



United States Department of Agriculture

Office of the Chief Economist

World Agricultural Outlook Board

Long-term Projections Report OCE-2012-1

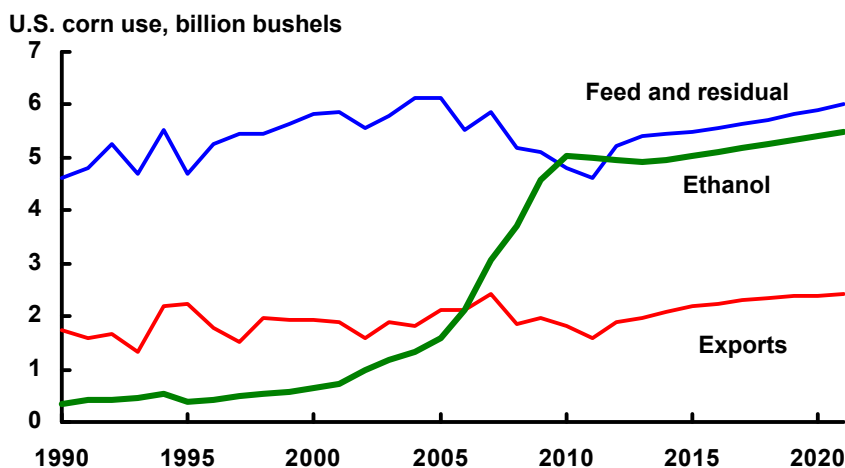
February 2012

# USDA Agricultural Projections to 2021

## Interagency Agricultural Projections Committee

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Farm Service Agency  
Foreign Agricultural Service  
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### Growth of U.S. corn used in ethanol production projected to slow



*USDA Long-term Projections*



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**USDA Agricultural Projections to 2021.** Office of the Chief Economist, World Agricultural Outlook Board, U.S. Department of Agriculture. Prepared by the Interagency Agricultural Projections Committee. Long-term Projections Report OCE-2012-1, 102 pp.

### **Abstract**

This report provides projections for the agricultural sector through 2021. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. The projections are based on specific assumptions about macroeconomic conditions, policy, weather, and international developments, with no domestic or external shocks to global agricultural markets. Provisions of current law are assumed to remain in effect through the projection period. The projections are one representative scenario for the agricultural sector for the next decade. The projections in this report were prepared during October through December 2011, reflecting a composite of model results and judgment-based analyses.

Prospects for the agricultural sector in the near term reflect market adjustments to the supply-and-demand conditions underlying record high prices for many farm commodities in recent years. In response, global agricultural production of most major crops increases in 2012. Total U.S. red meat and poultry production is projected to fall in 2012 and 2013 in response to reduced producer returns over much of the past several years. Meat production then increases in response to improved returns. Longrun developments for global agriculture reflect a return to steady world economic growth and continued demand for biofuels, which combine to support increases in consumption, trade, and prices. Thus, following near-term reductions from record levels reached in 2011, the values of U.S. agricultural exports and net farm income each rise over the rest of the decade. U.S. retail food price increases average less than the overall rate of inflation in 2013-21, largely reflecting livestock production increases that limit consumer meat price increases.

**Keywords:** Projections, crops, livestock, biofuel, ethanol, biodiesel, trade, farm income, food prices, U.S. Department of Agriculture, USDA

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## **Background Regarding USDA Long-term Projections**

USDA's long-term agricultural projections presented in this report are a departmental consensus on a longrun scenario for the agricultural sector. These projections provide a starting point for discussion of alternative outcomes for the sector.

The scenario presented in this report is not a USDA forecast about the future. Instead, it is a conditional, longrun scenario about what would be expected to happen under a continuation of current farm legislation and specific assumptions about external conditions. Critical long term assumptions are made for U.S. and international macroeconomic conditions, U.S. and foreign agricultural and trade policies, and growth rates of agricultural productivity in the United States and abroad. The report assumes that there are no domestic or external shocks that would affect global agricultural supply and demand. Normal weather is assumed. Changes in any of these assumptions can significantly affect the projections, and actual conditions that emerge will alter the outcomes.

The report uses as a starting point the short-term projections from the November 2011 *World Agricultural Supply and Demand Estimates* report. The macroeconomic assumptions were completed in October 2011.

The projections analysis was conducted by interagency committees in USDA and reflects a composite of model results and judgment-based analyses. The Economic Research Service had the lead role in preparing the departmental report. The projections and the report were reviewed and cleared by the Interagency Agricultural Projections Committee, chaired by the World Agricultural Outlook Board. USDA participants in the projections analysis and review include the World Agricultural Outlook Board; the Economic Research Service; the Farm Service Agency; the Foreign Agricultural Service; the Agricultural Marketing Service; the Office of the Chief Economist; the Office of Budget and Program Analysis; the Risk Management Agency; the Natural Resources Conservation Service; and the National Institute of Food and Agriculture.

### **Long-term Projections on the Internet**

Data from the new USDA long-term projections are available electronically at:

<http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1192>

### **USDA Contacts for Long-term Projections**

Questions regarding these projections may be directed to:

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### **Acknowledgments**

The report coordinators, on behalf of the Interagency Agricultural Projections Committee, thank the many analysts in different agencies of USDA for their contributions to the long-term projections analysis and to the preparation and review of this report.

# USDA Agricultural Projections to 2021

## Interagency Agricultural Projections Committee

### Introduction and Projections Overview

This report provides longrun projections for the agricultural sector through 2021. Major forces and uncertainties affecting future agricultural markets are discussed, such as prospects for long-term global economic growth and population trends. Projections cover production and consumption for agricultural commodities, global agricultural trade and U.S. exports, commodity prices, and aggregate indicators of the sector, such as farm income and food prices.

The projections are a conditional scenario based on specific assumptions about the macroeconomy, agricultural and trade policies, the weather, and international developments. The report assumes that there are no domestic or external shocks that would affect global agricultural markets. Normal weather with, in general, trend crop production yields is assumed. Provisions of current law are assumed to remain in effect through the projection period, including the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Act), the Energy Independence and Security Act of 2007, and the Energy Improvement and Extension Act of 2008. Thus, the projections are not intended to be a forecast of what the future will be, but instead are a description of what would be expected to happen under these very specific external circumstances and assumptions. As such, the projections provide a neutral reference scenario that can serve as a point of departure for discussion of alternative farm-sector outcomes that could result under different domestic or international assumptions.

The projections in this report were prepared during October through December 2011 and reflect a composite of model results and judgment-based analyses. Short-term projections used as a starting point in this report are from the November 2011 *World Agricultural Supply and Demand Estimates* report. The macroeconomic assumptions were completed in October 2011.

Prospects for the agricultural sector in the near term reflect market adjustments to the supply-and-demand conditions underlying record high prices for many farm commodities in recent years. In response, global agricultural production of most major crops increases in 2012. Total U.S. red meat and poultry production is projected to fall in 2012 and 2013 in response to reduced producer returns over much of the past several years. Meat production then increases in response to improved returns.

Longrun developments for global agriculture reflect a return to steady world economic growth and continued demand for biofuels, particularly in the United States and the European Union (EU). These factors combine to support longer run increases in consumption, trade, and prices of agricultural products. Thus, following near-term reductions from record levels reached in 2011, the values of U.S. agricultural exports and net farm income each rise over the rest of the decade. After increasing faster than the general inflation rate in 2011 and 2012, U.S. retail food price increases average less than the overall rate of inflation over the remainder of the projections, largely reflecting production increases in the livestock sector that limit consumer meat price increases.

## Key Assumptions and Implications

**Major assumptions underlying the projections and selected implications include:**

### *Economic Growth*

- U.S. and world economic growth reflect movements back to longrun steady gains in the aftermath of the global financial crisis and economic recession. However, the macroeconomic assumptions reflect a dichotomy between a slow transition back toward relatively weaker longrun sustainable growth in developed countries (particularly Japan and the EU) and stronger growth in developing countries. As a result, developing countries become a larger part of the world economy.
- Global economic growth is assumed at a 3.3-percent average rate for 2011-2021. High growth rates in China, India, and other emerging markets among the developing countries underpin world macroeconomic gains.
- Among developed countries, Japan's economic growth continues to face constraints from long-term structural rigidities, a political process that makes economic reform difficult, and a rapidly aging population. Growth in the EU will be limited by the ongoing Eurozone crisis.
- The U.S. economy is projected to grow at an average rate of about 2.5 percent over the next decade. With slower growth in the United States than in the world economy, the U.S. share of global gross domestic product (GDP) falls from about 26 percent currently to 24 percent at the end of the projection period. Employment gains are projected to be slow, with high rates of unemployment lasting for a number of years.
- In the longer run, the return to steady global economic growth supports longer term gains in world food demand, global agricultural trade, and U.S. agricultural exports. Economic growth in developing countries is especially important because food consumption and feed use are particularly responsive to income growth in those countries, with movement away from traditional staple foods and increased diversification of diets.

### *Population*

- Stronger global economic growth over the next decade contributes to the continued slowing of population gains around the world as birth rates decline. Growth in global population is projected to average about 1.0 percent per year compared with an average annual rate of 1.2 percent in the last decade.
- Population growth rates in most developing countries remain above those in the rest of the world. As a consequence, the share of world population accounted for by developing countries increases to 82 percent by 2021, up from 79 percent in 2000.
- Population gains in developing countries, along with increased urbanization and expansion of the middle class, are particularly important for the projected growth in global food demand. Populations in developing countries, in contrast to those in more-developed countries, are dominated by younger population cohorts who consume larger quantities of food of increasingly diverse types.



### ***The Value of the U.S. Dollar***

- The U.S. dollar is projected to depreciate through the projection period. The dollar depreciation is part of a global rebalancing of trade and financial markets in the aftermath of the global financial crisis and recession. Although not assumed for these projections, a worsening of the Eurozone sovereign debt crisis would weaken the euro further and slow the depreciation of the dollar.
- The weaker dollar will remain a facilitating factor in projected gains in U.S. agricultural exports. Although trade competition will continue to be strong, the United States will remain competitive in global agricultural markets, with export gains contributing to longrun increases in cash receipts for U.S. farmers.

### ***Oil Prices***

- Crude oil prices are assumed to increase over the next decade as global economic activity improves, rising somewhat faster than the general inflation rate in the latter part of the projections. By the end of the projection period, the nominal refiner acquisition cost for crude oil imports is projected to be over \$120 per barrel.
- Increases in crude oil prices raise production costs in the agricultural sector.

### ***U.S. Agricultural Policy***

- Provisions of current law, particularly the 2008 Farm Act, are assumed to remain in effect through the projection period.
- Acreage enrolled in the Conservation Reserve Program (CRP) is projected to decline to under 30 million acres over the next several years before rising back to close to its legislated maximum of 32 million acres throughout the remainder of the projections.
- With high prices for many crops, price-dependent marketing loan and counter-cyclical program benefits have become less important in total Government payments to the U.S. agricultural sector. The CRP and fixed direct payments are the largest payments to the sector throughout the projection period. Overall, Government payments have a smaller role and the sector relies on the market for more of its income.

### ***U.S. Biofuels***

- The 45-cents-per-gallon tax credit that had been available to blenders of ethanol and the 54-cents-per-gallon tariff on imported ethanol used as fuel expired at the end of 2011. Similarly, the \$1-per-gallon tax credit for blending biodiesel expired at the end of 2011. The projections assume that these provisions are not reinstated.
- High levels of domestic corn-based ethanol production continue over the next decade, with about 36 percent of total corn use projected to go to ethanol production. However, gains are smaller than have occurred in recent years. The projected slower expansion reflects only moderate near-term growth in overall U.S. gasoline consumption followed by declines

later in the decade, limited potential for further market penetration of ethanol into the E10 (10-percent ethanol blend) market, constraints in the E15 (15-percent ethanol blend) market, and the small size of the E85 (85-percent ethanol blend) market.

- The biomass-based diesel use mandate under the Renewable Fuel Standard of the Energy Independence and Security Act of 2007 has risen to 1 billion gallons for 2012 and is assumed to remain at that level for subsequent years. Some biodiesel production above this mandate is assumed to meet a portion of the advanced biofuel mandate of the Renewable Fuel Standard. Soybean oil, other first-use vegetable oils, animal fats, and recycled vegetable oil are used as feedstocks to produce biodiesel in the projections.

### ***Livestock and Meat Trade***

- World meat demand and imports continue strong growth, especially in many middle- and low-income countries. Projected global growth for overall meat consumption averages more than 2 percent annually over the next decade, with per capita consumption increasing for each major type of meat (beef, pork, and poultry).
- The projections assume that policies will continue to be used in Russia to stimulate domestic pork and poultry production and to reduce imports.

### ***International Policy***

- Trade projections assume that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The report incorporates effects of trade agreements and domestic policies in place in November 2011.
- Domestic agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current paths, based on the consensus judgment of USDA's regional and commodity analysts. In particular, long-term economic and trade reforms in many developing countries are assumed to continue.
- The Canadian Wheat Board is assumed to continue to function as in the past.

### ***International Biofuels***

- Global demand for biofuel feedstocks is projected to continue growing. The largest producers—the United States, Brazil, the EU, and Argentina—are projected to expand output, although at a slower pace than in recent years. Increases in output are also expected from many smaller producers. Continued expansion is largely due to biofuel policies, mainly use mandates and tax incentives.
- The EU remains the world's largest importer of biofuels throughout the projection period. To boost biodiesel production, the EU increases oilseed production and imports of oilseeds and vegetable oil feedstocks, mainly from Ukraine and Russia. EU wheat provides much of the feedstock for ethanol expansion in the EU in the early years, while growth in corn used as an ethanol feedstock is more rapid toward the end of the projections. The EU also increases imports of biofuels throughout the projection period, particularly biodiesel from Argentina and ethanol from Brazil.

- Argentina and Brazil remain the world’s dominant biofuels exporters—Argentina specializing in biodiesel and Brazil in ethanol. Exports from these countries grow rapidly during the early years of the projections but slow in the later years as both countries increase their domestic use of biofuels.

### *Prices*

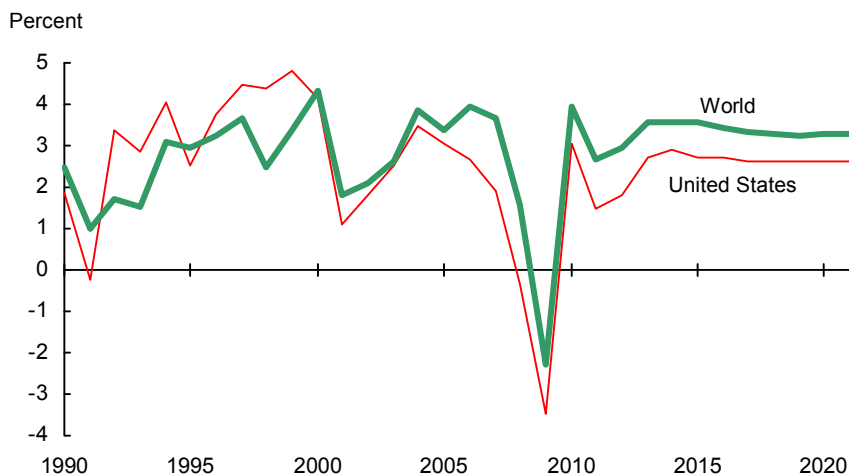
- Prices for major crops are projected to decline in the near term as global production responds to recent high prices. Nonetheless, after near-term price declines, long-term growth in global demand for agricultural products, in combination with the continued presence of U.S. ethanol demand for corn and EU biodiesel demand for vegetable oils, holds prices for corn, oilseeds, and many other crops at historically high levels.
- Prices in the livestock sector during the initial years of the projection period reflect reductions in total meat and poultry production. These reductions are in response to the squeezed producer returns over much of the past several years due to high grain and soybean meal prices, the economic recession, and, for cattle, drought in the Southern Plains. As feed costs fall from recent highs and meat demand strengthens, improved livestock-sector net returns provide economic incentives for expansion. Thus, after increasing through 2013, beef cattle prices decline for several years as production expands starting in 2014. Hog prices remain relatively flat in the near term but then decline for several years as red meat production rises. Over the latter half of the projection period, livestock prices rise, reflecting a moderate pace of production expansion combined with increasing domestic use and export demand.
- Farm income reached a record high level in 2011 largely reflecting high commodity prices. Although projected to initially decline as commodity prices retreat, strengthening global food demand and sustained biofuel demand keep net farm income historically high over the projection period.
- U.S. retail food prices rose faster than the general inflation rate in 2011 and are projected to do so again in 2012. Over the remainder of the projection period, food price increases average less than the general inflation rate, largely reflecting livestock production increases that facilitate gains in per capita meat consumption and limit retail meat price increases. As the domestic economy rebounds and consumer demand strengthens, food expenditures for meals away from home rise faster than expenditures for food at home and account for a growing share of total food spending.

## Macroeconomic Assumptions

The United States and the rest of the developed world are continuing to move from recession to sustainable growth. The transition has been characterized by below-average economic growth and slow employment gains. With continued excess capacity in the U.S. economy, the short to intermediate term will likely be a period of relatively low inflation and continued low interest rates. Developing countries, many of whom were not as seriously affected by the global financial crisis and recession, are expected to have above-average growth. However, growing inflationary pressures in developing countries, particularly in the short to intermediate term, could lead to a tightening of monetary policy, which would raise interest rates and limit the expected economic growth.

With these conditions, the macroeconomic assumptions underlying USDA's long-term projections reflect a dichotomy between a slow transition back toward relatively weaker longrun sustainable growth in developed countries (especially Japan and the European Union (EU)) and stronger growth in developing countries. As a result, developing countries become a larger part of the world economy. Implicit in these assumptions is that the U.S. Federal Reserve Board and other major central banks around the world will continue to take aggressive action, as needed, to counter the continuing economic problems following the recession. The macroeconomic assumptions were completed in October 2011.

**U.S. and world gross domestic product (GDP) growth**



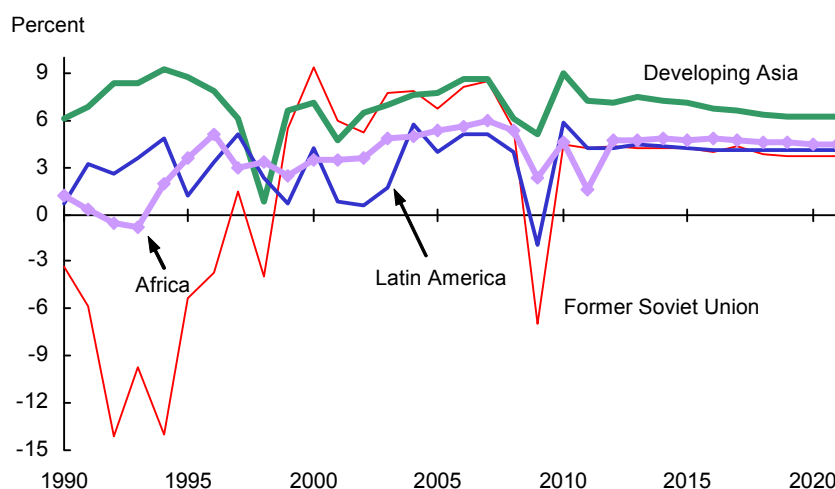
After growth averaging 2.9 percent between 2001 and 2008, overall world gross domestic product (GDP) fell more than 2 percent in 2009. World GDP growth rebounded in 2010 to 3.9 percent, with developed countries growing 2.6 percent and developing countries growing 7.3 percent. From 2011 through 2021, world GDP growth is projected to increase at an average annual rate of around 3.3 percent. The strongest growth is anticipated to occur in developing countries, particularly China and India, and in the countries of the former Soviet Union. Developed countries' share of global real GDP is 59 percent at the end of the projection period, down from 67 percent in 2010.

Following a contraction of about 3.5 percent in 2009, the U.S. economy grew 3.0 percent in 2010, but is projected to grow only 1.5 percent in 2011 and 1.8 percent in 2012. Stronger growth for the U.S. economy of 2.7 percent to 2.9 percent is assumed for several years beginning in 2013, before moving to a longer term sustainable growth rate of 2.6 percent. With U.S. GDP growing more slowly than the world economy throughout the projection period, the U.S. share of global GDP falls to 24 percent by 2021.

### **Agricultural Implications**

The return of positive global economic growth in 2010 and continued population gains are expected to boost food and feed demand over the projection period. This is particularly true since world growth is concentrated in emerging markets and developing countries with high income-related propensities for consumption of food and agricultural products. In addition, growing biofuel demand will remain an important factor shaping the projections for world trade and commodity prices. Also supporting the outlook for U.S. agricultural exports is the cumulative effect of the weaker U.S. dollar since 2002 and the dollar's continued decline through the projection period. The declining dollar makes U.S. agricultural exports increasingly competitive in international markets. Among agricultural products, U.S. exports of bulk commodities and horticultural products tend to be the most sensitive to movements in the U.S. dollar's value, because they face more global trade competition.

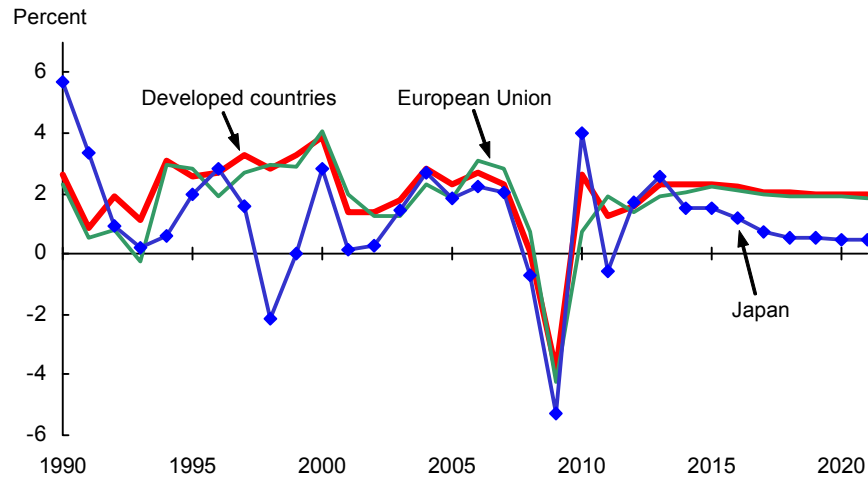
### GDP growth for developing economies and the former Soviet Union



Economic growth in developing countries is projected to average close to 6 percent annually during 2011-21. Growth is projected to be particularly strong in China and India, each averaging about 8 percent annually, while annual growth in the rest of the developing economies averages 4.4 percent.

- Developing countries will have a growing role in the global economy and food demand, and will continue to account for most growth in U.S. agricultural exports. High income growth, along with associated gains in consumption and imports of food and feed, drives this result. As incomes rise in developing countries, consumers tend to diversify their diets, increasing their relative consumption of meat, dairy products, and processed foods (including vegetable oils). These consumption changes move import demand toward feedstuffs and high-value food products.
- Continued strong growth in China, India, and the rest of Asia make this region an increasingly important part of the global economy, with developing Asia's share of world GDP rising to 23 percent by the end of the projection period. Projected annual growth for Southeast Asia averages 5 percent for the next decade. Growth in developing countries of East Asia is projected to be almost 7 percent per year, largely due to China's strong economic gains. Relatively high oil prices, by historical standards, modestly constrain economic growth in developing Asia. The manufacturing sector in Asian countries is far more dependent on energy for GDP growth than are the more-developed economies.
- China's economic growth has been consistently the strongest in Asia, averaging almost 10 percent between 2001 and 2010. While some slowing is expected, China's growth is expected to average around 8 percent over the next decade and will account for about 12 percent of the world economy in 2021. India's projected average economic growth of more than 8 percent per year also puts it in the top tier of high-growth countries. Nonetheless, India remains a low-income country, with real (inflation-adjusted) 2005-based per capita income of \$1,000 in 2011, compared with \$3,000 in China. Continued strong income growth in India and China is expected to more than double both countries' real per capita income by the end of the projection period. This continued rapid growth in per capita income is expected to move a significant number of people out of poverty.
- Latin America sustains projected growth of 4.2 percent a year. An overall improvement in macroeconomic policies has attracted foreign capital inflows (particularly foreign direct investment to Chile, Colombia, and Brazil) and sustained growth in the region. Growth in Mexico is projected to average 3.7 percent per year.
- The countries of the former Soviet Union (FSU) are projected to return to sustainable growth averaging 4.1 percent annually for the next decade. Continuing relatively high oil prices benefit Russia and other energy-rich FSU countries.

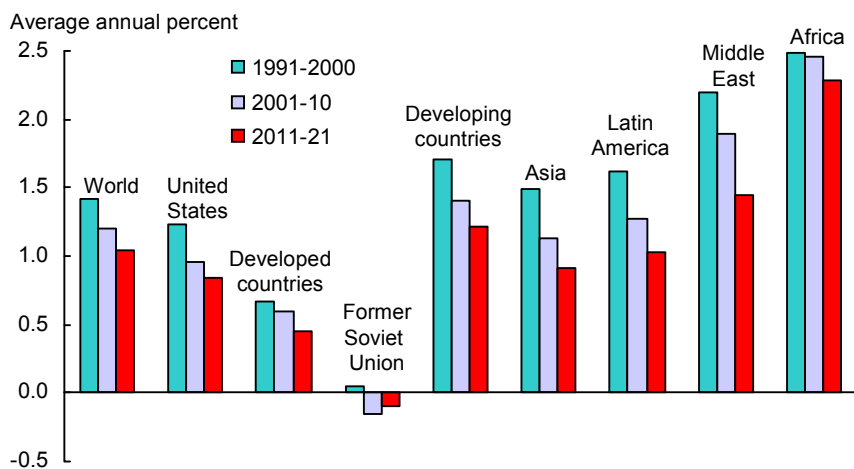
### GDP growth for developed countries, European Union, and Japan



Developed economies are projected to grow 2 percent annually, on average, from 2011 to 2021, 0.7 percentage points less than the 1970-2008 historical average. Both the EU and Japan experienced a more severe recession than the United States. Prospects are for both to grow at lower rates than the United States in coming years. Canada's growth is projected to be similar to that of the United States.

- Economic growth rates for the EU remain about 1.9 percent per year in the projection period, significantly less than the EU historical average of 2.4 percent. The European Central Bank was less aggressive in combating the impact of the global financial crisis than was the United States. The continuing Eurozone sovereign debt crisis further sets back growth prospects for the EU. Structural rigidities, particularly inflexible labor laws and an expensive social security system, impinge on EU economic growth and the EU financial system. Political difficulties also limit the benefits of economic integration, particularly with continued restrictions on labor mobility between EU countries and a cumbersome EU Commission decision-making process. Unemployment rates are expected to decline from double-digit rates in the projection period.
- The projections assume economic growth in Japan averages around 1 percent per year, a continuation of the slow growth and deflationary environment that Japan has experienced since the 1990s. In addition to the economic impact of the 2011 earthquake, tsunami, and nuclear power station failure, Japan continues to face constraints to economic growth from long-term structural rigidities, a political process that makes economic reform difficult, and a rapidly aging population. Increasing integration with the other economies of Asia, especially China, will mitigate some of the growth constraints in the Japanese economy. Nonetheless, Japan is a heavily trade-dependent country and its trade-dependent sectors have declined significantly. Slow growth prospects in Japan relative to high growth for the other major Asian countries suggest that the importance of Japan in the global economy will diminish throughout the projection period.

### Population growth continues to slow



Source: U.S. Department of Commerce, U.S. Census Bureau.

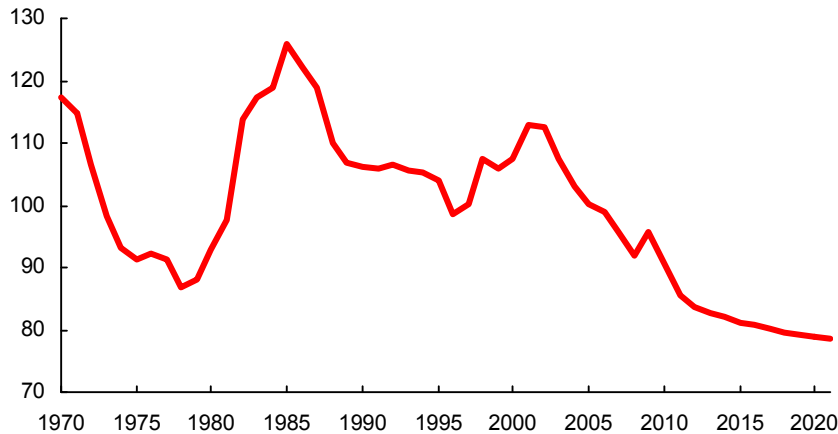
World population growth continues to slow over the next decade, rising about 1.0 percent per year for the projection period compared to an annual rate of 1.2 percent in 2001-10.

- Developed countries have very low projected rates of population growth, at 0.4 percent over 2011-21. Projected annual average population growth rates for the United States of 0.8 percent to 0.9 percent are the highest among developed countries, in part reflecting large immigration.
- Population growth rates in developing economies are projected to be sharply lower than rates in the 1980s and 1990s, but remain above those in the rest of the world. As a result, the share of global population accounted for by developing countries increases to 82 percent by 2021, compared to 74 percent in 1980.
- China and India together accounted for 37 percent of the world's population in 2011. China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.4 percent in 2011-21. The population growth rate in India is projected to decline from 2.0 percent to 1.2 percent per year over the same period.
- Brazil's population growth rate falls from 2.1 percent per year in 1981-90 to 1.0 percent annually in 2011-21. Although Sub-Saharan Africa's population growth rate declines from 2.9 percent to 2.6 percent per year between the same periods, this region continues to have the highest population growth rate of any region in the world.
- Countries with declining populations include Germany, Russia, Ukraine, Japan, and South Africa.



### U.S. agricultural trade-weighted dollar continues depreciation 1/

Index values, 2005=100

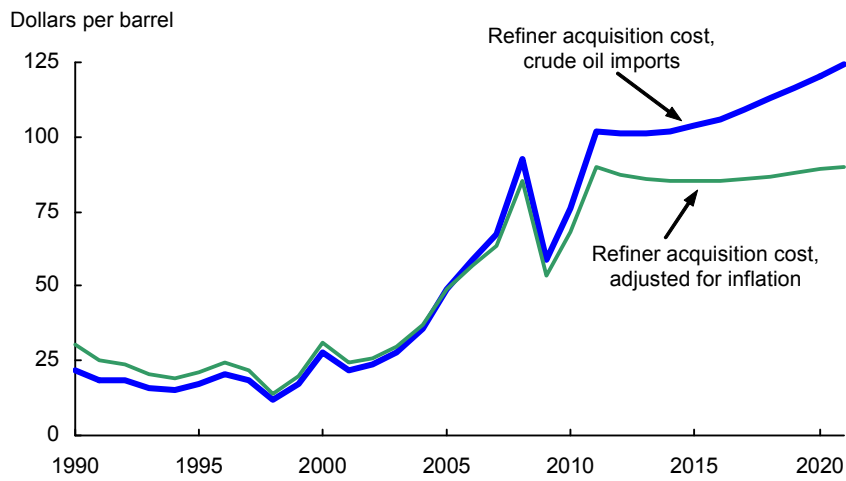


1/ Real U.S. agricultural trade-weighted dollar exchange rate, using U.S. agricultural export weights, based on 192 countries.

The U.S. dollar is projected to depreciate through the projection period. The dollar depreciation is part of a global rebalancing of trade and financial markets in the aftermath of the global financial crisis and recession.

