico as part of the raw sugar TRQ and 3,256 STRV to Mexico as part of the refined sugar TRQ.
3/ Starting in FY 2008 under NAFTA, Mexico can ship duty-free sugar to the United States with no quantitative limit.

Table 17. Flue-cured tobacco baseline

| Item | Unit | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area, yield, and production: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted area | 1,000 acres | 238 | 248 | 255 | 257 | 253 | 243 | 235 | 232 | 230 | 230 | 230 | 227 |
| Harvested area | 1,000 acres | 238 | 248 | 255 | 257 | 253 | 243 | 235 | 232 | 230 | 230 | 230 | 227 |
| Yield | lbs./acre | 2,432 | 2,106 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 |
| Production | Mil. Ibs. | 579 | 522 | 536 | 541 | 530 | 510 | 494 | 487 | 483 | 483 | 483 | 477 |
| Supply: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | Mil. Ibs. | 1,036 | 916 | 853 | 800 | 735 | 675 | 605 | 540 | 495 | 460 | 445 | 440 |
| Marketings | Mil. Ibs. | 544 | 565 | 560 | 530 | 520 | 500 | 485 | 485 | 480 | 480 | 480 | 480 |
| Total ${ }^{1}$ | Mil. Ibs. | 1,581 | 1,481 | 1,413 | 1,330 | 1,255 | 1,175 | 1,090 | 1,025 | 975 | 940 | 925 | 920 |
| Imports | Mil. Ibs. | 199 | 200 | 200 | 210 | 210 | 210 | 210 | 215 | 215 | 215 | 215 | 215 |
| Use: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Domestic | Mil. Ibs. | 389 | 380 | 370 | 360 | 350 | 340 | 330 | 320 | 320 | 315 | 315 | 310 |
| Exports | Mil. Ibs. | 276 | 248 | 243 | 235 | 230 | 230 | 220 | 210 | 195 | 180 | 170 | 165 |
| Total ${ }^{1}$ | Mil. Ibs. | 665 | 628 | 613 | 595 | 580 | 570 | 550 | 530 | 515 | 495 | 485 | 475 |
| Ending stocks: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | Mil. Ibs. | 916 | 853 | 800 | 735 | 675 | 605 | 540 | 495 | 460 | 445 | 440 | 445 |
| Price: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Avg. to growers | \$/cwt | 186 | 183 | 185 | 188 | 172 | 175 | 200 | 203 | 206 | 209 | 212 | 215 |
| Support | \$/cwt | 166 | 166 | 169 | 172 | 175 | 182 | 185 | 188 | 191 | 195 | 198 | 200 |

Table 18. Burley tobacco baseline

| Item | Unit | 2001/02 | 2002/03 | 2003/04 | 2004/05 | 2005/06 | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Area, yield, and production: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Planted area | 1,000 acres | 164 | 170 | 175 | 170 | 170 | 165 | 165 | 160 | 160 | 155 | 155 | 150 |
| Harvested area | 1,000 acres | 164 | 170 | 175 | 170 | 170 | 165 | 165 | 160 | 160 | 155 | 155 | 150 |
| Yield | lbs./acre | 2,033 | 1,880 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 |
| Production | Mil. lbs. | 334 | 304 | 368 | 357 | 357 | 347 | 347 | 336 | 336 | 326 | 326 | 315 |
| Supply: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Beginning stocks | Mil. Ibs. | 690 | 648 | 561 | 494 | 441 | 396 | 355 | 309 | 259 | 224 | 204 | 204 |
| Marketings | Mil. Ibs. | 338 | 325 | 345 | 347 | 345 | 330 | 315 | 300 | 300 | 295 | 295 | 290 |
| Total ${ }^{1}$ | Mil. Ibs. | 1,028 | 973 | 906 | 841 | 786 | 726 | 670 | 609 | 559 | 519 | 499 | 494 |
| Imports | Mil. Ibs. | 270 | 270 | 270 | 275 | 275 | 275 | 280 | 280 | 280 | 280 | 280 | 280 |
| Use: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Domestic | Mil. Ibs. | 285 | 280 | 270 | 260 | 250 | 240 | 230 | 220 | 210 | 200 | 190 | 180 |
| Exports | Mil. lbs. | 140 | 132 | 142 | 140 | 140 | 131 | 131 | 130 | 125 | 115 | 105 | 100 |
| Total ${ }^{1}$ | Mil. Ibs. | 425 | 412 | 412 | 400 | 390 | 371 | 361 | 350 | 335 | 315 | 295 | 280 |
| Ending stocks: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | Mil. Ibs. | 648 | 561 | 494 | 441 | 396 | 355 | 309 | 259 | 224 | 204 | 204 | 214 |
| Price: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Avg. to growers | \$/cwt | 197 | 198 | 203 | 206 | 209 | 212 | 216 | 219 | 223 | 227 | 230 | 234 |
| Support | \$/cwt | 183 | 184 | 191 | 194 | 197 | 200 | 203 | 206 | 209 | 212 | 214 | 217 |


