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Agriculture

Office of the  
Chief Economist

World Agricultural  
Outlook Board

Long-term  
Projections Report  
OCE-2008-1

February 2008

# USDA Agricultural Projections to 2017

## Interagency Agricultural Projections Committee

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*USDA Long-term Projections*



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### **Abstract**

This report provides projections for the agricultural sector through 2017. 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 regarding macroeconomic conditions, policy, weather, and international developments. The report assumes that there are no shocks due to abnormal weather, further outbreaks of plant or animal diseases, or other factors affecting global supply and demand. The Farm Security and Rural Investment Act of 2002, the Energy Policy Act of 2005, and the Agricultural Reconciliation Act of 2005 are assumed to remain in effect through the projections period. The projections are one representative scenario for the agricultural sector for the next decade. As such, the report provides a point of departure for discussion of alternative farm sector outcomes that could result under different assumptions. The projections in this report were prepared in October through December 2007, reflecting a composite of model results and judgment-based analyses.

Longrun developments for global agriculture reflect continued high crude oil prices as well as strong demand for biofuels, particularly in the United States and the European Union (EU). U.S. agricultural projections reflect large increases in corn-based ethanol production, which affects production, use, and prices of farm commodities throughout the sector. Expansion of biodiesel use in the EU raises demand for vegetable oils in global markets. Additionally, steady domestic and international economic growth in the projections supports gains in consumption, trade, and prices. Although export competition is projected to continue, global economic growth, particularly in developing countries, provides a foundation for gains in world trade and U.S. agricultural exports. Combined with increases in domestic demand, particularly related to growth in ethanol production, the results are generally higher market prices. As a result, overall net farm income remains strong and reaches record levels in the latter part of the projections. Higher energy-related costs and agricultural commodity prices push U.S. retail food prices up more than general inflation in the near term, but then food prices increase less than the general inflation rate over the remainder of the projections period.

Keywords: Projections, crops, livestock, biofuel, ethanol, trade, farm income, food prices.

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## Contents

	Page
A Note to Users of USDA Long-term Projections .....	iii
Long-term Projections on the Internet .....	iv
Contacts for Long-term Projections.....	iv
Acknowledgments.....	iv
Introduction.....	1
Overview of Assumptions and Results .....	2
Macroeconomic Assumptions.....	9
Crops .....	20
Livestock.....	47
U.S. Agricultural Sector Aggregate Indicators: Farm Income, Food Prices and Expenditures, and U.S. Trade Value .....	57
Agricultural Trade.....	65
List of Tables .....	104

### Features in this Report

	Page
U.S. Financial Market Effects on the Macroeconomic Outlook .....	10
Strong Ethanol Expansion Projected .....	22
Energy Independence and Security Act of 2007 .....	23
Global Demand for Biofuel Feedstocks .....	67
China's Cotton Supply and Demand Estimates and the Residual Component .....	88

## **A Note to Users of 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.

The report uses as a starting point the short-term projections from the November 2007 *World Agricultural Supply and Demand Estimates* report. 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. Normal weather is assumed. Also, the report assumes no further outbreaks of animal or plant diseases. Changes in assumptions for any of these items can significantly affect the projections, and actual conditions that emerge will alter the outcomes.

The projections in this report assume that biofuel blending tax credits and the 54-cent-per-gallon tariff on imported ethanol used as fuel are extended beyond their currently legislated expiration dates. This is in contrast to President's Budget baseline that assumes those tax credits and the tariff are not extended.

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 has 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 Cooperative State Research, Education, and Extension Service.

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

The Economic Research Service of USDA has a briefing room for long-term projections at:

<http://www.ers.usda.gov/briefing/projections/>

Also, data from the new USDA long-term projections are available electronically at:

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

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

Questions regarding these projections may be directed to:

Paul Westcott, Economic Research Service, Room 5188, 1800 M Street, N.W., Washington, D.C. 20036-5831, phone: (202) 694-5335, e-mail: [westcott@ers.usda.gov](mailto:westcott@ers.usda.gov)

Ronald Trostle, Economic Research Service, Room 5190, 1800 M Street, N.W., Washington, D.C. 20036-5831, phone: (202) 694-5280, e-mail: [rtrostle@ers.usda.gov](mailto:rtrostle@ers.usda.gov)

C. Edwin Young, Economic Research Service, Room 5191, 1800 M Street, N.W., Washington, D.C. 20036-5831, phone: (202) 694-5336, e-mail: [ceyoung@ers.usda.gov](mailto:ceyoung@ers.usda.gov)

David Stallings, World Agricultural Outlook Board, MS 3812, 1400 Independence Ave., S.W., Washington, D.C. 20250-3812, phone: (202) 720-5715, e-mail: [dstallings@oce.usda.gov](mailto:dstallings@oce.usda.gov)

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# USDA Agricultural Projections to 2017

## Interagency Agricultural Projections Committee

### Introduction

This report provides longrun projections for the agricultural sector through 2017. 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 with no shocks and are based on specific assumptions regarding the macroeconomy, agricultural and trade policies, the weather, and international developments. The report assumes that the Farm Security and Rural Investment Act of 2002 (the 2002 Farm Act), the Energy Policy Act of 2005, and the Agricultural Reconciliation Act of 2005 remain in effect through the projection period. Projections do not reflect the Energy Independence and Security Act of 2007. The projections are not intended to be a Departmental forecast of what the future will be, but instead are a description of what would be expected to happen under a continuation of current farm legislation, with very specific external circumstances. Thus, the projections provide a neutral backdrop, reference scenario that provides 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 in October through December 2007 and reflect a composite of model results and judgment-based analyses. Normal weather is assumed. Also, the projections assume no further outbreaks of plant or animal diseases. Short-term projections used as a starting point in this report are from the November 2007 *World Agricultural Supply and Demand Estimates* report.

#### **Long-term Projections and the President's Budget Baseline**

Projections in this report assume that biofuel blending tax credits and the 54-cent-per-gallon tariff on imported ethanol used as fuel are extended beyond their currently legislated expiration dates. This is in contrast to President's Budget baseline that assumes those tax credits and the tariff are not extended.

## Overview of Assumptions and Results

### Key assumptions underlying the projections include:

#### *Economic growth*

- World economic growth is projected to increase at a 3.5-percent average annual rate between 2008 and 2017, after averaging 2.9 percent annually in 2001-07. U.S. gross domestic product (GDP) increases from the 2007 slowdown toward a sustainable rate of about 3 percent over the longer term. Strong economic growth in developing countries, particularly important for growth in global food demand, is projected at 5.8 percent annually for 2008-17.

#### *Population*

- Growth in global population is assumed to continue to slow to an average of about 1.1 percent per year over the projection period compared with an annual rate of 1.7 percent in the 1980s. Although slowing, 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 nearly 84 percent by 2017, up from 79 percent in the 1980s.

#### *The value of the U.S. dollar*

- The U.S. dollar continues to depreciate through 2011, with a drop in value of about 14 percent from 2002. Over the rest of the projection period, the dollar is assumed to show a small appreciation. Strong economic growth in the United States relative to the European Union (EU) and Japan will mitigate continuing pressure for the euro to appreciate relative to the dollar and will offset much of the trade-driven appreciation of the yen. In addition, capital continues to move into the United States to benefit from well-functioning and diverse financial markets.

#### *Oil prices*

- Large increases in oil prices over the past several years reflected strong demand for crude oil resulting from world economic recovery and rapid manufacturing growth in China and India. Following a continuation of increases through 2009, crude oil prices are expected to drop modestly in 2010 through 2013 as new crude supplies help offset the rise in demand from Asia. After 2013, oil prices are projected to rise slightly faster than the general inflation rate.
- Underlying these longer term price increases, world oil demand is expected to rise due to strong global economic growth, particularly in highly energy-dependent economies in Asia. Factors expected to constrain longer run oil price increases include new oil discoveries, new technologies for finding and extracting oil, the ability to switch to non-oil energy sources, the ability to increase energy efficiency by substituting nonenergy inputs for energy, and continued expansion and improvement in renewable energy.



### *U.S. agricultural policy*

- The 2002 Farm Act, as amended, and the Agricultural Reconciliation Act of 2005 are assumed to continue through the projection period.
- Area enrolled in the Conservation Reserve Program (CRP) is assumed to decline through 2009 as high prices encourage the return of some land to production when CRP contracts expire. CRP acreage is then assumed to gradually rise toward its legislated maximum of 39.2 million acres, reaching 37 million acres by the end of the projections.

### *U.S. biofuels*

- The projections in this report were completed prior to enactment of the Energy Independence and Security Act of 2007. Thus, provisions of that legislation are not reflected in these projections, which are based on the Energy Policy Act of 2005.
- The projections also assume that the tax credits available to blenders of biofuels (ethanol and biodiesel) and the 54-cent-per-gallon tariff on imported ethanol used as fuel remain in effect. Combined with the Energy Policy Act of 2005, State programs, high oil prices, and other factors, returns for ethanol production provide economic incentives for a continued expansion in the production capacity of the ethanol industry over the next several years. As a result, over 12 billion gallons of ethanol are assumed to be produced by 2010. Although more moderate growth is projected in subsequent years, over 14 billion gallons of ethanol are produced annually by the end of the projection period. Corn starch is expected to remain the primary feedstock for ethanol production during the projection period. Cellulosic-based production of renewable fuels is assumed to meet the minimum specified in the Energy Policy Act of 2005 of 250 million gallons in 2013 and subsequent years. Biodiesel production is assumed to increase to near 600 million gallons by 2013.

### *Cattle and beef trade*

- The projections assume a gradual rebuilding of U.S. beef exports to Japan and South Korea. Due to recent changes in U.S. regulations, the projections assume Canadian cattle and beef from cattle over 30 months of age can be exported to the United States under the conditions that they are age-verifiable and born after March 1, 1999.

### *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 policy reforms in place in November 2007.
- Domestic agricultural and trade policies in individual foreign countries are assumed to continue to evolve along their current path, based on the consensus judgment of USDA's regional and commodity analysts. In particular, economic and trade reforms underway in many developing countries are assumed to continue.

## *International biofuels*

- The production of biofuels is experiencing rapid growth in a number of countries. The projections assume that the most significant increases in foreign biofuel production over the next decade will be in the EU, Brazil, Argentina, and Canada. In particular, the projections assume that the EU biofuel target of 5.75 percent of total transportation fuel use by 2010 is only partially met by that date, and is still not fully reached by 2017. Nonetheless, growth in biodiesel demand in the EU is a key factor underlying gains in global vegetable oils and oilseeds demand.

### **Key results in the projections include:**

Steady domestic and international economic growth in the projection period supports gains in consumption, trade, and prices of agricultural products. Additionally, the projections reflect continued high crude oil prices and increased demand for biofuels, particularly in the United States and the EU.

### *U.S. aggregate indicators*

- Although net farm income initially declines from high levels of 2007 and 2008, it is projected to remain historically strong throughout the projection period, and reach record levels beyond 2011. Growth in export demand contributes to increases in agricultural commodity prices and gains in farm cash receipts. Increases in corn-based ethanol production also provide a major impetus for this strong income projection. Higher commodity prices lower government payments for price-dependent program benefits, although annual CRP payments increase. With lower government payments, the agriculture sector relies increasingly on the market for its income. Cash receipts represent more than 90 percent of gross cash income in the projections, up from about 85 percent in 2005.
- The value of U.S. agricultural exports rises in the projections as steady global economic growth and stronger world trade lead to gains for U.S. agricultural export volumes and higher commodity prices. The lower value U.S. dollar is also an important factor underlying recent export gains and the projected growth. Additionally, higher commodity prices due to expansion of global biofuel demand contribute to the projected gains in export values. Increases in U.S. consumer income and demand for a large variety of foods underlie continued strong growth in U.S. agricultural imports.
- For most of the projections period, consumer food prices increase less than the general inflation rate. However, adjustments in retail prices due to higher energy and agricultural commodity prices lead to food price increases somewhat larger than general inflation in 2008 and 2009. Relatively large price increases are expected in 2008 for fats and oils and for cereals and bakery products, reflecting higher prices for vegetable oils and wheat. Consumer prices for red meats, poultry, and eggs exceed the general inflation rate in 2009 as the livestock sector adjusts to higher feed costs. Consumer expenditures for food away from home continue to grow in importance and account for more than half of overall food spending during most of the projection period.

## *U.S. agricultural commodities*

- Strong expansion of corn-based ethanol production in the United States affects virtually every aspect of the field crops sector, ranging from domestic demand and exports to prices and the allocation of acreage among crops. A higher portion of overall plantings is allocated to corn. Higher feed costs also affect the livestock sector, mitigated somewhat by the increased availability of distillers grains.
- Ethanol production in the United States continues its strong expansion through 2009/10, with slower growth in subsequent years. By the end of the projections, ethanol production exceeds 14 billion gallons per year, using almost 5 billion bushels of corn. The projected large increase in ethanol production reflects the Energy Policy Act of 2005, State programs, ongoing ethanol plant construction, and economic incentives provided by continued high oil prices. Feed use of corn declines in the initial years of the projections and then rises only moderately as increased feeding of distillers grains helps meet livestock feed demand, particularly for beef cattle.
- Growth in the food use of wheat is projected to match the rate of population increase. Feed use of wheat rebounds from the low levels of 2006/07 and 2007/08 as higher corn prices encourage increases in wheat feeding. Wheat feeding then levels off as wheat prices relative to corn stabilize.
- Soybean acreage falls in the projections after 2008 due to more favorable returns to corn production. Longrun growth in domestic soybean crush is mostly driven by increasing demand for domestic soybean meal for livestock feed. Some gains in crush also reflect increasing domestic soybean oil demand for biodiesel production.
- Moderate expansion of domestic food use of rice is projected. Although growth is somewhat faster than population growth, it is well below the rates of growth in the 1980s and 1990s when per capita use rose rapidly. Imports of rice account for a growing share of domestic use in the projections.
- Mill use of upland cotton in the United States falls in the projections as U.S imports of apparel continue to increase, reducing domestic apparel production and lowering the apparel industry's demand for fabric and yarn produced in the United States.
- Duties and quantitative restraints on sugar and high fructose corn syrup (HFCS) trade between the United States and Mexico ended on January 1, 2008. This results in increased use of HFCS by Mexico's beverage industry and, consequently, larger sugar exports from Mexico to the United States.
- The production value of U.S. horticultural crops is projected to grow by more than 3 percent annually over the next decade, with consumption of horticultural products continuing to rise. Imports play an important role in domestic supply during the winter and, increasingly, during other times of the year, providing U.S. consumers with a larger variety of horticultural products.

