

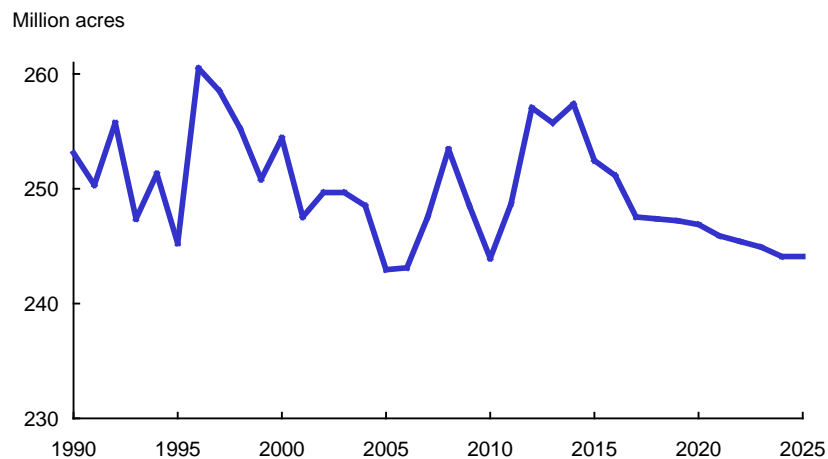
U.S. Crops

Prices for most crops have fallen from highs of recent years as U.S. and global supplies have rebounded from relatively low levels. In response to the associated lower producer returns, planted area for major field crops in the United States has fallen from the highs of 2012-14 and is projected to continue to decline. U.S. planted acreage for eight major field crops (corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans) averaged almost 257 million acres in 2012-14 and is projected to fall below 250 million acres by 2017. Wheat, corn, and cotton account for most of the decline between these years.

Over the long run, steady global economic growth provides a foundation for increasing crop demand, with gains in world consumption and trade. Although crop prices are projected to be below recent records, they remain above pre-2007 levels. U.S. plantings for the eight major crops continue to fall during the second half of the projection period, to about 244 million acres by 2025. Corn and soybeans decrease the most. Increasing yields provide most of the gains in U.S. production.

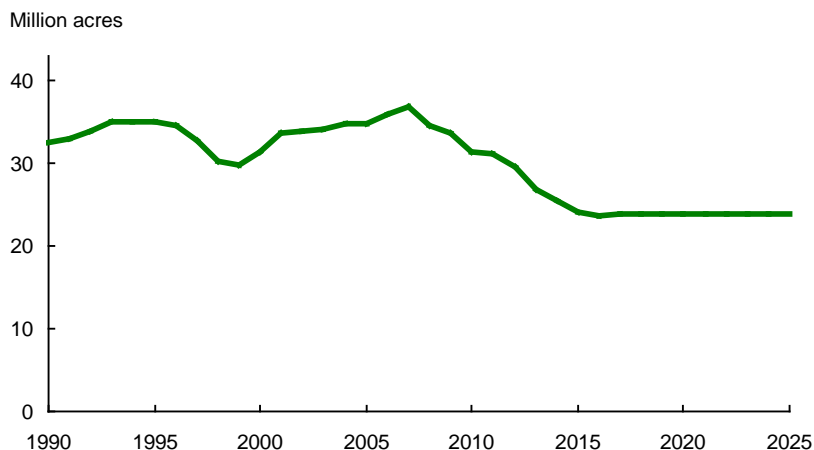
Farm programs of the Agricultural Act of 2014 are assumed to be extended through the projection period. Acreage enrolled in the Conservation Reserve Program (CRP) is assumed at levels slightly below the legislated maximum of 24 million acres.

U.S. planted area: Eight major crops¹

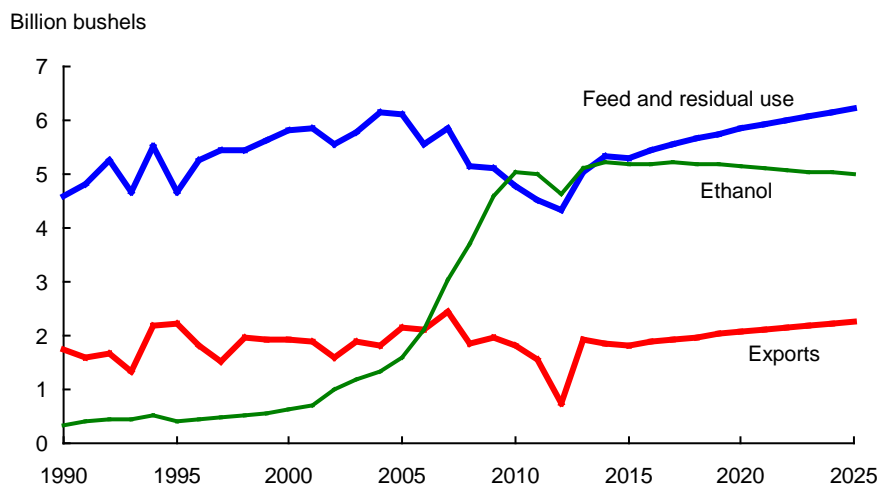


¹ The eight major crops are corn, sorghum, barley, oats, wheat, rice, upland cotton, and soybeans.

Conservation Reserve Program (CRP) acreage



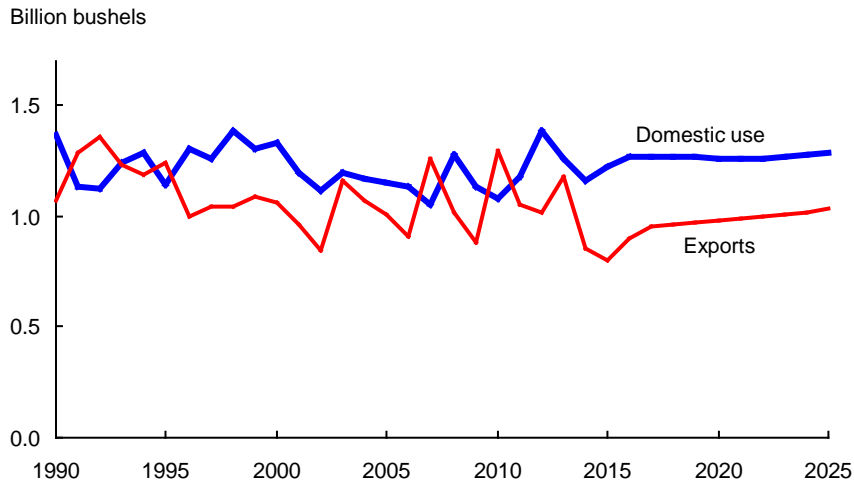
U.S. corn: Feed and residual use, ethanol, and exports



Moderate growth in demand for U.S. corn is projected over the next decade with rising yields boosting production and supporting growth in usage. Planted area, however, falls as real prices and returns for corn decline over time.