| Item | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Production value: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Citrus | \$ Mil. | 2,320 | 2,605 | 2,737 | 2,830 | 2,878 | 2,921 | 2,973 | 3,022 | 3,071 | 3,131 | 3,186 | 3,249 |
| Noncitrus | \$ Mil. | 7,873 | 8,259 | 8,502 | 8,796 | 9,108 | 9,464 | 9,829 | 10,197 | 10,561 | 10,918 | 11,267 | 11,611 |
| Nuts | \$ Mil. | 1,612 | 1,720 | 2,052 | 1,930 | 2,215 | 2,174 | 2,266 | 2,320 | 2,369 | 2,429 | 2,613 | 2,437 |
| Total | \$ Mil. | 11,805 | 12,584 | 13,291 | 13,555 | 14,202 | 14,558 | 15,068 | 15,540 | 16,001 | 16,477 | 17,066 | 17,296 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh ${ }^{1}$ | \$ Mil. | 8,488 | 9,282 | 9,654 | 10,006 | 10,374 | 10,761 | 11,163 | 11,581 | 12,016 | 12,467 | 12,936 | 13,423 |
| Processed ${ }^{2}$ | \$ Mil. | 1,340 | 1,516 | 1,534 | 1,542 | 1,562 | 1,587 | 1,616 | 1,643 | 1,668 | 1,693 | 1,717 | 1,740 |
| Potatoes | \$ Mil. | 3,058 | 3,171 | 3,171 | 3,033 | 3,035 | 3,106 | 3,215 | 3,328 | 3,428 | 3,505 | 3,560 | 3,601 |
| Sweet potatoes | \$ Mil. | 224 | 219 | 222 | 239 | 245 | 251 | 257 | 263 | 269 | 275 | 281 | 287 |
| Pulses | \$ Mil. | 444 | 559 | 588 | 559 | 589 | 611 | 634 | 656 | 678 | 701 | 725 | 748 |
| Mushrooms | \$ Mil. | 868 | 912 | 947 | 964 | 980 | 996 | 1,011 | 1,027 | 1,041 | 1,055 | 1,069 | 1,082 |
| Total | \$ Mil. | 14,421 | 15,658 | 16,116 | 16,342 | 16,785 | 17,312 | 17,895 | 18,497 | 19,100 | 19,696 | 20,288 | 20,881 |
| Greenhouse/Nursery | \$ Mil. | 13,795 | 13,941 | 14,359 | 14,503 | 14,648 | 14,794 | 14,942 | 15,092 | 15,243 | 15,395 | 15,549 | 15,705 |
| Production: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Citrus | 1,000 MT | 14,711 | 14,871 | 13,576 | 15,045 | 15,272 | 15,369 | 15,637 | 15,775 | 15,846 | 16,073 | 16,148 | 16,337 |
| Noncitrus | 1,000 MT | 15,261 | 15,476 | 16,075 | 16,045 | 16,159 | 16,395 | 16,645 | 16,892 | 17,121 | 17,323 | 17,498 | 17,655 |
| Nuts | 1,000 MT | 622 | 655 | 572 | 647 | 630 | 601 | 720 | 594 | 754 | 654 | 705 | 746 |