- Strong GDP growth in the United States relative to the EU and Japan will tend to mitigate the continued appreciation of the euro and yen relative to the U.S. dollar. Although the initial debt crisis in Greece led to a depreciation of the euro relative to the dollar during the first half of 2010, the euro has strengthened moderately relative to the dollar since then. While not assumed for these projections, the euro could weaken further if the Eurozone sovereign debt crisis worsens, which would slow the depreciation of the dollar. The yen has continued to appreciate against the dollar despite interventions of Japan's central bank to moderate the appreciation.
- China initiated a process for appreciating its currency in 2005 after a long period of maintaining a fixed nominal exchange rate and an undervalued currency. However, that process paused beginning in 2008. After nearly 2 years of maintaining a constant nominal exchange rate of the yuan relative to the dollar, the Chinese Central Bank announced in June 2010 that it would allow increased flexibility in the bilateral exchange rate. From June 2010 to December 2011, there was a 7-percent nominal appreciation of the yuan, resulting in a real appreciation of 9.6 percent because of higher Chinese inflation. The projections assume that China allows its real exchange rate to continue to appreciate at a measured pace. The real appreciation of the yuan also leads to some appreciation of other Asian currencies. These exchange-rate developments will strengthen U.S. agricultural exports to Asian countries.

### U.S. crude oil prices



Prices for crude oil are assumed to remain historically high over the next decade. They rise somewhat faster than the general inflation rate in the latter part of the projections reflecting sustained global economic growth. By the end of the projection period, the nominal refiner acquisition cost for crude oil imports is projected to be over \$120 per barrel.

Table 1. U.S. macroeconomic assumptions

Item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
GDP, billion dollars												
Nominal	14,527	15,055	15,617	16,280	17,087	17,917	18,787	19,680	20,616	21,596	22,623	23,698
Real 2005 chained dollars	13,088	13,284	13,523	13,889	14,291	14,677	15,073	15,465	15,868	16,280	16,703	17,138
percent change	3.0	1.5	1.8	2.7	2.9	2.7	2.7	2.6	2.6	2.6	2.6	2.6
Disposable personal income												
Nominal (billion dollars)	11,180	11,649	12,069	12,527	13,129	13,772	14,447	15,155	15,897	16,676	17,493	18,350
percent change	3.6	4.2	3.6	3.8	4.8	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Nominal per capita, dollars	36,679	37,224	38,231	39,344	40,884	42,529	44,243	46,030	47,893	49,835	51,860	53,969
percent change	2.2	1.5	2.7	2.9	3.9	4.0	4.0	4.0	4.0	4.1	4.1	4.1
Real (billion 2005 chained dollars)	10,062	10,213	10,407	10,646	10,944	11,251	11,566	11,889	12,222	12,565	12,916	13,278
percent change	1.8	1.5	1.9	2.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Real per capita, 2005 chained dollars	32,446	32,633	32,966	33,436	34,082	34,743	35,420	36,113	36,822	37,548	38,291	39,051
percent change	0.9	0.6	1.0	1.4	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0
Consumer spending												
Real (billion 2005 chained dollars)	9,221	9,378	9,556	9,804	10,049	10,301	10,558	10,822	11,093	11,370	11,654	11,946
percent change	2.0	1.7	1.9	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Inflation measures												
GDP price index, chained, 2005=100	111.0	113.3	115.5	117.2	119.6	122.1	124.6	127.3	129.9	132.7	135.4	138.3
percent change	1.2	2.1	1.9	1.5	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
CPI-U, 1982-84=100	218.1	224.8	229.8	235.1	240.7	246.5	252.4	258.5	264.7	271.0	277.5	284.2
percent change	1.7	3.1	2.2	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
PPI, finished goods 1982=100	179.8	190.2	194.0	197.7	201.5	205.3	209.2	213.2	217.2	221.4	225.6	229.8
percent change	4.1	5.8	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
PPI, crude goods 1982=100	213.6	248.8	250.8	257.4	259.9	262.5	265.2	267.8	270.5	273.2	275.9	278.7
percent change	21.5	16.5	0.8	2.6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Crude oil price, \$/barrel												
EIA refiner acq. cost, imports	75.9	101.6	100.9	101.0	102.0	104.0	106.0	109.3	113.0	116.7	120.6	124.6
percent change	28.5	33.9	-0.7	0.1	1.0	2.0	1.9	3.1	3.3	3.3	3.3	3.3
Real 2005 chained dollars	68.4	89.7	87.4	86.2	85.3	85.2	85.1	85.9	86.9	88.0	89.0	90.1
percent change	27.0	31.2	-2.6	-1.4	-1.0	-0.1	-0.2	1.0	1.2	1.2	1.2	1.2
Labor compensation per hour nonfarm business, 2005=100												
Real 2005 chained dollars	115.8	118.1	120.7	123.7	127.3	131.1	135.3	139.7	144.1	148.7	153.5	158.4
percent change	2.1	2.0	2.2	2.5	2.9	3.0	3.2	3.2	3.2	3.2	3.2	3.2
Interest rates, percent												
3-month Treasury bills	0.1	0.1	0.1	1.5	3.0	4.8	4.8	4.8	4.8	4.8	4.8	4.8
3-month commercial paper	0.2	0.2	0.2	1.7	4.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Bank prime rate	3.3	3.3	3.3	4.5	5.5	8.2	8.2	8.2	8.2	8.2	8.2	8.2
10-year Treasury bonds	3.2	3.1	3.3	4.0	5.0	5.7	5.7	5.7	5.7	5.7	5.8	5.8
Moody's Aaa bond yield index	4.9	5.1	4.9	4.7	5.6	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Labor and population												
Civilian unemployment rate, percent	9.6	9.0	8.8	8.2	7.8	7.5	7.0	6.5	6.0	6.0	6.0	6.0
Nonfarm payroll emp., millions	131.7	133.0	134.7	136.4	137.7	139.1	140.5	141.8	142.9	144.0	145.2	146.3
percent change	0.6	1.0	1.3	1.2	1.0	1.0	1.0	0.9	0.8	0.8	0.8	0.8
Total population, millions	310.1	313.0	315.7	318.4	321.1	323.8	326.5	329.2	331.9	334.6	337.3	340.0
percent change	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8

Domestic macroeconomic assumptions were completed in October 2011. CPI-U is the consumer price index for all urban consumers. PPI is the producer price index. EIA is the Energy Information Administration, U.S. Department of Energy.

Table 2. Global real GDP growth assumptions

Region/country	GDP, 2010	GDP share 2008-2010	Per capita							Average		
			GDP 2010	2010	2011	2012	2013	2014	2015	1991-2000	2001-2010	2011-2021
	<i>Bil. 2005</i>		<i>2005</i>									
	<i>dollars</i>	<i>Percent</i>	<i>dollars</i>									
				<i>Percent change in real GDP</i>								
World	49,971	100.0	7,379	3.9	2.7	2.9	3.6	3.6	3.6	2.7	2.5	3.3
Less United States	36,883	73.5	5,708	4.3	3.1	3.3	3.9	3.8	3.8	2.5	2.8	3.6
North America	14,376	29.1	41,792	3.0	1.6	1.8	2.7	2.9	2.7	3.4	1.6	2.5
Canada	1,288	2.6	38,144	3.2	2.1	1.9	2.7	2.6	2.5	2.9	1.9	2.4
United States	13,088	26.5	42,189	3.0	1.5	1.8	2.7	2.9	2.7	3.4	1.6	2.5
Latin America	3,262	6.4	5,538	5.8	4.2	4.2	4.4	4.3	4.2	3.1	3.1	4.2
Mexico	829	1.7	7,374	5.4	4.0	3.9	3.8	3.7	3.6	3.5	1.7	3.7
Caribbean & Central America	322	0.7	3,964	1.9	2.5	3.5	4.0	4.1	4.0	3.1	2.6	3.8
South America	2,111	4.1	5,340	6.6	4.6	4.4	4.7	4.6	4.4	3.0	3.8	4.4
Argentina	242	0.5	5,848	9.2	7.0	4.7	4.5	4.4	4.3	4.4	4.6	4.4
Brazil	1,072	2.4	6,010	7.5	3.8	4.4	5.0	4.9	4.6	2.6	3.5	4.5
Other	660	1.3	4,320	4.0	5.0	4.4	4.3	4.1	4.1	3.3	4.0	4.3
Europe	15,029	30.7	27,498	1.8	1.7	1.4	1.9	2.1	2.2	2.1	1.3	1.9
European Union-27	14,185	29.0	27,683	0.7	1.9	1.4	1.9	2.1	2.2	2.1	1.2	1.9
Other Europe	844	1.7	24,733	1.4	1.9	2.3	2.4	2.6	2.4	1.8	1.7	2.2
Former Soviet Union	1,234	2.5	4,440	4.5	4.2	4.3	4.2	4.2	4.2	-4.0	5.3	4.1
Russia	933	1.9	6,690	4.0	3.8	4.1	4.0	4.0	4.0	-3.6	4.8	4.0
Ukraine	88	0.2	1,946	4.2	4.8	5.2	5.5	5.4	4.8	-7.7	4.5	4.8
Other	213	0.4	2,287	6.8	5.6	4.8	4.6	4.7	4.8	-3.8	8.6	4.2
Asia and Oceania	13,280	25.8	3,582	6.8	4.2	5.0	5.7	5.3	5.3	3.6	4.3	4.9
East Asia	9,773	19.0	6,346	7.0	4.0	4.9	5.5	5.1	5.1	3.4	4.0	4.6
China	3,734	7.0	2,807	10.3	9.1	8.5	8.9	8.8	8.5	10.5	9.9	8.0
Hong Kong	210	0.4	29,652	7.0	5.3	5.1	5.2	4.7	4.7	4.5	4.1	4.7
Japan	4,371	8.8	34,264	4.0	-0.6	1.7	2.6	1.5	1.5	1.2	0.9	1.0
South Korea	1,015	2.0	20,861	6.2	3.7	3.9	4.2	3.6	4.2	6.2	4.1	3.7
Taiwan	424	0.8	18,422	10.9	5.2	5.0	5.0	4.6	4.3	6.5	4.0	4.1
Southeast Asia	1,166	2.3	2,164	7.9	5.3	5.5	6.0	5.5	5.3	5.1	4.9	5.1
Burma	52	0.1	971	5.3	5.6	5.4	5.0	5.0	4.9	6.5	5.2	4.9
Cambodia	7	0.0	513	5.4	6.3	6.9	6.7	6.6	6.5	6.5	6.8	6.4
Indonesia	394	0.8	1,622	6.1	6.3	6.4	6.7	5.9	5.7	4.4	5.2	5.5
Malaysia	167	0.3	5,917	7.2	4.7	5.0	5.5	5.7	5.2	7.2	4.5	4.8
Philippines	133	0.3	1,334	7.3	4.7	4.9	5.0	4.9	4.9	3.1	4.6	4.7
Thailand	224	0.4	3,370	7.8	4.2	4.6	5.6	5.0	4.9	4.6	4.3	4.6
Vietnam	73	0.1	820	6.9	5.9	6.5	6.9	7.0	7.2	7.4	7.2	6.6
South Asia	1,407	2.7	883	8.1	7.0	7.5	8.0	7.9	7.7	5.2	7.1	7.6
Bangladesh	72	0.1	463	5.8	6.5	6.9	6.5	6.4	6.3	4.8	5.7	6.2
India	1,135	2.1	968	8.8	7.5	8.1	8.6	8.4	8.2	5.5	7.5	8.1
Pakistan	141	0.3	762	4.4	2.4	3.5	4.4	4.8	4.9	4.0	4.7	4.2
Oceania	934	1.9	26,879	2.7	1.7	1.8	3.5	3.1	3.3	3.4	2.9	2.8
Australia	801	1.6	37,223	2.7	1.7	1.8	3.6	3.1	3.3	3.6	3.0	2.8
New Zealand	107	0.2	25,231	2.3	1.2	1.8	3.4	3.0	3.0	2.9	2.5	2.5
Middle East	1,588	3.2	5,487	4.7	5.4	4.3	4.8	4.8	4.6	3.6	3.9	4.4
Iran	215	0.4	2,795	2.5	3.2	4.0	4.2	4.1	4.1	2.6	4.6	3.7
Iraq	83	0.2	2,795	2.8	11.8	8.3	7.2	6.2	6.0	9.5	10.4	6.6
Saudi Arabia	359	0.7	13,940	3.8	5.7	4.8	5.0	4.9	4.6	2.6	3.5	4.4
Turkey	400	0.8	5,135	8.9	6.6	2.5	4.5	5.0	4.9	3.6	3.9	4.4
Other	532	1.1	6,706	3.5	4.3	4.8	4.7	4.5	4.3	4.8	4.2	4.3
Africa	1,202	2.4	1,181	4.7	1.6	4.8	4.8	4.8	4.7	2.2	4.6	4.4
North Africa	392	0.8	2,394	4.4	-4.0	4.0	3.8	4.1	4.0	3.5	4.4	3.2
Egypt	132	0.3	1,639	5.1	0.9	0.9	1.0	1.2	1.3	4.5	5.0	2.7
Morocco	66	0.1	2,079	3.8	3.8	4.2	5.0	4.9	4.7	2.4	4.5	4.3
Sub-Saharan Africa	810	1.6	949	4.8	4.3	5.1	5.2	5.1	5.1	1.6	4.7	4.9
South Africa	255	0.5	5,201	2.8	3.4	3.4	4.0	4.1	4.3	1.8	3.2	4.4
West African Community	206	0.4	677	2.8	3.8	3.8	4.0	4.1	4.8	2.9	3.7	4.6
Other Sub-Saharan Africa	349	0.7	696	5.5	3.7	5.5	5.4	5.3	5.2	0.7	5.8	5.0

Source: Historical data from various sources; compiled in the International Macroeconomic Data Set, U.S. Department of Agriculture, Economic Research Service. International macroeconomic assumptions were based in information available in July 2011.

Table 3. Population growth assumptions

Region/country	Population in							Average		
	2010	2010	2011	2012	2013	2014	2015	1991-2000	2001-2010	2011-2021
	<i>Millions</i>							<i>Percent change</i>		
World <sup>1</sup>	6,772	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.2	1.0
Less United States	6,461	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.2	1.1
North America	344	0.9	0.9	0.9	0.9	0.8	0.8	1.2	0.9	0.8
Canada	34	0.8	0.8	0.8	0.8	0.8	0.8	1.1	0.8	0.7
United States	310	0.9	0.9	0.9	0.9	0.9	0.8	1.2	1.0	0.8
Latin America	589	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.3	1.0
Mexico	112	1.1	1.1	1.1	1.1	1.1	1.0	1.6	1.2	1.0
Caribbean & Central America	81	0.8	1.1	1.0	1.0	1.0	1.0	1.7	1.2	1.0
South America	395	1.2	1.2	1.1	1.1	1.1	1.1	1.6	1.3	1.0
Argentina	41	1.1	1.0	1.0	1.0	1.0	0.9	1.2	1.0	0.9
Brazil	201	1.2	1.2	1.1	1.1	1.1	1.0	1.6	1.3	1.0
Other	153	1.2	1.2	1.2	1.2	1.2	1.1	1.8	1.3	1.1
Europe	547	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2
European Union-27	512	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2
Other Europe	34	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Former Soviet Union	278	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.2	-0.1
Russia	139	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.1	-0.5	-0.5
Ukraine	45	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.5	-0.8	-0.7
Other	93	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.7	0.8
Asia and Oceania	3,707	1.0	1.0	1.0	1.0	0.9	0.9	1.4	1.1	0.9
East Asia	1,540	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.5	0.3
China	1,330	0.5	0.5	0.5	0.5	0.5	0.4	1.0	0.5	0.4
Hong Kong	7	0.5	0.5	0.4	0.4	0.4	0.4	1.6	0.6	0.3
Japan	128	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.3	0.1	-0.2
South Korea	49	0.3	0.2	0.2	0.2	0.2	0.2	0.9	0.4	0.1
Taiwan	23	0.2	0.2	0.2	0.2	0.1	0.1	0.9	0.4	0.1
Southeast Asia	539	1.3	1.2	1.2	1.2	1.1	1.1	1.7	1.4	1.1
Burma	53	1.1	1.1	1.1	1.1	1.0	1.0	1.6	1.2	1.0
Cambodia	14	1.7	1.7	1.7	1.7	1.7	1.6	2.8	1.6	1.6
Indonesia	243	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.3	1.0
Malaysia	28	1.6	1.6	1.6	1.5	1.5	1.5	2.6	2.0	1.4
Philippines	100	2.0	1.9	1.9	1.9	1.8	1.8	2.2	2.1	1.8
Thailand	66	0.6	0.6	0.6	0.5	0.5	0.5	1.2	0.7	0.5
Vietnam	90	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.2	1.0
South Asia	1,593	1.5	1.4	1.4	1.4	1.4	1.3	2.0	1.6	1.3
Bangladesh	156	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.7	1.6
India	1,173	1.4	1.4	1.3	1.3	1.3	1.2	1.8	1.5	1.2
Pakistan	184	1.6	1.6	1.6	1.5	1.5	1.5	2.5	1.9	1.5
Oceania	35	1.3	1.3	1.2	1.2	1.2	1.2	1.4	1.4	1.1
Australia	22	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.2	1.1
New Zealand	4	0.9	0.9	0.9	0.9	0.8	0.8	1.1	1.1	0.8
Middle East	289	1.7	1.6	1.4	1.4	1.5	1.5	2.2	1.9	1.4
Iran	77	1.3	1.3	1.3	1.2	1.2	1.2	1.7	1.1	1.2
Iraq	30	2.5	2.5	2.4	2.3	2.3	2.2	2.3	2.7	2.2
Saudi Arabia	26	1.6	1.6	1.5	1.5	1.5	1.5	2.9	1.9	1.5
Turkey	78	1.3	1.3	1.2	1.2	1.1	1.1	1.8	1.5	1.1
Other	79	2.3	2.0	1.5	1.3	1.6	1.8	3.1	2.9	1.7
Africa	1,017	2.4	2.4	2.4	2.3	2.3	2.3	2.5	2.4	2.3
North Africa	164	1.6	1.6	1.6	1.5	1.5	1.5	1.7	1.7	1.4
Egypt	80	2.0	2.0	2.0	1.9	1.9	1.8	1.7	2.1	1.8
Morocco	32	1.1	1.1	1.1	1.1	1.0	1.0	1.6	1.2	1.0
Sub-Saharan Africa	854	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.4
South Africa	49	0.1	-0.2	-0.4	-0.4	-0.5	-0.2	1.6	0.9	-0.1
West African Community	304	2.6	2.6	2.6	2.6	2.6	2.5	2.6	2.7	2.5
Other Sub-Saharan Africa	501	2.7	2.8	2.8	2.7	2.7	2.6	2.8	2.7	2.6

1/ Totals for the world and world less United States include countries not otherwise listed in the table.

Source: U.S. Department of Commerce, U.S. Census Bureau.

The population assumptions were completed in July 2011 based on the June 2011 update from the U.S. Census Bureau.

## Agricultural Trade

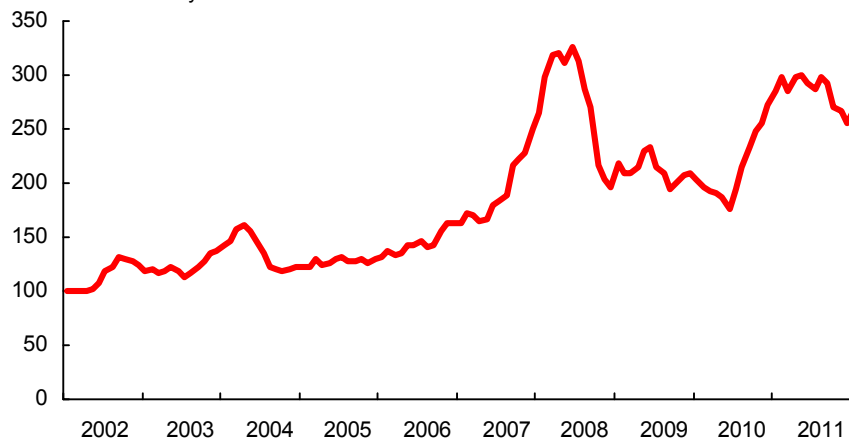
Global economic growth continued in 2011 as the world economy extended its recovery from the 2009 recession. During the 2012-21 projection period, income growth is projected to continue and be slightly above the historical average long-term rate during the last half of the period. This growth provides a foundation for gains in world demand and trade for agricultural products. Consequently, agricultural product prices are projected to remain historically high.

### Historical Background for Trade Projections

Since early 2002, fluctuations in production, trade, and stocks of agricultural commodities have been unusually large, contributing to wide fluctuations in food commodity prices. Between January 2002 and June 2008, an index of monthly average world prices of wheat, rice, corn, and soybeans rose 226 percent and then declined 40 percent in the following 6 months. By June 2010, the index had fallen another 11 percent. The index then rose 70 percent by May 2011 and stood at double the January 2002 level, but 8 percent below the June 2008 peak. The 70-percent increase during the 11 months from June 2010 to May 2011 raised concerns about another food-commodity price spike of the magnitude experienced in 2007-08. Instead, after peaking in May 2011, the price index fell 11 percent by December 2011.

**Monthly average crop prices 1/**

Index values: January 2002 = 100



1/ ERS calculations based on International Monetary Fund (IMF) average monthly world price quotes for wheat, corn, soybeans, and rice; aggregated by IMF's fixed historical exports weights.

A series of adverse weather events were the main factors contributing to the increase in staple food prices from June 2010 to May 2011, beginning with a severe drought in Russia and parts of Ukraine and Kazakhstan that reduced production of all crops, but particularly wheat. In late summer 2010, yield prospects for U.S. corn declined due to high temperatures during pollination. About the same time, rain on the nearly mature wheat crops in Canada and northwestern Europe reduced a large portion of these crops to feed-grade quality. Continued drought in the former Soviet Union significantly reduced winter wheat plantings. After November 2010, drought and periodic high temperatures associated with a La Niña weather pattern reduced the corn and

soybean crops in central Argentina. Rains in Australia in late 2010 to early 2011 downgraded much of the Australian wheat crop to feed quality, further reducing global supplies of food-quality wheat. In the southern Great Plains, drought persisted from fall 2010 through fall 2011 and reduced the region's harvests of hard red winter wheat, sorghum, corn and soybeans.

Other factors contributing to the rise in prices included continued global economic growth, especially in developing countries, the declining value of the U.S. dollar, and increasing energy prices.

Then, during the last half of 2011, crop prices declined 15 percent. High commodity prices in the fall of 2010 and first half of 2011 provided incentives for farmers in many parts of the world to increase their area planted. This, combined with more favorable global weather, contributed to an increase in world production and stocks of grains and oilseeds in 2011, despite a drop in U.S. corn yields. However, even with the projected increases in world crop production and stocks, world market prices are expected to remain well above historical levels for the next decade.

### **Trade Projections Overview**

Developing countries are the main source of growth in world agricultural demand and trade. Food consumption and feed use are particularly responsive to income growth in developing countries, with movement away from staple and/or traditional foods and toward more diversified diets. Agricultural demand in developing countries is further reinforced by population growth rates that are about twice the average of developed countries.

#### **General International Assumptions**

Trade projections to 2021 are founded on assumptions concerning trends in foreign area, yields, and use as well as the assumption that countries comply with existing bilateral and multilateral agreements affecting agriculture and agricultural trade. The projections incorporate the effects of trade agreements and domestic policies in place or authorized by November 2011. International macroeconomic assumptions were completed in October 2011.

Domestic agricultural and trade policies in individual foreign countries are assumed to evolve along their current paths, based on the consensus judgment of USDA analysts. In particular, long-term economic and trade reforms in many developing countries are assumed to continue. Similarly, the development and use of technology and changes in consumer preferences are assumed to continue evolving based on past performance and analysts' judgments regarding future developments.

In particular, the combined region of Africa and the Middle East is projected to have some of the strongest growth in food demand and agricultural trade over the coming decade. Both poultry and beef imports have their largest projected increases in this region. By the end of the projection period, Africa and the Middle East are projected to account for about half of poultry imports and 22 percent of beef imports by the major importers of the world. Strong policy support for domestically produced meat also motivates growth in feed grain and protein meal imports, especially where land constraints or agroclimatic conditions limit an expansion of domestic crop production. As a result, the region accounts for about 23 percent of the projected growth in world coarse grain imports over the next 10 years. Strong import growth by Africa and the Middle East over the projection period also accounts for 48 percent of the increase in global wheat imports, 47 percent of the growth in rice imports, and 39 percent of the rise in soybean oil trade.

Mexico is projected to be another large growth market, not only for meat imports, but also for selected grains and oilseeds. A sustained increase in per capita Mexican meat demand over the next decade provides incentives to expand livestock production in that country as well as to import more meat. Imports of beef, pork, and poultry are projected to rise by 95, 42, and 28 percent, respectively. Mexico's increase in pork imports accounts for more than 11 percent of the growth in world pork trade. In addition, Mexico plays a dominant role in the world sorghum market, accounting for one-third of world imports and for more than 90 percent of the increase in world imports. For corn, Mexico is second only to China in projected import growth over the next 10 years.

Agricultural prices are projected to remain above pre-2006 levels during the coming decade as a result of several factors, including increasing world demand for grains, oilseeds, and livestock products; a depreciation of the U.S. dollar; continuing high energy prices; and some further growth in biofuels production.

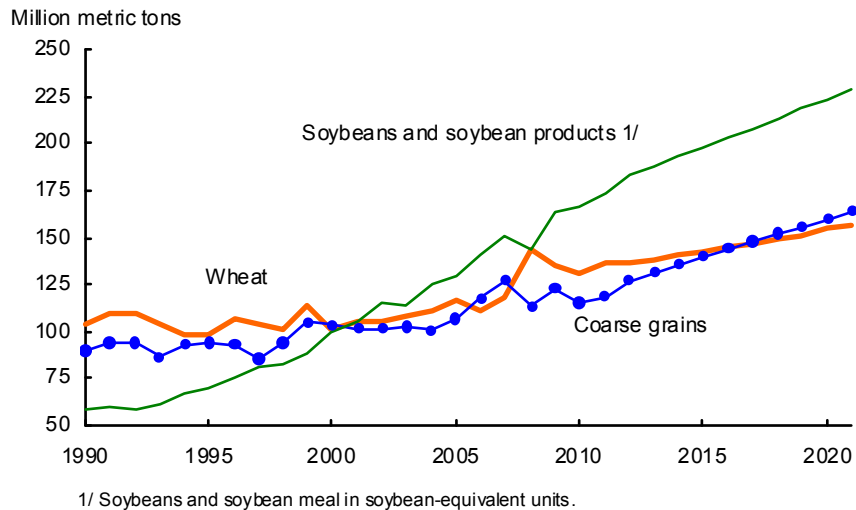
Prices for vegetable oils are projected to rise relative to prices for protein meals. Oilseed prices rise slightly more than grain prices, and meat prices rise relative to the costs of feedstuffs, both for protein meals and grains.

World agricultural production rises in response to high prices and technology enhancements. However, a number of factors are expected to slow the rate of production growth. Many countries have a limited ability to expand planted area, and the expansion that does occur takes place on land with lower productive capacity. The growth rate in world-average crop yields has been slowing for nearly two decades, to some extent as a result of reduced research and development funding. Water constraints in some countries are impeding the expansion in irrigation. Where irrigation water is pumped from deep wells, the energy cost of pumping is projected to continue to increase. Costs of other production inputs such as fertilizers and chemicals are also likely to increase.

Traditional exporters of a wide range of agricultural products, such as Argentina, Australia, Canada, the European Union (EU), and the United States, remain important in global trade in the coming decade. But countries that have made significant investments in their agricultural sectors and increasingly pursuing policies intended to encourage agricultural production, including Brazil, Russia, Ukraine, and Kazakhstan, are expected to have an increasing presence in export markets for basic agricultural commodities.



### Global trade: Wheat, coarse grains, and soybeans and soybean products



Global trade in soybeans and soybean products has risen rapidly since the early 1990s, and has surpassed global trade in wheat—the traditional leader in agricultural commodity trade—and in total coarse grains (corn, barley, sorghum, rye, oats, millet, and mixed grains). Continued strong growth in global demand for vegetable oil and protein meal, particularly in China and other Asian countries, is expected to maintain soybean and soybean-product trade well above wheat and coarse grains trade throughout the next decade.

- In most countries, the projected growth in total harvested area of all crops rises by less than 0.5 percent per year. Area expands more rapidly in countries with a reserve of available land and policies allow farmers to respond to higher prices. Such countries include Brazil, Russia, Ukraine, Argentina, and some other countries in South America and Eastern Europe. About two-thirds of the projected growth in global production is derived from rising yields, even though growth in crop yields is projected to slow.
- The market impact of slower yield growth is partially offset by slower growth in world population. Nonetheless, population growth is a significant factor driving overall growth in demand for agricultural products. Additionally, rising per capita income in many countries supplements population gains in the demand for vegetable oils, meats, horticultural products, and coarse grains. World per capita use of vegetable oils is projected to rise 15 percent over the next 10 years, compared with 6 percent for meat and for total coarse grains. Per capita use is projected to decline about 1 percent for wheat and rice.
- Increasing demand for wheat, coarse grains, oilseeds, and other crops provide incentives to expand global cultivated area and the intensity of cultivation. Higher prices for vegetable oils, as a result of increased demand for food use, biodiesel production, and other industrial uses, are bringing previously uncultivated land in Brazil, Argentina, Indonesia, and Malaysia into soybean and palm oil production. Globally, the area planted to total grains, oilseeds, and cotton is projected to expand about 0.75 percent per year.
- In the coming decade, the growth in global grain trade comes from a broad range of countries, but particularly from countries in Africa and the Middle East.

## Demand for Biofuel Feedstocks

The demand for feedstocks currently used to produce ethanol and biodiesel is projected to continue growing in a number of countries—although at a slower pace than in recent years. Expansion continues to depend on policy support, mainly use mandates and tax incentives—motivated by environmental concerns and a goal to reduce energy dependence.

Six countries and regions (United States, Brazil, European Union (EU), Argentina, Canada, and China) accounted for about 90 percent of world biodiesel production and 97 percent of ethanol production in 2010. Their dominance in global biofuels markets is expected to change little in the coming decade. Between 2012 and 2021, production in these countries is projected to rise about 50 percent for biodiesel and 40 percent for ethanol.

### Country Assumptions

**EU.** The EU is the world's third largest consumer and the largest importer of biofuels. Biodiesel production is projected to increase by one-third between 2012 and 2021. To boost biodiesel production, the EU increases oilseed production and imports of oilseeds and vegetable oil feedstocks, mainly from Ukraine and Russia. Biodiesel imports, mainly from Argentina, rise steadily. During the same period, fuel ethanol production is projected to increase about 75 percent. Internally produced wheat is the primary feedstock in the early years but the use of corn grows more rapidly toward the end of the projections. Ethanol imports, mainly from Brazil, are expected to increase. On a volume basis, ethanol's share of total biofuel use grows from about 30 percent currently, to 40 percent by 2021.

**Brazil.** In Brazil, the world's second largest biofuel producer, sugarcane-based ethanol production is projected to rebound from recently reduced levels that resulted from two years of low sugarcane production and high international sugar prices favoring the conversion of cane to sugar. Then from 2012 to 2021, Brazil's ethanol production is projected to rise more than 90 percent to meet both increasing domestic demand and growing export demand from Europe and the United States. Strong growth is also projected for soybean-oil-based biodiesel production, although rising from a much smaller base. Most of the biodiesel is used domestically.

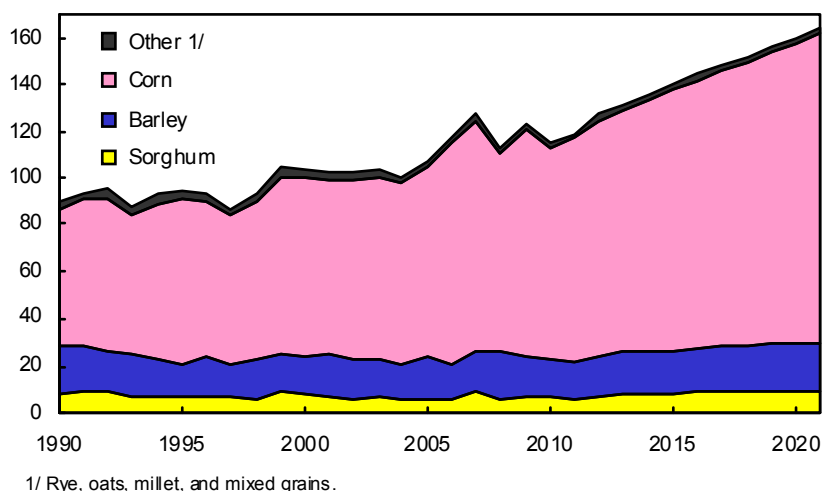
**Argentina.** Argentina's biodiesel production is projected to expand 60 percent between 2012 and 2021. Although some of the biodiesel is used to meet a mandated increase in the domestic blend rate, exports continue to rise and the country maintains its position as the world's largest biodiesel exporter. Argentina's export tax structure favors exports of biodiesel rather than of soybean oil. Argentina's ethanol production increases at a faster rate than biodiesel production, but from a much smaller base.