- Production of all meats slows or declines in the first half of the projections, largely reflecting higher feed costs and lower producer returns as more corn is used in the production of ethanol. After those production adjustments, strong domestic demand and some strengthening in meat exports result in higher prices and higher returns, providing economic incentives for expansion in the sector.
- Per capita meat consumption declines through 2012-14 as the livestock sector lowers overall production and retail prices rise. Meat consumption per person then rises again at the end of the projections period. Rising incomes facilitate gains in consumer spending on meat. Nonetheless, overall meat expenditures represent a declining proportion of disposable income.
- Strong domestic and international demand for dairy products contributed to high U.S. dairy prices in 2007. Despite higher feed costs, strong farm-level milk prices are projected to encourage further increases in milk cow numbers through 2009. Combined with an upward trend in output per cow, the results are relatively strong gains in milk production in 2008 and 2009 and decreases in milk prices. Smaller production gains are projected on average over the rest of the projection period because milk cow numbers decline after 2009. Milk prices rise after 2009.

### *Agricultural trade*

- World consumption of many grain, oilseed, and meat commodities has exceeded world production in the past several years, reducing global stocks. As a result, global stocks-to-use ratios have dropped sharply and prices have risen. Tight market conditions are projected to persist for many commodities over most of the coming decade, keeping agricultural commodity prices high.
- Broad-based global economic growth provides a foundation for robust gains in world demand for agricultural products. 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 staple foods and increased diversification of diets. Rapid expansion of ethanol and biodiesel production in some countries also adds to global agricultural demand growth.
- Population growth rates are slowing in most countries but rates in developing countries remain nearly double those of developed countries. Many developing countries are also projected to achieve rapid economic growth rates.
- The United States will remain competitive in global agricultural markets, although trade competition will continue to be strong. Expanding production in a number of countries, including Brazil, Argentina, Canada, Ukraine, and Russia, provides competition to U.S. exports for some agricultural commodities. The lower-valued U.S. dollar assumed in the first half of the projection period boosts U.S. agricultural competitiveness and export growth. Even as the U.S. dollar strengthens later in the projection period, export gains continue to contribute to gains in cash receipts for U.S. farmers.

- Continuing growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East accounts for most of the growth in world coarse grain imports projected during the next decade. The United States is the major corn exporter in the world. However, with increasing use of corn for U.S. ethanol production, U.S. corn exports show very little growth through 2012/13. In response, corn production and exports are assumed to increase for Argentina, Ukraine, Republic of South Africa, and Brazil. China is also assumed to increase corn production, which changes its net corn trade by slowing the decline in its exports and the increase in its imports. Nonetheless, China is projected to become a net importer of corn in the longer run, reflecting declining stocks of grain and increasing demand for feed for its growing livestock sector.
- Vegetable oil prices rise in response to rapidly increasing demand for food use in low- and middle-income countries. Vegetable oil prices also rise relative to prices for oilseeds and protein meals because of expanding biodiesel production in a number of countries. Brazil's rapidly increasing soybean area enables it to gain a larger share of world soybean and soybean meal exports, despite increasing domestic feed use. Argentina is the leading exporter of soybean meal and soybean oil, reflecting the country's large and growing crush capacity, its small domestic market for soybean products, and an export tax structure that favors exports of soybean products and biodiesel rather than soybeans. The former Soviet Union, Eastern Europe, and Southeast Asia increase rapeseed and palm oil production for use as biodiesel feedstocks.
- The United States, Australia, the EU, Canada, and Argentina have historically been the primary exporters of wheat, although exports from the Black Sea region have grown in the past 10 years. Over the next decade, Russia and Ukraine are projected to have a growing importance in world wheat trade, reflecting low costs of production and continued investments in their agricultural sectors. However, high year-to-year volatility in these countries' production and trade can be expected due to typical weather-related variation in yields.
- Cotton consumption and textile production are projected to increase in countries where labor and other costs are low, such as China, India, and Pakistan. China is the largest importer of cotton in the world. Although China's cotton imports are expected to grow more slowly than the rapid gains since 2001, these increases account for most of the gains in global cotton trade in the projections. The United States continues as the world's leading cotton exporter, reflecting its large production capacity and its reduced domestic mill use of cotton as apparel imports continue to grow.
- Long-grain varieties of rice account for around three-fourths of global rice trade and are expected to account for the bulk of trade growth over the next decade. Indonesia, the Philippines, and Bangladesh become the three largest rice-importing countries and account for about 30 percent of the increase in global rice trade over the next decade. Sub-Saharan Africa, a large importing region, accounts for more than a fourth of the increase in trade, with the Middle East also contributing to rice trade gains. Thailand, Vietnam, the United States, India, and Pakistan remain the world's largest rice-exporting countries.
- U.S. meat exports benefit from strong foreign economic growth. However, even with U.S. beef exports to Japan and South Korea assumed to gradually rebuild, total U.S. beef exports do not return to levels of 2000-03 until late in the projection period.

- Pacific Rim nations and Mexico are key markets for long-term growth of U.S. pork exports. Higher income countries of East Asia increase pork imports as their domestic hog sectors are constrained by environmental concerns. Mexican pork imports rise rapidly, driven by increases in income and population. Brazil is constrained in its pork trade by the presence of foot-and-mouth disease, but continues to be a major pork exporter to markets such as Russia, Argentina, and Asian markets other than Japan and South Korea.
- Brazil remains a leading poultry exporter as low production costs allow the Brazilian poultry sector to remain competitive in global trade. Poultry exports from countries affected by avian influenza, such as Thailand and China, are expected to be mostly fully cooked products destined for higher income markets.

## Macroeconomic Assumptions

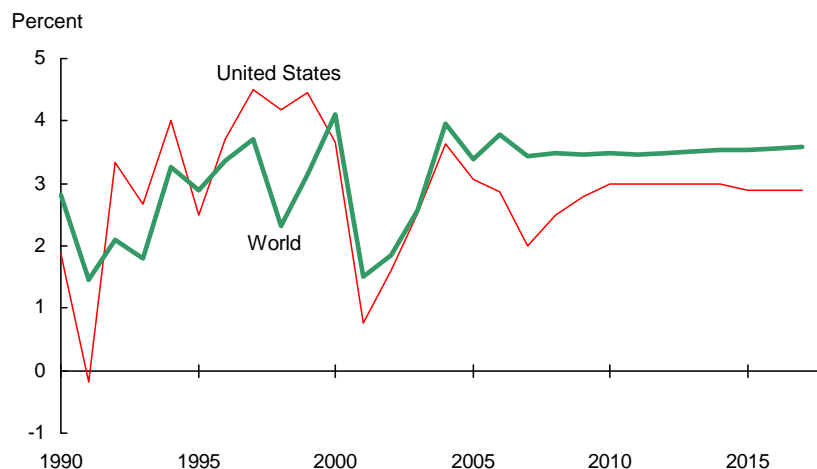
Macroeconomic assumptions underlying USDA's long-term projections reflect steady growth at near-average historical rates over most of the projection period. Most of the world will be moving toward longrun sustainable economic growth, with trend rates in 2009 and beyond. Overall, world economic growth is projected to increase at a 3.5-percent average rate between 2008 and 2017, after averaging below 3 percent annually between 2001 and 2007. The projections have moderating growth in developed countries and accelerating growth in developing and former Soviet Union countries.

High crude oil prices and the U.S. subprime mortgage problems are assumed to have a moderate impact on the U.S. economy into 2008, holding growth to 2.5 percent (see box, *U.S. Financial Market Effects on the Macroeconomic Outlook*, page 10). U.S. gross domestic product (GDP) growth then moves back toward a sustainable rate of about 3 percent. The U.S. share of global GDP declines to 28 percent from 30 percent in 2005-07. Continued strong growth in China, India, and the rest of Asia make this region an increasingly important part of the global economy, with Asia overall rising to more than a 30-percent share by the end of the projection period.

Improved global economic performance and continuing, although slowing, population growth is expected to boost food demand in the projections. Increased global purchasing power and population growth, competing against demand for biofuels and other domestic uses, are important factors shaping the projections for U.S. agricultural exports and the strong outlook for commodity prices. Supporting the outlook for U.S. agricultural exports is also the cumulative effect of a depreciating U.S. dollar.

Even with the U.S. and world economies projected to move toward sustainable longrun growth, global inflation rates are projected to remain relatively low through 2017, averaging about 3 percent. Some inflationary pressures have resulted because of energy price increases and the movement towards full employment and full capacity utilization. In response, the U.S. Federal Reserve Board and central banks in other countries are assumed to continue policies to constrain inflation.

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



## **U.S. Financial Market Effects on the Macroeconomic Outlook**

Problems in the U.S. subprime mortgage market starting in 2007 resulted in a decline in housing prices and a rise in foreclosure and delinquency rates, slowing the U.S. housing market. These problems resulted from a substantial underpricing of risk in home-mortgage lending. Although effects spilled over into nonhousing related financial markets, as well, the U.S. subprime mortgage market problems are assumed to have only a moderate effect on overall U.S. economic growth in 2008. Projected U.S. GDP growth for 2008 of 2.5 percent is somewhat lower than the longer term projected level of about 3 percent.

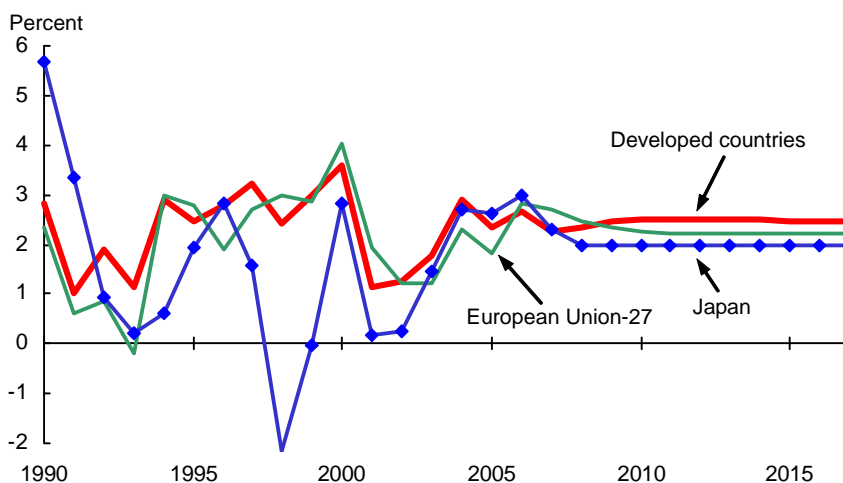
Reasons for an expected containment of the effects of the mortgage market problems reflect strength of the banking system; aggressive actions by the Federal Reserve Board, housing market regulators and financial intermediaries, and the Federal Government (led by the U.S. Treasury Department); and sound bank and corporate balance sheets.

- The Federal Reserve Board lowered the federal funds rate and discount rate, which reduces the cost of borrowing from other banks and from the Federal Reserve. As a consequence, the banking system is able to provide liquidity for mortgages and other loans.
- Actions of housing market regulators and the U.S. Treasury Department are encouraging renegotiation of terms of troubled mortgages to make them more favorable to borrowers. This will reduce foreclosures and minimize the effect that foreclosures have on real estate prices.
- Financial intermediaries, such as banks, are taking losses on their balance sheets in a timely manner. Given the overall strength of the capital positions in the banking system, banks are expected to make such adjustments without undue loss in the ability to expand loans in the future.
- The corporate sector also has strong balance sheets. This provides ample ability to raise capital through the banking system, equity markets, or direct issuance of corporate bonds or commercial paper. As a result, there is generally plentiful credit.
- Riskier segments of the credit market are experiencing higher interest rates as differences in yields between Baa-rated (medium quality) bonds and Aaa-rated (highest quality) bonds better represent differences in underlying risk. Prior to the subprime mortgage market problems, the differentials were very small by historical standards. As the bond markets raise risk premiums, corporations are deterred from engaging in excessively risky projects. Although this slows investment expansion, it makes business expansion more sustainable.

As housing prices fall, downward pressure on consumer spending is offset by growth in employment and wages, and continued strength in equity markets. As housing construction has slowed, skilled tradesmen are being re-employed in home improvement and commercial construction. Realtors, mortgage brokers, and bank employees have lost jobs, but the strong U.S. economy is creating enough new jobs to offset those losses, in aggregate. Additionally, a weak dollar and strong foreign economic growth support a very strong export sector, also providing new jobs. Overall, these factors mitigate the net impact of the financial situation on the U.S. economy.