- Ethanol production in the United States is based almost entirely on corn as a feedstock. Corn-based ethanol production is projected to fall over the next 10 years. This reflects declining overall gasoline consumption in the United States (which is mostly a 10-percent ethanol blend, E10), infrastructural and other constraints on growth for E15 (15-percent ethanol blend), and the small size of the market for E85 (85-percent ethanol blend), with less-than-offsetting increases in U.S. ethanol exports. Demand for corn to produce ethanol continues to have a strong presence in the sector, although the share of total U.S. corn use expected to go to ethanol production falls from 37 to 34 percent during the projection period.
- Rising corn production, lower corn prices than in recent years, and increasing meat production underlie projected gains in feed and residual corn use over the next decade. Also supporting gains in feed use of corn is the decline in the production of distillers grains, a co-product of dry mill ethanol production used for feeding livestock, as corn-based ethanol falls.
- Food and industrial use of corn (other than ethanol production) is projected to rise at a moderate pace over the next decade. Use of corn for high fructose corn syrup (HFCS) falls slightly over the projection period as increases in HFCS exports to Mexico are offset by declines in domestic use. Increases in corn used for glucose and dextrose are small. Corn use for starch will increase at a slightly faster rate than population as demand for corn-based starch, used in the production of drywall and paper products, grows with the economy.
- The United States remains the world's largest corn exporter in the projection period, with U.S. corn exports increasing in response to rising global demand for feed grains to support growth in world meat production. Nonetheless, the strong U.S. dollar constrains U.S. corn export growth somewhat. Combined with trade competition from Argentina, Brazil, and Ukraine, growing domestic feed use, and continued use of corn for ethanol production in the United States, the U.S. market share of global corn trade is held steady at 38-39 percent in the projection period, well below its 1970-2000 average of 71 percent.

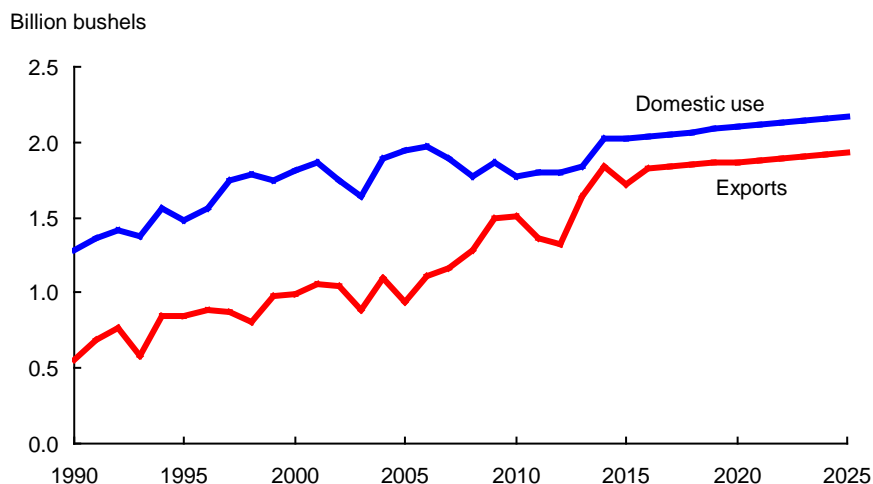
U.S. wheat: Domestic use and exports



U.S. wheat plantings are projected to decline to 51.0-51.5 million acres and remain at that level over the next decade. Domestic demand for U.S. wheat is projected to be relatively stable through the projection period, with gains in food use generally offset by declines in feed use. U.S. wheat exports are expected to increase from recent lows while the U.S. share of global wheat trade is relatively steady.

- Domestic demand for wheat reflects a relatively mature market. Food use of wheat is projected to show moderate gains, generally in line with U.S. population increases.
- Feed use of wheat is a lower value market for the crop. With near-term wheat supplies relatively high, wheat prices are projected low relative to corn prices, providing economic incentives to feed more wheat. As wheat supplies tighten over the projection period, wheat prices rise relative to corn prices and wheat feed use falls over the decade.
- U.S. wheat imports are projected to rise through the projection period due to increases from Canada. Comparatively low transportation costs between the two countries and a stronger U.S. dollar encourage more U.S. wheat imports from Canada.
- U.S. wheat exports grow slowly over the next decade. U.S. wheat trade faces competition from countries of the former Soviet Union (FSU), particularly Russia, with FSU wheat exports rising from 25 percent to 27 percent of global trade over the next decade. The U.S. market share of world wheat trade holds steady at 15-16 percent.

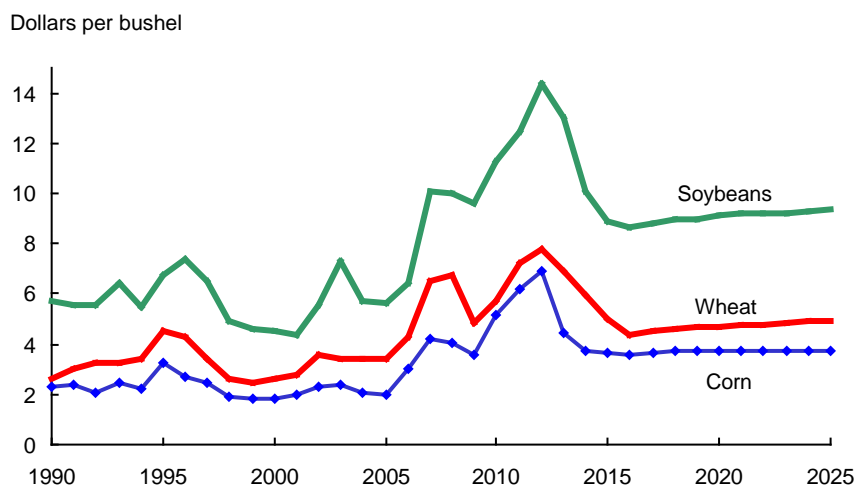
U.S. soybeans: Domestic use and exports



U.S. soybean plantings fall from about 83 million acres in 2014 and 2015 as lower prices and producer returns reduce planting incentives from those in recent years. Nonetheless, soybean acreage remains above 80 million acres throughout the projection period as growth in both domestic use and export demand lead to increases in prices, allowing soybeans to compete with corn and other crops for land.

- Gains in domestic demand for soybean meal and, thus, soybean crush are projected over the coming decade. These gains reflect reduced feed prices, increasing meat production, slowing production of canola meal, and declining distillers grains production.
- Strong global demand for soybeans, particularly in China, boosts soybean trade over the projection period—China accounts for over 90 percent of the increase in world soybean imports. Even though U.S. soybean exports are projected to rise, competition from South America leads to a reduction in the U.S. share of global soybean trade from 38 percent in 2016/17 to about 33 percent in 2025/26. Brazil is projected to remain the world’s largest exporter of soybeans.
- U.S. exports of soybean oil and soybean meal also face strong competition from South America. Argentina, in particular, is a competitive exporter of soybean products because its graduated export taxes favor exports of soybean products over soybeans. As a result, Argentina is projected to remain the leading soybean meal exporter, accounting for more than half of global soybean meal exports in the second half of the projection period. Brazil remains the second largest soybean meal exporter, with a small gain in its global trade market share, followed by the United States, whose market share falls.
- Soybean oil used to produce methyl esters (biodiesel) in the United States is projected to rise from 5.2 billion pounds in 2015/16 to 5.7 billion pounds in 2020/21 and later years, supporting the production of almost 800 million gallons of biodiesel annually in the second half of the projection period. These projections reflect a growing biomass-based diesel use requirement through 2017 under the Renewable Fuel Standard (RFS), assumed here at EPA’s mid-2015 proposed level of 1.9 billion gallons (later raised to 2.0 billion in the final rule). Some additional demand for biodiesel and renewable diesel is also assumed, which meets a portion of the RFS’s advanced biofuel requirement. Other feedstocks used to produce biomass-based diesel include corn oil extracted from distillers grains, other first-use vegetable oils, animal fats, and recycled vegetable oils.