**Canada.** Ethanol production is projected to increase 80 percent, with corn imports accounting for an increasing share of the feedstock. Biodiesel production climbs about 70 percent, most of it using rapeseed (canola) oil as a feedstock. Most of the increased biodiesel output is consumed in Canada, but limited amounts are exported to the United States and the EU. Some of the rapeseed-meal byproduct is exported to the United States.

**China.** About 4 million tons of corn were used to produce fuel ethanol in 2010. China has implemented policies to limit further expansion of grain- and oilseed-based biofuel production for transportation fuel use, and is now emphasizing the use of nongrain feedstocks such as cassava.

## Global coarse grain trade

Million metric tons

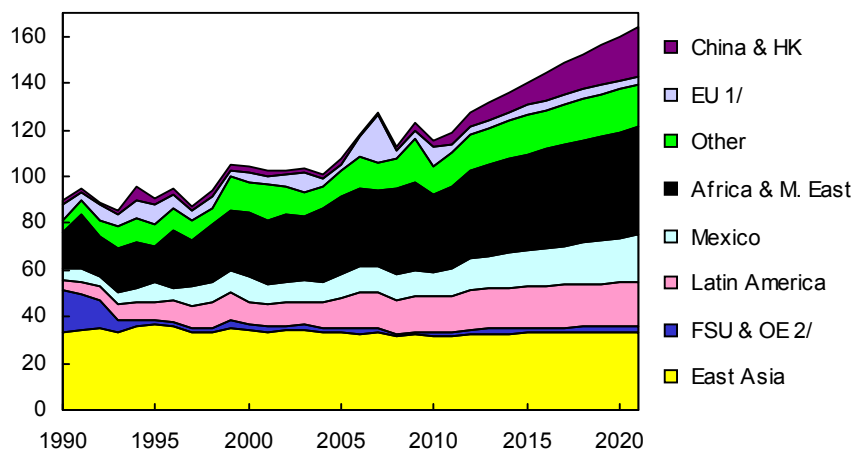


World coarse grain trade expands 37 million metric tons (29 percent) from 2012 to 2021. The share of global coarse grain production used as animal feed trended downward from 66 percent a decade ago to about 57 percent in 2011 and is projected to remain just below 60 percent during the coming decade. Industrial uses, such as starch, ethanol, and malt production, are much smaller than feed use but are increasing twice as fast.

- Corn is the dominant feed grain traded in international markets. Corn's share of total world coarse grain trade continues to rise slowly and averages 80 percent through the projection period. Barley has the next largest share (13 percent), followed by sorghum (5 percent). The trade share of the other coarse grains, mostly oats and rye, continues to decline slowly to about 2 percent by 2021.
- Corn's increasing share of world production and trade of coarse grains is attributable to yield growth that is more rapid than for other grains, to new varieties that enable it to be competitive in a wider range of climatic regions, and to its preferred qualities for feed, biofuels, and other industrial uses. Average world corn yields are projected to trend upwards 1 percent a year while barley and sorghum yields both increase less than two-thirds of a percent a year.
- Commercialization of livestock feeding has been a driving force behind the growing dominance of corn in international feed grain markets. Hogs and ruminants, such as cattle and sheep, are capable of digesting a broad range of feedstuffs, making demand relatively price-sensitive across alternate feed sources. However, as pork and poultry production becomes increasingly commercialized throughout the world, higher quality feeds are used, boosting the demand for corn and soybean meal.
- The expansion of livestock production in feed-deficit countries has also contributed to the growth in coarse grain trade. Such countries are most often found in the Middle East, North Africa, and Asia.

## Global coarse grain imports

Million metric tons



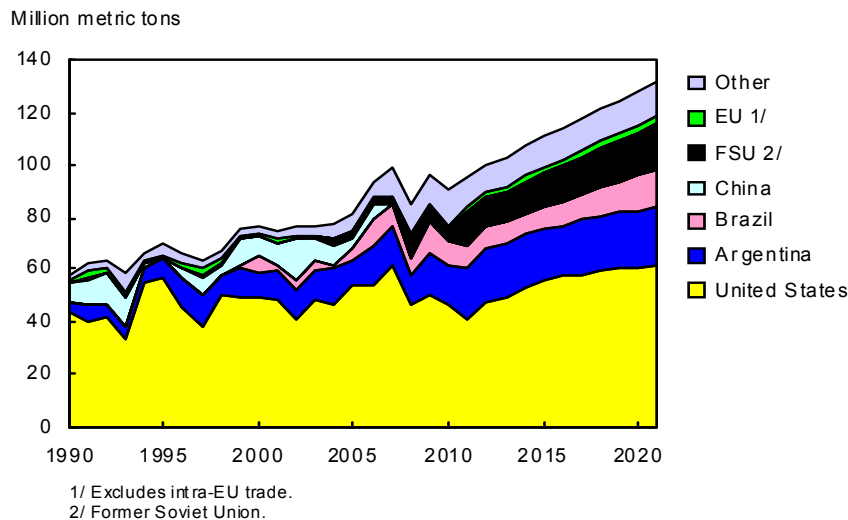
1/ Excludes intra-EU trade.

2/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

World corn trade is projected to increase 31 million metric tons (31 percent) to 131 million tons between 2012/13 and 2021/22.

- Growth in coarse grain imports is strongly linked to expansion of livestock production in regions unable to meet their own feed needs. Key growth markets include North Africa, the Middle East, China, Mexico, and Southeast Asia. Japan and South Korea are large but mature markets for coarse grain imports.
- China's net imports of corn are projected to reach 18 million tons by the end of the projection period as imports grow steadily while exports remain small. China's strengthening domestic demand for corn is driven by its expanding livestock and industrial sectors. The increase in China's imports accounts for 45 percent of the 2012/13 to 2021/22 growth in world corn trade.
- Coarse grain imports by Africa and the Middle East account for more than 25 percent of the growth in world trade through 2021 as rising populations and increasing incomes sustain strong demand growth for animal products.
- Mexico's corn imports are projected to rise from 9.8 million tons in 2011/12 to nearly 16 million in 2021/22. Mexico's sorghum imports rise rapidly from reduced levels in recent years to 4.2 million tons by 2021/22. Altogether, the growth in Mexico's coarse grain imports represents almost one-fifth of the increase in global coarse grain trade during the coming decade. This reflects increased meat consumption in Mexican diets that stimulates an expansion in domestic meat production as well as increased meat imports.
- South and Southeast Asian corn imports rise 3 million tons (39 percent) by 2021 in response to increased demand from livestock producers. The region accounts for 10 percent of the growth in world corn imports.
- In East Asia (Japan, South Korea, Taiwan, and Hong Kong), imports of coarse grains grow very little because environmental constraints on expanding livestock production and increasing imports of selected cuts of meat greatly limit the growth in coarse grain imports.

### Global corn exports

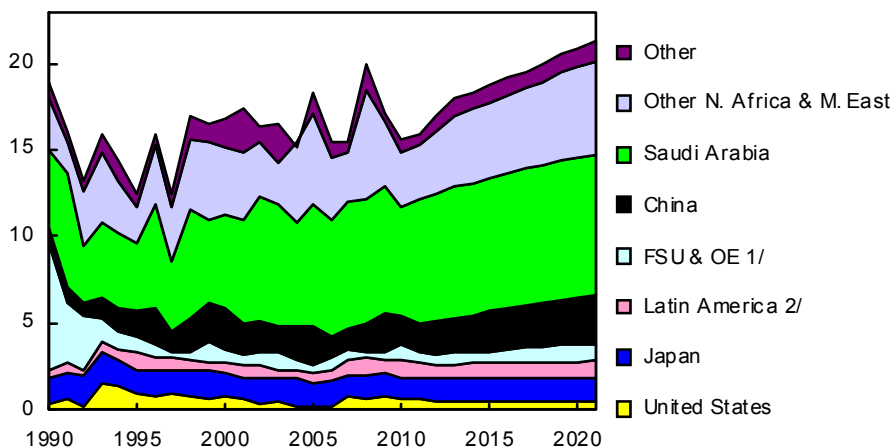


U.S. corn exports are projected to grow over the next decade and approach record levels by 2021. However, large world supplies of feed-quality wheat compete with U.S. corn exports at the beginning of the projection period. The U.S. share of world corn trade declines slowly from an average of about 55 percent during the last half decade to less than 47 percent by 2021 as exports rise more rapidly from the countries of the former Soviet Union (FSU), Brazil, the EU, and other European countries.

- Corn exports from the FSU, mostly Ukraine, rise nearly 60 percent to more than 17 million tons by 2021. Favorable resource endowments, increasing economic openness, wider use of hybrid seed, and greater investment in agriculture all stimulate corn production in this region.
- Brazilian production and exports of corn are projected to increase in response to high world prices, especially during the latter part of the projection period. Brazil's corn exports have been large during the last few years as Brazil has targeted the EU's demand for grain that is not genetically modified (GM). This marketing opportunity has diminished as Brazil has expanded its own production of GM corn varieties.
- Argentina's corn area and exports are projected to stagnate in the early years of the projections due to the continuation of quantitative controls on exports. Then, exports grow slowly toward the end of the period. Still, with a small domestic market for corn, Argentina remains the world's second-largest corn exporter.
- Increases in corn area and yields enable the EU to increase production. Although the EU allocates more corn to fuel ethanol production, its exports increase and imports decline in the projections. The eastern part of the EU has a transportation advantage to parts of North Africa and the Middle East. Corn exports by other European countries, mostly Serbia, are also projected to rise.

## Global barley imports

Million metric tons



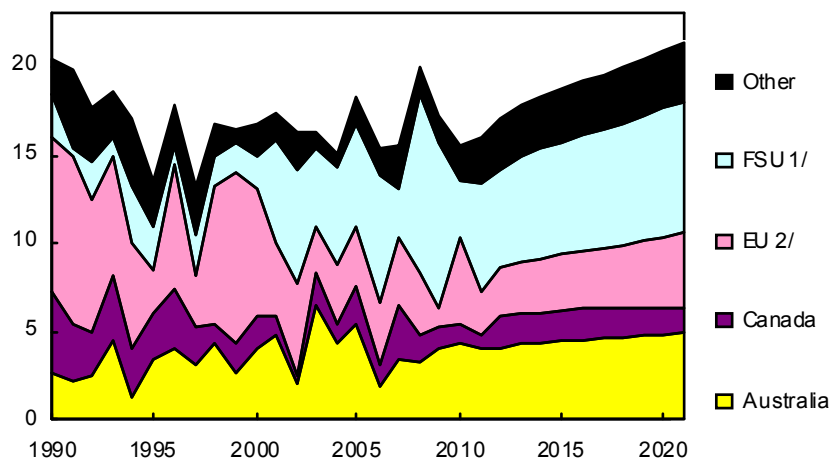
1/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.  
2/ Includes Mexico.

Global barley trade expands 4.3 million tons (25 percent) during the projection period. Rising demand for both malting and feed barley underpins the increased trade.

- Feed barley imports by the North African and Middle Eastern countries grow steadily over the next decade. This region is projected to account for 60 percent of the growth in world imports during the coming decade, and by 2021 they are projected to account for 65 percent of total world imports. During the mid-1990s, corn overtook barley as the principal coarse grain imported by these countries, due mainly to rising poultry production. Now, barley imports are rising more rapidly than imports of corn.
- Saudi Arabia remains by far the world's leading importer of barley, accounting for about 40 percent of world imports. However, its share declines during the projections as the barley imports of many other countries climb at a faster rate. Saudi Arabia's barley imports are used primarily as feed for sheep, goats, and camels.
- Among countries in the Middle East, Iran's barley imports are projected to experience the fastest growth rate over the next decade. Total imports by other countries in North Africa and the Middle East are projected to grow more slowly, but still account for about a fourth of the increase in world barley trade.
- The international market for malting barley is boosted by strong growth in beer demand in some developing countries, most notably in China—the world's largest malting-barley importer. China's domestic malting-barley production is increasing, but imports also rise during the projection period. Australia and Canada are China's main sources of malting barley imports.

## Global barley exports

Million metric tons



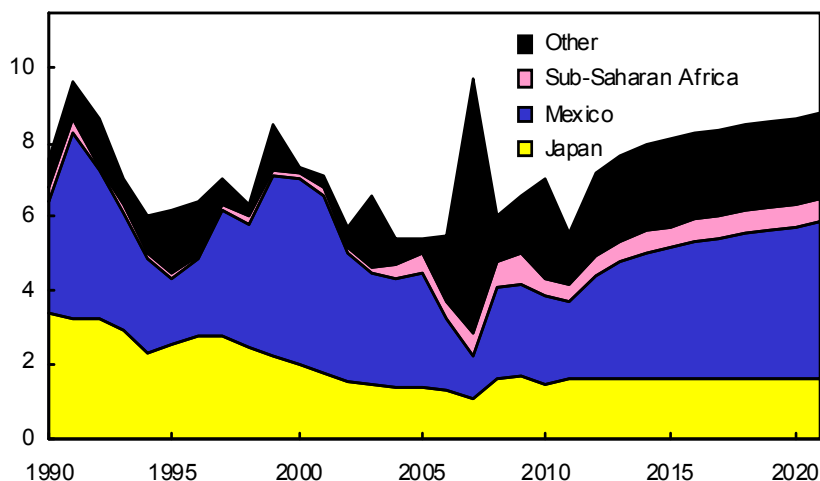
1/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.  
2/ Excludes intra-EU trade.

Ukraine became the world's largest barley exporter in 2009 and is expected to remain so throughout the 2012/13 to 2021/22 projection period. Australia, the EU, and Canada are expected to continue to be major exporters.

- Barley exports by the FSU are projected to reach 7.4 million tons by 2021 with Ukraine accounting for 5.1 million tons and Russia accounting for 1.0 million tons. This region's exports are projected to account for 44 percent of the increase in world exports over the next decade.
- Australia's barley exports are projected to rise slowly, and the country becomes the world's second-largest exporter, surpassing the EU.
- The EU's barley exports are projected to climb modestly during the coming decade, but remain well below the levels of the late 1990s.
- Malting barley commands a substantial price premium over feed barley. This quality premium is expected to influence planting decisions in Canada and Australia where malting barley's share of total barley area is expected to rise during the next 10 years. However, Canada's total area planted to all barley continues to decline gradually as canola remains more profitable. All of Ukraine's exports are feed-quality barley.

## Global sorghum imports

Million metric tons



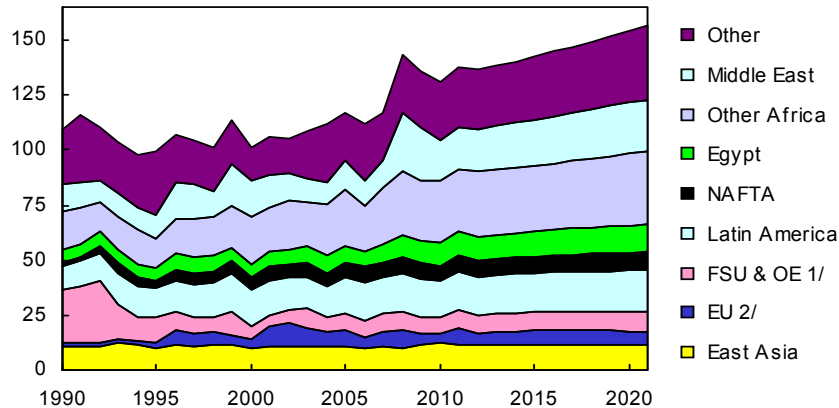
World sorghum trade is projected to trend upward from around 6.5 million tons in recent years to 8.8 million tons by 2021. U.S. sorghum exports to Mexico and Japan account for the bulk of world sorghum trade.

- U.S. sorghum exports are projected to recover from the current year low through 2013/14, then to remain flat at 4.3 million tons through 2021/22. These levels are still well below historical highs. Nevertheless, the United States is projected to remain the leading sorghum exporter throughout the period.
- Both Argentina and Australia—the world’s second- and third-largest exporters—are expected to continue being prominent exporters during the coming decade. Argentina’s exports are projected to rise about 60 percent to 3.5 million tons, while Australia’s exports are projected to remain in the neighborhood of 0.6 million tons. Argentina’s production and exports of new sorghum varieties with lower tannin content enable it to gain a larger share of the international market. The primary sorghum markets for Argentina are Japan, Chile, and Europe.
- Mexico’s sorghum imports are projected to nearly double to 4.2 million tons by 2021. Many Mexican livestock producers have a slight preference for feeding sorghum, while U.S. livestock feeders increasingly prefer corn, thus facilitating U.S. sorghum shipments to Mexico. Mexico generally accounts for 30-40 percent of world sorghum imports but its share rises to nearly 50 percent by 2021.
- Sorghum imports by Japan—the world’s second-largest importer—have trended slowly downward during the past decade. After a small rebound since 2007/08, imports are projected to remain stable over the next decade.
- Sub-Saharan Africa is the only other major export destination whose sorghum imports are projected to grow during the coming decade, and that projected growth is small.



## Global wheat imports

Million metric tons



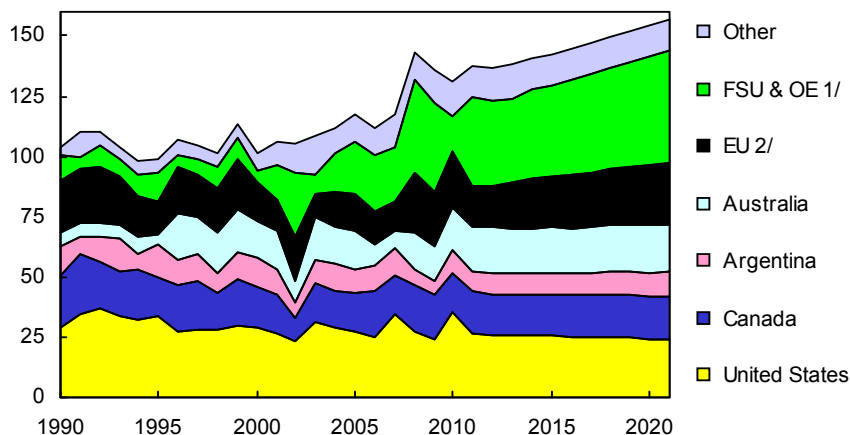
1/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.  
2/ Excludes intra-EU trade.

World wheat trade (including flour) expands by 20 million tons (15 percent) between 2012 and 2021, rising to nearly 157 million tons. Growth in wheat imports is concentrated in those developing countries where income and population gains drive increases in demand. The largest growth markets include Asian countries, the 15 countries of the Economic Community of West African States, other Sub-Saharan Africa countries, Egypt, Indonesia, Saudi Arabia, and other countries in the Africa and Middle East region.

- In many developing countries, almost no change in per capita wheat consumption is expected, but imports are projected to expand modestly because of population growth and limited potential to expand domestic wheat production. As incomes rise in Indonesia, Vietnam, and some other Asian countries, consumers shift marginally from rice to wheat. Nonetheless, overall global per capita wheat consumption is projected to decline slightly during the coming decade.
- Egypt maintains its position as the world's largest wheat-importing country, as its imports climb to more than 12 million tons. Imports by the EU, Brazil, and Indonesia are each projected to exceed 6 million tons by 2021.
- Imports by countries in Africa and the Middle East rise more than 9 million tons and account for 48 percent of the total increase in world wheat trade. Saudi Arabia has adopted a policy to phase out wheat production by 2016 because of water scarcity concerns, and imports are projected to rise to more than 3 million tons by 2021.
- China's imports remain small as per capita consumption of wheat continues to decline.
- EU wheat is the main feedstock used to produce fuel ethanol during the next several years. Then, the feedstock use shifts to corn to support further expansion in ethanol production.
- Abundant quantities of feed-quality wheat in a number of countries enable wheat to compete effectively with corn for feed use for the next couple of years. Europe has accounted for 45 to 53 percent of global wheat feeding during the past decade. However, its share declines to 40 percent by 2021 as wheat feeding expands in other countries in response to lower prices of wheat relative to coarse grains.

## Global wheat exports

Million metric tons



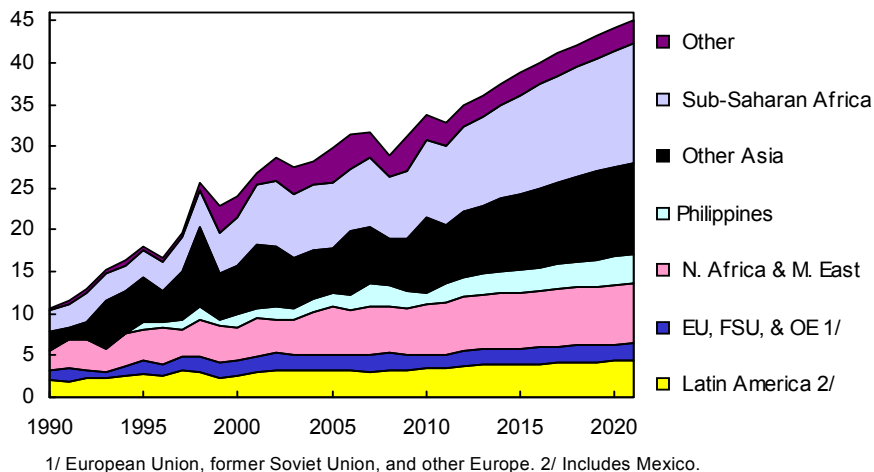
1/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.  
2/ Excludes intra-EU trade.

The traditional five largest wheat exporters (the United States, Australia, the EU, Argentina, and Canada) are projected to account for almost 62 percent of world trade in 2021, compared with 69 percent during the last decade. This decrease in share is mostly due to increased exports from the Black Sea area.

- Net U.S. wheat exports decline from 22.8 million tons at the beginning of the projection period to 21.0 million tons at the end. U.S. wheat exports are projected to account for less than 16 percent of global wheat trade at the end of the projection period, down from about 23 percent in the past 5 years.
- Argentina and the EU are the only traditional exporters whose market shares are projected to increase. Shares of world wheat exports increase for Russia, Ukraine, and Kazakhstan.
- Russia, Ukraine, and Kazakhstan became significant wheat exporters during the last half decade until the 2010 drought reduced production and exports. Exports from these countries are expected to recover in the coming years and to account for about 30 percent of world exports by 2021. Increasing wheat use for domestic feed is expected to prevent even more rapid export growth. Although not assumed, year-to-year volatility in production and trade is likely sometime in the projection period because of the region's highly variable weather and yields.
- EU wheat exports climb over the next decade as ethanol production shifts to increased use of corn and feed use trends slowly downward. After dropping sharply in 2011 and 2012, EU wheat exports are projected to trend upward and reach 26 million tons by 2021, well above the levels of the last decade.
- Canada's wheat area continues to decline slowly in response to increased global demand for vegetable oils (especially rapeseed oil) and for barley. As a result, little change is projected for Canadian wheat exports. The Canadian Wheat Board is assumed to function as in the past.

## Global rice imports

Million metric tons

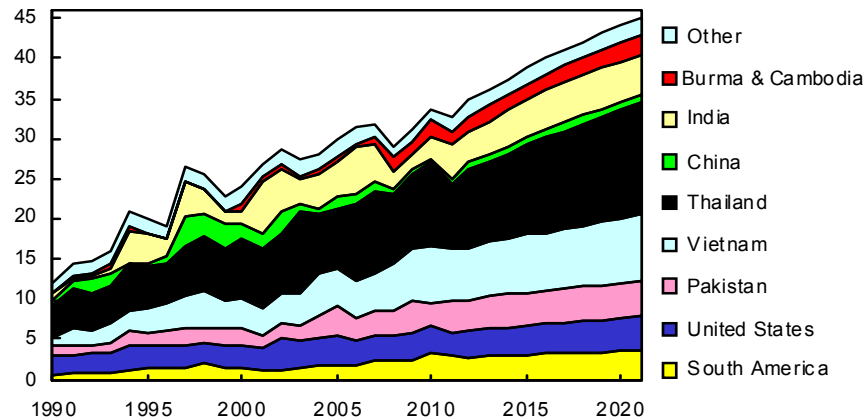


Global rice trade is projected to grow 2.9 percent per year from 2012 to 2021. In 2021, global rice trade reaches 45 million tons, 42 percent above the 2007 record. The main factors driving this expansion in global trade are a steady growth in demand—largely due to population growth in developing countries—and the inability of several key importers to significantly boost production. World trade as a share of world consumption, currently about 7 percent, remains substantially smaller than for other grains and oilseeds.

- Long-grain varieties account for around three-fourths of global rice trade and are expected to account for the bulk of trade growth over the next decade. Medium- and short-grain varieties account for 10 to 12 percent of global trade, with Northeast Asia the largest market. Aromatic rice, primarily basmati and jasmine, makes up most of the rest of global rice trade.
- In Africa and the Middle East, strong demand growth is driven by rapidly expanding population and income, while production growth is limited. In North Africa and the Middle East, production is primarily limited by climate. In Sub-Saharan Africa, expanding production is constrained by infrastructure deficiencies and resource constraints. Altogether, the entire Africa and Middle East region accounts for nearly half of the increase in world rice trade between 2012 and 2021. Africa accounts for most of this region's rising imports.
- The Philippines and Indonesia become the largest individual rice-importing countries by the end of the projection period. By 2021, each country is projected to import 3.3 million tons of rice or more. Other major importers—the EU, Iraq, Iran, Saudi Arabia, and Bangladesh—each take more than 1.3 million tons. These countries have limited ability to expand rice production and are expected to account for more than one-third of the increase in global rice imports over the next decade.
- Rice imports by the Central America and Caribbean region are projected to increase by 0.3 million tons over the next decade and to surpass 2 million by 2021. Population growth and rising per capita incomes boost rice consumption and raise imports in this region.
- In the EU, Canada, and the United States, immigration is the driving force for rising per capita consumption and modest import growth. In Mexico, higher incomes contribute to higher per capita consumption and moderate gains in imports.
- Imports by the FSU are projected to remain stable as a result of strong production growth and declining population that more than offsets slowly rising per capita consumption.

## Global rice exports

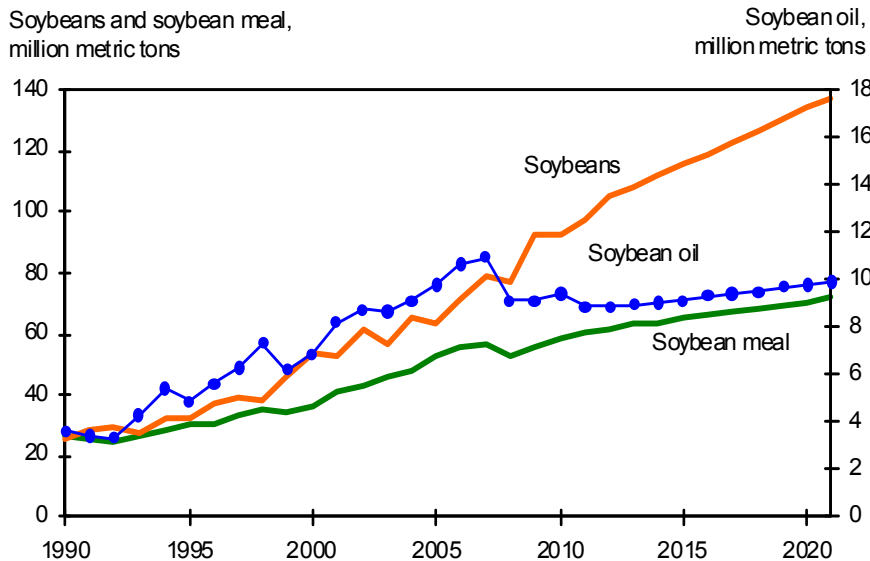
Million metric tons



Asia continues to supply most of the world's rice exports throughout the projection period.

- Rice exports from Thailand and Vietnam, the world's largest rice-exporting countries, account for more than 45 percent of world trade and for more than 50 percent of the growth in world exports in the coming decade. Thailand's exports increase 4.1 million tons, to more than 14 million by 2021. Rice area and yields are projected to increase in Thailand. Vietnam's export expansion is smaller, rising from 6.5 to 8.1 million tons. Per capita consumption declines slowly for both exporters as incomes rise.
- India has typically been the third- or fourth-largest rice exporter since the mid-1990s, but its export levels have been volatile, primarily due to fluctuating stock levels and Government policies. India's exports have been well below previous levels for the last several years as exports of non-basmati rice have largely been banned since the spike in world prices in early 2008. In September 2011, the Government eased this ban. India's rice exports are projected to rise to about 4.8 million tons by 2021, making it the third-largest exporter.
- Pakistan and the United States have each been exporting around 3.5 million tons in recent years. Both exporters are projected to raise their exports to above 4 million tons over the next decade. Pakistan has expanded its rice area and production in recent years although production declined in 2010 due to devastating floods. In the coming decade, Pakistan's agricultural sector will be confronted by a growing water shortage and a deteriorating infrastructure, limiting production and export gains.
- U.S. expansion in rice exports is attributable to a slight area expansion after 2012, continued yield growth, and only modest growth in domestic use.
- Rice exports from China, the sixth-largest rice-exporting country, have declined in recent years but are projected to begin rising again and to reach 1.2 million tons by 2021, about double the level shipped in recent years. Little change in production or total disappearance is expected. Higher yields are projected to offset declining area as China allows the use of genetically modified rice. Reductions in per capita consumption, a result of continued diet diversification resulting from higher incomes, are expected to offset population growth. China also builds rice stocks during the projection period.
- Australian exports are projected to recover only modestly from the extremely low levels shipped during much of the past decade. Exports will continue to be limited by competing demands for irrigation water.

### Global exports: Soybeans, soybean meal, and soybean oil

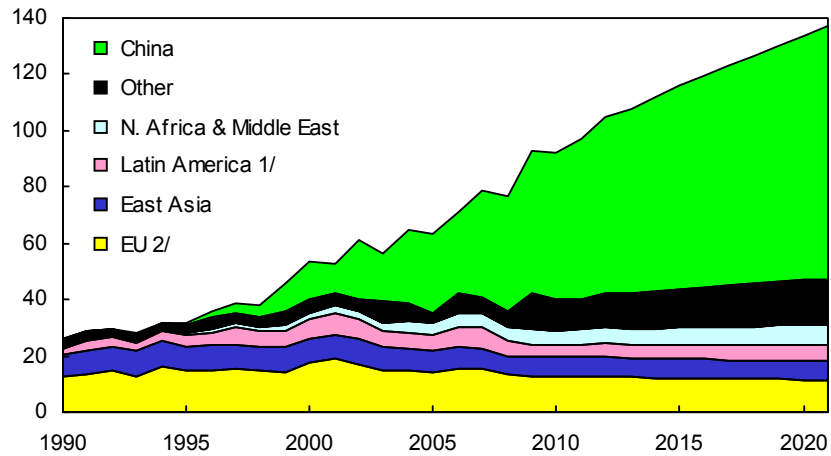


Economic growth and population increases in developing countries are projected to boost demand for vegetable oils for food consumption and for protein meals used in livestock production. Vegetable oil used for biodiesel production also is projected to increase. With demand for vegetable oils increasing at a faster rate than for protein meals, prices rise more rapidly for vegetable oils than for oilseeds and protein meals, particularly for rapeseed oil compared with rapeseed meal.