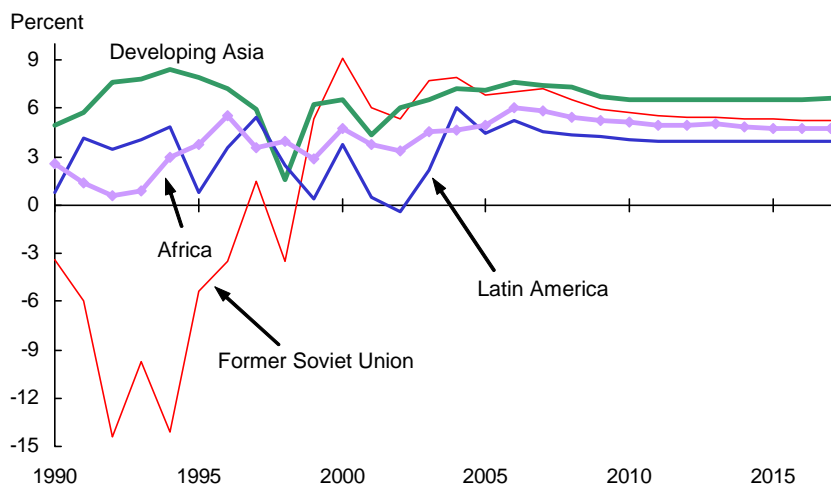
**GDP growth for developed countries, European Union-27, and Japan**



Developed economies are projected to grow at rates similar to those of the 1990s, averaging around 2.5 percent in 2008-17. Economic growth rates for the EU and Japan increase from recent gains, but remain around 2 percent per year in the projection period. As a consequence, both the EU and Japan account for smaller shares of global GDP.

- Enlargement of the European Union (EU) to include more countries of Central and Eastern Europe creates additional trade and investment opportunities within the expanded EU. The EU economy, however, does not grow as rapidly as the U.S. economy because of lingering EU structural rigidities, particularly rigid labor laws and a very expensive social security system. Political difficulties also constrain the benefits of economic integration, particularly with continued restrictions on labor mobility between EU countries and a very cumbersome EU decisionmaking process. Unemployment rates decline from double-digit rates, however, indicating some progress in increasing employment flexibility.
- Japan continues to face constraints to economic growth, largely the result of long-term structural rigidities, a difficult political process of economic reform, and a rapidly aging population. Japan's labor market liberalization partly offsets these constraints, aiding productivity growth. Japan's increasing integration with the other economies of Asia, especially China, further mitigates the growth constraints in the Japanese economy. The projections assume sustained economic growth in Japan at 2 percent a year, with the country's share of world GDP declining to below 12 percent by 2017, down from almost 18 percent in 1991. While Japan's projected growth remains relatively low compared with most other countries, it represents a major improvement from its growth in the 1990s.

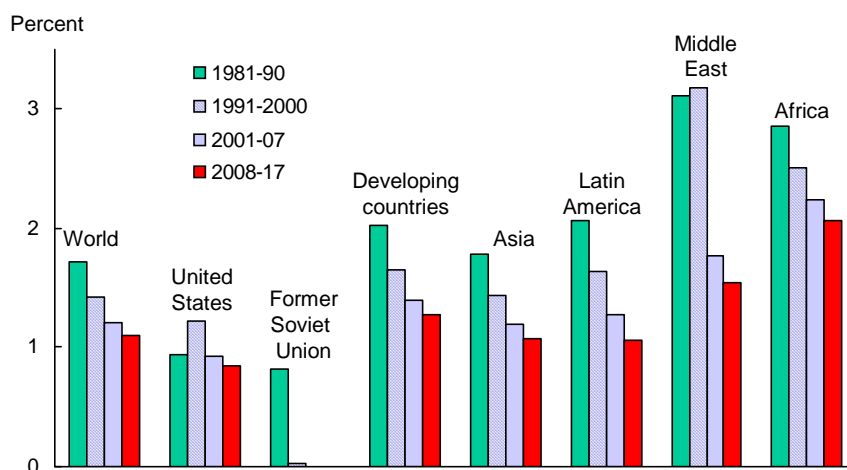
### GDP growth for developing economies and the former Soviet Union



Economic growth in developing countries is projected to average 5.8 percent annually during 2008-17. Developing countries will play an increasingly important role in global growth in food demand and will become a more important destination for U.S. farm exports. Relatively high income growth, along with large responsiveness of consumption and imports of food and feed to income growth in these countries, underlies this result. As incomes rise in developing countries, consumers generally diversify their diets, moving away from staple foods to include more meat, dairy products, fruits and vegetables, and processed foods (including vegetable oils). These consumption shifts increase import demand for feedstuffs and high-value food products.

- Long-term growth of 4 percent is projected for Latin America. An overall improvement in macroeconomic policies should attract foreign capital inflows, particularly foreign direct investment, and sustain growth.
- Projected growth for Southeast Asia exceeds 5.1 percent for the next decade while growth in developing countries of East Asia exceeds 7 percent. Although large, these projected growth rates are below the very strong average economic growth in these regions in 1971-2007.
- China's economic growth has been consistently the strongest in Asia, exceeding 10 percent between 2003 and 2006. While some moderation is expected, China's growth is expected to average above 8 percent over the next decade.
- India's projected average economic growth of almost 8 percent a year puts it in the top tier of high-growth countries. Nonetheless, India is still a low-income country, with real 2000-based per capita income of \$664 in 2007. Continued strong income growth is expected to bring India's real per capita income to more than \$1,200 by 2017 and is expected to move a significant number of people out of poverty.
- High oil prices assumed in the projections modestly constrain Asia from even higher economic growth since its manufacturing sector is far more dependent on energy for GDP growth than more developed economies.
- Economic growth in the countries of the former Soviet Union (FSU) is projected to average 5.5 percent annually for the next decade. Russia, Ukraine, and other FSU countries benefit greatly from their shift to more market-oriented economies. Russia and other energy-rich FSU countries also benefit from high oil prices.

### Population growth continues to slow



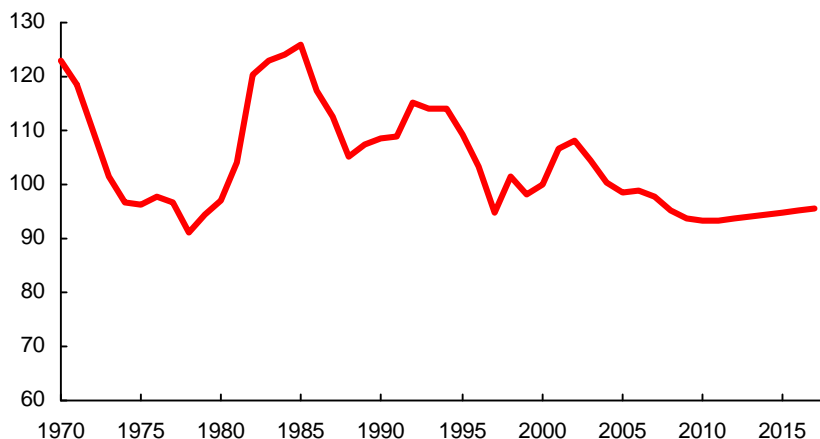
Source: Population projections, U.S. Department of Commerce, U.S. Census Bureau.

A continued slowing of population growth around the world is an important factor limiting increases in food and agricultural demand over the next decade. World population growth declines from an annual rate of 1.7 percent in the 1980s to an average of about 1.1 percent per year for the projection period.

- Developed and FSU countries have very low projected rates of population growth, at 0.4 percent and 0.1 percent, respectively. The projected annual average population growth rate for the United States is the highest among developed countries, at 0.9 percent, in part reflecting large immigration. Population growth rates in developing economies decline by more than 40 percent between the 1980s and the end of the projection period, but remain above those in developed countries and the FSU. As a result, the share of world population accounted for by developing countries increases to 84 percent by 2017.
- China and India together account for more than one-third of the world's population. China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.6 percent in 2008-17. The population growth rate in India, the world's second most populous nation, is projected to decline from 2.1 percent to 1.5 percent per year between the same periods. The differential in population growth narrows the gap between India's and China's populations.
- Brazil's population growth rate falls from 2.1 percent per year in 1981-90 to 0.8 percent annually in 2008-17. Sub-Saharan Africa's population growth rate declines from 2.9 percent to 2.2 percent per year between the same periods, leaving this impoverished region with the highest population growth rate in the world.
- There are a number of countries with declining populations. Most of these are mature economies such as Japan and countries in Western Europe, Central Europe, and the FSU. However, several countries in Sub-Saharan Africa have declining populations resulting from the AIDS epidemic, including the Republic of South Africa, Botswana, Lesotho, and Swaziland.

### U.S. agricultural trade-weighted dollar projected to stabilize 1/

Index values, 2000=100

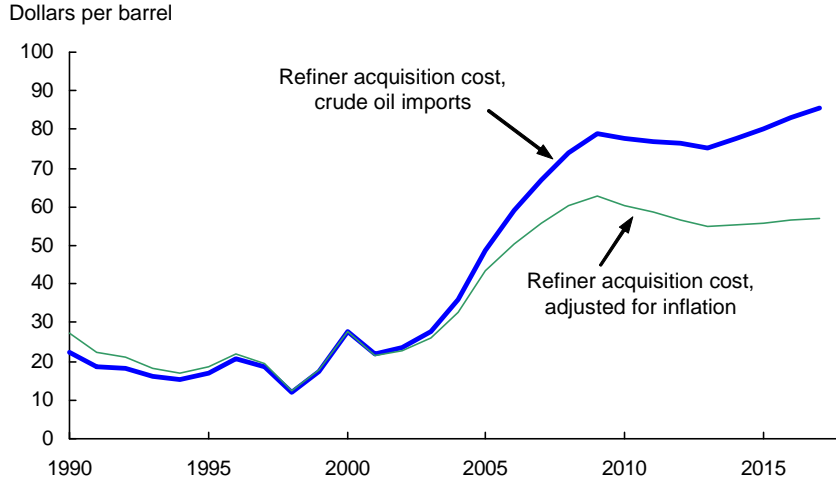


1/ Real U.S. agricultural trade-weighted dollar exchange rate, using U.S. agricultural export weights, based on 192 countries.

The U.S. dollar continues to depreciate through 2011, with moderate strengthening over the rest of the projection period. The lower-value dollar is a facilitating factor in the growth in U.S. exports in the projections. Combined with strong global economic growth, particularly in developing countries, the result is strong growth in the demand for U.S. farm exports.

- Strong GDP growth in the United States relative to the EU and Japan will mitigate continuing pressure for the euro to appreciate relative to the U.S. dollar and offsets much of the trade-driven appreciation of the yen.
- 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. The projections assume that China allows its real exchange rate to continue to appreciate at modest rates. The appreciation of China's currency also leads to appreciation of other Asian currencies.
- Capital continues to move into the United States to benefit from well-functioning and diverse financial markets, although these inflows are projected to continue to decline. The overall U.S. trade deficit and the capital account surplus fall over the projections period.
- Among agricultural products, U.S. exports of bulk commodities and horticultural products tend to be the most sensitive to swings in the U.S. dollar's value, because they face more global trade competition.

## Crude oil prices

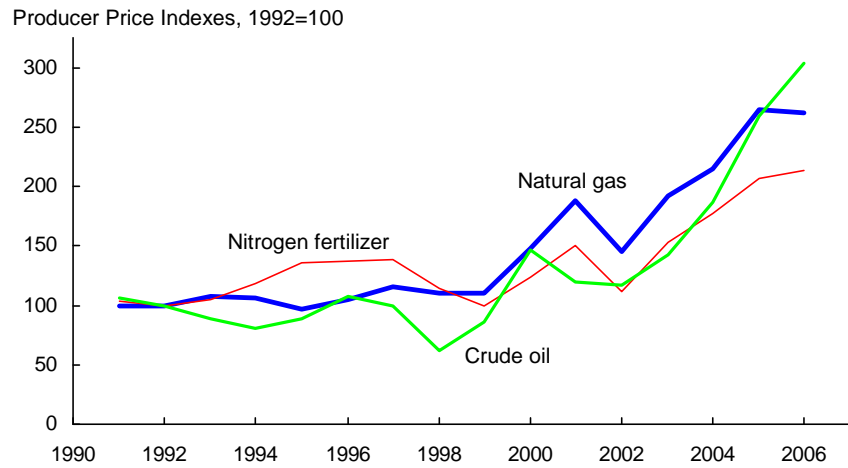


Crude oil prices rose sharply from late 2002 through 2007, largely reflecting increased crude oil demand due to a robust world economic recovery and rapid manufacturing growth in China and India. In 2008 through 2009, crude oil prices are expected to continue to rise modestly. Between 2010 and 2013, oil prices are expected to decline slightly. This is followed by a period when they rise slightly faster than inflation, reflecting rising world oil demand, due to strong global economic growth, particularly in highly energy-dependent economies in Asia. By the end of the projection period, the refiner acquisition cost for crude oil imports is projected at over \$85 per barrel.

Partly offsetting those effects, factors expected to constrain longrun increases in oil prices include:

- The ability to switch to non-oil energy sources, such as coal and natural gas, especially in industrial uses and electric power generation;
- Increasing energy efficiency due to the substitution of nonenergy inputs (such as microchip-driven equipment) for energy as well as improved energy-use technology;
- Continued expansion and improvement in renewable energy, such as wind and water power, thermal energy, solar power, and biofuels;
- Continued extraction of fossil fuels from unconventional sources such as oil shale and tar sands; and
- New oil discoveries, along with new technologies for finding and extracting oil.

### Crude oil, natural gas, and nitrogen-based fertilizer prices move together



Source: Producer Price Indexes, U.S. Department of Labor, Bureau of Labor Statistics.