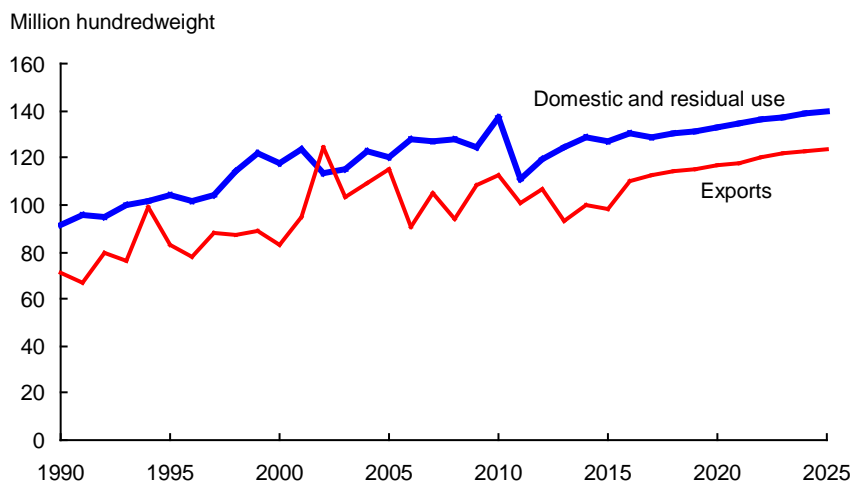
U.S. farm-level prices: Corn, wheat, and soybeans



Larger global production of grains and oilseeds in response to high prices in recent years has raised world supplies and lowered U.S. prices for corn, wheat, and soybeans. Following these near-term price declines, the continuing influence of global growth in population and per capita income along with biofuel demand underlies moderate gains in these prices and keeps them above pre-2007 levels.

- Corn prices are projected to decline through 2016/17 and then increase marginally over the next decade as ending stocks-to-use ratios fall somewhat due to growth in feed use and exports and continuing demand for corn for ethanol production.
- Prices for soybeans also initially fall through 2016/17 as continued high soybean acreage keeps supplies and stocks high. Soybean prices rise moderately through the rest of the projection period, reflecting a reduction of soybean plantings, increasing demand for soybeans and soybean products, and declining stocks.
- Wheat prices also decline through 2016/17, reflecting higher wheat stocks and lower corn prices. Wheat prices increase somewhat faster than corn prices through the remainder of the projection period as increases in exports and food use reduce stocks and result in less wheat being priced for feed use.

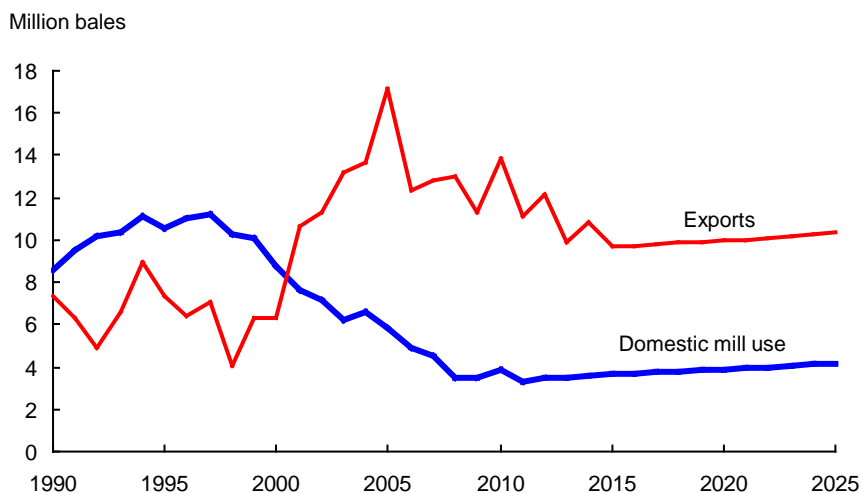
U.S. rice: Domestic and residual use and exports



U.S. acreage planted to long-grain rice is projected to rise over the next decade. In contrast, plantings for medium- and short-grain rice decrease in 2016, before increasing moderately afterwards.

- Domestic and residual use of rice is projected to account for a steady share of U.S. production over the next decade, increasing slightly faster than population growth. U.S. rice imports are projected to expand over the next decade, but at a slower rate than in the past. Asian aromatic varieties, classified as long-grain rice and nearly all from Thailand, India, and Pakistan, are expected to continue to account for most of U.S. rice imports.
- U.S. rice exports are projected to increase over the next decade. Continued growth of U.S. rough-rice exports to Latin America (nearly all long-grain rice) is projected to account for most of the overall expansion of U.S. rice exports. The U.S. market share of all rice traded globally remains at about 8 percent over the projection period.
- Prices for medium- and short-grain rice will increase early in the projections period as acreage for the higher priced California rice is expected to return to more normal levels after several years of drought-induced area contraction. Prices for both long-grain rice and medium- and short-grain rice are then projected to rise moderately through the rest of the projections reflecting increasing domestic and export demand and a relatively stable overall stocks-to-use ratio.

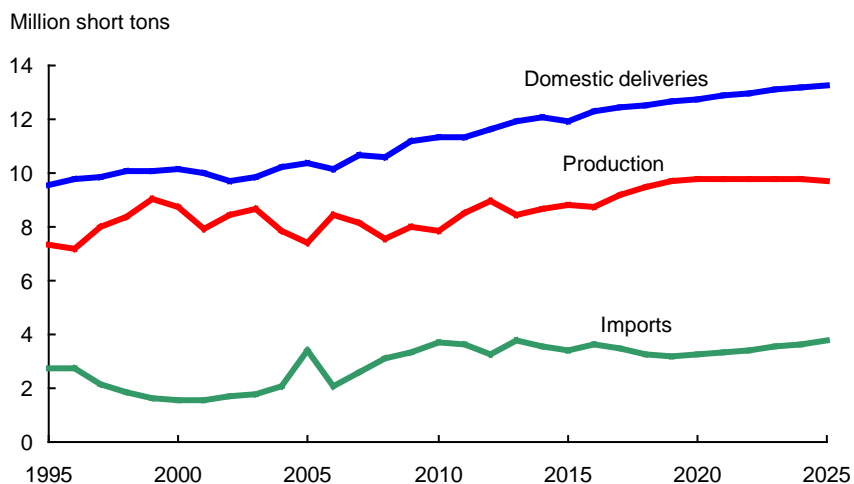
U.S. upland cotton: Domestic mill use and exports



Upland cotton plantings are projected to rebound from 2015's low level of 8.4 million acres to about 9.5 million acres in 2016, in part due to higher expected returns relative to competing crops. Acreage then increases slowly over the next decade as rising prices and improved returns provide incentives to expand, although projected plantings remain below 10 million acres. Mill use and exports of U.S. upland cotton are projected to rise moderately.