- Many countries with limited opportunity to expand oilseed production, such as China and some countries in North Africa, the Middle East, and South Asia, have invested heavily in crushing capacity in recent years. As a result, their import demand for oilseeds has grown rapidly and this growth is projected to continue. During the next decade, global trade in soybeans is projected to increase by 31 percent, soybean meal by 17 percent, and soybean oil by 12 percent.
- In China, per capita income is projected to continue rising rapidly thereby expanding consumer demand for livestock products and vegetable oils. Feed rations are expected to include an increasing percentage of protein meal to improve rates of weight gain for meat-producing animals. China mostly will import oilseeds for crushing rather than large amounts of oilseed meals and oils. This affects the composition of world trade by raising global import demand for oilseeds rather than for oilseed products.
- Argentina, Brazil, and the United States continue to account for about 88 percent of the world’s aggregate exports of soybeans, soybean meal, and soybean oil during the coming decade. In Argentina, uncertainties about grain policies cause farmers to keep more land in soybean production. Also, some pasture land is shifted to soybean cultivation. Argentina’s share of world exports of soybeans and soybean products remains about 27 percent. Brazil’s soybean area continues to increase, but an increasing share of soybean production is crushed for domestic feed and food use. Brazil’s share of world exports of soybeans and soybean products remains in the 32-36 percent range, while the U.S. share declines from just above 30 percent to about 25 percent by 2021.
- The EU is expected to expand biodiesel production using rapeseed oil as the primary feedstock. Rapeseed area increases early in the projections. Although EU imports of soybeans are projected to decline, imports of soybean meal and soybean oil are projected to increase.

## Global soybean imports

Million metric tons

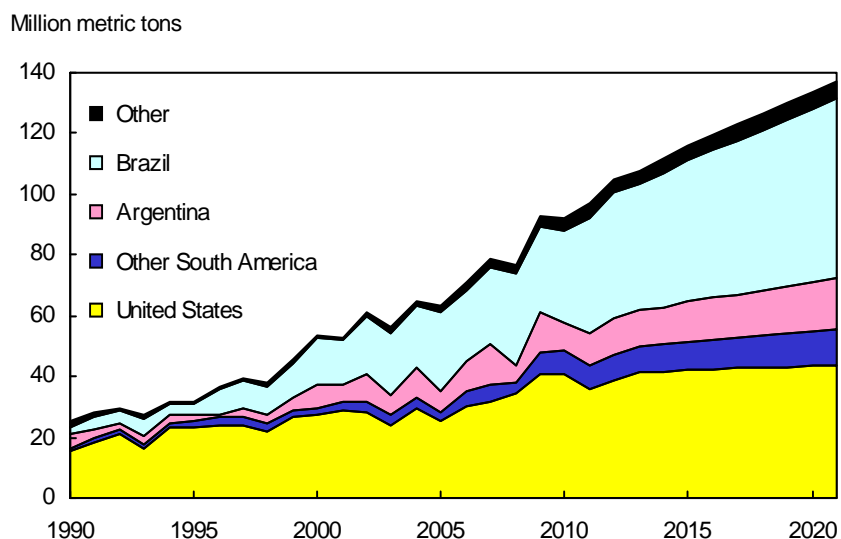


1/ Includes Mexico. 2/ Excludes intra-EU trade.

World soybean trade is projected to rise rapidly, but at a slower pace than in recent years, climbing nearly 32 million tons (nearly 31 percent) to 137 million tons during the next decade.

- China's soybean imports have risen sharply and now account for more than half of world trade. Over the coming decade, China will face policy decisions regarding the tradeoffs between producing and importing corn and soybeans. The projections assume that Chinese policies will pursue increasing corn production and letting soybean imports increase. Thus, China soybean imports are projected to rise 59 percent to 90 million tons in 2021/22 and to account for more than 80 percent of the projected growth in global soybean imports. China's underutilized oilseed crushing capacity drives strong gains in soybean imports but the use of vegetable oils for biodiesel production is assumed to have a negligible impact on the country's total vegetable oil use.
- EU soybean imports declined over the past decade due to decreases in internal grain prices, increases in grain and rapeseed meal feeding, and rising imports of soybean meal. These trends are projected to continue with imports falling 9 percent to 11.5 million tons.
- Imports of soybeans and soymeal by East Asia (Japan, South Korea, and Taiwan) are influenced by a continuing shift from importing feedstuffs to importing meat and other livestock products. As a result, this region's projected soybean imports decline slightly. Small increases in soymeal imports support slowly rising meat production in this region..
- Mexico's soybean imports are projected to increase more than 22 percent to 4.3 million tons. These imports will support the production of soybean meal for the Mexican poultry and pork industries and soybean oil for domestic food consumption.
- Egypt, Iran, and Turkey are projected to increase soybean imports in an effort to improve feed rations and meet increased per capita demand for vegetable oil consumption. These countries have a limited ability to expand their soybean production.

## Global soybean exports



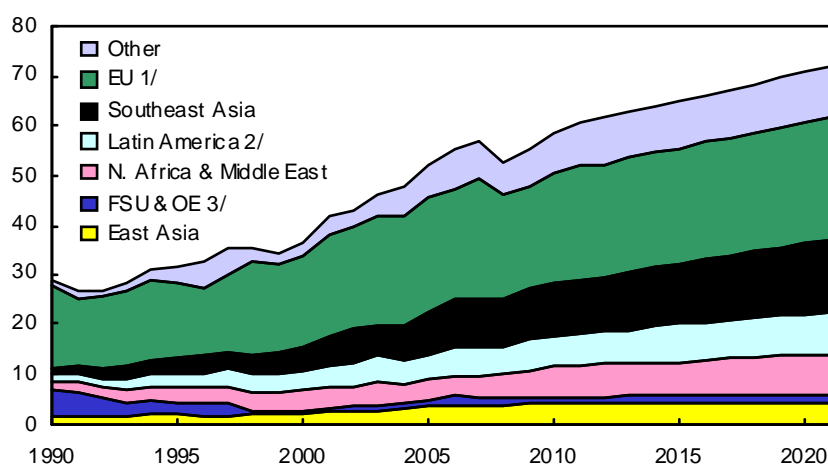
The three leading soybean exporters—the United States, Brazil, and Argentina—accounted for slightly more than 90 percent of world trade prior to 2009/10. Since then, exports from Uruguay, Paraguay, Bolivia, and other countries have increased; a trend that is expected to continue during the coming decade. However, the share held by the traditional exporters only slips to 87 percent.

- Brazilian soybean exports are projected to rise 18 million tons (43 percent) to 59.2 million tons during the 2012/13 to 2021/22 projection period, enabling the country to strengthen its position as the world’s leading exporter of soybeans and soybean products. As world oilseed prices rise relative to grain prices, soybeans remain more profitable than other crops in most areas of Brazil. With increasing soybean plantings in the Cerrado region and expansion extending into the region defined as the “Amazon Legal,” the increase in area planted to soybeans is projected to average about 2 percent per year during the coming decade.
- Argentina’s export tax rates are higher for soybeans than for soybean products, a policy that favors domestic crushing of whole seeds and exporting of the products. However, in response to world demand for soybeans for crushing, Argentina’s soybean exports have risen sharply and are projected to continue doing so, rising about 38 percent to nearly 17 million tons by 2021/22. Most of the soybeans exported by Argentina go to China.
- Other South American countries, principally Uruguay, Paraguay, and Bolivia, respond to higher oilseed prices by expanding the area planted to soybeans. Exports by these countries increase 50 percent to nearly 12 million tons.
- Although Ukraine’s soybean exports are small, the country is expected to respond to higher international market prices for oilseeds by increasing production of rapeseed and soybeans. Ukraine’s soybean exports are projected to rise 40 percent to 2 million tons by 2021/22.



## Global soybean meal imports

Million metric tons



1/ Excludes intra-EU trade.

2/ Includes Mexico. 3/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

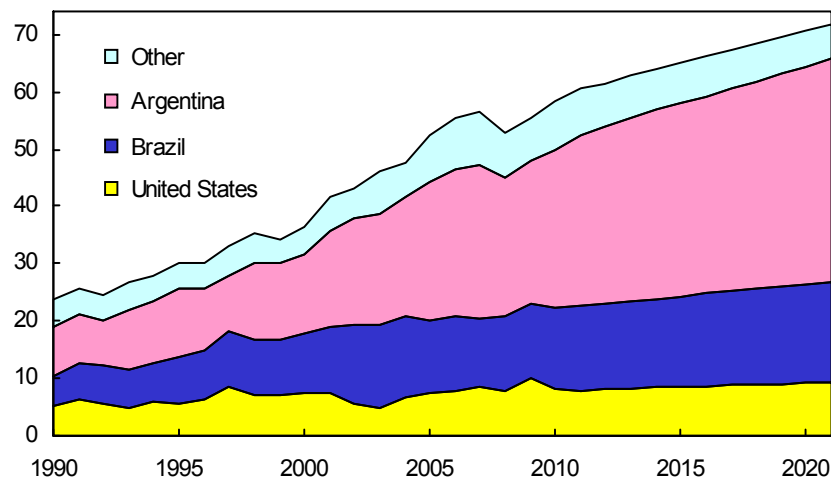
World soybean meal trade is projected to climb by more than 10 million tons (17 percent) to 71.9 million tons by 2021/22. In a number of countries with rising middle-income populations, continued growth in the demand for livestock products, limited capability to increase domestic oilseed production, and relatively lower world prices for protein meals boost soybean meal demand. Lower import prices for soybean meal relative to soybeans and grains provide incentives to use soybean meal at a higher rate in livestock feed rations.

- The EU remains the world's largest soybean-meal importer throughout the projections, despite increased domestic feeding of grains and rapeseed meal. Although abundant supplies of low-cost rapeseed meal are expected to be available as a result of expanded EU biodiesel production, there are technical limits on how much rapeseed meal can be incorporated in livestock rations. As a result, slow growth in EU soybean meal imports is expected to continue.
- The regions of Southeast Asia, Latin America, North Africa, and the Middle East become larger importers of soybean meal due to increasing demand for livestock feed and low oilseed meal prices. Imports by Southeast Asia, especially Vietnam, climb rapidly and account for one-third of the projected increase in world soymeal trade. Imports by countries in North Africa and the Middle East are projected to rise 1.5 million tons, and account for 15 percent of the increase in world trade. Although Latin America's soymeal imports increase by 2 million tons, much of this trade is between countries within the region.
- Strong growth in soybean meal imports is also projected for many other countries. Mexico's growing demand for protein feed is expected to boost imports. Russia's rising soymeal imports are linked to livestock production at larger, more modern facilities. Although China's projected growth rate for soymeal use is one of the highest in the world, most of the meal will be supplied by domestic crushing of domestically produced and imported soybeans.



## Global soybean meal exports

Million metric tons

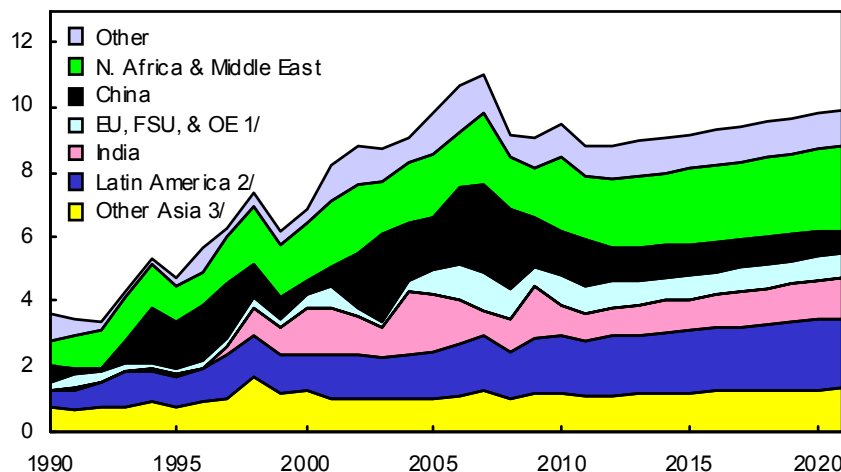


Argentina, Brazil, and the United States remain the three largest exporters of soybean meal. Together, their share of world exports rises slightly, to more than 90 percent over the next 10 years. Argentina, the world's largest soybean meal exporter, increases its share of the world market from less than 49 percent in recent years to 54 percent in 2021/22.

- Argentina imposes higher export taxes on soybeans than on soybean products. This policy has provided an incentive for the country to develop a large oilseed-crushing capacity. With Argentina's low cost of soybean production and its export incentives for soybean products, soybean meal exports are projected to continue their robust growth.
- In Brazil, strong growth in domestic meal consumption due to the rapid expansion of poultry and pork production limits increases in soybean meal exports. Also, domestic soybean-crushing capacity is not expected to grow as quickly as in the past due to heavy competition from Argentina. Brazil's share of world soybean meal exports remains around 25 percent.
- U.S. soybean meal exports gradually increase by about 1 million tons during the next 10 years, reaching 9.2 million tons by 2021/22. The U.S. share of world soybean meal exports declines steadily from around 15 percent in recent years to less than 13 percent by 2021/22.
- India's soybean meal exports decline as domestic use strengthens and export competition from South America intensifies. Exports fall from more than 4 million tons in most recent years, to 1.5 million by 2021, as rapidly increasing poultry, egg, and milk production absorbs more of India's domestic soybean meal production.
- The EU continues to be a small but steady exporter of soybean meal to Russia and other East European countries where livestock production is expected to increase significantly.

## Global soybean oil imports

Million metric tons



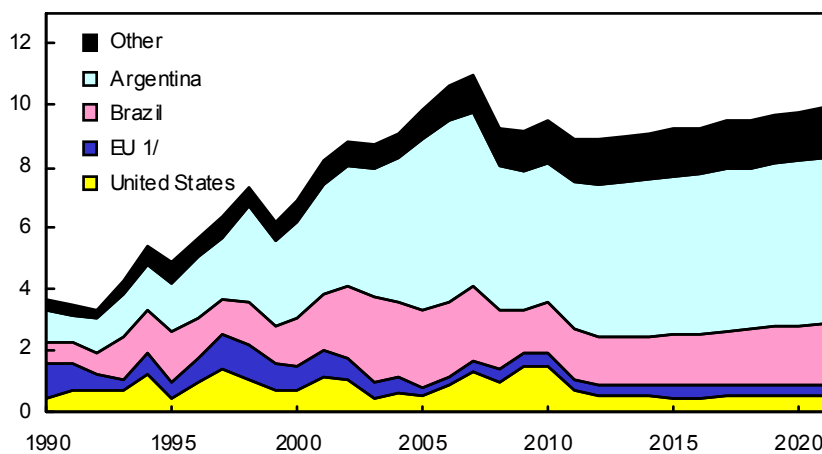
1/ European Union, former Soviet Union, and other Europe.  
2/ Includes Mexico. 3/ Asia excluding India and China.

World soybean oil imports climb 1.1 million tons (12 percent) to 9.9 million tons over the 2012/13 to 2021/22 projection period, bolstered by rising food use. China and India are the countries that currently import the most soybean oil. Growth in world soybean oil trade will be constrained by competition with palm oil, which is the leading vegetable oil traded internationally.

- India is projected to replace China as the world's largest soybean oil importer. In the projections, India's soybean oil imports climb 28 percent to 1.2 million tons. Factors that contribute to the continued growth of India's soybean imports include burgeoning demand for vegetable oils and a limited capacity to expand domestic oilseed production. Low yields, associated with excessive monsoon rainfall and low input use, also inhibit growth of oilseed production.
- In 2008, in response to high world prices, India cut its edible oil import tariffs to zero. It is assumed that during the next decade, India's soybean oil tariff will gradually return to its previous rate of 45 percent and tariffs for the other major imported oils—palm and sunflower—will remain below their historical highs of 75 to 85 percent.
- With a rapid increase in China's soybean imports for domestic crushing during the coming decade, the country's soybean oil imports are projected to decline about 50 percent to 0.7 million tons. As a result, China will no longer be the world's leading soybean oil importer.
- Income and population growth in Latin America, North Africa, and the Middle East contribute to gains in soybean oil demand and imports, although rising international prices for soybean oil will temper consumption. Nevertheless, the North Africa and Middle East region is projected to become the largest importing region, followed by Latin America.

## Global soybean oil exports

Million metric tons

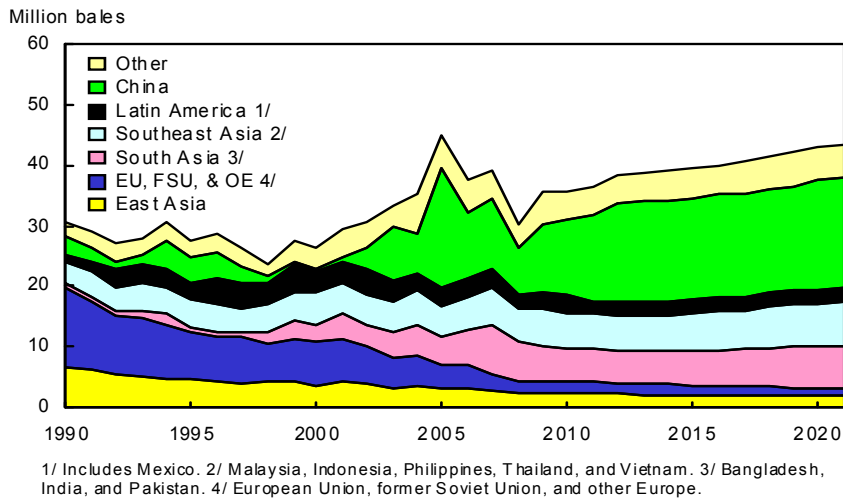


1/ Excludes intra-EU trade.

Argentina and Brazil are the world's largest soybean oil exporters, by far, and their combined share of world soybean oil exports is projected to increase slightly during the coming decade.

- Argentine soybean oil exports—the world's leading exporter—are projected to climb 8 percent to 5.4 million tons by 2021/21. Argentina's strength as a soybean oil exporter reflects the country's large crushing capacity, its small domestic market for soybean oil, and an export tax structure that favors exports of soybean products rather than soybeans. Gains in Argentine soybean production due to extensive double cropping, further adjustments in crop-pasture rotations, and the addition of marginal lands in the northwest part of the country, have also contributed to increased soybean production and crushing. Argentina's soybean oil exports declined during the last half decade due to weather-related production shortfalls and additional use of soybean oil for domestic biodiesel production. Although soyoil exports have begun to rise again and are projected to continue growing slowly, growth is restrained as more soyoil will be used for domestic biodiesel production.
- Brazil's projected increase in soybean oil exports accounts for most of the rest of the global increase in soybean oil trade. Brazil is projected to use more soybean oil for biodiesel production, but the expansion of soybean production into new areas of cultivation is expected to enable the country to increase soybean oil exports.
- U.S. soybean oil exports are projected to remain at about 0.5 million tons throughout the projection period, allowing the United States to remain the world's third-largest soybean oil exporter. U.S. soyoil exports will be constrained by increased use of soybean oil for domestic biodiesel production. Lower U.S. soybean oil exports are projected to be offset by higher exports from Argentina over the next couple of years and from Brazil in the later years of the projection period. U.S. canola oil imports from Canada and palm oil imports from Southeast Asia are projected to continue to grow strongly, and augment the U.S. edible oil supply.
- In the EU, exportable supplies of vegetable oils are limited by the growth in biodiesel production.

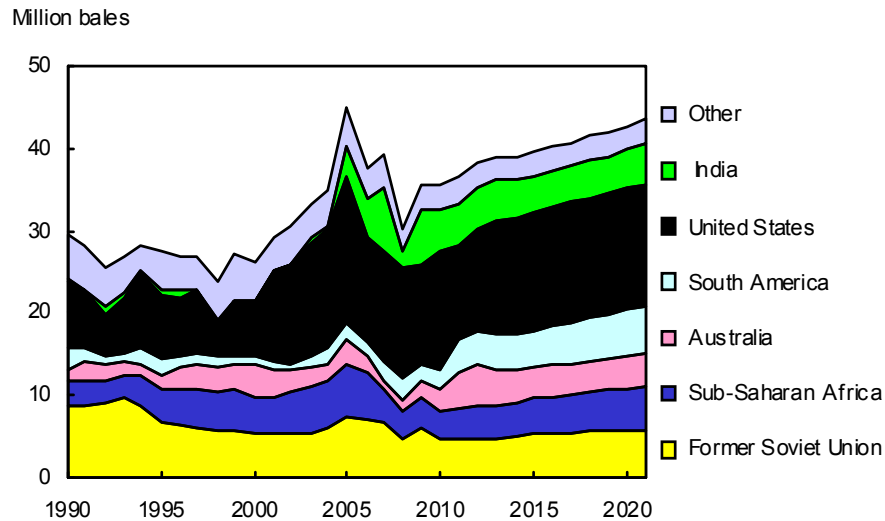
### Global cotton imports



World cotton trade is projected to trend upward at 1.5 percent a year until 2021, but does not surpass the 2005 record. Although geographical shifts in mill use and trade of cotton continue, they are not as dramatic as those associated with the elimination of the Multifiber Arrangement (MFA) quotas in 2005. Asia's share of world cotton imports has risen from less than 50 percent in the late 1990s to more than 77 percent in 2010 and is projected to be just above that level for the next decade.

- The textile industries in China, India, and Pakistan were the major beneficiaries of textile trade liberalization as a result of the elimination of the MFA quotas in 2005. However, imports have risen in other Asian countries as well, most notably Bangladesh and Vietnam.
- China's textile industry and cotton imports are expected to grow during the projection period, but much more slowly than the rapid increases over the past decade. Nonetheless, during the coming decade, China is projected to account for more than one-third of the global increase in cotton imports.
- In recent years, Bangladesh has become the world's second-largest cotton importer and is expected to retain that status as imports continue rising.
- Pakistan has also become a significant importer in recent years. But import growth slows in the projections as new *Bacillus thuringiensis* (*Bt*) cotton varieties specific to Pakistan's cotton growing conditions prove more productive and reduce the need for imports.
- Until several years ago, Turkey's textile industry benefited from favorable access to the EU, its major market for textile and apparel exports. However, the end of the MFA quotas gave lower cost competitors more favorable access to EU markets. Turkey's cotton imports have fallen and are projected to remain low over the next 10 years.
- The EU, Japan, Taiwan, and South Korea all reduce their cotton imports as textile trade reforms or higher wages in these economies, or both, drive textile production to countries with lower wages and other production costs.

## Global cotton exports

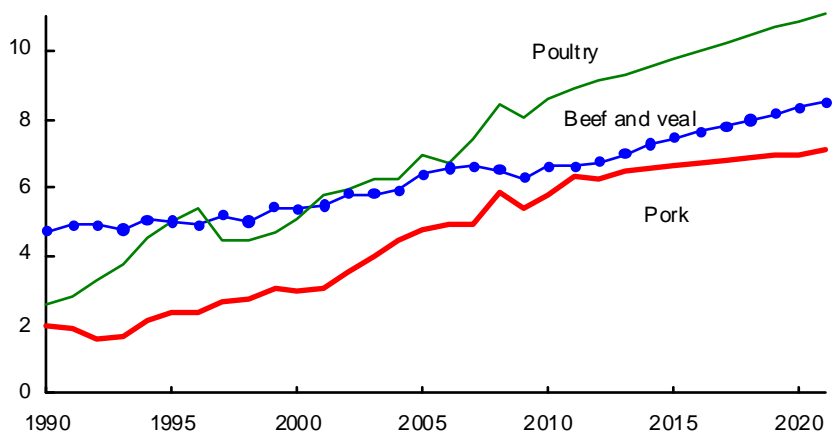


Globalization is expected to continue to move raw cotton production to countries with favorable resource endowments and technology. Traditional producers with large land bases suitable for cotton production continue to benefit from post-MFA trade patterns, including the United States, Brazil, and Sub-Saharan Africa. The importance of technology has been highlighted by the impact of India's rapid adoption of genetically modified cotton, nearly all *Bt* cotton.

- The United States continues as the world's leading cotton exporter throughout the projections. U.S. exports rise slightly to nearly 15 million bales by 2021/22. The U.S. share of world exports rises slightly over the next several years but remains slightly below the recent historical average.
- Brazil's cotton exports are projected to increase by nearly one-third between 2012/13 and 2021/22 as the area planted to cotton expands. Exports from Brazil rise 1.3 million bales, more than from any other country or region, surpassing exports from India and Australia, and enable Brazil to become the world's second-largest cotton exporter.
- Exports from the 15 countries of the Economic Community of West African States declined sharply during the post-MFA period but are projected to rise rapidly during the coming decade due to improvements in technical and financial infrastructure, and the adoption of *Bt* cotton. The region's exports are projected to rise more than 40 percent during the next 10 years and to account for 19 percent of world trade growth. Exports from the other countries in Sub-Saharan Africa also declined after 2005 but are also projected to increase in the future, although not as robustly as from the West African Community.
- Government policies in the Central Asian countries of the FSU promoting investment in textiles have contributed to more exports of textile products rather than exports of raw cotton. However, the region's continued increase in cotton exports accounts for 17 percent of the increase in world exports.
- Improved cotton yields in India, largely due to the adoption of *Bt* cotton, have raised India's production and exports in recent years. Yield growth is projected to continue as the area planted to *Bt* cotton expands and cultivation practices improve. The increase in cotton output is expected to enable India to increase textile production and generally maintain cotton exports.

### Meat exports 1/

Million metric tons



1/ Major exporters.

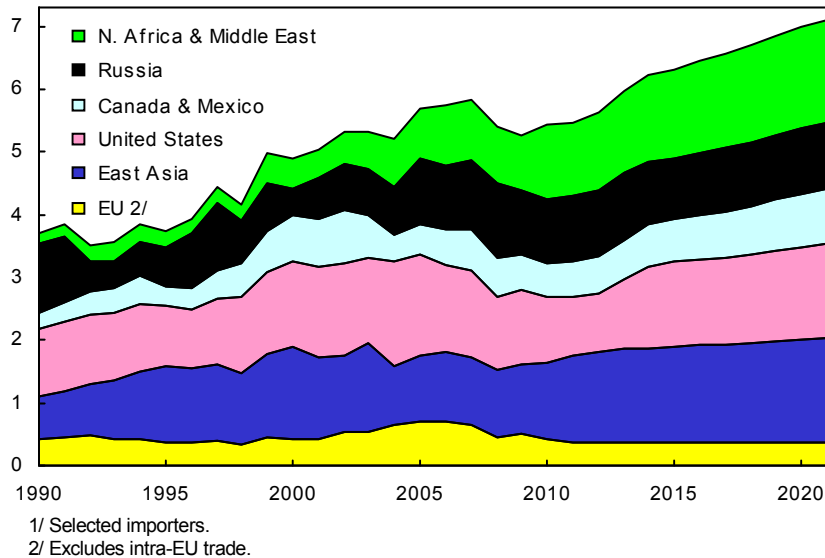
Growth in world meat consumption is projected to increase about 2.2 percent per year during 2012-2021. Global per capita meat consumption continues to increase and meat shipments from major exporters rise about 1.8 percent per year. The projected growth rates of exports from major exporters of beef, pork, and poultry meat are 2.5, 1.2, and 2.1 percent per year, respectively. During this period, exports rise 1.7 million tons for beef, 0.7 million for pork, and 1.9 million for poultry.

World meat trade increases 20 percent in the projections, driven primarily by rising per capita incomes and population growth in developing countries. However, Russia's meat imports decline over the coming decade, reflecting policies that stimulate meat production and curb imports.

- Beef exports from Asia, mostly from India, increased sharply after 2009. Developing countries' demand for India's lower priced beef is projected to continue rising rapidly. India's rising exports account for 40 percent of the increase in world beef trade.
- Argentine beef exports declined sharply after the 2005 peak, reflecting export restrictions on beef and changes in other policies. Argentine producers have begun to rebuild their herds and beef exports are expected to stabilize during the next several years and then rise slowly. Exports will be constrained by reduced beef imports by Russia, which has been a major market for Argentine beef.
- Exports from Brazil's expanding pork sector are expected to be competitive in price-sensitive markets such as Russia and Asian countries other than Japan and South Korea.
- During the coming decade, Brazil is expected to continue to be the largest exporter of poultry products as a result of low production costs and competitive export prices.
- Canadian beef exports and imports are each projected to rise slowly after 2012, but net exports decline somewhat in the projections. Canada's cow herd contracted significantly during 2006-10 and the rebuilding of beef herds is expected to progress slowly.
- EU beef exports are projected to decline slightly in the next 10 years.

## Beef imports 1/

Million metric tons

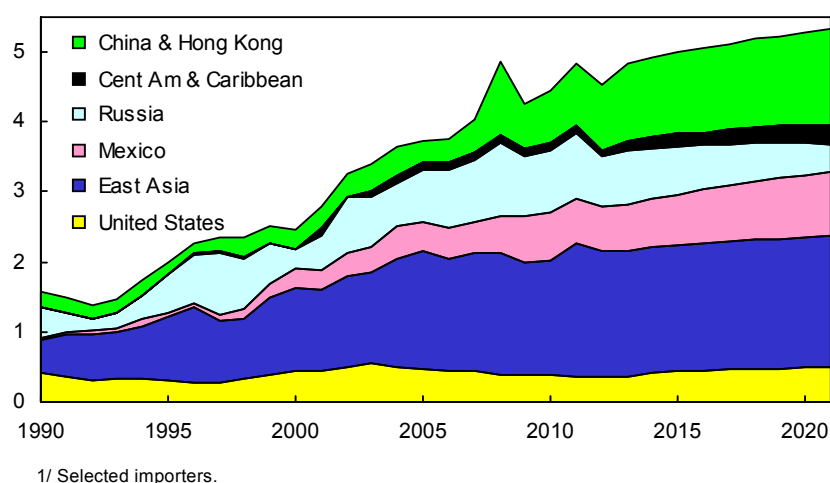


World beef imports declined during the 2008-09 global recession but rebounded in 2010 and 2011. Between 2012 and 2021, imports by major importers are projected to increase 25 percent and reach 8.5 million tons. Exports of lower priced beef from India and Brazil to a number of low- and middle-income countries account for much of the projected increase in world beef trade.

- During the next 10 years, Russian beef imports are projected to fluctuate around 1 million tons as rising consumer demand is offset by expanding Russian beef production and import restrictions. Russia does remain a market for EU and South American beef exports.
- Imports of grain-fed beef by higher-income countries are projected to rise steadily. U.S. beef exports to these countries are projected to increase somewhat over the next 10 years although they will have to compete with exports from other suppliers.
- U.S. beef imports, primarily of grass-fed, lean beef from Australia and New Zealand for use in ground beef and processed products, rise during the projection period. The United States replaces Russia as the world largest beef importer and accounts for 33 percent of the increase in world imports. Also, strong Asian imports of beef enable Australia and New Zealand to maintain significant levels of exports over the projection period.
- The Middle East, with a relatively fast growing population, and Asia, with high income growth rates, are projected to be growing markets for beef. Together, the two regions account for 22 percent of the increase in world beef trade through 2021.
- Strong growth in Mexican beef imports is projected to resume over the next several years. Much of Mexico's imports consist of higher valued, grain-fed beef from the United States.

## Pork imports 1/

Million metric tons



After the sharp 2009 drop in world pork imports that was associated with the global recession, global imports recovered in 2010.