| Total | 1,000 MT | 30,593 | 31,002 | 30,222 | 31,737 | 32,061 | 32,365 | 33,003 | 33,262 | 33,722 | 34,050 | 34,352 | 34,738 |
| Vegetables |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh ${ }^{1}$ | 1,000 MT | 20,028 | 20,569 | 21,217 | 21,673 | 22,122 | 22,576 | 23,036 | 23,502 | 23,975 | 24,455 | 24,944 | 25,441 |
| Processed ${ }^{2}$ | 1,000 MT | 13,740 | 16,018 | 15,905 | 16,006 | 16,138 | 16,346 | 16,580 | 16,806 | 17,027 | 17,243 | 17,454 | 17,662 |
| Potatoes | 1,000 MT | 19,862 | 20,853 | 22,796 | 24,238 | 24,899 | 25,238 | 25,419 | 25,581 | 25,812 | 26,149 | 26,582 | 27,076 |
| Sweet potatoes | 1,000 MT | 661 | 587 | 621 | 673 | 684 | 690 | 698 | 706 | 714 | 721 | 730 | 738 |
| Pulses | 1,000 MT | 1,192 | 1,552 | 1,507 | 1,561 | 1,617 | 1,654 | 1,690 | 1,725 | 1,759 | 1,792 | 1,825 | 1,858 |
| Mushrooms | 1,000 MT | 390 | 386 | 396 | 405 | 414 | 424 | 434 | 444 | 454 | 464 | 475 | 486 |
| Total | 1,000 MT | 55,873 | 59,965 | 62,443 | 64,556 | 65,875 | 66,929 | 67,857 | 68,763 | 69,740 | 70,825 | 72,010 | 73,261 |
| Prices: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Grower |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts | 1990-92=100 | 108 | 110 | 113 | 117 | 122 | 126 | 130 | 133 | 135 | 137 | 139 | 142 |
| Vegetables | 1990-92=100 | 126 | 139 | 129 | 133 | 135 | 137 | 139 | 141 | 143 | 145 | 147 | 149 |
| Potatoes | \$/MT | 154 | 152 | 139 | 125 | 122 | 123 | 126 | 130 | 133 | 134 | 134 | 133 |
| Dry beans | \$/MT | 428 | 397 | 463 | 419 | 425 | 432 | 438 | 445 | 451 | 458 | 465 | 472 |
| Retail |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and vegetables | 1982-84=100 | 212 | 221 | 227 | 233 | 239 | 245 | 251 | 258 | 264 | 270 | 277 | 284 |
| Fresh fruit | 1982-84=100 | 265 | 269 | 279 | 288 | 297 | 306 | 314 | 323 | 332 | 341 | 350 | 359 |
| Fresh vegetables | $1982-84=100$ | 231 | 245 | 250 | 255 | 261 | 267 | 274 | 281 | 287 | 294 | 301 | 310 |
| Processed fruit \& veg. | Dec 1997=100 | 109 | 114 | 118 | 121 | 123 | 126 | 129 | 132 | 135 | 137 | 140 | 143 |