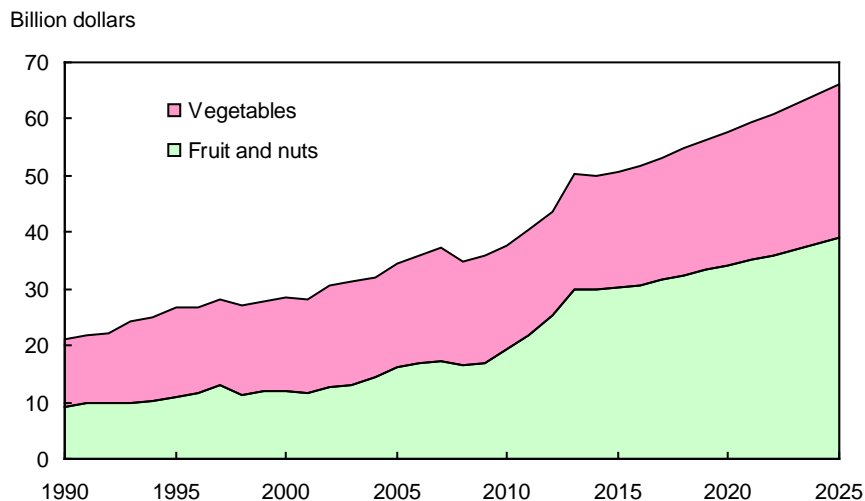
- U.S. mill use is projected to grow somewhat over the next decade in response to rising demand for U.S. textile product exports (such as fabric and yarn), mainly to other countries in the Western Hemisphere. Nonetheless, even with this growth, domestic mill use is projected to represent less than 29 percent of total U.S. disappearance of upland cotton over the projection period, down from more than 60 percent in the late 1990s.
- U.S. upland cotton exports are projected to rise throughout the projection period. The United States remains the world's largest exporter of cotton, although the U.S. share of global cotton trade falls to 24 percent by 2025/26, compared to an average of more than 37 percent in 2000-10. Brazil and India are the next two largest cotton exporters and together account for about half of the gain in global cotton exports over the projection period. China is the world's largest importer of cotton, accounting for about a third of global imports by 2025/26 and over 87 percent of global import growth from 2016/17 to 2025/26.

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



- U.S. sugar production is projected to generally increase over the next decade. Total sugar production is projected to increase from 8.763 million short tons in 2016 to almost 9.8 million short tons in 2022, before dropping off somewhat toward the end of the projection period. Cane sugar production rises throughout the decade with beet sugar production peaking in 2019. Nonetheless, beet sugar production will remain the larger of the two sugar-producing crops, although cane sugar production is expected to increase its share of total sugar production.
- Sugar deliveries for domestic use increase steadily over the course of the projection period. Total deliveries in 2025/26 are 7.7 percent higher than 2016/17, driven by population growth. Deliveries for food and beverage use constitute the large majority of total use and growth throughout the projection period.
- Total sugar imports are projected to increase at a gradual pace to meet increased deliveries. Total imports account for about one-quarter of total supply by 2025/26, which is nearly the same as the proportion projected for 2016/17.
- Projected imports from Mexico for the duration of the projection period follow the terms of the agreements currently in place that restrict volumes and prices of sugar entering the United States from Mexico. Imports from Mexico are projected to rise along with increased U.S. needs for sugar, until the latter years of the projection period where Mexican exportable supplies are constrained.
- Imports under quota programs remain relatively constant in the beginning years of the projection period and then increase to account for lower imports from Mexico toward the end of the decade.
- Sugar production in Mexico is expected to increase steadily due to improved yields. Relatively stagnant producer returns projected during the period result in a slight, but steady, decline in harvested area. Combined with deliveries for human consumption increasing at higher rate than domestic production, exportable supplies are reduced, constraining exports to the United States in the latter portion of the projection period.
- U.S. consumption of high fructose corn syrup (HFCS) is projected to steadily decline, accounting for a small proportion of total caloric sweetener consumption. However, U.S. production of HFCS falls only slightly as increased exports, particularly to Mexico, nearly offset the decrease in domestic consumption.

Value of U.S. fruit, nut, and vegetable production



The total farm value of fruit, nuts, and vegetable production is projected to grow by about 2.7 percent annually over the next decade, reaching about \$66 billion in calendar year 2025, up from about \$52 billion in 2016. Fruit and vegetables each represent about 40 percent of the total, with tree nuts accounting for about 20 percent.

- The value of farm production of fruit and tree nuts is projected to grow at an annual rate of 2.7 percent, with citrus fruit and tree nuts each up 3.0 percent annually and noncitrus fruit rising 2.5 percent per year. Production value for vegetables is projected to grow 2.8 percent annually.
- The volume of U.S. production of fruit, nuts, and vegetables is projected to rise by 0.6 percent annually in the next decade. Vegetables lead this growth at an annual rate of 0.6 percent, reaching 145 billion pounds in 2025. Vegetable production for processing averages 0.8-percent growth, with fresh market production up only 0.1 percent annually. Fruit and nut production expands by 0.5 percent per year to 60 billion pounds in 2025. Noncitrus production growth offsets declining citrus production. Tree nut output continues a strong expansion. U.S. citrus fruit production, which has been affected by citrus greening disease, is projected to fall by an average of 1.0 percent per year in the next decade because of continued declines of bearing acreage, particularly in Florida.

Table 4. Acreage for major field crops and Conservation Reserve Program (CRP) assumptions, long-term projections

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
	<i>Million acres</i>											
Planted acreage, eight major crops												
Corn	90.6	88.4	90.5	90.3	90.3	90.3	90.0	89.5	89.0	88.5	88.0	88.0
Sorghum	7.1	8.7	7.3	6.7	6.3	6.0	5.9	5.8	5.8	5.8	5.8	5.8
Barley	3.0	3.6	3.3	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Oats	2.8	3.1	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Wheat	56.8	54.6	53.0	51.0	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
Rice	2.9	2.6	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9
Upland cotton	10.8	8.4	9.5	9.5	9.5	9.6	9.6	9.7	9.7	9.8	9.8	9.9
Soybeans	83.3	83.2	82.0	81.5	81.5	81.5	81.5	81.0	81.0	81.0	80.5	80.5
Total	257.3	252.6	251.2	247.5	247.4	247.2	246.9	245.9	245.4	245.0	244.0	244.1
CRP acreage assumptions												
Total CRP	25.4	24.2	23.7	23.9	24.0	23.9	24.0	24.0	24.0	23.9	24.0	23.9
Total planted plus CRP	282.8	276.8	274.9	271.4	271.4	271.1	270.9	269.8	269.4	268.9	268.0	268.0
Harvested acreage, eight major crops												
Corn	83.1	80.7	82.7	82.5	82.5	82.5	82.2	81.7	81.2	80.7	80.2	80.2
Sorghum	6.4	7.6	6.3	5.7	5.4	5.1	5.1	5.0	5.0	5.0	5.0	5.0
Barley	2.5	3.1	2.9	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Oats	1.0	1.3	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Wheat	46.4	47.1	44.9	43.2	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
Rice	2.9	2.6	2.8	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9
Upland cotton	9.2	8.0	8.1	8.1	8.1	8.1	8.2	8.2	8.3	8.3	8.3	8.4
Soybeans	82.6	82.4	81.1	80.7	80.7	80.7	80.7	80.2	80.2	80.2	79.7	79.7
Total	234.1	232.8	229.8	226.7	226.6	226.3	226.1	225.1	224.7	224.2	223.2	223.3