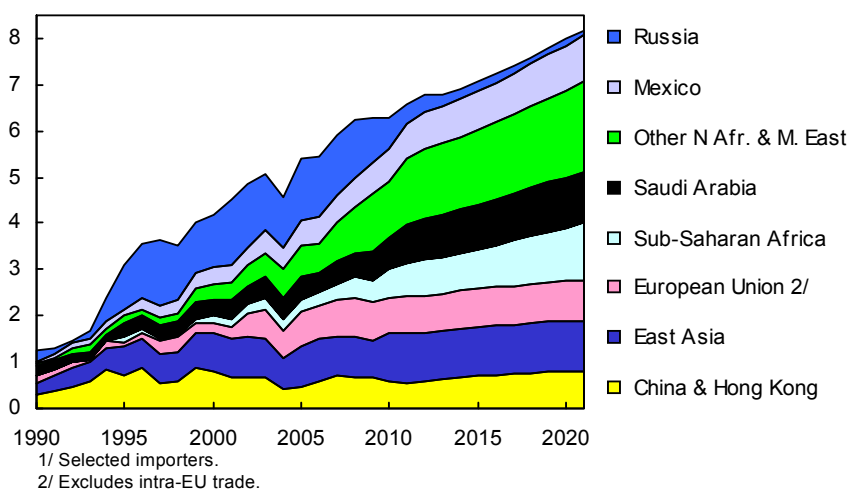
In the projections for 2012 to 2021, world pork imports are expected to continue to rise, and to increase by 0.77 million tons (16 percent).

- Russia's pork imports are projected to decline steadily during the next 10 years in response to the country's policies to stimulate meat production and reduce imports. By 2021, Russian pork imports are projected to decline about 45 percent to less than 0.4 million tons.
- Mexican pork imports increase the most of any country in the world, rising 0.27 million tons (42 percent) between 2012 and 2021, making Mexico the world's largest growth market for pork. Increases in income and population are the primary drivers of Mexico's increasing demand for pork. Mexico accounts for 35 percent of the growth in global pork trade during the coming decade.
- Some higher income countries in East Asia increase pork imports to satisfy demand for selected cuts of pork, especially pork bellies. Japan is by far the world's largest pork importer, but as a mature market with declining population, its imports are not projected to rise significantly. Hong Kong is Asia's fastest growing pork importer and its imports account for 23 percent of the increase in world pork imports during the projection period.
- China's pork imports rose sharply in 2008 and it became a net importer. Since then, the country's pork imports have declined significantly but it remains a net importer. In the projections, pork imports rise more than exports, and the country remains a net importer through 2021.
- Imports by the Central America and Caribbean region grow more rapidly than imports by any other country or region, although from a small base. The need to import most feedstuffs limits pork production growth, while income growth and an expanding population boost demand.



## Poultry imports 1/

Million metric tons



Poultry meat imports by major importers are projected to increase by 1.5 million tons (21 percent) between 2012 and 2021. Strong growth in imports is projected for much of the world except, most notably, for Russia and the EU (where policies limit imports), and for Japan and Canada.

- Poultry imports by Africa and the Middle East now account for more than 40 percent of imports by the major importers. Income and population growth boosts demand in the projections. In addition, ongoing animal-disease concerns in a number of countries are expected to slow growth in production and to increase demand for imports. As a result, the region's imports grow more than the rest of the world combined and by 2021 account for nearly 50 percent of world imports.
- Rising consumer incomes increase poultry demand and imports in Mexico and the Central America and Caribbean region. Poultry products remain less expensive than beef or pork, further stimulating demand. Mexico's domestic poultry production continues to increase during the projection period, but rises at a slower rate than consumption, with the result that imports rise by 0.22 million tons (28 percent).
- Russia's poultry imports are projected to decline sharply during the next 5 years. The projections assume that Russian policies will restrain poultry imports and stimulate domestic poultry production. Higher poultry prices and slower income growth inhibit per capita poultry consumption and import growth.
- In South Korea, increasing per capita consumption combined with environmental concerns that limit production growth, boost imports by 30 percent during the next decade.
- Because of avian influenza, some major poultry-exporting countries, such as Thailand and China, have shifted most of their exports to fully cooked products, and are projected to continue to do so. Because of higher production costs, these cooked products will be marketed to higher income countries in Asia, Europe, and the Middle East.
- China's rising consumption of poultry meat is met by expanding domestic production. The country's growth in poultry exports slightly exceeds the increase in imports.

Table 4. Coarse grains trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<i>Imports, million metric tons</i>												
<b>Importers</b>												
Former Soviet Union <sup>1</sup>	1.2	0.6	1.0	1.1	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.7
Other Europe	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
European Union <sup>2</sup>	8.4	3.7	3.4	3.5	3.7	4.2	4.2	4.2	4.2	4.1	3.9	3.6
Middle East	18.4	20.0	21.1	22.4	23.4	24.0	24.7	25.3	26.0	26.4	26.9	27.4
North Africa	12.7	12.6	14.3	14.5	14.9	15.1	15.4	15.6	15.8	15.9	16.1	16.2
Sub-Saharan Africa <sup>3</sup>	1.9	2.0	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.5
Japan	18.6	19.1	19.2	19.2	19.2	19.2	19.2	19.1	19.1	19.1	19.1	19.0
South Korea	8.2	8.1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9
Taiwan	4.5	4.6	4.6	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6
China	2.7	4.9	6.1	7.1	8.4	9.9	11.6	13.5	15.2	17.0	18.9	21.1
Other Asia & Oceania	7.4	7.4	7.7	8.0	8.3	8.6	9.0	9.3	9.7	10.0	10.4	10.8
Mexico	10.5	12.0	13.6	14.1	15.0	15.6	16.3	17.0	17.7	18.4	19.3	20.2
Central America & Caribbean	5.0	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	5.9	5.9	6.0
Brazil	0.9	0.9	1.1	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Other South America	9.4	9.8	9.9	10.5	10.7	10.8	10.8	11.0	11.3	11.4	11.5	11.6
Other foreign <sup>4</sup>	1.9	4.8	5.1	5.1	5.3	5.3	5.3	5.2	5.1	5.1	5.0	4.9
United States	2.9	2.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
<b>Total trade</b>	<b>115.3</b>	<b>118.9</b>	<b>127.1</b>	<b>131.3</b>	<b>136.1</b>	<b>140.4</b>	<b>144.3</b>	<b>148.4</b>	<b>152.5</b>	<b>156.2</b>	<b>160.0</b>	<b>164.0</b>
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
European Union <sup>2</sup>	6.1	4.8	5.2	5.4	5.6	5.9	6.1	6.3	6.5	6.8	7.0	7.3
China	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Argentina	18.5	24.3	24.7	25.0	25.3	25.4	25.8	26.2	26.8	27.3	28.0	28.7
Australia	5.4	5.0	4.9	5.0	5.0	5.2	5.3	5.3	5.4	5.4	5.5	5.6
Canada	4.5	2.8	4.1	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9	3.8
South Africa	3.0	2.0	2.0	2.2	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1
Other Europe	2.2	2.1	2.2	2.3	2.4	2.5	2.7	2.9	3.0	3.2	3.4	3.6
Former Soviet Union <sup>1</sup>	8.8	19.1	16.6	17.6	18.6	19.5	20.4	21.3	22.0	23.0	23.9	25.0
Other foreign	16.0	15.3	15.5	15.3	14.8	14.9	16.0	16.9	18.2	19.2	20.4	21.4
United States	50.7	43.2	51.8	54.1	57.9	60.5	61.7	63.0	64.3	64.9	65.5	66.2
<i>Percent</i>												
<b>U.S. trade share</b>	<b>44.0</b>	<b>36.3</b>	<b>40.8</b>	<b>41.2</b>	<b>42.6</b>	<b>43.1</b>	<b>42.8</b>	<b>42.5</b>	<b>42.2</b>	<b>41.6</b>	<b>41.0</b>	<b>40.4</b>

1/ Covers FSU-12, includes intra-FSU trade.

2/ Covers EU-27, excludes intra-EU trade.

3/ Includes South Africa.

4/ Includes unaccounted.

The projections were completed in November 2011.

Table 5. Corn trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
	<i>Imports, million metric tons</i>											
<b>Importers</b>												
European Union <sup>1</sup>	7.3	3.5	3.2	3.3	3.5	4.0	4.0	4.0	4.0	3.9	3.6	3.3
Former Soviet Union <sup>2</sup>	0.3	0.2	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8
Egypt	5.4	6.0	6.8	6.8	7.0	7.0	7.1	7.2	7.2	7.3	7.3	7.3
Morocco	1.8	1.9	2.1	2.2	2.4	2.4	2.5	2.6	2.6	2.7	2.8	2.8
Other North Africa	4.1	4.0	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3
Iran	3.5	3.5	3.6	4.0	4.3	4.6	4.8	5.0	5.2	5.3	5.4	5.5
Saudi Arabia	1.9	2.0	2.2	2.3	2.5	2.5	2.7	2.7	2.9	2.9	3.1	3.2
Turkey	0.5	0.5	0.6	0.7	0.9	0.9	1.0	1.1	1.1	1.2	1.3	1.3
Other Middle East	4.0	4.4	4.5	4.5	4.6	4.7	4.8	4.8	4.9	4.9	5.0	5.0
Japan	15.7	16.1	16.2	16.1	16.1	16.1	16.1	16.1	16.1	16.0	16.0	16.0
South Korea	8.1	8.0	8.9	9.0	9.1	9.3	9.3	9.5	9.6	9.7	9.7	9.8
Taiwan	4.3	4.4	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
China	1.0	3.0	4.0	4.9	6.1	7.5	9.0	10.8	12.5	14.2	16.0	18.1
Indonesia	2.5	1.5	1.5	1.5	1.6	1.6	1.7	1.8	1.9	1.9	2.0	2.1
Malaysia	2.7	3.3	3.4	3.5	3.6	3.6	3.7	3.7	3.8	3.8	3.9	3.9
Other Asia & Oceania	2.1	2.5	2.8	3.0	3.1	3.3	3.5	3.7	4.0	4.2	4.4	4.7
Canada	0.9	1.4	1.4	1.5	1.6	1.7	1.6	1.6	1.5	1.4	1.4	1.3
Mexico	8.0	9.8	10.8	10.9	11.5	11.9	12.5	13.0	13.6	14.2	15.0	15.7
Central America & Caribbean	5.0	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.8	5.9	5.9	6.0
Brazil	0.5	0.5	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other South America	7.9	8.2	8.4	8.9	9.0	9.1	9.1	9.3	9.5	9.6	9.7	9.8
Sub-Saharan Africa <sup>3</sup>	1.2	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.7
Other foreign <sup>4</sup>	1.0	3.6	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
United States	0.7	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<b>Total trade</b>	<b>90.5</b>	<b>95.1</b>	<b>100.4</b>	<b>103.2</b>	<b>107.2</b>	<b>111.0</b>	<b>114.2</b>	<b>117.8</b>	<b>121.3</b>	<b>124.5</b>	<b>127.8</b>	<b>131.3</b>
	<i>Exports, million metric tons</i>											
<b>Exporters</b>												
European Union <sup>1</sup>	1.0	2.0	2.1	2.2	2.2	2.4	2.4	2.5	2.5	2.6	2.6	2.7
China	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Argentina	15.0	20.0	20.1	20.2	20.0	20.0	20.1	20.5	20.8	21.3	21.9	22.6
Brazil	9.0	8.5	8.7	8.5	8.0	8.0	8.9	9.7	10.8	11.8	12.8	13.7
South Africa	3.0	2.0	2.0	2.2	2.2	2.1	2.1	2.2	2.2	2.1	2.1	2.1
Other Europe	2.2	2.1	2.2	2.2	2.4	2.5	2.7	2.9	3.0	3.2	3.4	3.5
Former Soviet Union <sup>2</sup>	5.2	12.9	10.9	11.5	12.2	13.0	13.6	14.4	14.8	15.6	16.4	17.4
Other foreign	8.4	6.8	6.6	6.7	6.7	6.9	7.0	7.2	7.3	7.4	7.5	7.6
United States	46.6	40.6	47.6	49.5	53.3	55.9	57.2	58.4	59.7	60.3	61.0	61.6
	<i>Percent</i>											
U.S. trade share	51.5	42.7	47.5	48.0	49.7	50.4	50.0	49.6	49.2	48.5	47.7	46.9

1/ Covers EU-27, excludes intra-EU trade.

2/ Covers FSU-12, includes intra-FSU trade.

3/ Includes South Africa.

4/ Includes unaccounted.

The projections were completed in November 2011.

Table 6. Barley trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
	<i>Imports, million metric tons</i>											
<b>Importers</b>												
Former Soviet Union <sup>1</sup>	0.7	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8
Japan	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
China	1.7	1.8	1.9	2.1	2.2	2.3	2.4	2.5	2.6	2.6	2.7	2.8
Latin America <sup>2</sup>	0.9	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1
Saudi Arabia	6.2	7.2	7.3	7.6	7.6	7.7	7.8	7.8	7.9	8.0	8.1	8.1
Iran	0.4	0.4	0.8	0.9	1.0	1.0	1.1	1.1	1.2	1.3	1.3	1.4
Other Middle East	1.6	1.7	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.4
Morocco	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Other North Africa	1.0	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1
Other foreign <sup>3</sup>	1.0	0.8	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2
United States	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
<b>Total trade</b>	<b>15.6</b>	<b>15.9</b>	<b>17.0</b>	<b>17.9</b>	<b>18.3</b>	<b>18.7</b>	<b>19.2</b>	<b>19.6</b>	<b>20.0</b>	<b>20.5</b>	<b>20.8</b>	<b>21.2</b>
	<i>Exports, million metric tons</i>											
<b>Exporters</b>												
European Union <sup>4</sup>	4.9	2.5	2.8	2.9	3.0	3.1	3.2	3.4	3.5	3.8	3.9	4.2
Australia	4.2	4.0	4.0	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.8	4.8
Canada	1.2	0.7	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5
Russia	0.3	1.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ukraine	2.8	4.1	4.1	4.5	4.6	4.6	4.8	4.9	5.0	5.0	5.1	5.1
Other Former Soviet Union <sup>5</sup>	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
Turkey	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other foreign	1.7	2.2	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.7	2.8	2.8
United States	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	<i>Percent</i>											
U.S. trade share	1.4	1.4	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0

1/ Covers FSU-12, includes intra-FSU trade.

2/ Includes Mexico.

3/ Includes unaccounted.

4/ Covers EU-27, excludes intra-EU trade.

5/ Covers FSU-12 except Russia and Ukraine, includes intra-FSU trade.

The projections were completed in November 2011.

Table 7. Sorghum trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<b>Importers</b>	<i>Imports, million metric tons</i>											
Japan	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Mexico	2.4	2.1	2.8	3.1	3.4	3.5	3.7	3.8	3.9	4.0	4.1	4.2
North Africa & Middle East	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
South America	1.0	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2
Sub-Saharan Africa <sup>1</sup>	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Other <sup>2</sup>	1.4	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
<b>Total trade</b>	7.0	5.5	7.2	7.7	8.0	8.1	8.3	8.3	8.5	8.6	8.7	8.8
<b>Exporters</b>	<i>Exports, million metric tons</i>											
Argentina	1.9	2.2	2.3	2.5	2.8	2.9	3.1	3.2	3.3	3.3	3.4	3.5
Australia	1.0	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Other foreign	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
United States	3.8	2.3	3.9	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
<b>U.S. trade share</b>	<i>Percent</i>											
	54.7	41.3	54.6	56.4	54.1	53.2	52.2	51.8	50.8	50.4	49.8	49.2

1/ Includes South Africa.

2/ EU-27 and the rest of the world. Excludes intra-EU trade. Includes unaccounted.

The projections were completed in November 2011.

Table 8. Wheat trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<i>Imports, million metric tons</i>												
Importers												
Morocco	3.9	3.0	3.7	3.7	3.7	3.8	3.8	3.9	3.9	3.9	4.0	4.1
Egypt	10.6	10.5	10.7	10.9	11.1	11.3	11.5	11.7	11.9	12.1	12.3	12.5
Other North Africa	9.6	9.5	9.4	9.1	8.8	8.5	8.3	8.3	8.4	8.5	8.6	8.7
Saudi Arabia	1.7	2.0	2.1	2.3	2.4	2.5	2.7	2.8	2.9	3.0	3.1	3.2
Iran	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Iraq	3.6	3.7	3.9	4.1	4.1	4.2	4.4	4.5	4.6	4.7	4.9	5.0
Other Middle East	7.9	9.1	9.5	9.7	9.9	10.1	10.3	10.5	10.6	10.8	11.0	11.1
West African Community <sup>1</sup>	6.0	5.9	6.3	6.4	6.4	6.6	6.9	7.1	7.4	7.6	7.9	8.2
Other Sub-Saharan Africa <sup>2</sup>	8.4	9.5	9.6	9.8	10.0	10.3	10.6	10.8	11.1	11.4	11.7	11.9
Mexico	3.5	3.5	3.5	3.5	3.6	3.7	3.7	3.8	3.8	3.9	3.9	4.0
Central America & Caribbean	3.6	3.6	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8
Brazil	6.7	7.0	7.0	7.1	7.3	7.4	7.4	7.5	7.6	7.6	7.7	7.8
Other South America	6.2	6.3	6.5	6.5	6.6	6.7	6.7	6.8	6.8	6.9	6.9	6.9
European Union <sup>3</sup>	4.7	7.5	5.3	5.9	6.2	6.3	6.4	6.6	6.5	6.5	6.4	6.3
Other Europe	1.6	1.7	2.1	1.9	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0
Former Soviet Union <sup>4</sup>	5.5	6.2	6.0	6.1	6.3	6.4	6.4	6.5	6.5	6.6	6.6	6.7
Japan	5.9	5.8	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
South Korea	4.8	4.2	4.4	4.3	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.1
Philippines	3.2	3.0	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.5	3.5	3.6
Indonesia	6.6	6.7	6.8	6.9	7.1	7.2	7.4	7.5	7.6	7.8	8.0	8.2
China	0.9	1.5	1.5	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	1.8
Bangladesh	3.9	2.8	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2
Malaysia	1.5	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5
Thailand	1.9	1.6	1.5	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.9
Vietnam	2.5	2.2	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4
Pakistan	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Asia & Oceania	7.5	7.9	8.3	8.5	8.7	8.9	9.2	9.6	9.9	10.2	10.5	10.9
Other foreign <sup>5</sup>	5.6	7.4	6.5	6.1	6.3	6.3	6.4	6.4	6.4	6.5	6.5	6.5
United States	2.6	3.3	3.0	3.0	3.1	3.1	3.3	3.3	3.4	3.4	3.5	3.5
Total trade	131.4	137.3	136.8	138.2	140.5	142.4	144.8	147.1	149.5	151.8	154.3	156.9
<i>Exports, million metric tons</i>												
Exporters												
European Union <sup>3</sup>	22.9	17.0	17.0	19.7	20.3	20.8	22.1	22.8	23.2	23.6	24.9	25.9
Canada	16.5	18.0	17.0	17.1	17.1	17.2	17.2	17.3	17.4	17.4	17.5	17.5
Australia	18.3	19.0	19.3	18.7	18.9	19.0	19.1	19.2	19.4	19.5	19.7	19.8
Argentina	9.3	7.5	8.2	8.3	8.4	8.7	8.9	9.1	9.4	9.6	9.8	10.0
Russia	4.0	19.0	18.8	17.5	19.5	20.0	20.7	21.1	21.8	22.7	23.5	23.8
Ukraine	4.3	8.0	8.0	8.3	8.5	8.9	9.3	9.7	10.2	10.7	11.2	11.6
Other Former Soviet Union <sup>6</sup>	5.8	8.7	8.3	8.1	8.2	8.6	9.0	9.2	9.4	9.6	9.9	10.4
Other Europe	0.8	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
India	0.1	1.0	1.5	2.0	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.5
China	0.9	1.0	1.1	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5
Turkey	3.0	3.5	3.2	3.0	3.0	3.1	3.0	3.1	3.0	3.0	3.0	3.0
Other foreign	10.4	7.5	7.9	7.9	7.8	7.7	7.6	7.7	7.7	7.8	7.8	7.8
United States	35.1	26.5	25.8	25.8	25.9	25.9	25.2	25.2	25.2	25.2	24.5	24.5
<i>Percent</i>												
U.S. trade share	26.7	19.3	18.9	18.7	18.4	18.2	17.4	17.1	16.8	16.6	15.9	15.6

1/ Economic Community of West African States

2/ Includes South Africa.

3/ Covers EU-27, excludes intra-EU trade.

4/ Covers FSU-12, includes intra-FSU trade.

5/ Includes unaccounted.

6/ Covers FSU-12 except Russia and Ukraine, includes intra-FSU trade.

The projections were completed in November 2011.

Table 9. Rice trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
	<i>Imports, million metric tons</i>											
<b>Importers</b>												
Canada	0.34	0.35	0.36	0.36	0.37	0.37	0.38	0.39	0.39	0.40	0.40	0.41
Mexico	0.66	0.73	0.77	0.80	0.83	0.86	0.89	0.91	0.94	0.97	0.99	1.02
Central America/Caribbean	1.56	1.46	1.67	1.73	1.75	1.78	1.82	1.86	1.89	1.93	1.97	2.01
Brazil	0.60	0.50	0.58	0.58	0.59	0.59	0.60	0.60	0.60	0.61	0.61	0.61
Other South America	0.68	0.77	0.72	0.73	0.72	0.70	0.72	0.73	0.75	0.75	0.76	0.76
European Union <sup>1</sup>	1.15	1.17	1.30	1.34	1.37	1.39	1.41	1.43	1.45	1.47	1.49	1.51
Former Soviet Union <sup>2</sup>	0.38	0.36	0.36	0.39	0.39	0.38	0.38	0.39	0.39	0.38	0.38	0.37
Other Europe	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Bangladesh	1.56	0.80	0.82	0.89	0.95	1.02	1.08	1.14	1.20	1.26	1.31	1.35
China	0.54	0.48	0.53	0.50	0.51	0.50	0.53	0.56	0.59	0.61	0.63	0.65
Japan	0.70	0.70	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
South Korea	0.33	0.35	0.39	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Indonesia	2.20	1.40	1.90	1.87	2.11	2.34	2.51	2.67	2.86	3.01	3.16	3.30
Malaysia	1.04	1.13	1.17	1.25	1.31	1.36	1.40	1.44	1.47	1.50	1.52	1.54
Philippines	1.50	2.20	2.42	2.61	2.71	2.80	2.89	3.01	3.12	3.25	3.36	3.46
Other Asia & Oceania	2.44	2.25	2.42	2.57	2.69	2.75	2.80	2.85	2.91	2.96	3.01	3.07
Iraq	1.15	1.20	1.25	1.28	1.31	1.34	1.36	1.39	1.41	1.43	1.45	1.47
Iran	1.30	1.50	1.56	1.54	1.53	1.53	1.51	1.49	1.48	1.46	1.44	1.42
Saudi Arabia	1.10	1.15	1.12	1.13	1.15	1.17	1.19	1.22	1.24	1.27	1.29	1.32
Other N. Africa & M. East	2.39	2.40	2.43	2.50	2.58	2.64	2.69	2.74	2.79	2.84	2.90	2.95
West African Community <sup>3</sup>	6.45	6.26	6.97	7.42	7.84	8.32	8.75	9.10	9.38	9.64	9.88	10.13
Other Sub-Saharan Africa <sup>4</sup>	2.12	2.25	2.29	2.39	2.49	2.59	2.69	2.79	2.89	2.98	3.08	3.19
South Africa	0.76	0.80	0.83	0.84	0.85	0.87	0.88	0.90	0.92	0.93	0.95	0.96
Other foreign <sup>5</sup>	2.04	1.96	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
United States	0.58	0.60	0.62	0.64	0.66	0.67	0.69	0.71	0.73	0.75	0.77	0.79
<b>Total imports</b>	<b>33.68</b>	<b>32.88</b>	<b>34.84</b>	<b>36.15</b>	<b>37.49</b>	<b>38.75</b>	<b>39.95</b>	<b>41.09</b>	<b>42.16</b>	<b>43.17</b>	<b>44.13</b>	<b>45.07</b>
	<i>Exports, million metric tons</i>											
<b>Exporters</b>												
Australia	0.35	0.45	0.45	0.46	0.46	0.46	0.46	0.47	0.47	0.47	0.47	0.48
Argentina	0.65	0.65	0.67	0.68	0.70	0.72	0.75	0.77	0.79	0.81	0.84	0.86
Other South America	2.64	2.29	2.16	2.25	2.28	2.36	2.44	2.52	2.59	2.67	2.76	2.85
European Union <sup>1</sup>	0.25	0.35	0.34	0.35	0.36	0.36	0.37	0.38	0.39	0.39	0.40	0.41
China	0.50	0.60	0.63	0.73	0.84	0.94	0.99	1.06	1.10	1.14	1.18	1.21
India	2.80	4.50	4.01	4.26	4.49	4.57	4.74	4.87	4.93	4.95	4.86	4.71
Pakistan	2.80	3.75	3.86	3.92	4.04	4.03	4.06	4.11	4.20	4.31	4.41	4.52
Thailand	10.50	8.00	9.90	10.19	10.76	11.36	11.87	12.34	12.74	13.11	13.55	13.99
Vietnam	7.00	6.70	6.50	6.70	6.91	7.12	7.31	7.47	7.67	7.82	7.99	8.15
Burma	0.90	0.75	0.90	0.88	0.80	0.82	0.84	0.87	0.90	0.91	0.92	0.92
Cambodia	1.00	0.80	0.90	1.04	1.07	1.12	1.16	1.21	1.27	1.35	1.43	1.52
Egypt	0.08	0.50	0.64	0.62	0.61	0.56	0.52	0.51	0.52	0.53	0.55	0.57
Other foreign	0.73	0.62	0.61	0.60	0.61	0.61	0.63	0.65	0.68	0.71	0.73	0.76
United States	3.49	2.92	3.26	3.46	3.57	3.71	3.81	3.85	3.93	4.00	4.04	4.12
<b>Total exports</b>	<b>33.68</b>	<b>32.88</b>	<b>34.84</b>	<b>36.15</b>	<b>37.49</b>	<b>38.75</b>	<b>39.95</b>	<b>41.09</b>	<b>42.16</b>	<b>43.17</b>	<b>44.13</b>	<b>45.07</b>
	<i>Percent</i>											
U.S. trade share	10.4	8.9	9.4	9.6	9.5	9.6	9.5	9.4	9.3	9.3	9.2	9.1

1/ Covers EU-27, excludes intra-EU trade.

2/ Covers FSU-12, includes intra-FSU trade.

3/ Economic Community of West African States.

4/ Excludes South Africa.

5/ Includes unaccounted.

The projections were completed in November 2011.

Table 10. Soybean trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<i>Imports, million metric tons</i>												
<b>Importers</b>												
European Union <sup>1</sup>	12.9	12.6	12.9	12.4	12.3	12.1	12.0	11.9	11.8	11.7	11.6	11.5
Japan	2.9	3.0	3.0	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6
South Korea	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Taiwan	2.4	2.6	2.6	2.6	2.6	2.7	2.7	2.7	2.7	2.6	2.6	2.6
Mexico	3.5	3.5	3.5	3.6	3.7	3.8	3.9	4.0	4.0	4.1	4.2	4.3
Former Soviet Union <sup>2</sup>	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2
Other Europe	4.7	5.3	5.5	5.7	5.8	6.0	6.1	6.3	6.4	6.6	6.7	6.9
China	52.3	56.5	63.1	66.1	69.0	72.0	75.0	78.0	81.0	84.0	87.0	90.0
Malaysia	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8
Indonesia	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0	2.0	2.1
Other	9.1	8.7	9.8	9.9	10.7	11.5	12.2	12.4	12.7	13.6	13.8	14.3
<b>Total imports</b>	<b>92.4</b>	<b>96.9</b>	<b>105.1</b>	<b>107.9</b>	<b>111.9</b>	<b>115.8</b>	<b>119.6</b>	<b>123.0</b>	<b>126.4</b>	<b>130.5</b>	<b>133.8</b>	<b>137.4</b>
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
Argentina	9.2	10.8	12.2	12.2	12.2	13.0	13.6	14.2	15.0	15.7	16.3	16.9
Brazil	30.0	38.0	41.3	41.3	44.1	46.2	48.6	50.7	52.6	55.1	56.9	59.2
Other South America	8.0	7.6	8.1	8.5	8.9	9.3	9.8	10.2	10.6	11.1	11.6	12.0
Ukraine	1.0	1.4	1.5	1.4	1.5	1.5	1.6	1.7	1.8	1.8	2.0	2.0
Other foreign	3.4	3.1	3.1	3.3	3.4	3.5	3.5	3.6	3.7	3.7	3.8	3.9
United States	40.9	36.1	38.9	41.2	41.8	42.3	42.5	42.6	42.7	43.0	43.3	43.4
<b>Total exports</b>	<b>92.4</b>	<b>96.9</b>	<b>105.1</b>	<b>107.9</b>	<b>111.9</b>	<b>115.8</b>	<b>119.6</b>	<b>123.0</b>	<b>126.4</b>	<b>130.5</b>	<b>133.8</b>	<b>137.4</b>
<i>Percent</i>												
U.S. trade share	44.2	37.2	37.0	38.2	37.3	36.5	35.5	34.6	33.8	33.0	32.3	31.6

1/ Covers EU-27, excludes intra-EU trade.

2/ Covers FSU-12, includes intra-FSU trade.

The projections were completed in November 2011.



Table 11. Soybean meal trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<i>Imports, million metric tons</i>												
<b>Importers</b>												
European Union <sup>1</sup>	22.0	23.0	23.0	23.2	23.4	23.5	23.7	23.9	24.1	24.3	24.5	24.6
Former Soviet Union <sup>2</sup>	0.8	0.6	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8
Other Europe	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Canada	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3
Japan	2.2	2.3	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.6	2.6
Southeast Asia	10.6	10.7	11.0	11.4	11.8	12.1	12.4	12.8	13.2	13.6	14.0	14.4
Mexico	1.5	1.5	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.9	1.9	2.0
Other Latin America	6.2	6.4	6.6	6.8	7.1	7.3	7.5	7.7	8.0	8.2	8.4	8.6
North Africa & Middle East	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4	7.5	7.7	7.9	8.1
Other	7.1	8.0	8.2	8.3	8.4	8.4	8.5	8.6	8.6	8.7	8.7	8.9
<b>Total imports</b>	<b>58.3</b>	<b>60.6</b>	<b>61.5</b>	<b>62.9</b>	<b>64.0</b>	<b>65.0</b>	<b>66.1</b>	<b>67.2</b>	<b>68.3</b>	<b>69.5</b>	<b>70.6</b>	<b>71.9</b>
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
Argentina	27.5	29.8	30.6	32.0	32.9	33.6	34.5	35.3	36.1	37.0	37.9	39.0
Brazil	14.0	14.8	15.1	15.1	15.4	15.7	16.0	16.3	16.7	17.0	17.3	17.7
Other South America	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.6	2.6	2.6
China	0.5	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
India	4.6	4.2	3.7	3.4	3.2	2.9	2.7	2.4	2.2	2.0	1.7	1.5
European Union <sup>1</sup>	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other foreign	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
United States	8.3	8.0	8.1	8.3	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2
<b>Total exports</b>	<b>58.3</b>	<b>60.6</b>	<b>61.5</b>	<b>62.9</b>	<b>64.0</b>	<b>65.0</b>	<b>66.1</b>	<b>67.2</b>	<b>68.3</b>	<b>69.5</b>	<b>70.6</b>	<b>71.9</b>
<i>Percent</i>												
U.S. trade share	14.2	13.2	13.2	13.3	13.3	13.3	13.2	13.1	13.1	13.0	12.9	12.8

1/ Covers EU-27, excludes intra-EU trade.

2/ Covers FSU-12, includes intra-FSU trade.

The projections were completed in November 2011.