1/ Includes artichokes, asparagus, snap beans, broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, sweet corn, eggplant, escarole-endive, garlic, lettuce, bell peppers, onions, spinach, tomatoes, and melons.
2/ Includes asparagus, lima beans, snap beans, broccoli, beets, cabbage, carrots, cauliflower, sweet corn, cucumbers, green peas, spinach, and tomatoes.

Table 20. Fruit, vegetable, and greenhouse/nursery baseline, trade

| Item | Unit | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Imports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 3,290 | 3,486 | 3,601 | 3,732 | 3,864 | 3,995 | 4,126 | 4,256 | 4,387 | 4,518 | 4,649 | 4,780 |
| Processed | \$ Mil. | 3,584 | 3,809 | 3,969 | 4,045 | 4,193 | 4,349 | 4,512 | 4,682 | 4,861 | 5,047 | 5,243 | 5,447 |
| Nuts | \$ Mil. | 628 | 660 | 713 | 727 | 741 | 756 | 771 | 787 | 803 | 819 | 835 | 852 |
| Total | \$ Mil. | 7,502 | 7,955 | 8,283 | 8,504 | 8,798 | 9,100 | 9,409 | 9,726 | 10,051 | 10,384 | 10,727 | 11,079 |
| Vegetables ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 2,569 | 2,355 | 2,509 | 2,617 | 2,723 | 2,829 | 2,935 | 3,042 | 3,149 | 3,256 | 3,364 | 3,472 |
| Processed | \$ Mil. | 1,045 | 1,122 | 1,119 | 1,143 | 1,175 | 1,207 | 1,240 | 1,272 | 1,305 | 1,338 | 1,372 | 1,406 |
| Potatoes | \$ Mil. | 549 | 623 | 637 | 671 | 700 | 728 | 759 | 792 | 828 | 865 | 902 | 941 |
| Sweet potatoes | \$ Mil. | 27 | 29 | 28 | 29 | 28 | 29 | 29 | 30 | 31 | 32 | 32 | 33 |
| Pulses | \$ Mil. | 100 | 104 | 82 | 85 | 88 | 92 | 95 | 99 | 102 | 106 | 109 | 113 |
| Mushrooms | \$ Mil. | 179 | 177 | 179 | 180 | 182 | 184 | 186 | 189 | 191 | 193 | 196 | 198 |
| Total | \$ Mil. | 4,468 | 4,410 | 4,555 | 4,725 | 4,897 | 5,069 | 5,245 | 5,424 | 5,606 | 5,790 | 5,975 | 6,162 |
| Greenhouse/Nursery | \$ Mil. | 1,151 | 1,330 | 1,173 | 1,397 | 1,432 | 1,467 | 1,503 | 1,541 | 1,579 | 1,618 | 1,659 | 1,700 |
| Exports |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fruit and nuts ${ }^{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 2,094 | 2,098 | 2,117 | 2,198 | 2,249 | 2,301 | 2,355 | 2,410 | 2,466 | 2,524 | 2,583 | 2,644 |
| Processed | \$ Mil. | 1,829 | 1,861 | 1,980 | 2,045 | 2,114 | 2,187 | 2,263 | 2,342 | 2,425 | 2,513 | 2,604 | 2,699 |
| Nuts | \$ Mil. | 1,133 | 1,190 | 1,222 | 1,252 | 1,283 | 1,312 | 1,342 | 1,371 | 1,399 | 1,427 | 1,455 | 1,483 |
| Total | \$ Mil. | 5,056 | 5,149 | 5,319 | 5,496 | 5,646 | 5,801 | 5,959 | 6,122 | 6,291 | 6,464 | 6,642 | 6,826 |
| Vegetables ${ }^{2}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fresh | \$ Mil. | 1,183 | 1,124 | 1,243 | 1,231 | 1,298 | 1,308 | 1,359 | 1,379 | 1,421 | 1,446 | 1,485 | 1,513 |
| Processed | \$ Mil. | 1,079 | 1,093 | 1,124 | 1,154 | 1,186 | 1,220 | 1,254 | 1,288 | 1,323 | 1,358 | 1,393 | 1,428 |
| Potatoes | \$ Mil. | 700 | 659 | 703 | 788 | 855 | 900 | 936 | 969 | 1,002 | 1,038 | 1,078 | 1,123 |
| Sweet potatoes | \$ Mil. | 14 | 14 | 14 | 15 | 15 | 15 | 16 | 17 | 17 | 18 | 19 | 20 |
| Pulses | \$ Mil. | 254 | 280 | 330 | 332 | 340 | 347 | 353 | 359 | 365 | 371 | 377 | 384 |
| Mushrooms | \$ Mil. | 23 | 19 | 27 | 28 | 29 | 30 | 31 | 33 | 34 | 35 | 36 | 38 |
| Total | \$ Mil. | 3,253 | 3,189 | 3,441 | 3,548 | 3,723 | 3,820 | 3,949 | 4,044 | 4,163 | 4,267 | 4,389 | 4,504 |
| Greenhouse/Nursery | \$ Mil. | 264 | 250 | 253 | 306 | 309 | 312 | 315 | 318 | 322 | 325 | 328 | 331 |

1/ Fresh fruit includes bananas, excludes melons. Processed fruit includes juices and wine.
2/ Fresh vegetables includes melons. Processed includes seed and juices.
Note: Fiscal year trade value projections for total horticultural products are shown in table 33


[^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 soybean oil (per pound), rice (per hundredweight), and soybean meal (per ton).

[^1]:    1 / Net returns include estimates of marketing loan benefits.

[^2]:    1 / Net returns include estimates of marketing loan benefits.