Table 5. U.S. corn long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	90.6	88.4	90.5	90.3	90.3	90.3	90.0	89.5	89.0	88.5	88.0	88.0
Harvested acres	83.1	80.7	82.7	82.5	82.5	82.5	82.2	81.7	81.2	80.7	80.2	80.2
Yield:												
Bushels per harvested acre	171.0	169.3	168.1	170.1	172.1	174.0	176.0	177.9	179.9	181.9	183.8	185.8
Supply and use (million bushels):												
Beginning stocks	1,232	1,731	1,760	1,755	1,730	1,740	1,755	1,775	1,785	1,790	1,785	1,735
Production	14,216	13,654	13,900	14,035	14,200	14,355	14,465	14,535	14,610	14,680	14,740	14,900
Imports	32	30	30	30	30	30	30	30	30	30	30	30
Supply	15,479	15,415	15,690	15,820	15,960	16,125	16,250	16,340	16,425	16,500	16,555	16,665
Feed & residual	5,315	5,300	5,450	5,550	5,650	5,750	5,850	5,925	6,000	6,075	6,150	6,225
Food, seed, & industrial	6,568	6,555	6,585	6,615	6,595	6,595	6,550	6,530	6,485	6,465	6,445	6,425
Ethanol and by-products	5,209	5,175	5,200	5,225	5,200	5,200	5,150	5,125	5,075	5,050	5,025	5,000
Domestic use	11,883	11,855	12,035	12,165	12,245	12,345	12,400	12,455	12,485	12,540	12,595	12,650
Exports	1,864	1,800	1,900	1,925	1,975	2,025	2,075	2,100	2,150	2,175	2,225	2,275
Total use	13,748	13,655	13,935	14,090	14,220	14,370	14,475	14,555	14,635	14,715	14,820	14,925
Ending stocks	1,731	1,760	1,755	1,730	1,740	1,755	1,775	1,785	1,790	1,785	1,735	1,740
Stocks/use ratio, percent	12.6	12.9	12.6	12.3	12.2	12.2	12.3	12.3	12.2	12.1	11.7	11.7
Price (dollars per bushel):												
Farm price	3.70	3.65	3.60	3.65	3.70	3.70	3.70	3.70	3.70	3.70	3.75	3.75
Variable costs of production (dollars):												
Per acre	360	340	343	348	350	353	357	361	365	369	373	377
Returns over variable costs (dollars per acre):												
Net returns	273	278	262	273	287	291	294	297	300	304	316	320

Note: Marketing year beginning September 1 for corn.

Table 6. U.S. sorghum long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	7.1	8.7	7.3	6.7	6.3	6.0	5.9	5.8	5.8	5.8	5.8	5.8
Harvested acres	6.4	7.6	6.3	5.7	5.4	5.1	5.1	5.0	5.0	5.0	5.0	5.0
Yield:												
Bushels/harvested acre	67.6	77.7	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1	65.1
Supply and use (million bushels):												
Beginning stocks	34	18	58	53	49	46	38	35	36	37	38	39
Production	433	594	410	371	352	332	332	326	326	326	326	326
Imports	0	1	0	0	0	0	0	0	0	0	0	0
Supply	467	613	468	424	401	378	370	361	362	363	364	365
Feed & residual	80	130	115	100	90	80	80	75	75	75	75	75
Food, seed, & industrial	15	100	100	100	100	100	100	100	100	100	100	100
Domestic use	96	230	215	200	190	180	180	175	175	175	175	175
Exports	353	325	200	175	165	160	155	150	150	150	150	150
Total use	449	555	415	375	355	340	335	325	325	325	325	325
Ending stocks	18	58	53	49	46	38	35	36	37	38	39	40
Stocks/use ratio, percent	4.0	10.5	12.8	13.1	13.0	11.2	10.4	11.1	11.4	11.7	12.0	12.3
Price (dollars per bushel):												
Farm price	4.03	3.60	3.40	3.45	3.45	3.45	3.45	3.45	3.45	3.45	3.50	3.50
Variable costs of production (dollars):												
Per acre	147	136	137	139	140	142	144	146	148	150	152	153
Returns over variable costs (dollars per acre):												
Net returns	126	144	85	86	84	83	81	79	77	75	76	74

Note: Marketing year beginning September 1 for sorghum.

Table 7. U.S. barley long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	3.0	3.6	3.3	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Harvested acres	2.5	3.1	2.9	2.8	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Yield:												
Bushels/harvested acre	72.7	68.9	71.1	71.7	72.3	73.0	73.6	74.2	74.8	75.5	76.1	76.7
Supply and use (million bushels):												
Beginning stocks	82	79	96	94	92	82	79	78	79	81	81	83
Production	182	214	206	201	188	190	191	193	194	196	198	199
Imports	24	18	20	20	20	20	20	20	20	20	20	20
Supply	287	311	322	315	300	292	290	291	293	297	299	302
Feed & residual	43	50	60	55	50	45	45	45	45	50	50	55
Food, seed, & industrial	151	153	153	153	153	153	152	152	152	151	151	151
Domestic use	194	203	213	208	203	198	197	197	197	201	201	206
Exports	14	12	15	15	15	15	15	15	15	15	15	15
Total use	209	215	228	223	218	213	212	212	212	216	216	221
Ending stocks	79	96	94	92	82	79	78	79	81	81	83	81
Stocks/use ratio, percent	37.8	44.7	41.2	41.3	37.6	37.1	36.8	37.3	38.2	37.5	38.4	36.7
Price (dollars per bushel):												
Farm price	5.30	5.20	4.80	4.65	4.70	4.70	4.70	4.70	4.70	4.70	4.75	4.75
Variable costs of production (dollars):												
Per acre	197	182	183	187	189	191	193	196	199	202	204	207
Returns over variable costs (dollars per acre):												
Net returns	188	176	158	147	151	152	152	153	152	153	157	157

Note: Marketing year beginning June 1 for barley.

Table 8. U.S. oats long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	2.8	3.1	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Harvested acres	1.0	1.3	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Yield:												
Bushels/harvested acre	67.9	70.2	66.2	66.6	67.0	67.4	67.7	68.1	68.5	68.9	69.2	69.6
Supply and use (million bushels):												
Beginning stocks	25	54	59	50	40	34	34	34	33	33	33	32
Production	70	90	66	60	60	61	61	61	62	62	62	63
Imports	107	95	100	100	100	100	100	100	100	100	100	100
Supply	202	238	225	210	200	195	195	195	195	195	195	195
Feed & residual	70	100	95	90	85	80	80	80	80	80	80	80
Food, seed, & industrial	77	77	78	78	79	79	79	80	80	80	81	81
Domestic use	147	177	173	168	164	159	159	160	160	160	161	161
Exports	2	2	2	2	2	2	2	2	2	2	2	2
Total use	149	179	175	170	166	161	161	162	162	162	163	163
Ending stocks	54	59	50	40	34	34	34	33	33	33	32	32
Stocks/use ratio, percent	36.2	33.0	28.6	23.5	20.5	21.1	21.1	20.4	20.4	20.4	19.6	19.6
Price (dollars per bushel):												
Farm price	3.21	2.20	2.10	2.10	2.15	2.15	2.15	2.15	2.15	2.15	2.20	2.20
Variable costs of production (dollars):												
Per acre	118	108	109	111	112	113	115	116	118	120	121	123
Returns over variable costs (dollars per acre):												
Net returns	100	47	30	29	32	32	31	30	29	28	31	30

Note: Marketing year beginning June 1 for oats.