Table 12. Soybean oil trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
<i>Imports, million metric tons</i>												
<b>Importers</b>												
China	1.3	1.4	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8	0.7	0.7
India	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2
Other Asia	1.2	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.4
Latin America	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.1	2.1	2.2
North Africa & Middle East	2.3	2.0	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.6	2.6
European Union <sup>1</sup>	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Other	1.1	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2
<b>Total imports</b>	<b>9.5</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>9.0</b>	<b>9.2</b>	<b>9.3</b>	<b>9.4</b>	<b>9.6</b>	<b>9.7</b>	<b>9.8</b>	<b>9.9</b>
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
Argentina	4.5	4.8	5.0	5.1	5.2	5.2	5.2	5.3	5.3	5.3	5.4	5.4
Brazil	1.7	1.7	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0
European Union <sup>1</sup>	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Other foreign	1.4	1.3	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7
United States	1.5	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Total exports</b>	<b>9.5</b>	<b>8.9</b>	<b>8.9</b>	<b>8.9</b>	<b>9.0</b>	<b>9.2</b>	<b>9.3</b>	<b>9.4</b>	<b>9.6</b>	<b>9.7</b>	<b>9.8</b>	<b>9.9</b>
<i>Percent</i>												
U.S. trade share	15.6	7.7	5.9	5.6	5.5	5.2	5.1	5.3	5.5	5.4	5.3	5.2

1/ Covers EU-27, excludes intra-EU trade.

The projections were completed in November 2011.

Table 13. All cotton trade long-term projections

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
	<i>Imports, million bales</i>											
<b>Importers</b>												
European Union <sup>1</sup>	1.1	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Former Soviet Union <sup>2</sup>	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
Brazil	0.7	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Mexico	1.2	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Japan	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
South Korea	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
China	12.0	14.0	16.0	16.5	16.5	16.6	16.7	16.8	17.0	17.3	17.6	17.9
Indonesia	2.1	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3
Thailand	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8
Pakistan	1.5	1.5	1.5	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.1
India	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Bangladesh	3.7	3.5	3.4	3.4	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.2
Taiwan	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
Other Asia & Oceania	2.3	2.3	2.3	2.3	2.4	2.6	2.7	2.9	3.1	3.3	3.5	3.6
Turkey	3.4	3.1	2.6	2.6	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.7
Other	2.6	2.5	2.9	3.2	3.3	3.4	3.5	3.7	3.7	3.8	3.9	4.0
<b>Total imports</b>	<b>35.6</b>	<b>36.3</b>	<b>38.1</b>	<b>38.9</b>	<b>39.0</b>	<b>39.5</b>	<b>40.1</b>	<b>40.7</b>	<b>41.4</b>	<b>42.0</b>	<b>42.9</b>	<b>43.6</b>
	<i>Exports, million bales</i>											
<b>Exporters</b>												
Former Soviet Union <sup>2</sup>	4.6	4.6	4.7	4.8	5.1	5.2	5.3	5.4	5.5	5.5	5.5	5.6
Australia	2.5	4.2	4.9	4.2	3.9	3.8	3.7	3.8	3.9	3.9	4.0	4.1
Argentina	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Brazil	2.0	3.8	4.0	4.0	4.0	4.1	4.3	4.5	4.7	4.9	5.1	5.4
Other Latin America	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Pakistan	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
India	5.1	5.2	5.0	4.9	4.6	4.4	4.4	4.4	4.5	4.5	4.7	4.8
Egypt	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
West African Community <sup>3</sup>	2.0	2.2	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.4
Other Sub-Saharan Africa <sup>4</sup>	1.5	1.6	1.5	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2.0
Other foreign	1.8	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.1
United States	14.4	11.3	12.4	13.8	14.2	14.5	14.6	14.7	14.7	14.7	14.8	14.8
<b>Total exports</b>	<b>35.6</b>	<b>36.3</b>	<b>38.1</b>	<b>38.9</b>	<b>39.0</b>	<b>39.5</b>	<b>40.1</b>	<b>40.7</b>	<b>41.4</b>	<b>42.0</b>	<b>42.8</b>	<b>43.6</b>
	<i>Percent</i>											
<b>U.S. trade share</b>	<b>40.4</b>	<b>31.1</b>	<b>32.5</b>	<b>35.4</b>	<b>36.5</b>	<b>36.7</b>	<b>36.4</b>	<b>36.1</b>	<b>35.5</b>	<b>35.0</b>	<b>34.6</b>	<b>34.0</b>

1/ Covers EU-27, excludes intra-EU trade.

2/ Covers FSU-12, includes intra-FSU trade.

3/ Economic Community of West African States.

4/ Includes South Africa.

The projections were completed in November 2011.

Table 14. Beef trade long-term projections

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>Imports, thousand metric tons, carcass weight</i>												
<b>Importers</b>												
Japan	721	805	825	854	867	873	875	875	883	888	892	900
South Korea	366	460	485	498	503	513	529	542	559	578	597	617
Taiwan	130	125	125	133	138	141	144	147	150	153	156	159
Philippines	138	145	150	154	157	160	163	166	170	173	176	179
Other Asia	671	782	855	931	980	1,019	1,057	1,097	1,133	1,170	1,211	1,256
European Union <sup>1</sup>	437	370	375	373	371	369	368	366	364	362	360	359
Russia	1,020	1,050	1,060	1,057	1,000	977	986	1,003	1,014	1,024	1,031	1,034
Other Europe	62	68	70	72	73	74	75	75	76	76	76	77
Egypt	260	270	290	302	310	316	323	328	331	333	336	340
Other N. Africa & M. East	920	892	944	1,011	1,060	1,099	1,138	1,175	1,207	1,242	1,276	1,311
Mexico	296	296	308	368	412	425	440	456	489	525	566	599
Canada	243	275	260	262	263	264	270	276	281	285	287	289
United States	1,042	920	948	1,111	1,293	1,345	1,365	1,390	1,417	1,446	1,475	1,504
Major importers	6,306	6,459	6,695	7,126	7,426	7,576	7,732	7,896	8,073	8,254	8,439	8,623
<i>Exports, thousand metric tons, carcass weight</i>												
<b>Exporters</b>												
Australia	1,368	1,250	1,240	1,260	1,292	1,309	1,313	1,321	1,333	1,338	1,343	1,347
New Zealand	530	501	484	503	522	532	533	533	536	539	544	550
Asia	988	1,182	1,332	1,420	1,508	1,587	1,672	1,755	1,821	1,890	1,962	2,031
European Union <sup>1</sup>	337	475	465	456	449	427	415	419	418	417	417	418
Argentina	298	260	300	273	259	262	266	273	289	299	309	320
Brazil	1,558	1,325	1,298	1,423	1,592	1,654	1,710	1,760	1,806	1,863	1,917	1,971
Canada	523	415	400	404	408	404	402	398	400	405	410	413
United States	1,043	1,254	1,259	1,225	1,236	1,262	1,293	1,321	1,349	1,376	1,404	1,432
Major exporters	6,645	6,662	6,778	6,963	7,266	7,437	7,604	7,780	7,951	8,126	8,304	8,481

<sup>1/</sup> Covers EU-27, excludes intra-EU trade.

The projections were completed in November 2011.

Table 15. Pork trade long-term projections

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>Imports, thousand metric tons, carcass weight</i>												
<b>Importers</b>												
Japan	1,198	1,210	1,210	1,210	1,206	1,212	1,209	1,214	1,218	1,220	1,220	1,220
China	415	550	560	635	675	686	705	722	745	766	782	807
Hong Kong	347	360	380	463	472	475	488	495	512	520	540	558
South Korea	382	625	500	499	504	507	514	520	532	539	549	560
Russia	880	930	700	760	720	683	635	600	550	500	445	379
Mexico	687	630	650	670	704	736	776	805	835	865	895	920
Central America/Caribbean	123	110	122	146	161	177	195	215	233	252	270	286
Canada	183	195	190	193	196	199	201	203	205	207	209	210
United States	390	375	370	374	408	431	444	458	472	481	492	503
Major importers	4,605	4,985	4,682	4,949	5,047	5,104	5,166	5,232	5,302	5,350	5,402	5,445
<i>Exports, thousand metric tons, carcass weight</i>												
<b>Exporters</b>												
Brazil	619	582	570	571	580	590	600	612	624	632	644	658
Canada	1,159	1,160	1,160	1,175	1,192	1,206	1,229	1,247	1,263	1,276	1,286	1,293
Mexico	78	75	75	76	77	78	78	79	80	80	81	81
European Union <sup>1</sup>	1,754	2,000	1,900	1,950	1,995	1,988	1,971	1,954	1,937	1,911	1,885	1,860
China	278	260	280	294	305	319	333	343	353	364	375	383
United States	1,916	2,257	2,309	2,354	2,402	2,449	2,499	2,549	2,599	2,654	2,706	2,760
Major exporters	5,804	6,334	6,294	6,420	6,551	6,630	6,710	6,783	6,856	6,916	6,975	7,035

<sup>1/</sup> Covers EU-27, excludes intra-EU trade.

The projections were completed in November 2011.

Table 16. Poultry trade long-term projections<sup>1</sup>

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>Imports, thousand metric tons, ready to cook</i>												
<b>Importers</b>												
Russia	668	423	374	254	232	214	197	180	163	146	130	114
European Union <sup>2</sup>	776	790	800	808	816	824	833	841	849	858	866	875
Other Europe	28	35	35	35	35	36	36	36	37	37	37	38
Canada	132	143	143	145	147	149	150	152	153	155	156	158
Mexico	702	760	789	804	814	837	864	882	915	950	979	1,008
Central America/Caribbean	324	276	286	305	320	322	321	324	332	339	348	355
Japan	789	847	805	800	806	805	807	810	812	812	809	809
Hong Kong	295	285	300	316	328	340	353	365	377	390	395	404
China	312	265	295	325	345	358	367	378	386	393	399	407
South Korea	106	130	125	130	134	139	143	146	150	155	159	163
Saudi Arabia	681	830	880	926	950	970	992	1,014	1,036	1,058	1,081	1,106
Other Middle East	1,180	1,316	1,377	1,401	1,440	1,490	1,541	1,592	1,643	1,695	1,748	1,803
North Africa	29	117	147	137	127	122	126	131	136	141	146	152
West African Community <sup>3</sup>	196	260	280	280	303	327	352	382	418	460	502	548
Other Sub-Saharan Africa	427	440	490	506	523	537	567	592	617	643	669	696
<b>Major importers</b>	<b>6,645</b>	<b>6,917</b>	<b>7,126</b>	<b>7,172</b>	<b>7,321</b>	<b>7,469</b>	<b>7,648</b>	<b>7,824</b>	<b>8,023</b>	<b>8,230</b>	<b>8,424</b>	<b>8,634</b>
<i>Exports, thousand metric tons, ready to cook</i>												
<b>Exporters</b>												
European Union <sup>2</sup>	1,126	1,230	1,250	1,279	1,299	1,317	1,316	1,327	1,327	1,326	1,325	1,329
Brazil	3,339	3,400	3,555	3,620	3,765	3,902	4,074	4,219	4,382	4,538	4,673	4,813
China	379	410	445	442	452	465	481	497	520	544	569	592
Thailand	432	450	500	509	519	531	544	556	574	595	616	636
United States	3,335	3,413	3,413	3,442	3,472	3,502	3,533	3,562	3,593	3,628	3,662	3,697
<b>Major exporters</b>	<b>8,611</b>	<b>8,903</b>	<b>9,163</b>	<b>9,292</b>	<b>9,507</b>	<b>9,717</b>	<b>9,947</b>	<b>10,161</b>	<b>10,396</b>	<b>10,631</b>	<b>10,844</b>	<b>11,067</b>

1/ Broilers and turkeys only.

2/ Covers EU-27, excludes intra-EU trade.

3/ Economic Community of West African States.

The projections were completed in November 2011.

## U.S. Crops

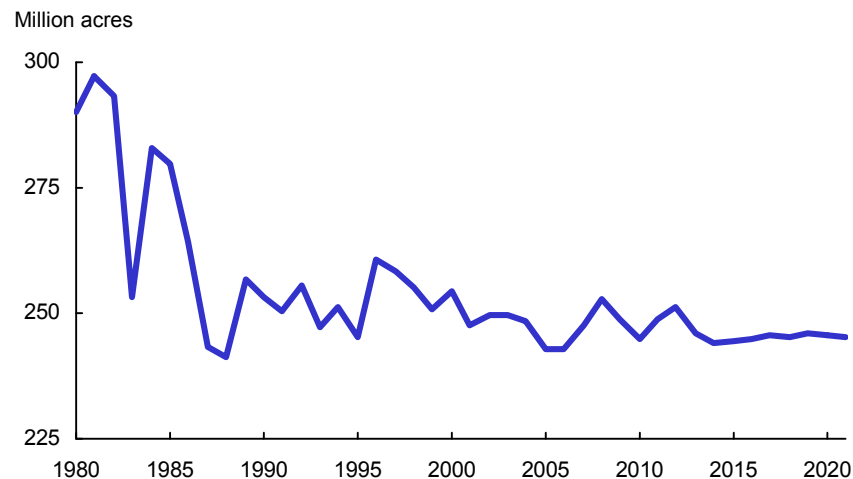
The U.S. crops sector responds in the short term to relatively high prices in 2011/12. Planted area for 8 major field crops in 2012 is projected to reach 251 million acres, the second-largest acreage level of the past 10 years.

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

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

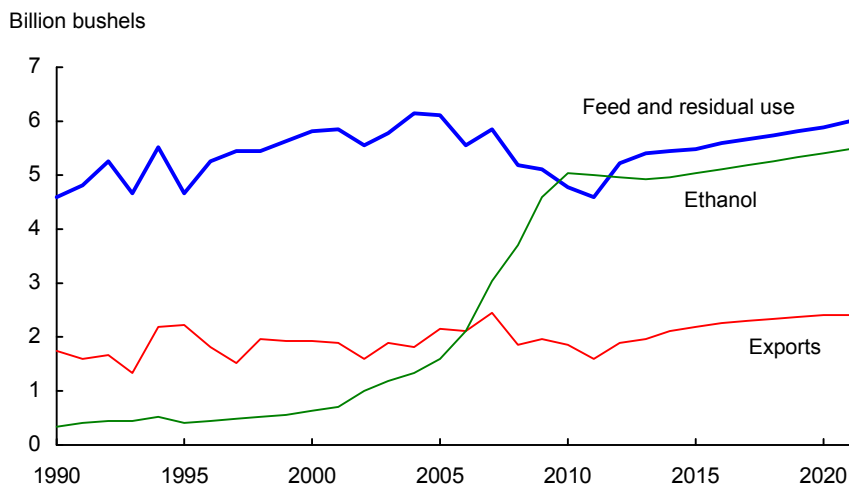
The 45-cents-per-gallon tax credit available to blenders of ethanol, the 54-cents-per-gallon tariff on imported fuel ethanol, and the \$1-per-gallon tax credit for blending biodiesel expired at the end of 2011 and are assumed to not be reinstated.

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



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

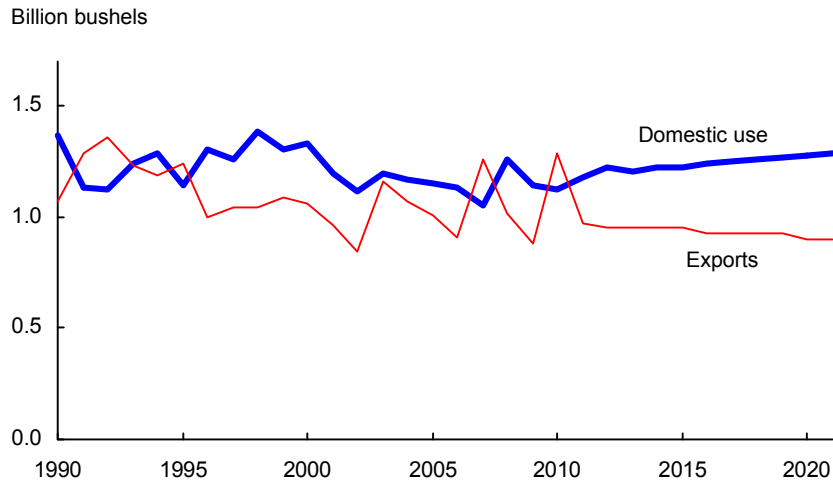
### U.S. corn: Feed and residual use, ethanol, and exports



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

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

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

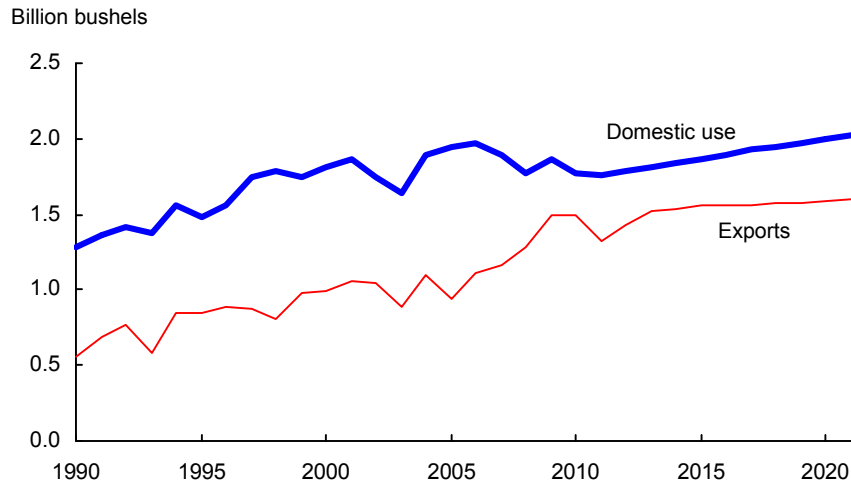


Strong wheat prices and expected net returns boost wheat plantings for 2012. However, with relatively weak overall demand growth for wheat, producer returns initially fall and then rise less than returns for other crops in subsequent years. This leads to a decline in wheat plantings to about 51 million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

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



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

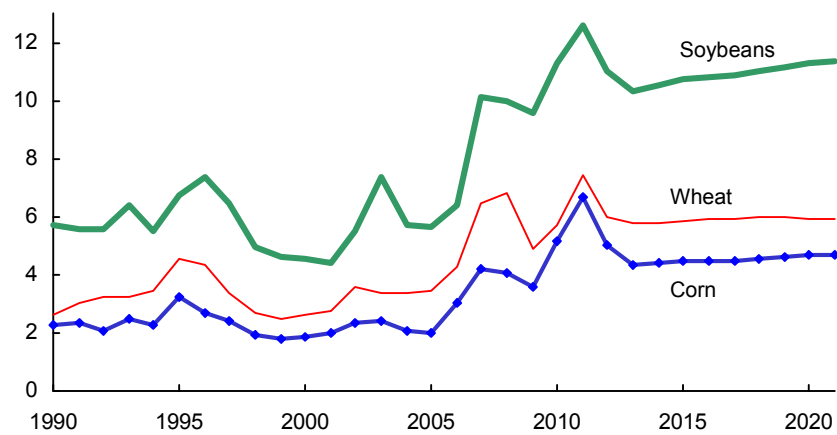


U.S. soybean plantings decline in 2012, reflecting competition from corn, but then expand to 76 million acres by 2014. Over the rest of the projection period, growth in both domestic use and export demand keep prices and producer returns favorable enough to hold soybean plantings steady.

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

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

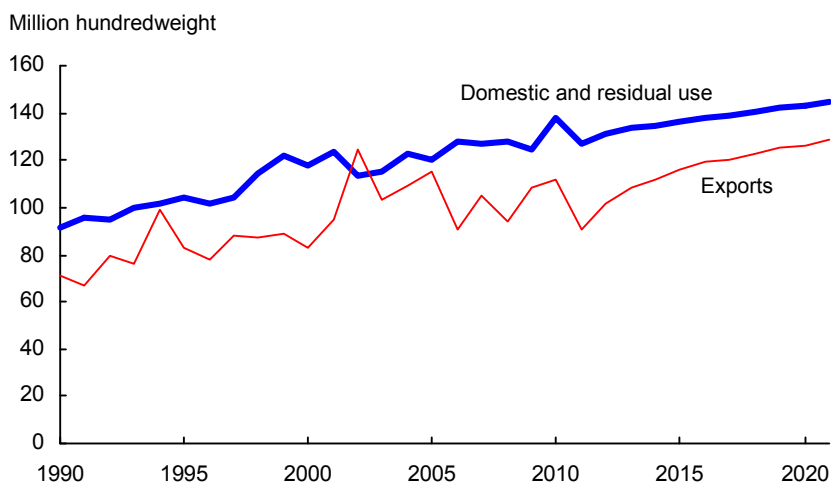
Dollars per bushel



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

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

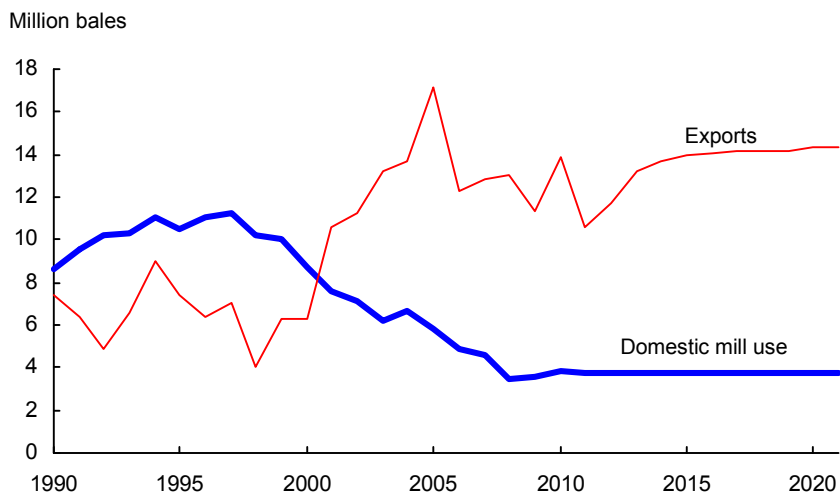
### U.S. rice: Domestic and residual use and exports



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

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

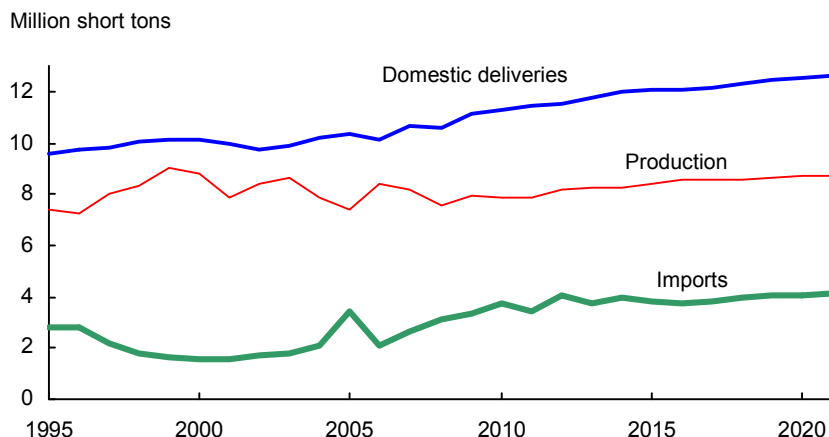
### U.S. upland cotton: Domestic mill use and exports



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

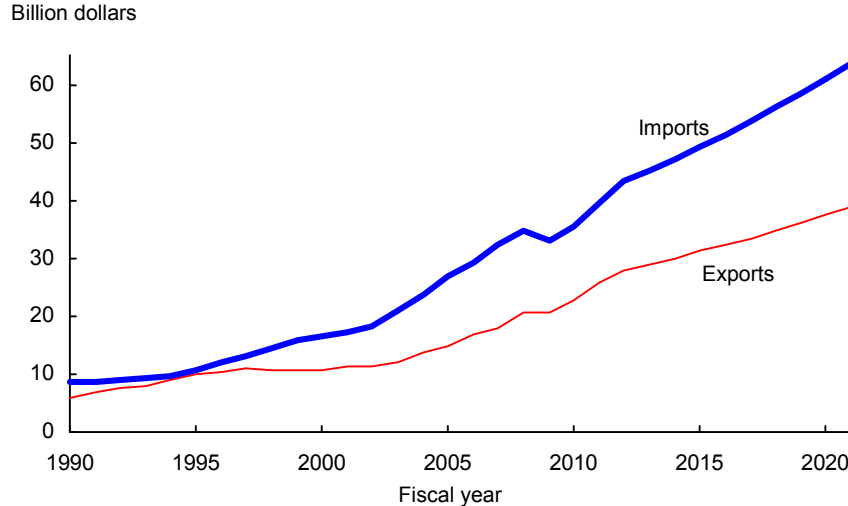
- The decline in U.S. mill use of cotton since the late 1990s reflects a gradual, long-term movement of spinning capacity to developing countries. However, U.S. mill use is projected to remain stable over the next decade, which will support demand for U.S. textile product exports, mainly to other countries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

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



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

### Value of U.S. horticultural trade



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

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

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

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

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

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

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

Note: Marketing year beginning September 1 for corn.



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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (million acres):												
Planted acres	5.4	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Harvested acres	4.8	4.4	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Yield:												
Bushels/harvested acre	71.8	55.5	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3	65.3
Supply and use (million bushels):												
Beginning stocks	41	27	28	43	43	43	43	43	43	43	43	43
Production	345	246	340	340	340	340	340	340	340	340	340	340
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	387	273	368	383	383	383	383	383	383	383	383	383
Feed & residual	124	65	80	80	80	80	80	80	80	80	80	80
Food, seed, & industrial	85	90	90	90	90	90	90	90	90	90	90	90
Domestic use	209	155	170	170	170	170	170	170	170	170	170	170
Exports	150	90	155	170	170	170	170	170	170	170	170	170
Total use	359	245	325	340	340	340	340	340	340	340	340	340
Ending stocks	27	28	43	43	43	43	43	43	43	43	43	43
Stocks/use ratio, percent	7.5	11.4	13.2	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6	12.6
Price (dollars per bushel):												
Farm price	5.02	6.50	4.65	4.05	4.15	4.20	4.25	4.25	4.30	4.30	4.35	4.35
Variable costs of production (dollars):												
Per acre	147	173	178	180	182	183	186	189	193	197	201	205
Per bushel	2.05	3.12	2.73	2.76	2.78	2.81	2.85	2.90	2.96	3.01	3.07	3.13
Returns over variable costs (dollars per acre):												
Net returns	213	188	126	84	89	91	92	88	88	84	83	80

Note: Marketing year beginning September 1 for sorghum.

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

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

Note: Marketing year beginning June 1 for barley.

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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (million acres):												
Planted acres	3.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Harvested acres	1.3	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Yield:												
Bushels/harvested acre	64.3	57.1	65.4	65.8	66.2	66.6	67.0	67.5	67.9	68.3	68.7	69.1
Supply and use (million bushels):												
Beginning stocks	80	68	42	43	44	45	46	47	49	50	46	43
Production	81	54	65	66	66	67	67	68	68	68	69	69
Imports	85	90	100	100	100	100	100	100	100	100	100	100
Supply	247	211	207	209	210	212	213	215	217	218	215	212
Feed & residual	102	90	85	85	85	85	85	85	85	90	90	90
Food, seed, & industrial	74	76	76	77	77	78	78	78	79	79	79	79
Domestic	176	166	161	162	162	163	163	163	164	169	169	169
Exports	3	3	3	3	3	3	3	3	3	3	3	3
Total use	179	169	164	165	165	166	166	166	167	172	172	172
Ending stocks	68	42	43	44	45	46	47	49	50	46	43	40
Stocks/use ratio, percent	38.0	24.9	26.2	26.7	27.3	27.7	28.3	29.5	29.9	26.7	25.0	23.3
Price (dollars per bushel):												
Farm price	2.52	3.40	2.85	2.50	2.55	2.55	2.60	2.60	2.65	2.65	2.70	2.70
Variable costs of production (dollars):												
Per acre	96	114	116	116	117	118	120	122	124	126	129	131
Per bushel	1.50	1.99	1.78	1.77	1.77	1.77	1.78	1.80	1.83	1.85	1.87	1.90
Returns over variable costs (dollars per acre):												
Net returns	66	81	70	48	52	52	55	54	56	55	57	55

Note: Marketing year beginning June 1 for oats.

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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (million acres):												
Planted acres	53.6	54.4	56.5	54.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	51.0
Harvested acres	47.6	45.7	47.5	45.5	43.8	43.8	43.8	43.8	43.8	43.8	43.8	42.9
Yield:												
Bushels/harvested acre	46.3	43.7	44.6	45.0	45.3	45.7	46.0	46.4	46.8	47.1	47.5	47.8
Supply and use (million bushels):												
Beginning stocks	976	862	828	887	891	822	760	730	707	701	697	726
Production	2,207	1,999	2,120	2,050	1,985	2,000	2,015	2,030	2,050	2,065	2,080	2,050
Imports	97	120	110	110	115	115	120	120	125	125	130	130
Supply	3,279	2,982	3,058	3,047	2,991	2,937	2,895	2,880	2,882	2,891	2,907	2,906
Food	926	940	948	956	964	972	980	988	996	1,004	1,012	1,020
Seed	71	78	73	70	70	70	70	70	70	70	69	69
Feed & residual	132	160	200	180	185	185	190	190	190	195	200	200
Domestic	1,128	1,178	1,221	1,206	1,219	1,227	1,240	1,248	1,256	1,269	1,281	1,289
Exports	1,289	975	950	950	950	950	925	925	925	925	900	900
Total use	2,417	2,153	2,171	2,156	2,169	2,177	2,165	2,173	2,181	2,194	2,181	2,189
Ending stocks	862	828	887	891	822	760	730	707	701	697	726	717
Stocks/use ratio, percent	35.7	38.5	40.9	41.3	37.9	34.9	33.7	32.5	32.1	31.8	33.3	32.8
Price (dollars per bushel):												
Farm price	5.70	7.40	6.00	5.75	5.80	5.85	5.90	5.90	5.95	5.95	5.90	5.90
Variable costs of production (dollars):												
Per acre	104	122	126	126	126	128	129	132	134	136	139	142
Per bushel	2.26	2.80	2.81	2.79	2.79	2.79	2.81	2.84	2.86	2.90	2.93	2.96
Returns over variable costs (dollars per acre):												
Net returns	159	201	142	133	136	140	142	142	144	144	141	140

Note: Marketing year beginning June 1 for wheat.

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

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

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

1/ Soybean oil used for methyl ester for production of biodiesel, history from the U.S. Department of Commerce.

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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (thousand acres):												
Planted	3,636	2,693	3,000	3,075	3,110	3,145	3,170	3,185	3,200	3,215	3,225	3,235
Harvested	3,615	2,624	2,967	3,041	3,076	3,111	3,136	3,150	3,165	3,179	3,189	3,199
Yield:												
Pounds/harvested acre	6,725	7,167	7,196	7,264	7,334	7,403	7,468	7,530	7,599	7,660	7,727	7,793
Supply and use (million hundredweight):												
Beginning stocks	36.5	48.5	37.5	37.6	37.0	36.8	36.3	35.4	35.5	35.7	35.8	36.7
Production	243.1	188.1	213.5	220.9	225.6	230.3	234.2	237.2	240.5	243.5	246.4	249.3
Imports	18.3	19.0	19.6	20.1	20.7	21.2	21.8	22.4	22.9	23.5	24.1	24.8
Total supply	297.9	255.5	270.6	278.7	283.2	288.4	292.2	295.0	298.9	302.7	306.4	310.7
Domestic use and residual	137.8	127.0	131.0	133.4	134.8	136.2	137.6	139.0	140.4	141.8	143.3	144.8
Exports	111.6	91.0	102.0	108.3	111.6	115.9	119.2	120.5	122.8	125.1	126.4	128.7
Total use	249.5	218.0	233.0	241.7	246.4	252.1	256.8	259.5	263.2	266.9	269.7	273.5
Ending stocks	48.5	37.5	37.6	37.0	36.8	36.3	35.4	35.5	35.7	35.8	36.7	37.2
Stocks/use ratio, percent	19.4	17.2	16.2	15.3	14.9	14.4	13.8	13.7	13.6	13.4	13.6	13.6
Prices (dollars per hundredweight):												
Average farm price	12.70	14.50	14.00	13.70	13.60	13.80	14.00	14.20	14.40	14.60	14.90	15.10
Variable costs of production (dollars):												
Per acre	465	531	547	553	558	564	571	580	590	601	611	622
Per hundredweight	6.91	7.42	7.60	7.62	7.61	7.61	7.65	7.71	7.77	7.84	7.91	7.98
Returns over variable costs (dollars per acre):												
Net returns	389	508	461	442	440	458	475	489	504	518	540	555

Note: Marketing year beginning August 1 for rice.