Oil prices have historically affected prices of natural gas and nitrogen-based fertilizer. However, the links between the oil and natural gas markets have weakened significantly due to dramatic growth in the demand for natural gas and deregulation throughout the natural gas supply and demand system. At the same time, fertilizer imports have become more important in domestic supply. Prices for natural gas and nitrogen-based fertilizer have become somewhat more volatile than prices for oil, largely because natural gas is less transportable and, as a result, its supply is more inelastic. Nevertheless, over a longer period of time, oil and natural gas prices are expected to move more closely together as the United States and other natural gas importers develop the capacity to import more liquefied natural gas.

Table 1. U.S. macroeconomic assumptions

Item	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>GDP, billion dollars</b>												
Nominal	13,195	13,839	14,554	15,336	16,143	16,993	17,888	18,830	19,822	20,845	21,922	23,054
Real 2000 chained dollars	11,319	11,546	11,834	12,166	12,531	12,907	13,294	13,693	14,103	14,512	14,933	15,366
percent change	2.9	2.0	2.5	2.8	3.0	3.0	3.0	3.0	3.0	2.9	2.9	2.9
<b>Disposable personal income</b>												
Nominal (billions)	9,629	10,139	10,677	11,253	11,850	12,478	13,139	13,835	14,569	15,341	16,154	17,010
percent change	5.9	5.3	5.3	5.4	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Nominal per capita, dollars	32,115	33,500	34,949	36,500	38,087	39,748	41,485	43,302	45,203	47,192	49,273	51,449
percent change	4.9	4.3	4.3	4.4	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Real (billion 2000 chained)	8,397	8,607	8,839	9,096	9,378	9,668	9,968	10,277	10,596	10,924	11,263	11,612
percent change	3.1	2.5	2.7	2.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Real per capita, 2000 dollars	28,005	28,437	28,935	29,629	30,142	30,799	31,473	32,165	32,876	33,605	34,354	35,122
percent change	2.1	1.5	1.8	2.4	1.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2
<b>Consumer spending</b>												
Real (billion 2000 chained)	8,044	8,269	8,484	8,722	8,975	9,235	9,503	9,778	10,062	10,344	10,633	10,931
percent change	3.1	2.8	2.6	2.8	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8
<b>Inflation measures</b>												
GDP price index, chained	116.6	119.9	123.0	126.1	128.8	131.7	134.6	137.5	140.5	143.6	146.8	150.0
percent change	3.2	2.8	2.6	2.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
CPI-U, 1982-84=100	201.6	207.2	213.0	218.8	224.3	229.9	235.6	241.5	247.6	253.7	260.1	266.6
percent change	3.2	2.8	2.8	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PPI, finished goods 1982=100	160.3	165.9	170.7	174.5	176.9	179.4	181.9	184.5	187.0	189.7	192.3	195.0
percent change	2.9	3.5	2.9	2.2	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
PPI, crude goods 1982=100	184.8	204.4	219.1	225.7	227.9	230.2	232.5	234.8	237.2	239.6	242.0	244.4
percent change	1.4	10.6	7.2	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Crude oil price, \$/barrel</b>												
EIA refiner acq. cost, imports	59.0	67.0	74.0	79.0	77.6	77.0	76.4	75.4	77.8	80.3	82.9	85.6
percent change	20.6	13.5	10.4	6.8	-1.8	-0.8	-0.8	-1.3	3.2	3.2	3.2	3.2
Real 2000 chained dollars	50.6	55.9	60.1	62.7	60.2	58.5	56.8	54.8	55.4	55.9	56.5	57.0
percent change	16.9	10.4	7.6	4.2	-3.9	-2.9	-2.9	-3.4	1.0	1.0	1.0	1.0
<b>Labor compensation per hour nonfarm business, 1992=100</b>												
percent change	3.8	4.3	4.5	5.0	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
<b>Interest rates, percent</b>												
3-month Treasury bills	4.7	4.6	4.2	4.8	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
3-month commercial paper	5.0	5.1	4.8	5.8	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Bank prime rate	8.0	8.0	7.5	7.7	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Ten-year Treasury bonds	4.8	4.7	4.5	5.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Moody's Aaa bond yield index	5.6	5.5	5.4	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
<b>Civilian unemployment</b>												
rate, percent	4.6	4.7	4.8	4.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
Nonfarm payroll emp., millions	136.2	137.7	139.2	140.9	142.3	143.7	145.2	146.6	148.1	149.6	151.0	152.6
percent change	1.9	1.1	1.1	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
<b>Total population, millions</b>												
percent change	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8

Domestic macroeconomic assumptions were completed in October 2007.

Table 2. Global real GDP growth assumptions

Region/country	Share of world GDP 2005-2007	Per capita income, 2007	2006	2007	2008	2009	2010	2011	Average		
									1991-2000	2001-2007	2008-2017
	Percent	2000 dollars	Percent change								
World	100.0	5,884	3.8	3.4	3.5	3.5	3.5	3.5	2.8	2.9	3.5
less United States	69.9	4,334	4.2	4.0	3.9	3.7	3.7	3.7	2.6	3.2	3.8
North America	32.3	37,099	2.9	2.0	2.5	2.8	3.0	3.0	3.3	2.4	2.9
Canada	2.2	25,899	3.2	2.5	2.7	2.8	2.8	2.8	2.9	2.9	2.8
United States	30.1	38,340	2.0	2.5	2.8	3.0	3.0	3.0	3.0	2.9	2.9
Latin America	6.6	4,578	5.3	4.5	4.3	4.2	4.1	4.0	3.3	3.2	4.0
Mexico	1.8	6,329	3.9	3.4	3.6	3.7	3.7	3.7	3.5	2.5	3.7
Caribbean & Central America	0.6	3,077	3.8	3.5	3.8	4.0	4.0	3.9	4.0	3.1	3.8
South America	4.2	4,394	5.7	5.2	4.7	4.4	4.3	4.1	3.1	3.5	4.2
Argentina	0.9	9,006	7.0	6.8	6.0	5.3	5.0	4.8	4.4	3.6	5.0
Brazil	2.0	4,189	3.5	4.5	4.0	4.0	3.8	3.6	2.6	3.0	3.7
Other	1.3	3,413	7.0	5.8	4.8	4.5	4.4	4.3	3.2	4.2	4.4
Europe	26.2	19,208	2.8	2.7	2.5	2.3	2.2	2.2	2.1	2.0	2.2
European Union-27	24.8	19,643	2.8	2.7	2.5	2.3	2.2	2.2	2.2	2.0	2.3
Other Europe	1.4	13,698	2.8	2.1	2.2	2.2	2.0	1.9	1.8	1.9	2.0
Former Soviet Union	1.4	2,019	7.0	7.2	6.5	5.9	5.7	5.6	-4.1	6.9	5.6
Russia	1.0	2,819	6.7	6.8	6.1	5.5	5.4	5.4	-3.6	6.3	5.5
Ukraine	0.1	1,066	3.0	6.1	6.8	6.2	5.5	4.5	-7.7	6.8	4.9
Other	0.3	1,255	10.0	9.1	7.8	7.3	6.9	6.5	-3.6	9.1	6.1
Asia and Oceania	28.5	3,038	5.0	4.9	4.9	4.6	4.6	4.6	3.2	4.0	4.7
East Asia	22.6	5,705	4.7	4.7	4.6	4.3	4.2	4.3	2.9	3.7	4.5
China	5.6	1,755	10.7	10.8	10.2	8.4	8.2	8.2	10.5	9.9	8.4
Hong Kong	0.6	32,747	6.4	6.0	5.6	5.5	5.3	5.0	4.5	4.8	5.1
Japan	13.6	40,803	3.0	2.3	2.0	2.0	2.0	2.0	1.2	1.8	2.0
Korea	1.8	14,322	5.0	4.5	5.4	5.4	5.2	4.7	6.2	4.6	4.8
Taiwan	1.0	17,668	4.7	4.0	4.7	4.7	4.7	4.7	6.5	3.6	4.7
Southeast Asia	2.1	1,457	5.6	5.5	5.3	5.3	5.2	5.1	5.2	4.9	5.1
Indonesia	0.6	993	5.5	6.1	5.8	5.7	5.6	5.6	4.4	5.1	5.6
Malaysia	0.3	5,036	5.4	5.6	5.0	5.0	5.0	5.0	7.2	4.8	5.0
Philippines	0.3	1,139	5.4	5.8	5.2	5.0	4.8	4.7	3.1	4.6	4.8
Thailand	0.4	2,633	5.0	4.1	5.0	5.3	5.2	5.1	4.6	4.9	4.9
Vietnam	0.1	607	8.0	7.2	7.1	7.3	7.2	7.1	7.4	7.5	6.9
South Asia	2.3	621	8.7	8.2	7.7	7.4	7.3	7.3	5.2	6.9	7.2
Bangladesh	0.2	442	6.5	5.9	5.7	5.6	5.3	5.3	4.8	5.6	5.3
India	1.8	664	9.4	8.9	8.2	8.0	7.9	7.8	5.5	7.3	7.7
Pakistan	0.3	623	6.6	6.0	5.9	5.0	5.0	5.0	4.0	5.3	5.1
Oceania	1.5	16,231	3.0	3.0	3.2	3.4	3.4	3.3	3.5	3.2	3.3
Australia	1.3	23,683	3.1	3.1	3.2	3.4	3.4	3.4	3.6	3.2	3.4
New Zealand	0.2	15,892	2.4	2.6	2.8	3.1	3.0	2.7	2.9	3.3	2.8
Other Asia and Oceania	0.5	1,107	6.1	5.1	4.8	4.6	4.4	4.2	6.1	4.3	4.2
Middle East	2.9	4,317	5.1	5.0	5.2	5.0	4.8	4.7	4.1	4.2	4.7
Iran	0.4	2,230	4.5	4.6	4.5	4.4	4.4	4.4	4.0	5.4	4.2
Iraq	0.1	2,143	3.0	6.0	9.2	7.5	6.1	5.6	9.5	2.4	5.5
Saudi Arabia	0.6	9,096	4.3	5.1	5.3	5.2	5.1	5.1	2.6	4.2	5.0
Turkey	0.7	3,867	6.1	5.3	5.4	5.0	5.0	5.0	3.6	4.9	5.0
Other	1.0	5,650	5.5	4.8	4.8	4.6	4.5	4.3	4.9	4.4	4.2
Africa	2.0	864	6.1	5.8	5.4	5.2	5.1	5.0	3.0	4.7	5.0
North Africa	0.8	2,064	6.5	6.0	5.5	5.2	5.0	4.8	3.9	4.8	5.0
Algeria	0.2	2,291	6.4	6.4	6.4	6.0	6.0	5.7	1.7	5.2	5.2
Egypt	0.3	1,745	6.8	6.6	5.8	5.2	4.8	4.8	4.5	4.6	4.9
Morocco	0.1	1,333	6.7	5.2	4.7	4.5	4.4	3.2	8.4	5.3	5.0
Tunisia	0.1	2,629	5.5	4.5	4.1	4.0	4.0	4.0	2.4	4.4	4.0
Sub-Saharan Africa	1.2	609	5.8	5.7	5.4	5.3	5.2	5.1	2.4	4.7	5.0
Republic of South Africa	0.4	3,931	4.7	4.5	4.6	4.9	5.2	5.2	1.8	3.8	5.2
Other Sub-Saharan Africa	0.7	408	6.5	6.4	5.8	5.5	5.2	5.1	2.8	5.2	4.9

International macroeconomic assumptions were completed in October 2007.