Table 9. U.S. wheat long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	56.8	54.6	53.0	51.0	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
Harvested acres	46.4	47.1	44.9	43.2	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
Yield:												
Bushels/harvested acre	43.7	43.6	45.9	46.3	46.7	47.0	47.4	47.7	48.1	48.4	48.8	49.1
Supply and use (million bushels):												
Beginning stocks	590	753	911	928	842	784	739	707	688	677	669	669
Production	2,026	2,052	2,060	2,000	2,035	2,050	2,065	2,080	2,095	2,110	2,130	2,140
Imports	149	125	125	130	135	140	145	150	155	160	165	170
Supply	2,766	2,930	3,096	3,058	3,012	2,974	2,949	2,937	2,938	2,947	2,964	2,979
Food	958	967	974	981	988	995	1,002	1,009	1,016	1,023	1,030	1,037
Seed	81	72	69	70	70	70	70	70	70	70	70	70
Feed & residual	120	180	225	215	210	200	190	180	175	175	175	175
Domestic use	1,159	1,219	1,268	1,266	1,268	1,265	1,262	1,259	1,261	1,268	1,275	1,282
Exports	854	800	900	950	960	970	980	990	1,000	1,010	1,020	1,030
Total use	2,013	2,019	2,168	2,216	2,228	2,235	2,242	2,249	2,261	2,278	2,295	2,312
Ending stocks	753	911	928	842	784	739	707	688	677	669	669	667
Stocks/use ratio, percent	37.4	45.1	42.8	38.0	35.2	33.1	31.5	30.6	29.9	29.4	29.2	28.8
Price (dollars per bushel):												
Farm price	5.99	5.00	4.40	4.50	4.60	4.65	4.70	4.75	4.80	4.85	4.90	4.95
Variable costs of production (dollars):												
Per acre	129	119	120	122	124	125	127	128	130	132	134	136
Returns over variable costs (dollars per acre):												
Net returns	133	99	82	86	91	93	96	98	100	103	105	107

Note: Marketing year beginning June 1 for wheat.

Table 10. U.S. soybeans and products long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Soybeans												
Area (million acres):												
Planted	83.3	83.2	82.0	81.5	81.5	81.5	81.5	81.0	81.0	81.0	80.5	80.5
Harvested	82.6	82.4	81.1	80.7	80.7	80.7	80.7	80.2	80.2	80.2	79.7	79.7
Yield: bushels per harvested acre	47.5	48.3	46.7	47.2	47.7	48.2	48.6	49.1	49.6	50.1	50.6	51.0
Supply (million bushels)												
Beginning stocks, September 1	92	191	465	421	382	348	323	299	275	270	270	265
Production	3,927	3,981	3,785	3,810	3,850	3,890	3,920	3,940	3,980	4,020	4,035	4,065
Imports	33	30	30	30	30	30	30	30	30	30	30	30
Total supply	4,052	4,203	4,280	4,261	4,262	4,268	4,273	4,269	4,285	4,320	4,335	4,360
Use (million bushels)												
Crush	1,873	1,890	1,910	1,920	1,940	1,960	1,980	1,995	2,005	2,020	2,030	2,045
Seed and residual	145	133	124	124	124	125	124	124	125	125	125	124
Exports	1,843	1,715	1,825	1,835	1,850	1,860	1,870	1,875	1,885	1,905	1,915	1,925
Total use	3,861	3,738	3,859	3,879	3,914	3,945	3,974	3,994	4,015	4,050	4,070	4,094
Ending stocks, August 31												
Total ending stocks	191	465	421	382	348	323	299	275	270	270	265	266
Stocks/use ratio, percent	4.9	12.4	10.9	9.8	8.9	8.2	7.5	6.9	6.7	6.7	6.5	6.5
Price (dollars per bushel)												
Soybean price, farm	10.10	8.90	8.65	8.80	8.95	9.00	9.10	9.20	9.20	9.20	9.30	9.35
Variable costs of production (dollars):												
Per acre	184	174	175	178	179	181	183	185	187	189	191	193
Returns over variable costs (dollars per acre):												
Net returns	296	256	229	238	248	253	259	267	269	272	279	283
Soybean oil (million pounds)												
Beginning stocks, October 1	1,165	1,820	2,295	2,505	2,560	2,600	2,600	2,590	2,605	2,595	2,615	2,605
Production	21,399	21,850	22,100	22,235	22,485	22,735	22,990	23,180	23,320	23,515	23,650	23,845
Imports	264	175	185	195	205	215	225	235	245	255	265	275
Total supply	22,828	23,845	24,580	24,935	25,250	25,550	25,815	26,005	26,170	26,365	26,530	26,725
Domestic disappearance	18,994	19,250	19,475	19,700	19,925	20,150	20,375	20,500	20,625	20,750	20,875	21,000
Biodiesel ¹	5,050	5,200	5,300	5,400	5,500	5,600	5,700	5,700	5,700	5,700	5,700	5,700
Food, feed, and other industrial	13,944	14,050	14,175	14,300	14,425	14,550	14,675	14,800	14,925	15,050	15,175	15,300
Exports	2,014	2,300	2,600	2,675	2,725	2,800	2,850	2,900	2,950	3,000	3,050	3,100
Total use	21,008	21,550	22,075	22,375	22,650	22,950	23,225	23,400	23,575	23,750	23,925	24,100
Ending stocks, September 30	1,820	2,295	2,505	2,560	2,600	2,600	2,590	2,605	2,595	2,615	2,605	2,625
Soybean oil price (dollars per lb)	0.316	0.290	0.280	0.290	0.295	0.300	0.303	0.308	0.313	0.315	0.320	0.325
Soybean meal (thousand short tons)												
Beginning stocks, October 1	250	260	300	300	300	300	300	300	300	300	300	300
Production	45,062	44,865	45,410	45,610	46,110	46,585	46,985	47,335	47,660	47,960	48,260	48,560
Imports	333	325	165	165	165	165	165	165	165	165	165	165
Total supply	45,645	45,450	45,875	46,075	46,575	47,050	47,450	47,800	48,125	48,425	48,725	49,025
Domestic disappearance	32,235	33,300	33,925	34,425	34,875	35,300	35,650	35,950	36,225	36,475	36,725	36,975
Exports	13,150	11,850	11,650	11,350	11,400	11,450	11,500	11,550	11,600	11,650	11,700	11,750
Total use	45,385	45,150	45,575	45,775	46,275	46,750	47,150	47,500	47,825	48,125	48,425	48,725
Ending stocks, September 30	260	300	300	300	300	300	300	300	300	300	300	300
Soybean meal price (dollars per ton)	368.49	320.00	315.00	319.00	324.00	326.00	330.00	333.00	333.00	333.00	336.00	337.00
Crushing yields (pounds per bushel)												
Soybean oil	11.43	11.56	11.57	11.58	11.59	11.60	11.61	11.62	11.63	11.64	11.65	11.66
Soybean meal	48.12	47.48	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Crush margin (dollars per bushel)	2.38	2.05	2.07	2.13	2.16	2.22	2.25	2.28	2.34	2.38	2.41	2.44

Note: Marketing year beginning September 1 for soybeans; October 1 for soybean oil and soybean meal.

¹Reflects biodiesel made from methyl ester as reported by the U.S. Department of Energy, Energy Information Administration.