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

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

Note: Marketing year beginning August 1 for rice.

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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (thousand acres):												
Planted	795	902	750	775	785	795	800	805	810	815	820	825
Harvested	789	888	744	769	779	789	794	799	804	808	813	818
Yield:												
Pounds/harvested acre	7,580	7,947	8,065	8,103	8,142	8,182	8,222	8,263	8,304	8,345	8,386	8,428
Supply and use (million hundredweight):												
Beginning stocks	12.0	10.1	17.2	13.8	12.1	10.9	10.3	9.8	9.4	9.2	9.0	9.0
Production	59.8	70.6	60.0	62.3	63.4	64.6	65.3	66.0	66.8	67.4	68.2	68.9
Imports	2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5
Total supply	73.1	83.2	79.8	78.8	78.3	78.4	78.6	78.9	79.4	79.9	80.6	81.4
Domestic use & residual	29.4	35.0	34.0	34.4	34.8	35.2	35.6	36.0	36.4	36.8	37.2	37.6
Exports	33.6	31.0	32.0	32.3	32.6	32.9	33.2	33.5	33.8	34.1	34.4	34.7
Total use	63.0	66.0	66.0	66.7	67.4	68.1	68.8	69.5	70.2	70.9	71.6	72.3
Ending stocks	10.1	17.2	13.8	12.1	10.9	10.3	9.8	9.4	9.2	9.0	9.0	9.1
Stocks/use ratio, percent	16.1	26.1	20.9	18.1	16.2	15.1	14.2	13.5	13.1	12.7	12.6	12.6
Price (dollars per hundredweight):												
Average farm price	18.40	16.00	16.50	16.50	16.80	17.00	17.30	17.50	17.80	18.00	18.30	18.60

Note: Marketing year beginning August 1 for rice.

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

Item	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Area (million acres):												
Planted acres	10.8	14.4	12.0	11.8	11.8	11.8	11.8	11.8	11.7	11.7	11.6	11.6
Harvested acres	10.5	9.6	9.6	10.4	10.4	10.4	10.4	10.3	10.3	10.3	10.2	10.2
Yield:												
Pounds/harvested acre	805	781	810	810	815	820	825	830	835	840	845	850
Supply and use (thousand bales):												
Beginning stocks	2,929	2,572	3,730	4,445	5,110	5,375	5,440	5,505	5,370	5,335	5,400	5,365
Production	17,600	15,563	16,200	17,600	17,700	17,800	17,900	17,800	17,900	18,000	18,000	18,100
Imports	2	5	0	0	0	0	0	0	0	0	0	0
Supply	20,531	18,140	19,930	22,045	22,810	23,175	23,340	23,305	23,270	23,335	23,400	23,465
Domestic use	3,874	3,775	3,725	3,725	3,725	3,725	3,725	3,725	3,725	3,725	3,725	3,725
Exports	13,881	10,625	11,750	13,200	13,700	14,000	14,100	14,200	14,200	14,200	14,300	14,300
Total use	17,755	14,400	15,475	16,925	17,425	17,725	17,825	17,925	17,925	17,925	18,025	18,025
Ending stocks	2,572	3,730	4,445	5,110	5,375	5,440	5,505	5,370	5,335	5,400	5,365	5,430
Stocks/use ratio, percent	14.5	25.9	28.7	30.2	30.8	30.7	30.9	30.0	29.8	30.1	29.8	30.1
Price (dollars per pound):												
Farm price	0.815	0.900	0.800	0.700	0.705	0.710	0.715	0.720	0.725	0.730	0.735	0.740
Variable costs of production (dollars):												
Per acre	474	515	534	540	545	552	560	570	580	590	600	611
Per pound	0.59	0.66	0.66	0.67	0.67	0.67	0.68	0.69	0.69	0.70	0.71	0.72
Returns over variable costs (dollars per acre):												
Net returns	288	332	246	142	146	149	150	150	149	148	147	146

Note: Marketing year beginning August 1 for upland cotton.



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

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

Note: Marketing year beginning October 1 for sugar.

<sup>1/</sup> CCC is the Commodity Credit Corporation, U.S. Department of Agriculture.

Table 27. Horticultural crops long-term supply and use projections, calendar years

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

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

Data sources: USDA, National Agricultural Statistics Service; Foreign Agricultural Service; Economic Research Service; U.S. Department of Labor, Bureau of Labor Statistics.

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

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

1/ Includes dry edible beans, peas, lentils, and potatoes. 2/ Includes hops, ginseng, sauces, condiments, mixed food, yeast, starches, and other products that contain horticulture ingredients. 3/ Includes fruits and vegetables only.

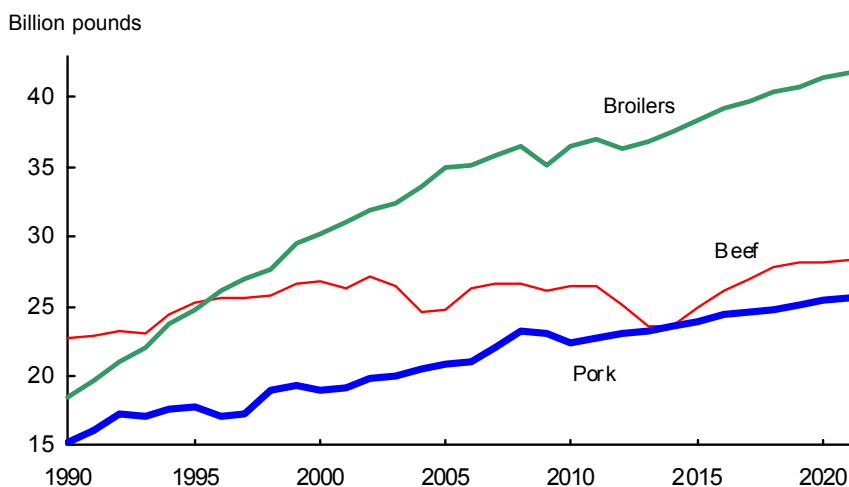
Exports are free alongside ship (FAS) value at U.S. port of exportation. Imports are customs value at U.S. port of entry.

Data source: U.S. Department of Commerce, Bureau of the Census.

## U.S. Livestock

Over the past several years, high feed prices, the economic recession, and drought in the Southern Plains of the United States have combined to reduce producer returns and lower production incentives in the livestock sector. As a result, total U.S. red meat and poultry production is projected to fall in 2012 and 2013. Combined with increasing exports, the result is declining domestic per capita consumption of red meat and poultry through 2013. With feed costs projected to decline from recent highs, improved net returns in the livestock sector provide economic incentives for expansion of meat and poultry production over the rest of the projection period.

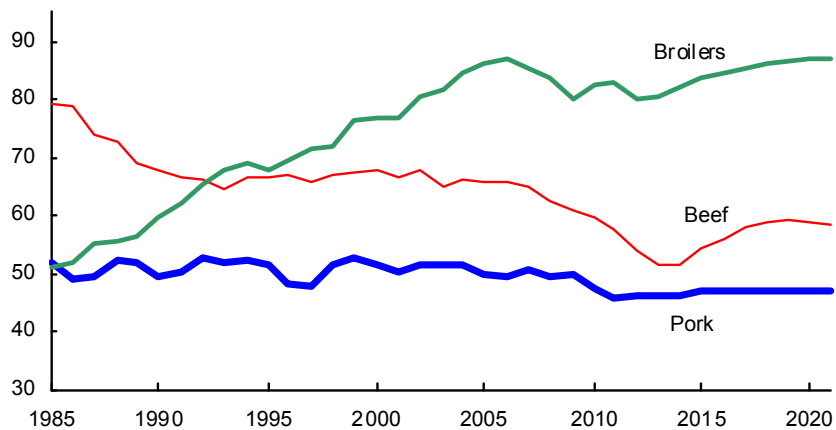
**U.S. red meat and poultry production**



- Despite improved returns for cow-calf operators in 2010 and 2011, strong demands for feeder cattle and cows for slaughter lead to continued declines in beef cow inventories through the start of 2012. Reduced beef cow inventories and expected heifer retention during 2012 are expected to lead to declines in beef production through 2013 and only a small increase in 2014. Beef production then rises in the remainder of the projection period as returns support continued herd expansion. Beef cow numbers rise from about 30 million head at the beginning of 2012 to more than 34 million in the last several years of the projections. The total cattle inventory drops below 91 million head before expanding to about 97 million at the end of the projection period. Rising slaughter weights also contribute to the longer term expansion of beef production.
- As feed costs decline, pork producers are expected to increase farrowings, with pork production projected to rise over the next decade. Pork production increases will also be supported by gains in breeding herd productivity and increased slaughter weights.
- After declining in 2012, poultry production rises through the end of the projection period, although at lower rates than in the 1980s and 1990s. Broiler prices are expected to strengthen with increased demand, although poultry will face competition from increased supplies of red meats. Poultry production growth is expected to come from both higher bird numbers and higher average weights. Both broiler production and turkey production expand over the projection period.

### U.S. per capita meat consumption

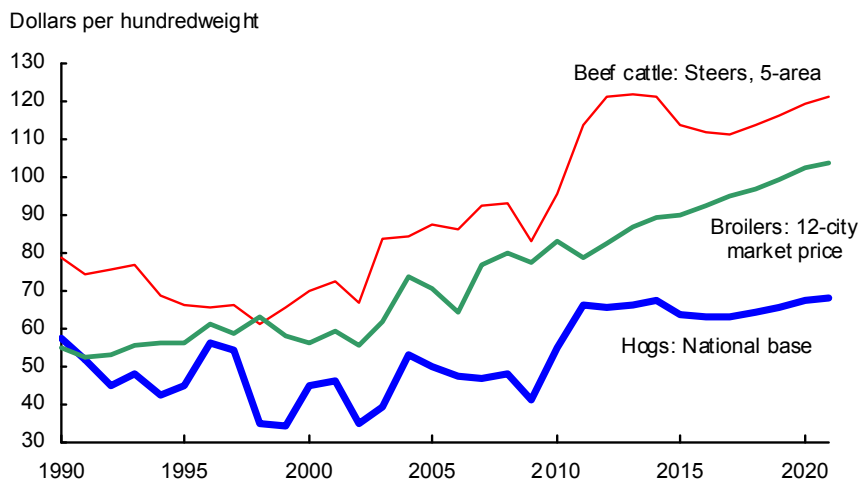
Pounds per capita, retail weight



Declines in overall meat production along with projected increases in meat exports result in higher consumer prices and lower per capita consumption in the United States in the near term. Annual average consumption of red meats and poultry falls from over 221 pounds per capita in 2004-07 to less than 198 pounds in 2013. As production increases over the remainder of the projection period, per capita consumption of red meats and poultry resumes growth, but rises to only about 213 pounds by 2021.

- Per capita beef consumption declines through 2013, before rising moderately over much of the remainder of the projection period. The initial decline reflects continuing reductions in beef production through 2013 coupled with large exports. However, as beef production increases, per capita consumption generally grows.
- Per capita pork consumption was down sharply in 2010 and 2011 reflecting large increases in U.S. pork exports, reduced production in 2010 and only a 1.0 percent rise in 2011 production. A gradual increase in per capita pork consumption is projected over the next decade as production rises and export gains moderate.
- After declining in 2012, poultry production is projected to grow through the rest of the decade. Per capita consumption rises through the end of the projection period and, in contrast to red meats, surpasses levels of the past decade.

### Nominal U.S. livestock prices

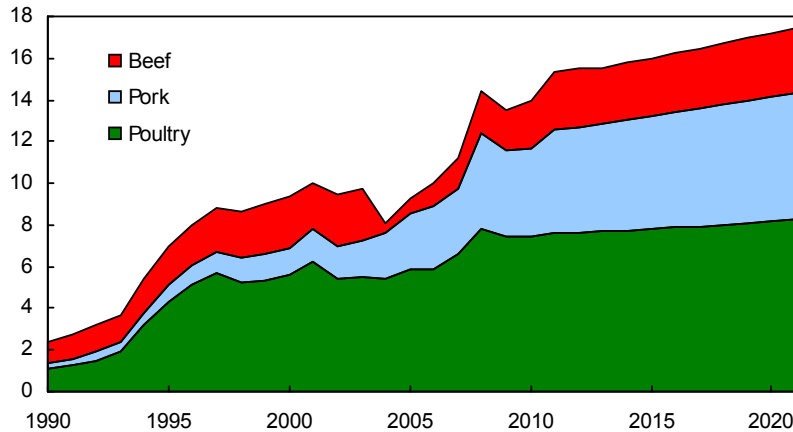


Prices in the livestock sector during the initial years of the projection period reflect reductions in total meat and poultry production in response to the squeezed producer returns over much of the past several years. After increasing through 2013, beef cattle prices decline for several years as production expands starting in 2014. Hog prices remain relatively flat in the near term but then decline through 2017.

Over the remainder of the projection period, livestock prices rise, reflecting a moderate pace of production expansion combined with increasing domestic use and export demand.

## U.S. meat exports

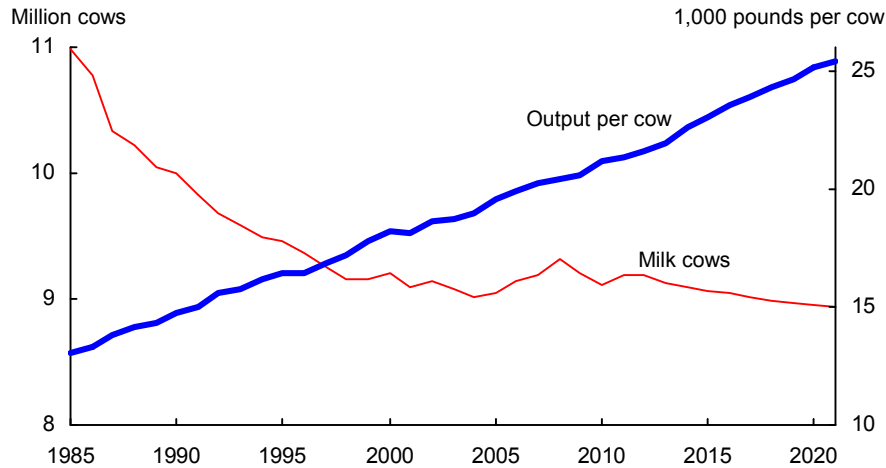
Billion pounds



The projected rise in U.S. meat and poultry exports over the next decade reflects the resumption of global economic growth, a depreciation of the U.S. dollar, and continued foreign demand for selected cuts and parts from the large U.S. market.

- Most U.S. beef exports are high-quality, grain-fed beef, typically going to Mexico, Canada, and Pacific Rim nations. A continuing recovery is assumed for U.S. beef exports to Japan and South Korea, export markets that were closed to the United States for several years following the first U.S. case of bovine spongiform encephalopathy (BSE) in December 2003. Beef exports by competitor countries of Australia and Canada increase slowly as herds are rebuilt.
- U.S. imports of processing beef increase in the projection period as relatively low beef cow slaughter in the United States raises import demand. With more beef demand in East Asian markets being met by U.S. grain-fed beef, exports of grass-fed beef from Australia and New Zealand to those markets are likely to decline.
- Production efficiency in the U.S. pork sector enhances the sector's international competitiveness. However, longer term gains in U.S. pork exports will be determined by costs of production and environmental regulations relative to competitors. Production costs tend to be lower in countries such as Brazil that have established or are developing integrated pork industries. However, Brazilian pork producers' ability to compete in some markets is limited because some countries do not recognize Brazil as free of foot-and-mouth disease (FMD). Thus, Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports, while Brazil's pork exports expand to Argentina and Asian markets other than Japan and South Korea. Russia is assumed to continue to use policies to facilitate expansion of its domestic pork industry and reduce imports, with pork exports from the United States and Brazil affected the most.
- U.S. broiler exports rise from 2012 through the rest of the projection period. Major U.S. export markets include China and Mexico, but U.S. broiler exports also have been increasing to a number of other countries. Longer term gains in these markets reflect their economic growth and increasing consumer demand. International demand for poultry also remains strong because of its lower cost relative to beef and pork. U.S. poultry producers continue to face strong competition from other major exporters, particularly Brazil. For most of the projection period, exports from avian influenza-affected countries are expected to be limited to fully cooked products. As with pork, Russia is assumed to support its domestic poultry industry and limit imports.

### U.S. dairy herd and milk production per cow



Milk production is projected to continue rising over the projection period. The long-term upward trend in output per cow continues, while milk cow numbers decrease after 2011.

- After a 4-year increase during 2005-08 and rising again in 2011, milk cow numbers are projected to resume a more typical path of year-to-year declines in 2012-21. The decline in cow numbers slows somewhat toward the end of the projection period as the transition in most regions from smaller, diversified farms to larger, specialized dairy operations matures.
- Milk output per cow is projected to increase through the projection period, reflecting continued technological and genetic developments.
- Domestic commercial use of dairy products increases somewhat faster than the growth in U.S. population over the next decade. Cheese demand benefits from greater consumption of prepared foods and increased away-from-home eating. However, per capita consumption of fluid milk is expected to continue to decline slowly.
- The United States is expected to be well positioned to expand exports of dairy products. Commercial U.S. dairy exports are forecast to increase steadily over the next decade, reaching record levels on both a fat and a skim-solids basis. Increased production among the major dairy exporting countries is expected to lag growth in global import demand.
- After declining in 2012 from 2011's high levels, farm-level milk prices are projected to rise steadily over the projection period. However, increases are less than the overall rate of inflation largely because of efficiency gains in production resulting from technological improvements and consolidation in the sector.



Table 29. Per capita meat consumption, retail weight

Item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<i>Pounds</i>												
Total beef	59.6	57.5	54.1	51.3	51.7	54.4	56.2	57.8	58.8	59.1	58.9	58.7
Total veal	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Total pork	47.7	45.8	46.2	46.3	46.3	46.7	46.9	47.1	47.1	47.0	47.1	47.2
Lamb and mutton	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Total red meat	108.7	104.7	101.6	98.9	99.3	102.3	104.3	106.1	107.1	107.3	107.2	107.1
Broilers	82.3	83.1	80.3	80.6	81.8	83.5	84.6	85.3	86.0	86.3	86.7	87.2
Other chicken	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Turkeys	16.4	16.2	16.4	16.6	17.0	17.2	17.2	17.2	17.1	17.1	17.2	17.3
Total poultry	100.0	100.8	98.0	98.5	100.2	102.0	103.1	103.9	104.5	104.8	105.2	105.8
Red meat & poultry	208.7	205.5	199.6	197.4	199.5	204.4	207.5	210.0	211.6	212.1	212.4	212.8

Table 30. Beef long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning stocks	Mil. lbs.	565	585	515	520	520	520	520	520	520	520	520	520
Commercial production	Mil. lbs.	26,304	26,277	24,960	23,463	23,478	24,854	25,936	26,940	27,626	28,002	28,133	28,262
Change from previous year	Percent	1.3	-0.1	-5.0	-6.0	0.1	5.9	4.4	3.9	2.5	1.4	0.5	0.5
Farm production	Mil. lbs.	110	110	110	110	110	110	110	110	110	110	110	110
Total production	Mil. lbs.	26,414	26,387	25,070	23,573	23,588	24,964	26,046	27,050	27,736	28,112	28,243	28,372
Imports	Mil. lbs.	2,297	2,029	2,090	2,450	2,850	2,966	3,009	3,064	3,125	3,189	3,252	3,316
Total supply	Mil. lbs.	29,276	29,001	27,675	26,543	26,958	28,450	29,575	30,634	31,381	31,821	32,015	32,208
Exports	Mil. lbs.	2,299	2,765	2,775	2,700	2,725	2,783	2,851	2,913	2,973	3,033	3,095	3,156
Ending stocks	Mil. lbs.	585	515	520	520	520	520	520	520	520	520	520	520
Total consumption	Mil. lbs.	26,392	25,721	24,380	23,323	23,713	25,147	26,204	27,201	27,888	28,268	28,400	28,532
Per capita, carcass weight	Pounds	85.1	82.2	77.2	73.2	73.8	77.7	80.3	82.6	84.0	84.5	84.2	83.9
Per capita, retail weight	Pounds	59.6	57.5	54.1	51.3	51.7	54.4	56.2	57.8	58.8	59.1	58.9	58.7
Change from previous year	Percent	-2.5	-3.4	-6.0	-5.2	0.8	5.2	3.3	3.0	1.7	0.5	-0.3	-0.3
Prices:													
Beef cattle, farm	\$/cwt	91.97	111.70	119.35	119.68	118.92	111.51	109.79	109.07	111.70	114.11	117.31	119.34
Calves, farm	\$/cwt	120.75	141.19	151.63	164.71	154.46	141.32	135.64	142.62	151.10	151.27	152.11	154.79
Steers, 5-area	\$/cwt	95.38	113.98	121.75	122.09	121.31	113.76	112.00	111.27	113.96	116.41	119.67	121.74
Yearling steers, Oklahoma City	\$/cwt	109.31	132.28	142.00	154.25	144.65	132.34	127.03	133.56	141.50	141.67	142.45	144.96
Costs and returns, cow-calf enterprise:													
Total cash expenses	\$/cow	474.19	517.29	582.34	542.24	538.85	550.35	563.93	574.89	584.88	597.50	610.77	623.36
Returns above cash costs	\$/cow	96.11	182.78	178.92	286.72	253.26	185.01	152.46	186.48	231.41	232.67	237.72	252.98
Cattle inventory	1,000 head	93,881	92,582	91,000	90,400	92,079	94,038	94,802	95,357	96,335	96,654	96,949	97,025
Beef cow inventory	1,000 head	31,371	30,865	30,235	30,350	31,106	32,417	33,012	33,427	34,050	34,148	34,312	34,445
Total cow inventory	1,000 head	40,456	40,014	39,450	39,400	40,126	41,413	41,977	42,367	42,966	43,044	43,193	43,312

Table 31. Pork long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning stocks	Mil. lbs.	525	541	580	590	590	590	590	590	590	590	590	590
Commercial production	Mil. lbs.	22,437	22,659	23,055	23,350	23,550	23,930	24,263	24,575	24,815	25,054	25,330	25,633
Change from previous year	Percent	-2.4	1.0	1.7	1.3	0.9	1.6	1.4	1.3	1.0	1.0	1.1	1.2
Farm production	Mil. lbs.	19	19	19	19	19	19	19	19	19	19	19	19
Total production	Mil. lbs.	22,456	22,678	23,074	23,369	23,569	23,949	24,282	24,594	24,834	25,073	25,349	25,652
Imports	Mil. lbs.	859	826	815	825	900	950	980	1,010	1,040	1,060	1,085	1,110
Total supply	Mil. lbs.	23,840	24,045	24,469	24,784	25,059	25,489	25,852	26,194	26,464	26,723	27,024	27,352
Exports	Mil. lbs.	4,224	4,976	5,090	5,190	5,295	5,400	5,510	5,620	5,730	5,850	5,965	6,085
Ending stocks	Mil. lbs.	541	580	590	590	590	590	590	590	590	590	590	590
Total consumption	Mil. lbs.	19,075	18,489	18,789	19,004	19,174	19,499	19,752	19,984	20,144	20,283	20,469	20,677
Per capita, carcass w eight	Pounds	61.5	59.1	59.5	59.7	59.7	60.2	60.5	60.7	60.7	60.6	60.7	60.8
Per capita, retail w eight	Pounds	47.7	45.8	46.2	46.3	46.3	46.7	46.9	47.1	47.1	47.0	47.1	47.2
Change from previous year	Percent	-4.8	-4.0	0.7	0.3	0.0	0.8	0.5	0.3	0.0	-0.1	0.1	0.2
Prices:													
Hogs, farm	\$/cwt	55.04	66.67	65.70	66.81	67.91	64.24	63.85	63.79	64.66	66.04	67.91	68.66
National base, live equivalent	\$/cwt	55.06	66.20	65.25	66.28	67.37	63.74	63.34	63.29	64.15	65.52	67.37	68.12
Costs and returns, farrow to finish:													
Total cash expenses	\$/cwt	56.35	67.00	72.21	63.10	62.11	64.63	65.45	66.34	66.97	67.62	68.97	69.96
Returns above cash costs	\$/cwt	2.07	3.24	-2.98	7.22	9.38	2.99	1.75	0.81	1.10	1.90	2.51	2.31
Hog inventory,													
December 1, previous year	1,000 head	64,887	64,925	65,850	66,647	67,187	68,214	69,112	69,956	70,602	71,247	71,992	72,812

Table 32. Young chicken long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning stocks	Mil. lbs.	616	773	650	650	650	650	650	650	650	650	650	650
Federally inspected slaughter	Mil. lbs.	36,911	37,318	36,700	37,105	37,906	38,874	39,603	40,226	40,834	41,275	41,774	42,317
Change from previous year	Percent	3.9	1.1	-1.7	1.1	2.2	2.6	1.9	1.6	1.5	1.1	1.2	1.3
Production	Mil. lbs.	36,516	36,919	36,307	36,708	37,501	38,458	39,180	39,795	40,397	40,834	41,327	41,864
Total supply	Mil. lbs.	37,239	37,796	37,061	37,464	38,257	39,216	39,939	40,556	41,158	41,596	42,090	42,628
Change from previous year	Percent	3.5	1.5	-1.9	1.1	2.1	2.5	1.8	1.5	1.5	1.1	1.2	1.3
Exports	Mil. lbs.	6,765	6,864	6,900	6,955	7,015	7,076	7,137	7,197	7,258	7,329	7,399	7,470
Ending stocks	Mil. lbs.	773	650	650	650	650	650	650	650	650	650	650	650
Consumption	Mil. lbs.	29,701	30,282	29,511	29,859	30,592	31,490	32,152	32,709	33,250	33,617	34,041	34,508
Per capita, carcass w eight	Pounds	95.8	96.8	93.5	93.8	95.3	97.2	98.5	99.3	100.2	100.5	100.9	101.5
Per capita, retail w eight	Pounds	82.3	83.1	80.3	80.6	81.8	83.5	84.6	85.3	86.0	86.3	86.7	87.2
Change from previous year	Percent	3.2	1.0	-3.4	0.3	1.6	2.1	1.3	0.9	0.8	0.3	0.4	0.6
Prices:													
Broilers, farm	Cents/lb.	49.3	46.5	48.7	51.0	52.7	52.9	54.7	56.2	57.4	58.6	60.3	61.1
12-city market price	Cents/lb.	82.9	78.6	82.3	86.4	89.4	89.7	92.7	95.3	97.2	99.3	102.3	103.6
Costs and returns:													
Total costs	Cents/lb.	77.50	86.62	92.35	85.61	84.32	85.36	86.97	88.66	90.21	91.78	94.28	95.68
Net returns	Cents/lb.	5.40	-8.02	-10.05	0.84	5.08	4.31	5.68	6.67	7.00	7.56	7.98	7.92

Table 33. Turkey long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning stocks	Mil. lbs.	262	192	215	210	210	210	210	210	210	210	210	210
Federally inspected slaughter	Mil. lbs.	5,643	5,806	5,845	5,981	6,162	6,259	6,323	6,367	6,407	6,458	6,527	6,604
Change from previous year	Percent	-0.4	2.9	0.7	2.3	3.0	1.6	1.0	0.7	0.6	0.8	1.1	1.2
Production	Mil. lbs.	5,569	5,730	5,768	5,904	6,081	6,177	6,241	6,284	6,324	6,374	6,442	6,518
Total supply	Mil. lbs.	5,856	5,943	6,003	6,136	6,314	6,410	6,474	6,517	6,557	6,608	6,675	6,752
Change from previous year	Percent	-2.4	1.5	1.0	2.2	2.9	1.5	1.0	0.7	0.6	0.8	1.0	1.2
Exports	Mil. lbs.	582	656	620	629	635	640	646	651	657	663	669	676
Ending stocks	Mil. lbs.	192	215	210	210	210	210	210	210	210	210	210	210
Consumption	Mil. lbs.	5,082	5,072	5,173	5,296	5,469	5,560	5,618	5,656	5,691	5,735	5,796	5,866
Per capita	Pounds	16.4	16.2	16.4	16.6	17.0	17.2	17.2	17.2	17.1	17.1	17.2	17.3
Change from previous year	Percent	-3.1	-1.1	1.1	1.5	2.4	0.8	0.2	-0.2	-0.2	0.0	0.3	0.4
Prices:													
Turkey, farm	Cents/lb.	61.2	68.0	66.2	67.8	67.7	62.5	60.8	60.0	60.1	61.2	63.2	64.3
Hen turkeys, National	Cents/lb.	90.4	101.6	99.0	101.3	101.3	93.4	91.0	89.7	89.9	91.5	94.5	96.1
Costs and returns:													
Total costs	Cents/lb.	74.94	84.73	91.20	82.00	77.83	79.86	80.89	81.95	82.79	83.63	84.90	86.06
Net returns	Cents/lb.	15.46	16.87	7.80	19.34	23.43	13.54	10.09	7.72	7.08	7.84	9.57	10.05

Table 34. Egg long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Beginning stocks	Mil. doz.	18	19	22	22	20	20	20	20	20	20	20	20
Production	Mil. doz.	7,622	7,643	7,630	7,607	7,607	7,645	7,706	7,768	7,838	7,908	7,980	8,043
Change from previous year	Percent	1.0	0.3	-0.2	-0.3	0.0	0.5	0.8	0.8	0.9	0.9	0.9	0.8
Imports	Mil. doz.	12	23	24	24	24	24	24	24	24	24	24	24
Total supply	Mil. doz.	7,652	7,686	7,676	7,653	7,651	7,689	7,750	7,812	7,882	7,952	8,024	8,087
Change from previous year	Percent	1.0	0.4	-0.1	-0.3	0.0	0.5	0.8	0.8	0.9	0.9	0.9	0.8
Hatching use	Mil. doz.	983	946	925	926	939	955	969	981	992	1,001	1,009	1,018
Exports	Mil. doz.	258	279	250	253	256	259	262	265	268	271	274	277
Ending stocks	Mil. doz.	19	22	22	20	20	20	20	20	20	20	20	20
Consumption	Mil. doz.	6,391	6,439	6,479	6,454	6,436	6,455	6,499	6,546	6,602	6,661	6,721	6,772
Per capita	Number	247.3	246.9	246.3	243.2	240.5	239.2	238.8	238.6	238.7	238.9	239.1	239.0
Change from previous year	Percent	-0.3	-0.2	-0.2	-1.2	-1.1	-0.5	-0.2	-0.1	0.0	0.1	0.1	0.0
Prices:													
Eggs, farm	Cents/doz.	85.7	96.0	88.4	97.1	102.1	107.1	109.6	111.2	112.9	114.5	116.2	118.3
New York, Grade A large	Cents/doz.	106.3	114.5	105.5	117.0	123.0	129.0	132.0	134.0	136.0	138.0	140.0	142.5
Costs and returns:													
Total costs	Cents/doz.	109.16	136.38	154.75	129.45	119.35	123.06	125.25	127.55	129.30	131.08	134.36	136.84
Net returns	Cents/doz.	-2.86	-21.88	-49.25	-12.45	3.65	5.94	6.75	6.45	6.70	6.92	5.64	5.66

Table 35. Dairy long-term projections

Item	Units	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Milk production and marketings:													
Number of cows	1,000	9,117	9,195	9,185	9,125	9,095	9,070	9,040	9,015	8,990	8,970	8,955	8,940
Milk per cow	Pounds	21,149	21,305	21,600	21,975	22,595	23,070	23,530	23,880	24,285	24,685	25,130	25,420
Milk production	Bil. lbs.	192.8	195.9	198.4	200.5	205.5	209.2	212.7	215.3	218.3	221.4	225.0	227.3
Farm use	Bil. lbs.	1.0	1.0	1.0	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6
Marketings	Bil. lbs.	191.8	195.0	197.5	199.7	204.7	208.4	211.9	214.6	217.6	220.7	224.4	226.7
Supply and use, milkfat basis:													
Beginning commercial stocks	Bil. lbs.	11.3	10.9	11.2	11.5	10.8	10.5	10.3	10.2	10.1	10.0	9.9	9.9
Marketings	Bil. lbs.	191.8	195.0	197.5	199.7	204.7	208.4	211.9	214.6	217.6	220.7	224.4	226.7
Imports	Bil. lbs.	4.1	3.2	3.2	3.1	3.0	3.0	3.1	3.2	3.3	3.4	3.6	3.7
Commercial supply	Bil. lbs.	207.2	209.1	211.9	214.3	218.5	221.9	225.3	228.0	231.0	234.1	237.9	240.3
Domestic commercial use <sup>1</sup>	Bil. lbs.	187.8	188.6	191.8	193.5	196.4	199.1	202.0	204.1	206.5	209.0	212.2	214.2
Commercial exports	Bil. lbs.	8.3	9.2	8.6	10.0	11.6	12.5	13.1	13.8	14.5	15.2	15.8	16.2
Ending commercial stocks	Bil. lbs.	10.9	11.2	11.5	10.8	10.5	10.3	10.2	10.1	10.0	9.9	9.9	9.9
Total utilization	Bil. lbs.	207.0	209.1	211.9	214.3	218.5	221.9	225.3	228.0	231.0	234.1	237.9	240.3
CCC net removals <sup>2</sup>	Bil. lbs.	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Supply and use, skim solids basis:													
Beginning commercial stocks	Bil. lbs.	11.3	12.3	12.0	12.1	11.9	11.9	11.9	11.8	11.8	11.7	11.7	11.7
Marketings	Bil. lbs.	191.8	195.0	197.5	199.7	204.7	208.4	211.9	214.6	217.6	220.7	224.4	226.7
Imports	Bil. lbs.	4.8	5.3	5.1	5.1	5.1	5.1	5.2	5.2	5.3	5.4	5.5	5.6
Commercial supply	Bil. lbs.	208.0	212.6	214.6	216.9	221.7	225.4	229.0	231.6	234.7	237.8	241.6	244.0
Domestic commercial use <sup>1</sup>	Bil. lbs.	164.0	167.4	170.6	172.2	174.7	177.0	179.4	180.8	182.5	184.0	186.1	187.0
Commercial exports	Bil. lbs.	32.1	33.1	31.9	32.8	35.1	36.5	37.8	39.0	40.5	42.1	43.8	45.3
Ending commercial stocks	Bil. lbs.	12.3	12.0	12.1	11.9	11.9	11.9	11.8	11.8	11.7	11.7	11.7	11.7
Total utilization	Bil. lbs.	208.4	212.6	214.6	216.9	221.7	225.4	229.0	231.6	234.7	237.8	241.6	244.0
CCC net removals <sup>2</sup>	Bil. lbs.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prices:													
All milk	\$/cwt	16.26	20.15	18.50	18.85	18.95	19.05	19.50	19.90	20.40	20.85	21.25	21.75
Cheese	\$/lb.	1.52	1.82	1.73	1.82	1.85	1.87	1.91	1.95	1.99	2.03	2.06	2.10
Butter	\$/lb.	1.70	1.97	1.68	1.63	1.62	1.63	1.67	1.70	1.74	1.77	1.82	1.88
Nonfat dry milk	\$/lb.	1.17	1.51	1.39	1.41	1.38	1.40	1.45	1.50	1.53	1.56	1.60	1.64
Dry whey	\$/lb.	0.37	0.53	0.50	0.47	0.46	0.45	0.44	0.45	0.46	0.47	0.48	0.50

Dairy projections were completed in November 2011.