Table 3. Population growth assumptions

Region/country	Population in 2007	2006	2007	2008	2009	2010	2011	Average		
								1991-2000	2001-2007	2008-2017
	Millions	Percent change								
World <sup>1</sup>	6,605	1.2	1.2	1.2	1.2	1.2	1.1	1.4	1.2	1.1
less United States	6,304	1.2	1.2	1.2	1.2	1.2	1.2	1.4	1.2	1.1
North America	335	0.9	0.9	0.9	0.9	0.9	0.9	1.2	0.9	0.9
Canada	33	0.9	0.9	0.9	0.9	0.8	0.8	1.2	0.9	0.8
United States	301	0.9	0.9	0.9	0.9	0.9	0.9	1.2	0.9	0.9
Latin America	569	1.2	1.2	1.2	1.2	1.1	1.1	1.6	1.3	1.1
Mexico	109	1.2	1.2	1.2	1.1	1.1	1.1	1.6	1.2	1.1
Caribbean & Central America	80	1.5	1.5	1.5	1.5	1.5	1.4	1.7	1.5	1.4
South America	380	1.2	1.2	1.1	1.1	1.1	1.0	1.6	1.3	1.0
Argentina	40	1.0	1.0	0.9	0.9	0.9	0.8	1.3	1.0	0.8
Brazil	190	1.1	1.0	1.0	1.0	0.9	0.9	1.5	1.1	0.9
Other	150	1.4	1.4	1.3	1.3	1.3	1.3	1.9	1.5	1.2
Europe	526	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.0
European Union-27	488	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0
Other Europe	39	0.4	0.3	0.3	0.2	0.2	0.2	0.4	0.5	0.2
Former Soviet Union	278	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	-0.2	0.0
Russia	141	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.1	-0.5	-0.5
Ukraine	46	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.5	-0.8	-0.6
Other	90	0.9	0.9	0.9	1.0	1.0	1.0	0.5	0.8	1.0
Asia and Oceania	3,698	1.2	1.2	1.2	1.1	1.1	1.1	1.4	1.2	1.1
East Asia	1,555	0.5	0.5	0.6	0.6	0.6	0.6	0.9	0.6	0.6
China	1,322	0.6	0.6	0.6	0.6	0.7	0.7	1.0	0.6	0.6
Hong Kong	7	0.6	0.6	0.5	0.5	0.5	0.5	1.6	0.7	0.4
Japan	127	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.3	0.1	-0.2
Korea	49	0.4	0.4	0.4	0.4	0.3	0.3	1.0	0.5	0.3
Taiwan	23	0.6	0.6	0.6	0.6	0.5	0.5	0.9	0.6	0.5
Southeast Asia	574	1.3	1.2	1.2	1.2	1.2	1.1	1.7	1.3	1.1
Indonesia	235	1.3	1.2	1.2	1.2	1.1	1.1	1.6	1.3	1.1
Malaysia	25	1.8	1.8	1.8	1.7	1.7	1.7	2.2	1.9	1.7
Philippines	91	1.8	1.8	1.8	1.7	1.7	1.7	2.2	1.9	1.6
Thailand	65	0.7	0.7	0.7	0.6	0.6	0.6	1.1	0.7	0.5
Vietnam	85	1.0	1.0	1.0	1.0	1.0	1.0	1.6	1.1	1.0
South Asia	1,534	1.8	1.8	1.7	1.7	1.7	1.6	1.9	1.8	1.6
Bangladesh	150	2.1	2.1	2.1	2.0	2.0	1.9	1.7	2.1	1.9
India	1,130	1.7	1.6	1.6	1.6	1.5	1.5	1.8	1.7	1.5
Pakistan	169	2.1	2.1	2.0	2.0	1.9	1.9	2.5	2.1	1.8
Oceania	35	1.2	1.2	1.2	1.2	1.1	1.1	1.5	1.3	1.1
Australia	20	0.9	0.8	0.8	0.8	0.8	0.8	1.2	0.9	0.7
New Zealand	4	1.0	1.0	0.9	0.9	0.9	0.8	1.3	1.1	0.8
Other Asia and Oceania	194	1.8	1.6	1.6	1.5	1.5	1.5	2.1	1.9	1.5
Middle East	264	1.6	1.6	1.7	1.7	1.7	1.6	2.0	1.7	1.6
Iran	65	0.4	0.6	0.7	0.8	0.9	1.0	1.1	0.5	1.0
Iraq	27	2.7	2.7	2.6	2.6	2.5	2.5	2.3	2.8	2.4
Saudi Arabia	28	2.3	2.2	2.0	1.9	1.8	1.7	3.7	2.5	1.6
Turkey	71	1.1	1.1	1.0	1.0	1.0	0.9	1.6	1.2	0.9
Other	72	2.7	2.6	2.6	2.6	2.5	2.5	3.0	2.7	2.5
Africa	935	2.2	2.2	2.2	2.1	2.1	2.1	2.5	2.2	2.1
North Africa	164	1.6	1.6	1.5	1.5	1.5	1.5	2.1	1.7	1.4
Algeria	33	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.3	1.2
Egypt	80	1.8	1.7	1.7	1.7	1.6	1.6	2.2	1.9	1.5
Morocco	34	1.6	1.6	1.5	1.5	1.5	1.4	2.0	1.6	1.4
Tunisia	10	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.0	0.9
Sub-Saharan Africa	772	2.3	2.3	2.3	2.3	2.3	2.3	2.6	2.4	2.2
Republic of South Africa	44	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	1.4	0.0	-0.5
Other Sub-Saharan Africa	728	2.5	2.5	2.5	2.4	2.4	2.4	2.7	2.5	2.4

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

Source: U.S. Department of Commerce, Bureau of the Census and U.S. Department of Agriculture, Economic Research Service. The population assumptions were completed in August 2007.

## Crops

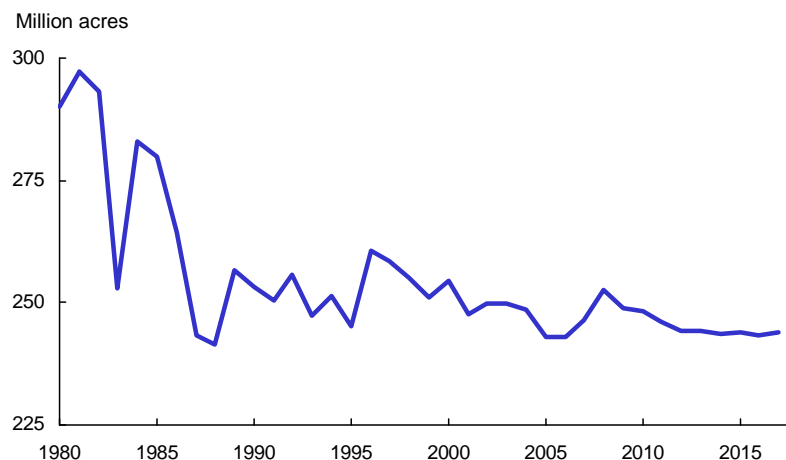
Strong expansion of corn-based ethanol production in the projections affects virtually every aspect of the field crops sector, ranging from domestic demand and exports to prices and the allocation of acreage among crops. Additionally, steady U.S. and global economic growth assumed in the projections provides a favorable setting for other uses of field crops, which, following the initially large ethanol expansion, supports longer run increases in consumption and trade and keeps prices at historically high levels.

Although tempered somewhat by higher feed prices, global livestock production rises in the projections in response to growing incomes and demand for meats, which supports gains in world consumption and trade for feed grains. Following a moderate depreciation of the U.S. dollar in the first several years of the projections, the dollar (U.S. agricultural export-weighted basis) is then projected to appreciate. The strengthening U.S. dollar, combined with trade competition from Brazil, Argentina, and the Black Sea region, constrains U.S. exports for some crops. Additionally, strong domestic use of corn due to increased ethanol production and the shift of land to corn from soybeans limit U.S. exports in the early years of the projections, particularly for corn and soybeans.

Assumptions for field crops reflect provisions of the Farm Security and Rural Investment Act of 2002 (2002 Farm Act), which is assumed to continue through the projection period. However, with high prices projected, benefits from price-sensitive programs are reduced. For example, marketing loan benefits and counter-cyclical payments for feed grains are minimal, even accounting for stochastic factors. High prices also lead to a reduction in area enrolled in the Conservation Reserve Program (CRP) through 2011. The CRP is then assumed to expand toward its 39.2 million acre maximum, reaching 37 million acres in 2017. CRP rental rates will increase as farmers' bids for participation in the program rise to reflect higher crop prices.

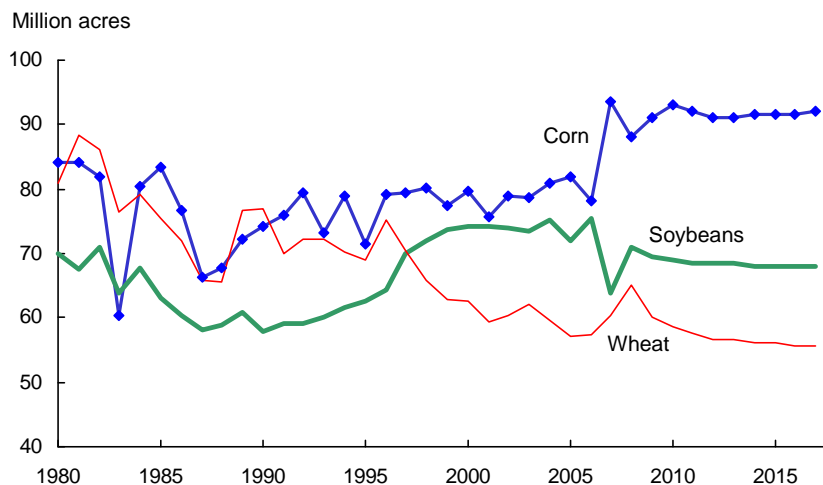
Projected plantings for the eight major field crops in the United States increase from about 246.5 million acres in 2007 to over 252 million in 2008 as the market responds to current high prices prompted by strong demand and lower global supplies of oilseeds and wheat. Although plantings for these eight crops then fall, they level off near 244 million acres during most of the projection period, as continued high prices and producer net returns hold land in production.

**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. planted area: Corn, wheat, and soybeans



Plantings of different crops are influenced by expected net returns. Net returns are determined by market prices, yields, and production costs, with returns augmented by marketing loan benefits when prices are low.

- Corn, wheat, and soybeans account for about 88 percent of acreage for the eight major field crops over the projection period. In 2008, there is some shift in the cropping mix toward wheat and soybeans and away from corn due to short-term global supply reductions for those crops. However, longer term shifts move acreage back to corn, reflecting the growth in domestic corn-based ethanol production that raises corn prices and producer returns.
- Following a decline in 2008, corn acreage increases and remains above 90 million acres over the remainder of the projections as the expansion in ethanol production increases corn demand, prices, and net returns.
- Soybean plantings decline to less than 70 million acres after 2008 reflecting more favorable returns to corn production.
- Wheat plantings rise sharply in 2008 in response to high prices resulting from tight global supplies. Wheat acreage falls back to about 56 million acres in the longer run due to competition from other crops.

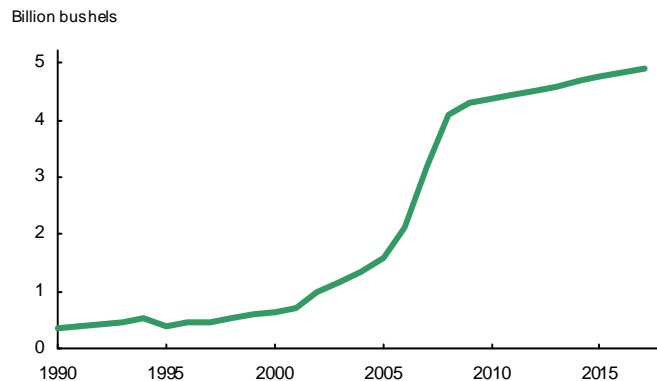
## Strong Ethanol Expansion Projected

Ethanol production in the United States has increased rapidly over the past several years, from less than 3 billion gallons in 2003 to over 6 billion gallons in 2007. Expansion in the industry is projected to continue, particularly over the next few years, exceeding 12 billion gallons by 2010. Although more moderate growth is projected in subsequent years, over 14 billion gallons of ethanol are produced annually by the end of the projection period. These projections assume the tax credit available to blenders of ethanol and the 54-cent-per-gallon tariff on imported ethanol used as fuel remain in effect. Provisions of the Energy Independence and Security Act of 2007 are not reflected in this report since the projections were completed prior to enactment of that legislation (see box, *Energy Independence and Security Act of 2007*, pages 23-24).

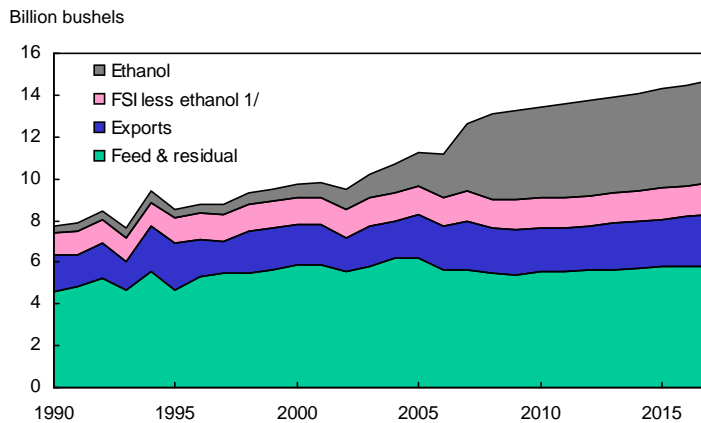
Most ethanol production in the United States uses corn as the feedstock. The large ongoing expansion results in almost a third of the corn crop used to produce ethanol by 2009/10, remaining near that share in subsequent years. Nonetheless, even by 2017, ethanol production (by volume) represents only about 8.5 percent of annual gasoline use in the United States.

Market adjustments to the increased demand for corn to produce ethanol extend well beyond the corn sector. Movements in relative prices trigger supply and demand adjustments for other crops. Higher feed costs affect the livestock sector, slowing increases in or reducing production of all meats over the next several years.

**U.S. corn: Use for ethanol production**



**U.S. corn use**



1/ Food, seed, and industrial less ethanol.

### **Energy Independence and Security Act of 2007**

The Energy Independence and Security Act of 2007 was enacted on December 19, 2007, after projections in this report were completed. Although the projections do not reflect the new energy act, major features of the legislation that relate to the Renewable Fuel Standard are illustrated in the following charts. Also, general qualitative effects are highlighted below.

The first chart shows the new Renewable Fuel Standard (RFS) from the 2007 Energy Act. The overall standard calls for total renewable fuel “sold or introduced into commerce in the United States” to reach 36 billion gallons by 2022. Within this standard, ethanol derived from corn starch is to reach 15 billion gallons. The remainder is to consist of “advanced biofuel” with specific volumes designated for cellulosic biofuel and biomass-based diesel.

The second and third charts compare the corn-based ethanol and biodiesel projections in this report with those designated in the RFS of the 2007 Energy Act. Ethanol derived from corn starch in the RFS reaches 15 billion gallons in 2015, about 2 billion gallons higher than projected for 2015 in this report. With the RFS for ethanol derived from corn starch holding at that level beyond 2015, the gap between it and the 2008 long-term projections narrows to about 1.5 billion gallons by 2018. The RFS for biomass-based diesel reaches 1 billion gallons in 2012 and “shall not be less than” that amount in later years. This compares with soybean-oil based biodiesel production of about 600 million gallons in the 2008 long-term projections.