Table 11. U.S. rice long-term projections, total rice, rough basis

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (thousand acres):												
Planted	2,939	2,611	2,800	2,820	2,845	2,845	2,870	2,880	2,905	2,905	2,930	2,930
Harvested	2,919	2,570	2,771	2,796	2,824	2,824	2,849	2,858	2,883	2,883	2,908	2,908
Yield:												
Pounds per harvested acre	7,572	7,423	7,633	7,686	7,727	7,766	7,803	7,845	7,881	7,922	7,957	7,999
Supply and use (million hundredweight):												
Beginning stocks	31.8	48.5	39.8	37.3	37.6	37.7	37.8	38.5	39.1	39.4	39.3	39.3
Production	221.0	190.8	211.5	214.9	218.2	219.3	222.3	224.2	227.2	228.4	231.4	232.6
Imports	24.7	25.5	26.0	26.5	27.0	27.5	28.1	28.6	29.2	29.7	30.3	30.9
Total supply	277.5	264.8	277.3	278.7	282.8	284.5	288.1	291.3	295.5	297.5	301.0	302.8
Domestic use and residual	128.7	127.0	130.0	128.6	130.6	131.3	133.1	134.2	136.1	136.8	138.7	139.4
Exports	100.3	98.0	110.0	112.5	114.5	115.5	116.5	118.0	120.0	121.5	123.0	124.0
Total use	229.0	225.0	240.0	241.1	245.1	246.8	249.6	252.2	256.1	258.3	261.7	263.4
Ending stocks	48.5	39.8	37.3	37.6	37.7	37.8	38.5	39.1	39.4	39.3	39.3	39.4
Stocks/use ratio, percent	21.2	17.7	15.5	15.6	15.4	15.3	15.4	15.5	15.4	15.2	15.0	15.0
Price (dollars per hundredweight):												
Average farm price	13.30	13.80	14.10	14.20	14.40	14.60	14.80	15.00	15.20	15.40	15.60	15.80
Variable costs of production (dollars):												
Per acre	628	584	588	598	603	609	616	623	631	638	645	653
Returns over variable costs (dollars per acre):												
Net returns	379	441	488	494	510	525	539	553	567	582	596	611

Note: Marketing year beginning August 1 for rice.

Table 12. U.S. rice long-term projections, long-grain rice, rough basis

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (thousand acres):												
Planted	2,207	1,876	2,100	2,100	2,125	2,125	2,150	2,150	2,175	2,175	2,200	2,200
Harvested	2,192	1,846	2,079	2,083	2,110	2,110	2,135	2,135	2,160	2,160	2,185	2,185
Yield:												
Pounds per harvested acre	7,408	7,170	7,456	7,493	7,531	7,568	7,606	7,644	7,682	7,721	7,760	7,798
Supply and use (million hundredweight):												
Beginning stocks	16.2	26.5	21.8	23.3	24.2	24.6	24.7	25.3	25.7	26.1	25.8	25.9
Production	162.4	132.4	155.0	156.1	158.9	159.7	162.4	163.2	165.9	166.8	169.5	170.4
Imports	21.1	22.0	22.4	22.9	23.4	23.8	24.3	24.8	25.3	25.8	26.3	26.9
Total supply	199.7	180.8	199.3	202.3	206.4	208.1	211.4	213.3	216.9	218.7	221.6	223.2
Domestic use & residual	102.5	94.0	100.0	100.1	101.9	102.4	104.1	104.6	106.3	106.9	108.6	109.2
Exports	70.8	65.0	76.0	78.0	80.0	81.0	82.0	83.0	84.5	86.0	87.0	88.0
Total use	173.2	159.0	176.0	178.1	181.9	183.4	186.1	187.6	190.8	192.9	195.6	197.2
Ending stocks	26.5	21.8	23.3	24.2	24.6	24.7	25.3	25.7	26.1	25.8	25.9	25.9
Stocks/use ratio, percent	15.3	13.7	13.2	13.6	13.5	13.5	13.6	13.7	13.7	13.3	13.2	13.2
Price (dollars per hundredweight):												
Average farm price	11.90	12.00	12.30	12.40	12.60	12.80	13.00	13.20	13.40	13.60	13.80	14.00

Note: Marketing year beginning August 1 for rice.

Table 13. U.S. rice long-term projections, medium- and short-grain rice, rough basis

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (thousand acres):												
Planted	732	735	700	720	720	720	720	730	730	730	730	730
Harvested	727	724	692	713	714	714	714	723	723	723	723	723
Yield:												
Pounds per harvested acre	8,068	8,067	8,168	8,250	8,311	8,353	8,395	8,437	8,479	8,521	8,564	8,607
Supply and use (million hundredweight):												
Beginning stocks	13.3	20.2	16.1	12.1	11.5	11.2	11.1	11.2	11.5	11.4	11.6	11.5
Production	58.7	58.4	56.5	58.8	59.3	59.6	59.9	61.0	61.3	61.6	61.9	62.2
Imports	3.5	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0	4.1
Total supply	75.9	82.1	76.1	74.5	74.5	74.5	74.8	76.1	76.7	77.0	77.5	77.7
Domestic use & residual	26.2	33.0	30.0	28.5	28.8	28.9	29.1	29.6	29.7	29.9	30.0	30.2
Exports	29.5	33.0	34.0	34.5	34.5	34.5	34.5	35.0	35.5	35.5	36.0	36.0
Total use	55.8	66.0	64.0	63.0	63.3	63.4	63.6	64.6	65.2	65.4	66.0	66.2
Ending stocks	20.2	16.1	12.1	11.5	11.2	11.1	11.2	11.5	11.4	11.6	11.5	11.6
Stocks/use ratio, percent	36.1	24.3	18.9	18.2	17.7	17.5	17.7	17.8	17.5	17.7	17.4	17.5
Price (dollars per hundredweight):												
Average farm price	18.20	18.10	18.30	18.30	18.50	18.70	18.90	19.10	19.30	19.50	19.70	19.90
California	21.40	21.50	21.00	20.80	20.70	20.70	20.80	21.00	21.20	21.40	21.70	21.90
Other States	14.40	13.00	13.40	13.60	14.10	14.70	15.10	15.30	15.40	15.60	15.80	15.90

Note: Marketing year beginning August 1 for rice; California marketing year beginning October 1.

Table 14. U.S. upland cotton long-term projections

Item	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Area (million acres):												
Planted acres	10.8	8.4	9.5	9.5	9.5	9.6	9.6	9.7	9.7	9.8	9.8	9.9
Harvested acres	9.2	8.0	8.1	8.1	8.1	8.1	8.2	8.2	8.3	8.3	8.3	8.4
Yield:												
Pounds per harvested acre	826	770	805	808	811	814	817	820	823	826	829	832
Supply and use (thousand bales):												
Beginning stocks	2,225	3,441	2,910	3,100	3,150	3,150	3,200	3,200	3,250	3,250	3,300	3,300
Production	15,753	12,830	13,600	13,600	13,700	13,800	13,900	14,000	14,100	14,300	14,400	14,500
Imports	9	5	5	5	5	5	5	5	5	5	5	5
Supply	17,987	16,276	16,515	16,705	16,855	16,955	17,105	17,205	17,355	17,555	17,705	17,805
Domestic use	3,550	3,675	3,700	3,750	3,800	3,850	3,900	3,950	4,000	4,050	4,100	4,150
Exports	10,836	9,700	9,700	9,800	9,900	9,900	10,000	10,000	10,100	10,200	10,300	10,400
Total use	14,386	13,375	13,400	13,550	13,700	13,750	13,900	13,950	14,100	14,250	14,400	14,550
Ending stocks	3,441	2,910	3,100	3,150	3,150	3,200	3,200	3,250	3,250	3,300	3,300	3,250
Stocks/use ratio, percent	23.9	21.8	23.1	23.2	23.0	23.3	23.0	23.3	23.0	23.2	22.9	22.3
Price (dollars per pound):												
Farm price	0.613	0.590	0.580	0.590	0.600	0.615	0.630	0.640	0.650	0.660	0.670	0.680
Variable costs of production (dollars):												
Per acre	532	504	509	518	523	528	535	541	548	555	562	569
Returns over variable costs (dollars per acre):												
Net returns ¹	105	83	84	87	94	105	113	118	122	127	132	136

Note: Marketing year beginning August 1 for upland cotton.