CCC is the Commodity Credit Corporation, U.S. Department of Agriculture.

Totals may not add due to rounding.

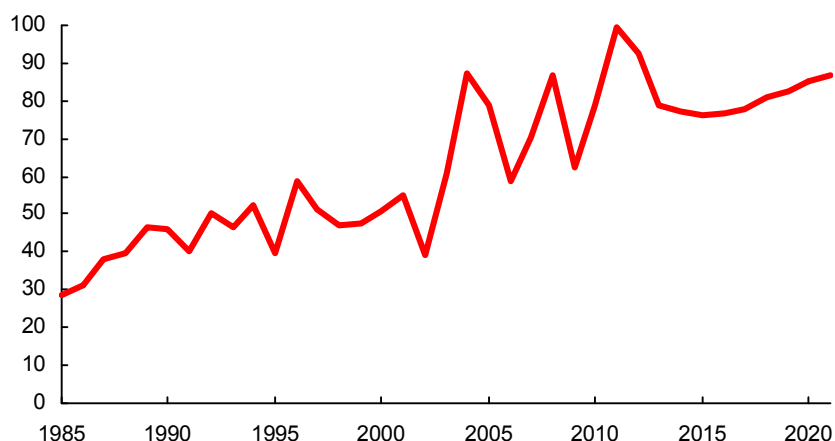
1/ Domestic commercial use for 2010 is adjusted for the Barter Program. 2/ Includes products exported under the Dairy Export Incentive Program.

## U.S. Agricultural Sector Aggregate Indicators Farm Income, U.S. Trade Value, Food Prices, and Food Expenditures

High commodity prices led to record values of U.S. agricultural exports and U.S. net farm income in 2011. Grain, oilseed, and cotton prices along with export value and farm income are initially projected to decline in 2012-13. However, a return to steady domestic and international economic growth supports longer term demand for U.S. agricultural products over the next decade. In addition, rising global demand for agricultural commodities for the production of biofuels continues. Thus, following the near-term declines, the values of U.S. agricultural exports and net farm income each remain historically high. After rising faster than the overall rate of inflation in 2011 and 2012, U.S. retail food price increases average somewhat less than the general inflation rate over the rest of the projection period, largely reflecting production increases in the livestock sector which limit consumer meat price increases.

### U.S. net farm income

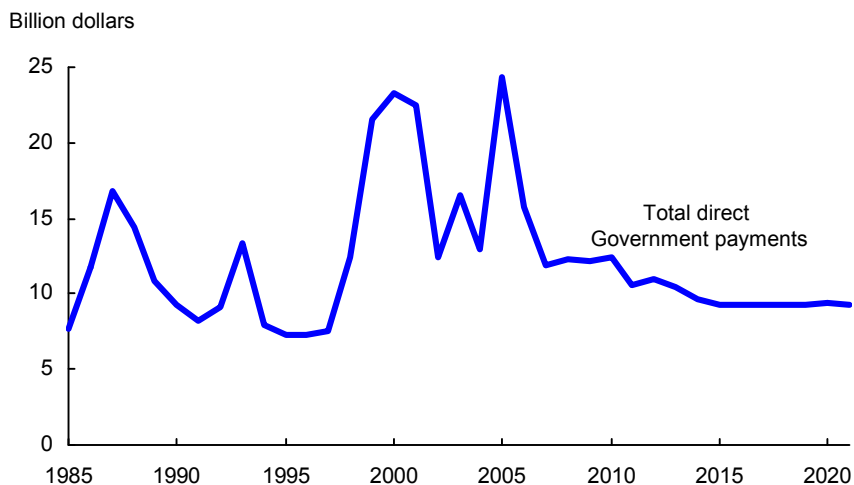
Billion dollars



Net farm income rose to record levels in 2011, largely reflecting the 2010-11 runup in prices for many agricultural commodities. While income declines in 2012 to 2015, it grows through the remainder of the projection period and stays well above the average of the previous decade (2001 to 2010).

- Strengthening global food demand and sustained biofuel demand are major factors underlying projections of rising cash receipts after 2014.
- Lower Government payments and rising farm production expenses offset some of the gains in cash receipts and other sources of farm income.

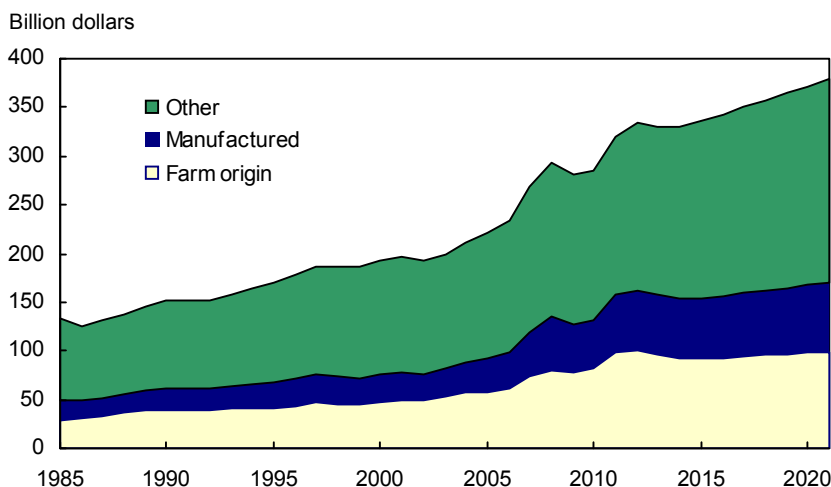
## Direct Government payments



Direct Government payments to farmers average about \$9.6 billion over the next decade. Price-dependent marketing loan and counter-cyclical program benefits have become less important. Ad hoc and emergency payments are projected to fall from recent levels, in part because the supplemental agricultural disaster assistance programs authorized under the 2008 Farm Act only cover qualifying losses that occurred on or before September 30, 2011. About 80 percent of direct Government payments are accounted for by the Conservation Reserve Program (CRP) and fixed direct payments during the latter part of the projection period.

- Improving domestic and international demand keeps crop prices above levels that would result in marketing loan benefits or counter-cyclical payments, so projected benefits for these programs are negligible over the next decade. Similarly, with relatively low enrollment and projected long-run stability in commodity prices, projections of payments under the Average Crop Revenue Election (ACRE) program average less than \$100 million annually over 2012-21.
- High crop prices have made arable land more valuable, so rental rates for land in the CRP have risen. Even with reduced CRP acreage enrollment due to the 2008 Farm Act's lowering of the maximum acreage permitted in the program to 32 million acres, CRP payments rise from about \$1.8 billion in 2010 to \$2.5 billion in 2021.
- With high prices, Government payments have a smaller role in the agricultural sector's income. Government payments, which represented more than 8 percent of gross cash income in 2005, fall to a 2 to 3 percent range in the projection period. Conversely, the sector relies on the market for more of its income.

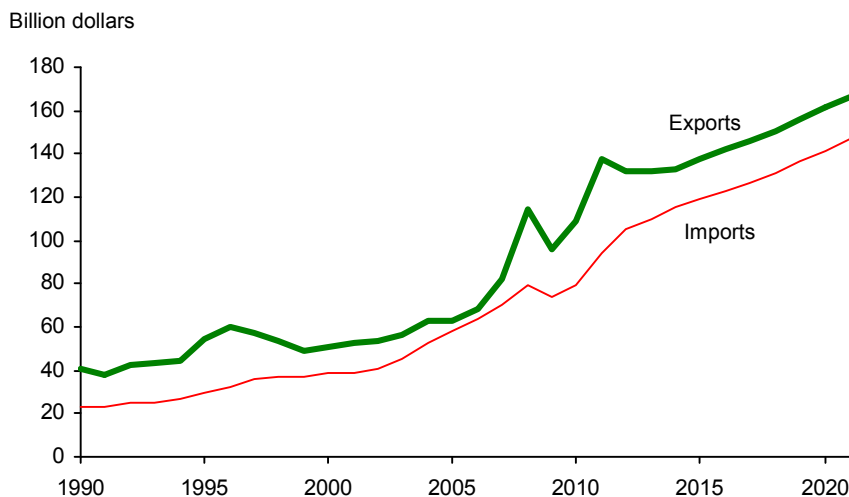
### U.S. farm production expenses



Total farm production expenses are projected to rise less rapidly than the overall rate of inflation in 2012-21. While interest expenses and some energy-related costs rise faster than the general inflation rate, expenses for farm-origin inputs (seed, feed, and livestock) are up less than the general inflation rate. Other nonfarm-origin expenses increase at near the overall rate of inflation.

- Interest costs rise faster than the general inflation rate over the projection period, due to increasing debt level as well as rising interest rates from the low rates of recent years.
- Production expenses for fuel and oil also rise faster than the general inflation rate, largely reflecting increases in crude oil prices. Lower planted acreage after 2012 initially limits fertilizer expenses, but these costs rise faster than inflation later in the projection period.

## U.S. agricultural trade value

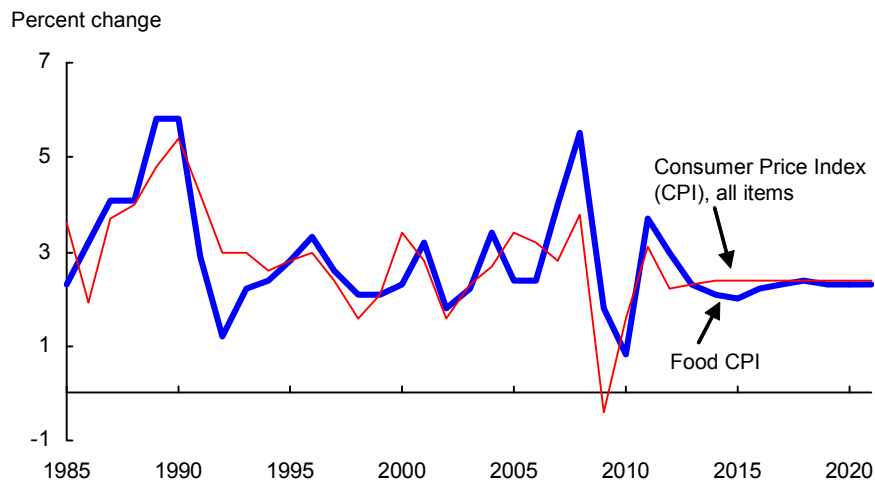


The value of U.S. agricultural exports initially falls from the record level of fiscal year 2011 as prices for major field crops decline from recent highs. Agricultural exports then rise through the remainder of the projections because of increased global economic growth, strengthening agricultural demand, and a weaker U.S. dollar. Domestic economic growth boosts demand for U.S. agricultural imports. (Fiscal years are October 1 through September 30 and are named after the second calendar year that they span. For example, fiscal year 2011 runs from October 1, 2010 through September 30, 2011.)

- The value of U.S. agricultural exports exceeded \$137 billion in 2011, a new record that largely reflected high commodity prices. With declining prices projected for major crops over the next two years, export values initially fall. Agricultural export values are then projected to grow over the rest of the decade and surpass the 2011 record. A resumption of world economic growth, particularly in developing countries, provides a foundation for increases in global food demand, trade, and U.S. agricultural exports. Continued global biofuel demand also contributes to strong commodity prices and gains in export values. Furthermore, the continuing depreciation of the U.S. dollar remains an important factor underlying projected gains in U.S. exports.
- The share of U.S. agricultural exports represented by high-value products (HVP) fell in 2011, as high commodity prices boosted bulk commodity export values. However, HVP exports grow in importance during the projection period, reaching about two-thirds of the value of U.S. exports. Much of the growth in HVP exports is for animal products and horticultural products.
- U.S. agricultural import values rise throughout the projection period and reach almost \$147 billion in 2021. These increases are boosted by gains in U.S. consumer incomes and demand for a large variety of foods. Strong growth in horticultural imports is assumed to continue, contributing close to half of the overall increase in agricultural imports in the projection period.
- The agricultural trade balance declines for several years from the record surplus of almost \$43 billion in 2011, falling below \$18 billion in 2014. The surplus then grows to reach about \$20 billion at the end of the projection period.



### U.S. food inflation



U.S. retail food price increases exceeded the general inflation rate in 2011, reflecting higher food commodity prices and energy costs combined with stronger post-recessionary food demand. Food price inflation for 2012 is expected to abate from the 2011 rate as many of the inflationary pressures that pushed consumer food prices up in 2011 are not expected to intensify.

- Over the remainder of the projection period, consumer food price increases average less than the general inflation rate. This moderation largely reflects livestock production increases which facilitate gains in per capita meat consumption and limit retail meat price increases.
- Retail prices for highly processed foods, such as cereals and bakery products and fats and oils, tend to reflect processing and marketing costs, thus keeping their increases near the general rate of inflation.
- Retail prices for food away from home largely reflect the overall rate of inflation. As the economy rebounds, income gains will support growth in food consumption away from home. Nonetheless, competition in the fast-food and foodservice industries tends to moderate away-from-home price increases.
- Food expenditures for meals away from home are projected to rise faster than expenditures for food at home, thus accounting for a growing share of total food spending.

Table 36. Farm receipts, expenses, and income, long-term projections

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	<i>Billion dollars</i>											
Cash receipts:												
Crops	172.9	198.1	201.0	187.9	182.6	186.5	190.0	193.2	196.3	199.7	203.2	206.2
Livestock and products	141.4	165.7	164.9	166.2	166.7	165.9	169.2	173.9	180.3	184.9	189.7	193.8
All commodities	314.4	363.8	365.9	354.1	349.3	352.4	359.3	367.1	376.5	384.6	392.9	400.0
Farm-related income	18.3	21.9	19.4	20.4	20.7	21.0	21.2	21.6	21.8	22.2	22.5	22.8
Government payments	12.4	10.6	11.0	10.5	9.7	9.2	9.2	9.2	9.3	9.3	9.4	9.3
Gross cash income	345.0	396.3	396.2	385.0	379.6	382.6	389.6	397.8	407.6	416.0	424.8	432.1
Cash expenses	252.7	286.0	299.2	293.7	293.3	297.5	303.3	310.2	316.8	323.0	328.9	334.9
Net cash income	92.3	110.3	97.0	91.4	86.3	85.0	86.4	87.6	90.9	93.0	95.9	97.2
Value of inventory change	-2.0	0.0	6.1	-1.0	2.6	3.3	2.1	1.8	2.1	1.7	1.4	1.4
Non-money income	21.6	23.2	24.7	24.8	25.6	26.3	27.2	28.1	28.9	29.8	30.7	31.7
Gross farm income	364.7	419.5	427.0	408.9	407.8	412.1	418.9	427.7	438.6	447.6	456.9	465.2
Noncash expenses	21.0	21.7	22.5	23.4	24.3	25.0	25.7	26.4	27.2	28.0	28.7	29.5
Operator dwelling expenses	11.9	12.2	12.6	12.8	13.1	13.2	13.3	13.5	13.6	13.8	13.9	14.1
Total production expenses	285.6	319.9	334.2	329.8	330.6	335.7	342.3	350.1	357.6	364.7	371.5	378.5
Net farm income	79.1	99.7	92.8	79.0	77.2	76.4	76.6	77.6	81.0	82.8	85.4	86.7

The projections were completed in December 2011.

Table 37. Summary of U.S. agricultural trade long-term projections, fiscal years

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	<i>Billion dollars</i>											
<b>Agricultural exports (value):</b>												
Livestock, dairy, and poultry	21.5	27.3	28.0	28.5	29.7	29.8	30.7	31.6	33.1	34.9	36.9	38.7
Livestock, poultry, and products	18.2	22.8	24.0	24.3	25.1	25.0	25.5	26.1	27.3	28.7	30.3	31.8
Dairy products	3.4	4.5	4.0	4.1	4.6	4.9	5.2	5.5	5.8	6.2	6.6	7.0
Grains and feeds	27.2	37.9	35.4	34.9	33.4	35.1	36.5	37.4	38.3	39.6	40.7	41.5
Coarse grains	9.8	14.0	14.2	12.7	11.5	12.5	13.2	13.7	14.0	14.4	14.7	15.0
Oilseeds and products	25.3	29.2	26.0	24.8	24.5	25.4	26.0	26.4	26.9	27.4	28.1	28.6
Soybeans and products	22.0	25.4	22.6	20.9	20.6	21.4	22.0	22.3	22.6	23.0	23.5	23.8
Horticultural products	22.6	25.9	28.0	29.0	30.1	31.2	32.3	33.5	34.7	36.0	37.3	38.7
Fruits and vegetables, fresh	5.9	6.6	6.9	7.1	7.4	7.6	7.9	8.2	8.4	8.7	9.0	9.3
Fruits and vegetables, processed	5.6	6.3	6.7	6.9	7.1	7.3	7.6	7.8	8.0	8.3	8.5	8.8
Cotton	4.8	8.9	6.0	6.3	6.3	6.5	6.7	6.8	6.8	6.9	6.9	7.0
Other exports	7.0	8.0	8.7	8.5	8.9	9.4	9.8	10.2	10.7	11.1	11.5	12.0
<b>Total agricultural exports</b>	<b>108.6</b>	<b>137.4</b>	<b>132.0</b>	<b>131.9</b>	<b>132.8</b>	<b>137.4</b>	<b>141.9</b>	<b>145.9</b>	<b>150.6</b>	<b>155.9</b>	<b>161.4</b>	<b>166.6</b>
Bulk commodity exports	40.8	57.9	50.1	48.8	47.1	49.2	50.7	51.5	52.2	53.3	54.2	55.0
High-value product exports	67.7	79.5	81.9	83.1	85.8	88.2	91.2	94.5	98.4	102.7	107.2	111.5
High-value product share	62.4%	57.9%	62.0%	63.0%	64.6%	64.2%	64.3%	64.7%	65.3%	65.8%	66.4%	67.0%
	<i>Million metric tons</i>											
<b>Agricultural exports (volume):</b>												
Bulk commodity exports	128.4	131.1	111.5	123.2	128.4	133.0	136.2	137.3	139.0	141.0	142.5	143.7
	<i>Billion dollars</i>											
<b>Agricultural imports (value):</b>												
Livestock, dairy, and poultry	10.8	11.8	12.5	13.7	14.9	14.9	15.0	15.2	15.7	16.2	16.8	17.3
Livestock and meats	7.9	8.6	9.1	10.1	11.3	11.2	11.2	11.3	11.6	12.0	12.5	12.9
Dairy products	2.4	2.7	2.8	2.9	2.9	2.9	3.1	3.1	3.2	3.4	3.5	3.6
Grains and feeds	7.5	8.4	9.0	9.2	9.7	10.1	10.6	11.0	11.5	12.0	12.6	13.1
Grain products	4.9	5.4	5.8	6.1	6.4	6.7	7.0	7.4	7.8	8.2	8.6	9.0
Oilseeds and products	5.3	7.7	9.3	9.5	10.1	10.6	11.2	11.8	12.4	13.1	13.8	14.5
Vegetable oils	3.8	5.6	6.7	7.1	7.5	7.9	8.3	8.8	9.2	9.7	10.3	10.8
Horticultural products	35.6	39.4	43.3	45.2	47.2	49.2	51.4	53.6	56.0	58.5	61.0	63.7
Fruits and vegetables, fresh	12.0	12.8	13.5	14.1	14.7	15.4	16.1	16.8	17.6	18.4	19.2	20.1
Fruits and vegetables, processed	6.8	8.2	9.6	10.0	10.5	11.0	11.5	12.0	12.5	13.1	13.7	14.3
Wine and beer	7.7	8.3	9.1	9.5	9.8	10.2	10.7	11.1	11.5	12.0	12.5	13.0
Sugar and tropical products	18.3	25.6	29.6	30.1	31.7	32.5	32.5	32.9	33.9	34.7	35.2	36.1
Sugar and related products	4.1	5.1	6.0	5.9	6.9	7.1	6.4	6.2	6.5	6.6	6.5	6.6
Cocoa, coffee, and products	8.6	12.0	13.3	13.6	14.0	14.3	14.7	15.0	15.4	15.8	16.2	16.6
Other imports	1.5	1.6	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.0
<b>Total agricultural imports</b>	<b>79.0</b>	<b>94.5</b>	<b>105.5</b>	<b>109.5</b>	<b>115.4</b>	<b>119.2</b>	<b>122.6</b>	<b>126.4</b>	<b>131.4</b>	<b>136.3</b>	<b>141.3</b>	<b>146.7</b>
<b>Net agricultural trade balance</b>	<b>29.6</b>	<b>42.9</b>	<b>26.5</b>	<b>22.4</b>	<b>17.4</b>	<b>18.2</b>	<b>19.4</b>	<b>19.5</b>	<b>19.3</b>	<b>19.6</b>	<b>20.1</b>	<b>19.9</b>

Sources: U.S. Department of Agriculture and Bureau of Census, U.S. Department of Commerce.

U.S. trade value projections were completed in November 2011. For updates of the nearby year forecasts, see USDA's *Outlook for U.S. Agricultural Trade* report, published in February, May, August, and November.

Notes: Other exports includes tobacco, seeds, sugar and tropical products, and beverages. Bulk commodity exports covers wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value product (HVP) exports is calculated as total exports less bulk commodities. HVP's include semiprocessed and processed grains and oilseeds, animals and animal products, horticultural products, and sugar and tropical products. Other imports include cotton, tobacco, and planting seeds.

Table 38. Prices received by farmers, selected food commodities, long-term projections

CPI category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Price indexes:	<i>1990-92=100</i>											
Food commodities <sup>1</sup>	140.0	168.0	162.6	163.4	164.5	161.4	162.0	163.3	166.3	169.0	172.1	174.6
Food grains	177.0	237.0	198.4	190.9	192.0	193.9	195.8	196.3	198.2	198.8	198.3	198.8
Oil-bearing crops	172.0	223.0	194.7	182.3	186.7	189.4	191.1	192.9	194.7	197.3	199.1	200.9
Fruit and nuts	148.0	158.0	160.0	162.3	164.6	166.9	169.2	171.6	174.1	176.5	179.0	181.5
Vegetables <sup>2</sup>	156.7	172.7	170.5	172.0	173.4	174.9	176.4	177.9	179.4	180.9	182.4	183.9
Meat animals	123.0	151.0	159.6	161.5	160.2	150.0	147.6	147.5	151.3	154.2	158.3	160.9
Dairy products	124.0	154.0	141.4	144.1	144.8	145.6	149.0	152.1	155.9	159.3	162.4	166.2
Poultry and eggs	152.0	152.0	149.6	158.9	164.4	165.8	169.2	172.0	174.8	177.9	182.2	185.0
Changes in price indexes:	<i>Percent</i>											
Food commodities <sup>1</sup>	9.4	20.0	-3.2	0.5	0.6	-1.9	0.4	0.8	1.9	1.6	1.8	1.5
Food grains	-4.8	33.9	-16.3	-3.8	0.5	1.0	1.0	0.3	1.0	0.3	-0.2	0.3
Oil-bearing crops	-2.8	29.7	-12.7	-6.4	2.4	1.4	0.9	0.9	0.9	1.4	0.9	0.9
Fruit and nuts	10.4	6.8	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Vegetables <sup>2</sup>	-1.0	10.2	-1.3	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
Meat animals	16.0	22.8	5.7	1.2	-0.8	-6.3	-1.6	-0.1	2.6	2.0	2.6	1.6
Dairy products	26.5	24.2	-8.2	1.9	0.5	0.5	2.4	2.1	2.5	2.2	1.9	2.4
Poultry and eggs	9.4	0.0	-1.6	6.2	3.4	0.8	2.1	1.7	1.6	1.8	2.4	1.6

1/ The aggregate price index for food commodities is a weighted average using NASS relative weights, which are based on average shares of farm cash receipts from 1990 to 1992. 2/ The price index for vegetables is a weighted average of the index for commercial vegetables and the index for potatoes and dry beans.

Sources: USDA, National Agricultural Statistics Service (NASS), *Agricultural Prices*; Economic Research Service.

Table 39. Consumer food price indexes and food expenditures, long-term projections

CPI category	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Consumer price indexes												
	<i>1982-84=100</i>											
All food	219.625	227.842	234.6	240.1	245.2	250.1	255.6	261.4	267.6	273.8	280.2	286.7
Food away from home	226.114	231.401	237.2	242.7	248.3	253.8	259.6	265.8	272.2	278.7	285.4	292.2
Food at home	215.836	226.201	233.5	239.0	243.9	248.4	253.8	259.4	265.5	271.6	277.8	284.2
Meats	206.232	224.439	233.4	237.5	239.6	239.9	242.9	246.4	251.9	257.4	263.0	268.9
Beef and veal	224.511	247.377	258.5	262.4	263.1	261.1	263.6	266.9	273.5	279.5	285.6	292.0
Pork	189.957	206.053	213.3	218.0	221.6	223.8	227.2	231.0	235.7	241.1	246.8	252.7
Other meats	194.787	207.310	213.4	217.2	220.7	223.9	227.5	231.2	235.2	239.4	243.8	248.3
Poultry	203.978	209.916	217.0	224.6	229.2	234.6	241.6	248.3	253.9	259.7	265.6	271.5
Fish and seafood	243.229	260.493	272.2	281.7	290.2	298.3	306.7	315.3	324.1	333.2	342.5	352.1
Eggs	192.833	210.492	213.7	220.0	226.5	233.2	239.0	243.0	247.0	251.0	255.0	259.0
Dairy products	199.245	212.745	218.0	223.0	227.0	231.0	236.5	242.0	248.0	253.5	259.0	265.0
Fats and oils	200.587	219.163	225.7	231.8	237.6	243.3	249.4	255.6	262.1	268.5	275.0	281.8
Fruits and vegetables	273.458	284.662	292.4	299.1	305.8	312.3	318.9	325.7	332.5	339.5	346.5	353.8
Sugar and sweets	201.242	207.832	213.0	217.5	222.2	227.1	232.1	237.2	242.4	247.7	253.1	258.6
Cereals and bakery products	250.449	260.311	270.8	277.5	284.4	291.5	298.7	306.1	313.6	321.1	328.8	336.7
Nonalcoholic beverages	161.602	166.790	170.1	174.4	178.8	183.3	187.9	192.6	197.4	202.3	207.4	212.6
Other foods	204.553	209.292	214.6	219.8	224.8	230.0	235.3	240.8	246.3	251.9	257.7	263.7
Food expenditures:												
	<i>Billion dollars</i>											
All food	1,241.1	1,303.8	1,359.8	1,410.4	1,460.8	1,515.2	1,572.3	1,632.1	1,694.5	1,757.9	1,823.6	1,891.9
Food at home	646.8	683.8	711.8	734.7	756.0	780.7	806.4	832.6	859.7	886.5	913.8	942.2
Food away from home	594.3	620.0	648.0	675.7	704.8	734.5	765.9	799.5	834.8	871.4	909.8	949.7
Changes in consumer food prices:												
	<i>Percent</i>											
All food	0.8	3.7	3.0	2.3	2.1	2.0	2.2	2.3	2.4	2.3	2.3	2.3
Food away from home	1.3	2.3	2.5	2.3	2.3	2.2	2.3	2.4	2.4	2.4	2.4	2.4
Food at home	0.3	4.8	3.2	2.4	2.1	1.8	2.2	2.2	2.4	2.3	2.3	2.3
Meats	2.8	8.8	4.0	1.8	0.9	0.1	1.3	1.4	2.2	2.2	2.2	2.2
Beef and veal	2.9	10.2	4.5	1.5	0.3	-0.8	1.0	1.3	2.5	2.2	2.2	2.2
Pork	4.7	8.5	3.5	2.2	1.7	1.0	1.5	1.7	2.0	2.3	2.4	2.4
Other meats	-0.1	6.4	2.9	1.8	1.6	1.4	1.6	1.6	1.7	1.8	1.8	1.8
Poultry	-0.1	2.9	3.4	3.5	2.0	2.4	3.0	2.8	2.3	2.3	2.3	2.2
Fish and seafood	1.1	7.1	4.5	3.5	3.0	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Eggs	1.5	9.2	1.5	2.9	3.0	3.0	2.5	1.7	1.6	1.6	1.6	1.6
Dairy products	1.1	6.8	2.5	2.3	1.8	1.8	2.4	2.3	2.5	2.2	2.2	2.3
Fats and oils	-0.3	9.3	3.0	2.7	2.5	2.4	2.5	2.5	2.5	2.4	2.4	2.5
Fruits and vegetables	0.2	4.1	2.7	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Sugar and sweets	2.2	3.3	2.5	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Cereals and bakery products	-0.8	3.9	4.0	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4
Nonalcoholic beverages	-0.9	3.2	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other foods	-0.5	2.3	2.5	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3

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