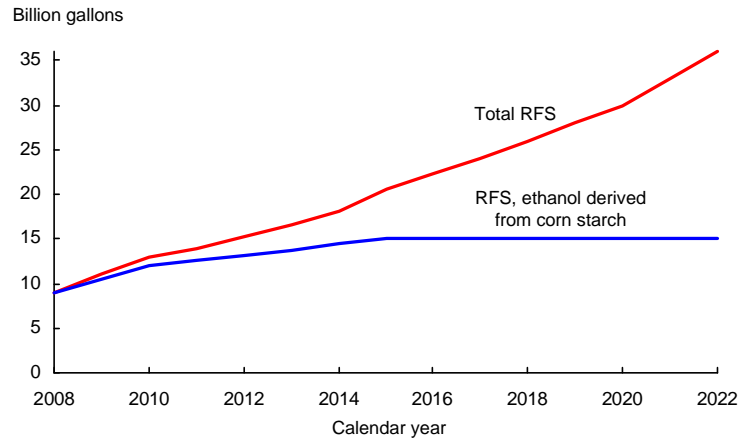
Although a complete quantitative analysis of the effects of the 2007 Energy Act’s RFS for ethanol derived from corn starch and biomass-based diesel is not presented here, general qualitative effects would include:

- Increased demand for corn and soybean oil raises prices for those commodities. Soybean prices would be higher as well.
- Higher commodity prices raise overall acreage planted to crops, with a greater combined share of the total going to corn and soybeans. Acreage planted to competing crops, such as cotton and wheat, would be expected to be lower, raising their prices.
- With a greater share of output going to biofuels, higher crop prices would lower other uses of crops, including exports and domestic feed use of feed grains. In contrast, soybean meal would be more plentiful as increased soybean crush for biodiesel production would raise soybean meal production as well.
- Higher feed prices would lead to further adjustments in the livestock sector than those presented and discussed in the Livestock chapter of this report.

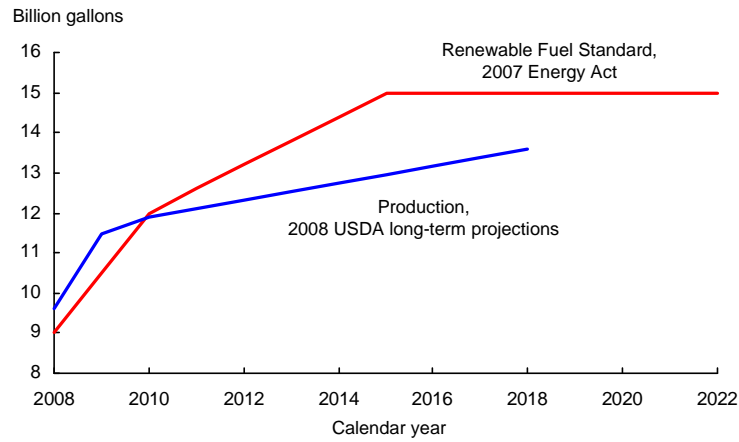
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## Energy Independence and Security Act of 2007 (Continued)

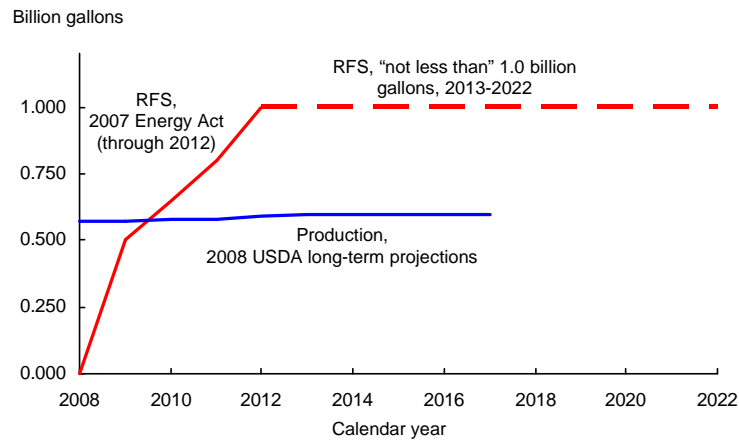
### Renewable Fuel Standard, 2007 Energy Act



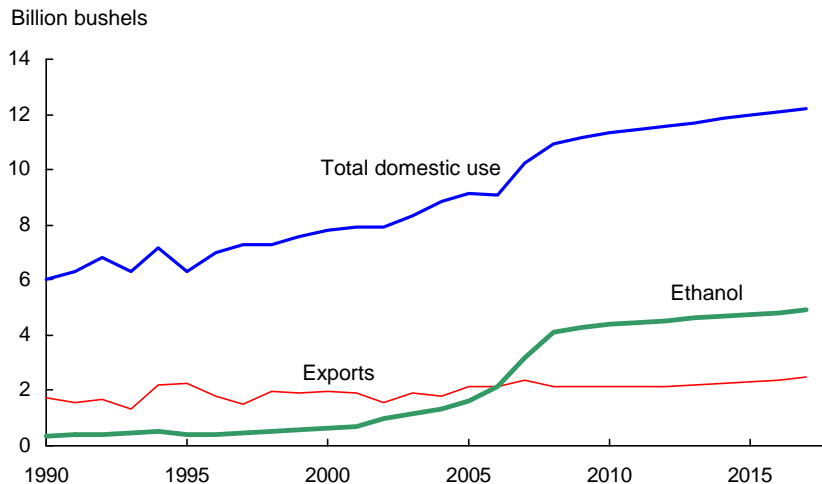
### Ethanol derived from corn starch



### Biodiesel



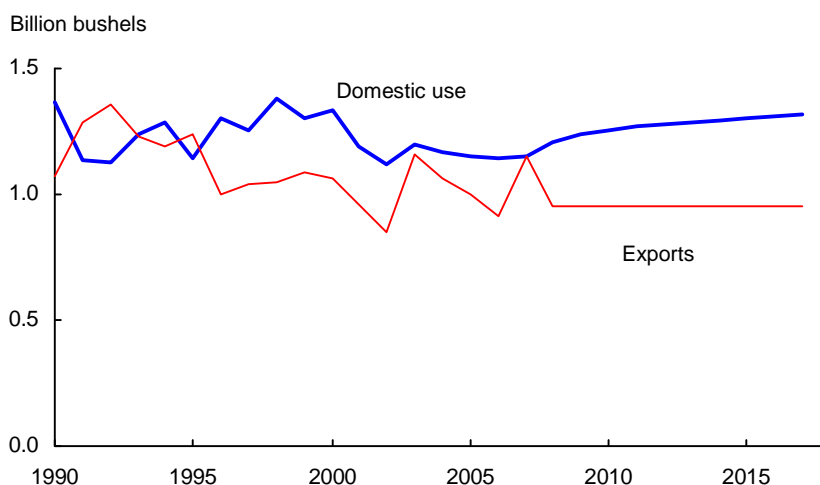
### U.S. corn: Domestic use, ethanol, and exports



Domestic corn use grows throughout the projection period, primarily reflecting increases in corn used in the production of ethanol. Global economic growth underlies increases in U.S. corn exports after 2011/12.

- Large increases are projected in corn used for ethanol production over the next several years. Relatively high prices for crude oil contribute to favorable returns for ethanol production, which combine with government programs to provide economic incentives for a continuation of the ongoing expansion in ethanol production capacity.
- Feed and residual use of corn declines in the initial years and then rises only moderately as increased feeding of distillers grains, a coproduct of dry mill ethanol production, helps meet livestock feed demand.
- Gains in food and industrial uses of corn (other than for ethanol production) are projected to be smaller than increases in population. Consumer dietary concerns and other changes in tastes and preferences limit increases in the combined use of corn for high fructose corn syrup, glucose, and dextrose to about half the rate of population gain.
- U.S. corn exports fall over the next several years as global corn trade declines from the record 2007/08 level and as more corn is used domestically in the production of ethanol. After growth in ethanol production in the United States slows, U.S. corn exports rise in response to stronger global demand for feed grains to support growth in meat production.
- Additionally, U.S. corn exports to Mexico are boosted because of the elimination of tariffs on corn imports from the United States. This shifts some U.S. exports to corn from sorghum and corn products, which already had tariff-free status.
- Strong ethanol demand in the projections pushes U.S. corn stocks lower than current levels.

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

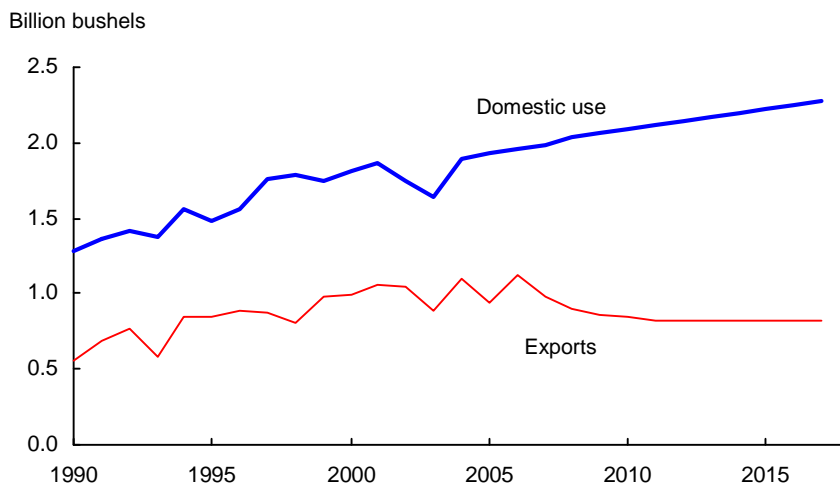


Overall demand in the U.S. wheat sector grows very slowly through the projection period.

- Domestic demand for wheat reflects a relatively mature market. Food use of wheat is projected to show moderate gains, generally in line with population increases.
- Feed use of wheat, a lower-value use of the crop, rises in the initial years of the projections from the levels of recent years as higher corn prices encourage increases in wheat feeding. As price relationships between wheat and corn stabilize, wheat feeding levels off after 2010/11.
- U.S. wheat exports are steady over the projections period as competition continues from the European Union (EU), Canada, Argentina, Australia, and the Black Sea region. In particular, wheat prices are projected at levels high enough that the EU can export wheat without subsidies, thus permitting higher EU exports. Consequently, the U.S. market share declines through the projections to under 20 percent by 2017/18. Market shares for Australia, Argentina, the EU, and the Black Sea region increase, while the market share for Canada continues to decline.
- Wheat stocks rebound from low 2007/08 levels as higher prices encourage additional acreage and production. Then in the later years of the projections, stocks decline as wheat acreage falls.



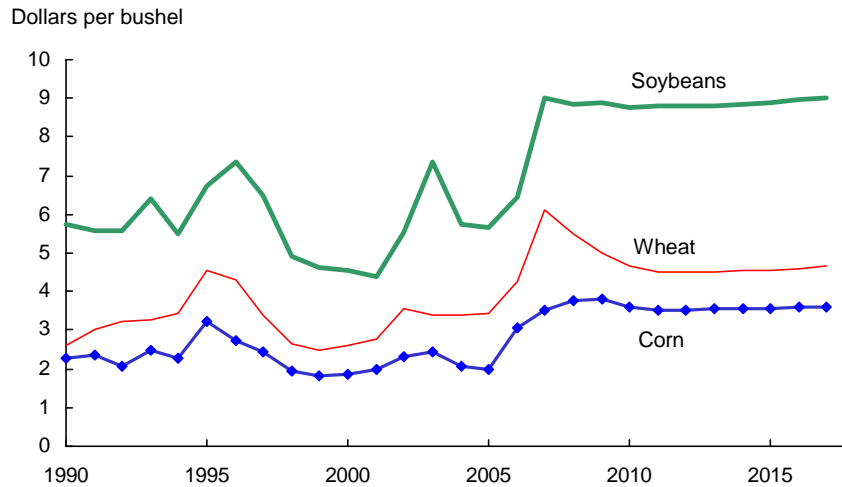
### U.S. soybeans: Domestic use and exports



Domestic use of soybeans continues to rise slowly. U.S. soybean exports fall, however, as acreage declines and as more soybeans are processed domestically.

- Longrun growth in domestic soybean crush is mostly driven by increasing demand for domestic soybean meal for livestock feed. Some gains in crush also reflect increases in domestic soybean oil demand for biodiesel production through 2013/14. Increases in export demand for soybean oil and soybean meal also add to crush demand.
- U.S. soybean exports fall below 900 million bushels as competition from Brazil strengthens and U.S. acreage shifts to corn to support ethanol production. Consequently, the U.S. market share of global soybean trade declines from 35 percent in 2007/08 to about 21 percent at the end of the projections.
- Although U.S. exports of soybean oil and soybean meal increase modestly, the United States loses market share in global trade of these products against the strengthening competition from South American producers.
- Following a decline in 2007/08 from historically high stocks, a rebound in soybean acreage in 2008 keeps stocks from falling further. After 2008, shifts in acreage to corn from soybeans keep soybean stocks from rebuilding and the stocks-to-use ratio declines.