¹Includes revenue from cottonseed.

Table 15. U.S. sugar long-term projections

Item	Units	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Sugarbeets													
Planted area	1,000 acres	1,163	1,164	1,178	1,233	1,261	1,265	1,245	1,225	1,206	1,189	1,172	1,156
Harvested area	1,000 acres	1,147	1,140	1,147	1,200	1,227	1,231	1,211	1,192	1,174	1,157	1,141	1,125
Yield	Tons/acre	27.4	29.9	29.0	29.3	29.5	29.8	30.0	30.2	30.3	30.4	30.5	30.5
Production	Mil. s. tons	31.4	35.2	33.2	35.1	36.3	36.7	36.3	35.9	35.6	35.2	34.7	34.3
Sugarcane													
Harvested area	1,000 acres	829	841	863	894	924	949	972	991	1,006	1,019	1,028	1,034
Yield	Tons/acre	33.4	35.3	35.5	35.7	35.8	35.9	36.0	36.0	36.0	36.0	36.0	36.0
Production	Mil. s. tons	27.7	29.7	30.7	31.9	33.1	34.1	35.0	35.6	36.2	36.6	37.0	37.2
Supply:													
Beginning stocks	1,000 s. tons	1,810	1,767	1,855	1,695	1,710	1,724	1,739	1,753	1,768	1,782	1,795	1,809
Production	1,000 s. tons	8,649	8,810	8,763	9,203	9,512	9,694	9,745	9,772	9,783	9,776	9,754	9,716
Beet sugar	1,000 s. tons	4,893	5,075	4,970	5,250	5,416	5,474	5,420	5,362	5,303	5,242	5,179	5,113
Cane sugar	1,000 s. tons	3,755	3,735	3,793	3,952	4,095	4,220	4,325	4,410	4,479	4,534	4,575	4,603
Total imports	1,000 s. tons	3,569	3,398	3,633	3,478	3,277	3,202	3,257	3,335	3,428	3,538	3,662	3,801
TRQ imports	1,000 s. tons	1,534	1,528	1,498	1,502	1,506	1,510	1,513	1,517	1,606	1,729	1,874	2,015
Imports from Mexico	1,000 s. tons	1,549	1,540	1,720	1,561	1,357	1,278	1,329	1,403	1,408	1,393	1,374	1,371
Other imports	1,000 s. tons	486	330	415	415	415	415	415	415	415	415	415	415
Total supply	1,000 s. tons	14,028	13,975	14,251	14,375	14,498	14,620	14,741	14,860	14,978	15,095	15,211	15,326
Use:													
Exports	1,000 s. tons	185	200	225	225	225	225	225	225	225	225	225	225
Domestic deliveries	1,000 s. tons	12,076	11,920	12,331	12,440	12,549	12,656	12,763	12,868	12,972	13,075	13,177	13,278
Total use	1,000 s. tons	12,261	12,120	12,556	12,665	12,774	12,881	12,988	13,093	13,197	13,300	13,402	13,503
Ending stocks	1,000 s. tons	1,767	1,855	1,695	1,710	1,724	1,739	1,753	1,768	1,782	1,795	1,809	1,823
Raw sugar price:													
New York (No. 16) ¹	Cents/lb.	24.46	25.25	25.25	25.25	25.25	25.25	25.25	25.25	25.25	25.25	25.25	25.25
Raw sugar loan rate	Cents/lb.	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75
Beet sugar loan rate	Cents/lb.	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09	24.09
Grower prices:													
Sugarbeets	Dollars/ton	43.30	42.81	42.68	43.58	43.64	43.80	44.04	44.32	44.57	44.77	44.95	45.09
Sugarcane	Dollars/ton	33.36	34.07	34.44	34.48	34.52	34.55	34.56	34.56	34.56	34.56	34.56	34.56

Note: Data shown are for an October-September year.

¹Price for July-September quarter.

Table 16. Fruit, nuts, and vegetables long-term projections

Item	Unit	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Production, farm weight													
Fruit and nuts	Mil. lbs.	62,019	59,863	57,912	58,163	58,421	58,684	58,954	59,231	59,514	59,804	60,101	60,405
Citrus	Mil. lbs.	18,822	18,044	15,690	15,533	15,378	15,224	15,072	14,921	14,772	14,624	14,478	14,333
Noncitrus	Mil. lbs.	38,070	36,928	37,224	37,521	37,821	38,124	38,429	38,736	39,046	39,359	39,674	39,991
Tree nuts	Mil. lbs.	5,127	4,891	4,999	5,109	5,221	5,336	5,454	5,574	5,696	5,822	5,950	6,080
Vegetables ¹	Mil. lbs.	134,377	136,645	137,452	138,273	139,108	139,956	140,820	141,699	142,593	143,503	144,430	145,373
Fresh market	Mil. lbs.	41,317	41,358	41,399	41,441	41,482	41,524	41,565	41,607	41,648	41,690	41,732	41,773
Processing	Mil. lbs.	39,928	41,319	41,650	41,983	42,319	42,657	42,999	43,343	43,689	44,039	44,391	44,746
Potatoes	Mil. lbs.	44,217	44,560	44,694	44,828	44,962	45,097	45,233	45,368	45,504	45,641	45,778	45,915
Pulses	Mil. lbs.	5,057	5,531	5,730	5,936	6,150	6,371	6,601	6,838	7,085	7,340	7,604	7,878
Total fruit, nuts, vegetables	Mil. lbs.	196,396	196,509	195,365	196,436	197,528	198,641	199,774	200,930	202,107	203,307	204,531	205,778
Farm value													
Fruit and nuts	\$ Mil.	30,047	30,116	30,688	31,522	32,380	33,260	34,165	35,095	36,050	37,032	38,040	39,076
Citrus	\$ Mil.	3,704	3,378	3,231	3,327	3,425	3,527	3,631	3,738	3,849	3,963	4,080	4,201
Noncitrus	\$ Mil.	16,330	16,575	16,989	17,414	17,849	18,296	18,753	19,222	19,702	20,195	20,700	21,217
Tree nuts	\$ Mil.	10,013	10,163	10,468	10,782	11,105	11,438	11,782	12,135	12,499	12,874	13,260	13,658
Vegetables	\$ Mil.	19,984	20,585	21,153	21,737	22,337	22,953	23,586	24,236	24,904	25,590	26,295	27,020
Fresh market	\$ Mil.	10,760	11,679	12,008	12,347	12,694	13,051	13,417	13,793	14,178	14,574	14,980	15,397
Processing	\$ Mil.	2,172	2,247	2,311	2,376	2,443	2,512	2,583	2,655	2,730	2,807	2,886	2,968
Potatoes	\$ Mil.	3,928	3,515	3,614	3,715	3,820	3,927	4,037	4,151	4,267	4,387	4,511	4,637
Pulses	\$ Mil.	1,309	1,255	1,300	1,347	1,396	1,446	1,498	1,552	1,608	1,666	1,726	1,788
Total fruit, nuts, vegetables	\$ Mil.	50,031	50,700	51,841	53,259	54,717	56,214	57,752	59,332	60,955	62,622	64,335	66,096

¹Includes melons, sweet potatoes, and mushrooms. Utilized production is used for potatoes. Pulses include edible dry beans and peas, lentils, and other peas.