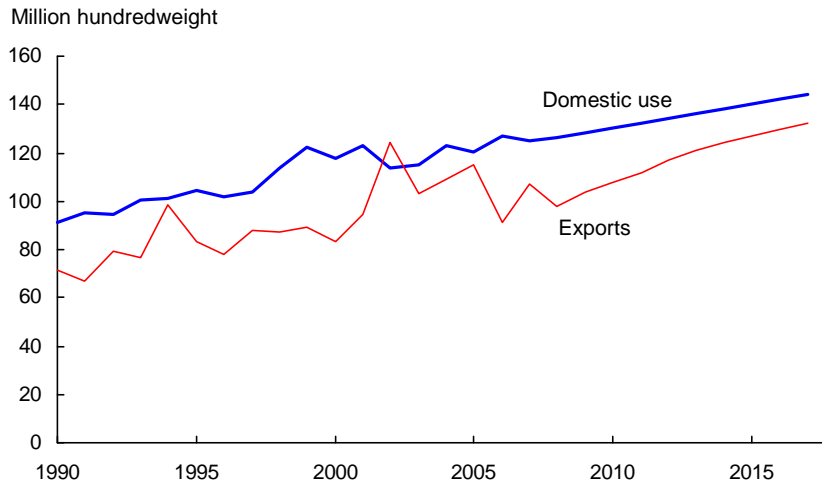
### U.S. farm-level prices: Corn, wheat, and soybeans



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

- Corn prices continue to rise through 2009/10 as increases in ethanol production strengthen corn demand. As ethanol expansion slows, stocks rebuild somewhat and corn prices decline. Then in the longer run, corn stocks-to-use ratios fall slowly as gains in corn used for ethanol production and moderate export growth outpace increases in production (resulting from generally higher acreage and gains in yields). Consequently, corn prices resume moderate growth and remain historically high.
- With competition from corn keeping soybean acreage lower, stocks are held relatively constant, the stocks-to-use ratio falls, and soybean prices remain high throughout the projections.
- Wheat prices decline from current levels in the early years of the projections as higher production facilitates the rebuilding of stocks. As wheat acreage declines in the latter years of the projections, stocks decline and push wheat prices up.

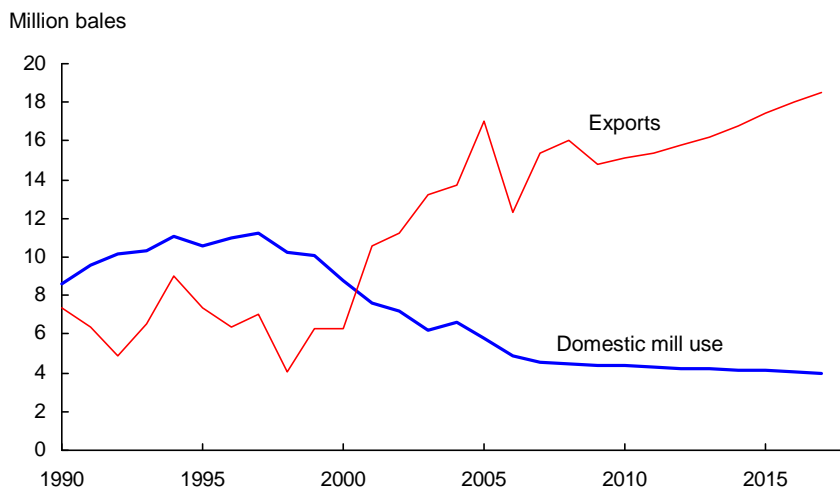
### U.S. rice: Domestic use and exports



Continued expansion in domestic food use of rice is projected over the next decade. U.S. rice exports show moderate increases.

- Domestic use of rice is projected to grow somewhat faster than population growth, although well below the rates in the 1980s and 1990s when per capita use rose rapidly. 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 at a moderate pace after 2008/09, as the U.S. price difference over Asian competitors falls, increasing U.S. competitiveness in global rice markets. Exports of rough rice to Latin America are expected to continue increasing, and account for most of the U.S. export expansion.
- Stocks of rice initially fall, but then gradually increase after 2008/09 as rice acreage rises.
- Global rice prices are projected to increase 2.5 to 3 percent per year, exceeding \$10.50 per hundredweight (rough basis) at the end of the projection period. These price increases largely reflect a tightening global stocks situation due to slow yield growth and little ability to expand area in most producing countries. This effect is partially offset by declining global per capita disappearance, largely due to dietary shifts away from staple foods in Asia as incomes rise.
- U.S. rice prices rise through the projection period, reaching about \$12.50 per hundredweight by 2017. The U.S. price difference over Asian competitors declines, but still remains relatively high at \$2.00 at the end of the projection period.

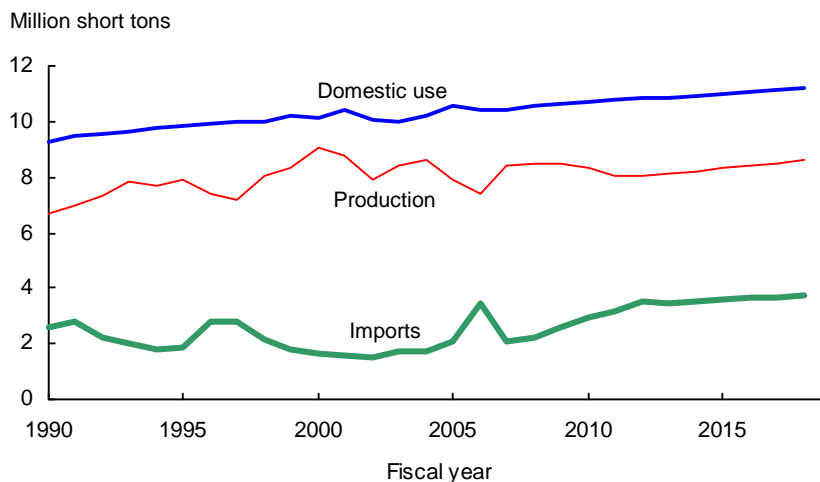
### U.S. upland cotton: Domestic mill use and exports



U.S. mill use of upland cotton declines in the projections while upland cotton exports rise after 2009/10.

- At the end of the projection period, domestic mill use is projected at less than 40 percent of its 1997/98 level. Textile and apparel import quotas that had been established under the Multifiber Arrangement (MFA) were eliminated at the start of calendar year 2005. As a result of this and other factors, apparel imports by the United States increase through the projections, reducing domestic apparel production and lowering the apparel industry's demand for fabric and yarn produced in the United States. Some increase in U.S. yarn and fabric exports is projected due to trade liberalization, but the net effect is for declining domestic mill use.
- U.S. upland cotton exports decline in 2009/10 from levels in the previous 2 years that were facilitated by high stock levels. Exports then grow moderately, accounting for about 80 percent of U.S. cotton production throughout much of the projection period.
- Growth in the textile industry in China slows from the rapid expansion of recent years, reducing growth in China's cotton imports. As a result, world cotton consumption and trade slow as well. With global trade growth slowing, gains in U.S. cotton exports after 2009/10 keep the U.S. cotton trade share at about one-third, down from 41 percent in 2003/04 and 2004/05.
- Cotton stocks decline in the first several years of the projections as some acreage shifts to corn. Beyond 2009/10, cotton acreage increases and stocks rebuild through the end of the projections.

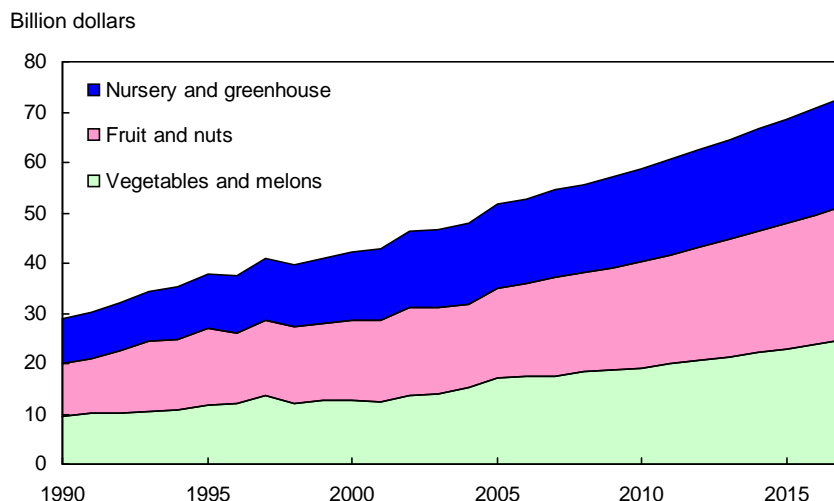
### U.S. sugar: Domestic production, use, and imports



The U.S. sugar price support program includes the loan rate program and marketing allotments as set out in the 2002 Farm Act. Sugar projections for the United States also are strongly interrelated with projections for Mexico. Starting January 1, 2008, there are no duties or quantitative restraints on sugar or high fructose corn syrup (HFCS) trade between the United States and Mexico, in compliance with the North American Free Trade Agreement (NAFTA).

- Use of HFCS by Mexico's beverage industry is projected to increase beyond current levels, implying a higher exportable surplus of sugar in Mexico. Returns in Mexico from exporting sugar to the United States are projected to be higher than either delivering sugar to domestic food manufacturers for use in sugar-containing-product exports or exporting sugar to other countries at world prices. Over the period from fiscal year (FY) 2009 through 2018, annual U.S. sugar imports from Mexico are projected to average 1.568 million short tons, raw value (STRV), about 15 percent of human consumption of sugar in the United States.
- U.S. sugar imports are projected to exceed the trigger (1.532 million STRV) for suspension of marketing allotments in all years of the projections. U.S. sugar prices are driven down to the minimum level to avoid forfeiture to the Commodity Credit Corporation (CCC). It is assumed that the USDA uses all available measures to reduce CCC program costs. In spite of flat sugar prices, historical growth trends in productivity measures underlying domestic U.S. sugar production projections (sugar per acre, and beet and cane yields) are assumed to continue.
- Long term sugar projections assume that the raw sugar tariff-rate quota (TRQ) is established each year at 1.231 million STRV, the World Trade Organization (WTO) minimum access level. The refined sugar TRQ is established each year at 94,251 STRV. The refined TRQ includes 71,826 STRV of specialty (mostly organic) sugar. Sugar imported under the Dominican and Central American Free Trade Agreement is projected at 121,761 STRV in FY 2009 and increases by 2,237 STRV each year. The yearly raw sugar TRQ shortfall is assumed to equal 70,000 STRV.
- Overall sweetener consumption in the United States is assumed to grow at about the same rate as population. Imports of sugar-containing product are expected to grow faster than population, so per capita consumption of domestically delivered sugar decreases slightly during the projections period.

### Value of U.S. horticultural production



The total farmgate production value of U.S. horticultural crops for 2007 was \$55 billion, with about a third contributed by each of vegetables, fruits and nuts, and nursery and greenhouse crops. The total production value grows by 3.2 percent annually over the next decade, reaching \$73.7 billion in 2017.

- U.S. imports of horticultural products (fruit and nuts, vegetables, greenhouse and nursery products, essential oils, beer, and wine) are projected to continue outpacing exports, with net imports expected to increase about \$12 billion from 2007 to 2017. The appreciation of the U.S. dollar after 2011 is an important factor affecting trade, slowing export demand for U.S. horticultural products and raising U.S. import demand.
- U.S. horticultural imports are expected to grow by about 4 percent annually through 2017. Imports play an important role in domestic supply during the winter and, increasingly, during other times of the year. Reduced trade barriers offer U.S. consumers increased variety, with freer trade also enhancing global competition.
- The EU is the top source of U.S. horticultural imports, accounting for \$9 billion out of a total \$32.4 billion in 2007. Mexico is the second biggest source of U.S. horticultural imports (\$7.4 billion in 2007) followed by Canada (\$3.5 billion). Chile and Brazil are also large sources of horticultural product imports by the United States. Key import commodities include potatoes, tomatoes, bananas, grapes, frozen concentrated orange juice, apple juice, melons, tree nuts (especially cashews), wine, beer, and essential oils.
- U.S. horticultural exports are expected to grow by 3 percent a year through 2017, with the major export markets including Canada, the EU, Mexico, Japan, and Southeast Asia. Exports of almonds, other tree nuts, and noncitrus fruits will lead export growth of fruit and nuts. Exports of fresh vegetables will be stronger than processed vegetables. Exports of wine and essential oils are also expected to increase.

Table 4. Summary policy variables for major field crops, 2006-2017

	Direct payment rate	Marketing assistance loan rate	Target price
	<i>Dollars<sup>1</sup></i>		
Corn	0.28	1.95	2.63
Sorghum	0.35	1.95	2.57
Barley	0.24	1.85	2.24
Oats	0.024	1.33	1.44
Wheat	0.52	2.75	3.92
Rice	2.35	6.50	10.50
Upland cotton	0.0667	0.52	0.724
Soybeans	0.44	5.00	5.80

1/ Units are dollars per bushel except for upland cotton (per pound) and rice (per hundredweight).

Table 5. Conservation Reserve Program acreage assumptions

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	<i>Million acres</i>											
Crop allocation												
Corn	6.2	6.3	6.0	5.9	5.7	5.7	5.7	5.8	5.9	6.1	6.3	6.4
Sorghum	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0
Barley	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9
Oats	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Wheat	8.6	8.8	8.3	8.2	8.0	7.9	8.0	8.0	8.2	8.5	8.8	8.9
Upland cotton	1.6	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.6
Soybeans	5.7	5.8	5.5	5.4	5.3	5.2	5.2	5.3	5.4	5.6	5.8	5.8
Subtotal	24.3	24.8	23.5	23.1	22.5	22.2	22.4	22.5	23.1	23.9	24.7	25.0
Other	11.7	12.0	11.3	11.1	10.9	10.7	10.8	10.9	11.2	11.5	11.9	12.0
Total	36.0	36.8	34.8	34.2	33.4	32.9	33.2	33.4	34.3	35.4	36.6	37.0

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

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Million acres</i>												
Planted acreage, eight major crops												
Corn	78.3	93.6	88.0	91.0	93.0	92.0	91.0	91.0	91.5	91.5	91.5	92.0
Sorghum	6.5	7.7	7.0	6.5	6.0	6.0	5.9	5.9	5.8	5.8	5.7	5.7
Barley	3.5	4.0	4.5	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Oats	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Wheat	57.3	60.4	65.0	60.0	58.5	57.5	56.5	56.5	56.0	56.0	55.5	55.5
Rice	2.8	2.7	2.8	2.9	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.2
Upland cotton	14.9	10.6	10.5	11.2	11.5	11.7	11.8	11.9	12.0	12.1	12.2	12.3
Soybeans	75.5	63.7	71.0	69.5	69.0	68.5	68.5	68.5	68.0	68.0	68.0	68.0
Total	243.0	246.5	252.6	248.9	248.3	246.0	244.1	244.2	243.7	243.9	243.4	244.0
Harvested acreage, eight major crops												
Corn	70.6	86.1	80.6	83.6	85.6	84.6	83.6	83.6	84.1	84.1	84.1	84.6
Sorghum	4.9	6.7	6.0	5.5	5.1	5.1	5.0	5.0	4.9	4.9	4.9	4.9
Barley	3.0	3.5	3.9	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Oats	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Wheat	46.8	51.0	55.3	51.0	49.7	48.9	48.0	48.0	47.6	47.6	47.2	47.2
Rice	2.8	2.7	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.2	3.2
Upland cotton	12.4	10.3	9.7	10.3	10.6	10.8	10.9	10.9	11.0	11.1	11.2	11.3
Soybeans	74.6	62.8	70.1	68.6	68.1	67.6	67.6	67.6	67.1	67.1	67.1	67.1
Total	216.7	224.6	230.0	227.0	226.6	224.6	222.7	222.8	222.4	222.5	222.3	222.9



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

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<b>Yields<sup>1</sup></b>												
Corn	149.1	153.0	155.3	157.3	159.3	161.3	163.3	165.3	167.3	169.3	171.3	173.3
Sorghum	56.2	76.8	66.1	66.5	67.0	67.4	67.9	68.3	68.8	69.2	69.7	70.1
Barley	61.1	60.4	65.0	65.6	66.2	66.8	67.4	68.0	68.6	69.2	69.8	70.4
Oats	59.8	60.9	63.1	63.5	63.9	64.3	64.7	65.1	65.5	65.9	66.3	66.7
Wheat	38.7	40.5	42.5	42.8	43.1	43.4	43.7	44.0	44.3	44.6	44.9	45.2
Rice	6,868	7,247	7,222	7,284	7,351	7,419	7,481	7,543	7,608	7,666	7,725	7,784
Upland cotton	806	845	860	875	885	895	905	915	925	935	945	955
Soybeans	42.7	41.3	42.1	42.6	43.0	43.5	43.9	44.4	44.8	45.3	45.7	46.2
<b>Production<sup>2</sup></b>												
Corn	10,535	13,168	12,515	13,150	13,635	13,645	13,650	13,820	14,070	14,240	14,405	14,660
Sorghum	278	515	395	365	340	345	340	340	335	340	340	345
Barley	180	212	255	230	200	200	200	205	205	210	210	210
Oats	94	92	100	100	100	105	105	105	105	105	105	105
Wheat	1,812	2,067	2,350	2,185	2,140	2,120	2,100	2,110	2,110	2,125	2,120	2,135
Rice	193.7	197.9	201.0	210.0	215.5	221.2	226.8	232.4	236.3	240.0	243.8	247.6
Upland cotton	20,823	18,050	17,400	18,800	19,500	20,100	20,600	20,800	21,200	21,600	22,100	22,500
Soybeans	3,188	2,594	2,950	2,920	2,930	2,935	2,970	3,000	3,005	3,035	3,065	3,095
<b>Exports<sup>2</sup></b>												
Corn	2,125	2,350	2,150	2,150	2,125	2,125	2,150	2,200	2,250	2,325	2,400	2,475
Sorghum	157	275	150	150	150	155	160	165	170	175	180	185
Barley	20	50	25	25	25	25	25	25	25	25	25	25
Oats	3	2	3	3	3	3	3	3	3	3	3	3
Wheat	909	1,150	950	950	950	950	950	950	950	950	950	950
Rice	91.3	107.0	98.0	104.0	108.0	112.0	117.0	121.0	124.0	127.0	129.5	132.0
Upland cotton	12,338	15,400	16,000	14,800	15,100	15,400	15,800	16,200	16,800	17,400	18,000	18,500
Soybeans	1,118	975	905	865	850	825	820	825	815	820	825	825
Soybean meal	8,850	8,300	8,700	8,850	8,950	9,050	9,100	9,100	9,100	9,100	9,100	9,100
<b>Ending stocks<sup>2</sup></b>												
Corn	1,304	1,897	1,327	1,202	1,402	1,502	1,447	1,377	1,372	1,327	1,262	1,237
Sorghum	32	57	52	52	52	52	52	52	52	52	52	52
Barley	69	51	86	91	90	89	88	92	90	93	91	89
Oats	51	45	47	49	51	53	55	57	54	51	48	45
Wheat	456	312	606	703	742	749	732	716	696	683	661	645
Rice	39.3	27.1	25.9	26.4	27.3	28.5	29.1	30.0	30.6	30.5	30.5	30.5
Upland cotton	9,368	7,519	4,469	4,069	4,119	4,519	5,069	5,469	5,719	5,819	5,869	5,869
Soybeans	573	210	219	210	202	193	199	204	204	203	201	204
<b>Prices<sup>3</sup></b>												
Corn	3.04	3.50	3.75	3.80	3.60	3.50	3.50	3.55	3.55	3.55	3.60	3.60
Sorghum	3.29	3.30	3.50	3.55	3.35	3.25	3.25	3.30	3.30	3.30	3.35	3.35
Barley	2.85	3.85	4.30	4.25	4.00	3.85	3.80	3.85	3.85	3.85	3.90	3.90
Oats	1.87	2.40	2.45	2.45	2.30	2.25	2.25	2.25	2.25	2.25	2.30	2.30
Wheat	4.26	6.10	5.50	5.00	4.65	4.50	4.50	4.50	4.55	4.55	4.60	4.65
Rice	9.74	11.00	11.15	11.30	11.46	11.58	11.71	11.84	11.98	12.12	12.32	12.53
Soybeans	6.43	9.00	8.85	8.90	8.75	8.80	8.80	8.80	8.85	8.90	8.95	9.00
Soybean oil	0.310	0.395	0.385	0.385	0.383	0.383	0.383	0.383	0.385	0.385	0.385	0.385
Soybean meal	205.4	250.0	240.0	242.5	237.0	238.0	238.0	238.5	238.5	240.0	241.5	243.0

1/ Bushels per acre except for upland cotton and rice (pounds per acre).

2/ Million bushels except for upland cotton (thousand bales), rice (million hundredweight), and soybean meal (thousand tons).

3/ Dollars per bushel except for soybean oil (per pound), rice (per hundredweight), and soybean meal (per ton).

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	78.3	93.6	88.0	91.0	93.0	92.0	91.0	91.0	91.5	91.5	91.5	92.0
Harvested acres	70.6	86.1	80.6	83.6	85.6	84.6	83.6	83.6	84.1	84.1	84.1	84.6
Yields (bushels per acre):												
Yield/harvested acre	149.1	153.0	155.3	157.3	159.3	161.3	163.3	165.3	167.3	169.3	171.3	173.3
Supply and use (million bushels):												
Beginning stocks	1,967	1,304	1,897	1,327	1,202	1,402	1,502	1,447	1,377	1,372	1,327	1,262
Production	10,535	13,168	12,515	13,150	13,635	13,645	13,650	13,820	14,070	14,240	14,405	14,660
Imports	12	15	15	15	15	15	15	15	15	15	15	15
Supply	12,514	14,487	14,427	14,492	14,852	15,062	15,167	15,282	15,462	15,627	15,747	15,937
Feed & residual	5,598	5,650	5,450	5,425	5,525	5,550	5,600	5,650	5,700	5,750	5,775	5,825
Food, seed, & industrial	3,488	4,590	5,500	5,715	5,800	5,885	5,970	6,055	6,140	6,225	6,310	6,400
Ethanol for fuel	2,117	3,200	4,100	4,300	4,375	4,450	4,525	4,600	4,675	4,750	4,825	4,900
Domestic use	9,086	10,240	10,950	11,140	11,325	11,435	11,570	11,705	11,840	11,975	12,085	12,225
Exports	2,125	2,350	2,150	2,150	2,125	2,125	2,150	2,200	2,250	2,325	2,400	2,475
Total use	11,210	12,590	13,100	13,290	13,450	13,560	13,720	13,905	14,090	14,300	14,485	14,700
Ending stocks	1,304	1,897	1,327	1,202	1,402	1,502	1,447	1,377	1,372	1,327	1,262	1,237
Stocks/use ratio, percent	11.6	15.1	10.1	9.0	10.4	11.1	10.5	9.9	9.7	9.3	8.7	8.4
Prices (dollars per bushel):												
Farm price	3.04	3.50	3.75	3.80	3.60	3.50	3.50	3.55	3.55	3.55	3.60	3.60
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Variable costs of production (dollars):												
Per acre	203	227	237	244	248	251	255	257	261	264	268	271
Per bushel	1.36	1.48	1.53	1.55	1.56	1.56	1.56	1.56	1.56	1.56	1.56	1.57
Returns over variable costs (dollars per acre):												
Net returns	250	309	345	354	326	313	317	329	333	337	349	352

Note: Marketing year beginning September 1 for corn.

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	6.5	7.7	7.0	6.5	6.0	6.0	5.9	5.9	5.8	5.8	5.7	5.7
Harvested acres	4.9	6.7	6.0	5.5	5.1	5.1	5.0	5.0	4.9	4.9	4.9	4.9
Yields (bushels per acre):												
Yield/harvested acre	56.2	76.8	66.1	66.5	67.0	67.4	67.9	68.3	68.8	69.2	69.7	70.1
Supply and use (million bushels):												
Beginning stocks	66	32	57	52	52	52	52	52	52	52	52	52
Production	278	515	395	365	340	345	340	340	335	340	340	345
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	343	547	452	417	392	397	392	392	387	392	392	397
Feed & residual	109	180	190	150	120	120	110	105	95	95	90	90
Food, seed, & industrial	45	35	60	65	70	70	70	70	70	70	70	70
Domestic	154	215	250	215	190	190	180	175	165	165	160	160
Exports	157	275	150	150	150	155	160	165	170	175	180	185
Total use	311	490	400	365	340	345	340	340	335	340	340	345
Ending stocks	32	57	52	52	52	52	52	52	52	52	52	52
Stocks/use ratio, percent	10.3	11.6	13.0	14.2	15.3	15.1	15.3	15.3	15.5	15.3	15.3	15.1
Prices (dollars per bushel):												
Farm price	3.29	3.30	3.50	3.55	3.35	3.25	3.25	3.30	3.30	3.30	3.35	3.35
Loan rate	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Variable costs of production (dollars):												
Per acre	117	126	132	136	139	141	143	145	147	150	152	155
Per bushel	2.07	1.64	2.00	2.05	2.07	2.09	2.11	2.12	2.14	2.17	2.18	2.21
Returns over variable costs (dollars per acre):												
Net returns	68	127	99	100	86	78	78	80	80	78	81	80

Note: Marketing year beginning September 1 for sorghum.

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	3.5	4.0	4.5	4.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Harvested acres	3.0	3.5	3.9	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Yields (bushels per acre):												
Yield/harvested acre	61.1	60.4	65.0	65.6	66.2	66.8	67.4	68.0	68.6	69.2	69.8	70.4
Supply and use (million bushels):												
Beginning stocks	108	69	51	86	91	90	89	88	92	90	93	91
Production	180	212	255	230	200	200	200	205	205	210	210	210
Imports	12	20	25	25	25	25	25	25	25	25	25	25
Supply	300	301	331	341	316	315	314	318	322	325	328	326
Feed & residual	56	50	65	70	45	45	45	45	50	50	55	55
Food, seed, & industrial	156	150	155	155	156	156	156	156	157	157	157	157
Domestic	211	200	220	225	201	201	201	201	207	207	212	212
Exports	20	50	25	25	25	25	25	25	25	25	25	25
Total use	231	250	245	250	226	226	226	226	232	232	237	237
Ending stocks	69	51	86	91	90	89	88	92	90	93	91	89
Stocks/use ratio, percent	29.9	20.4	35.1	36.4	39.8	39.4	38.9	40.7	38.8	40.1	38.4	37.6
Prices (dollars per bushel):												
Farm price	2.85	3.85	4.30	4.25	4.00	3.85	3.80	3.85	3.85	3.85	3.90	3.90
Loan rate	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Variable costs of production (dollars):												
Per acre	100	109	114	117	119	121	123	124	126	128	130	132
Per bushel	1.63	1.80	1.75	1.79	1.80	1.81	1.82	1.82	1.84	1.85	1.86	1.87
Returns over variable costs (dollars per acre):												
Net returns	74	124	166	162	146	136	134	138	138	139	142	143

Note: Marketing year beginning June 1 for barley.

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	4.2	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
Harvested acres	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Yields (bushels per acre):												
Yield/harvested acre	59.8	60.9	63.1	63.5	63.9	64.3	64.7	65.1	65.5	65.9	66.3	66.7
Supply and use (million bushels):												
Beginning stocks	53	51	45	47	49	51	53	55	57	54	51	48
Production	94	92	100	100	100	105	105	105	105	105	105	105
Imports	106	110	100	100	100	100	100	100	100	100	100	100
Supply	252	252	245	247	249	256	258	260	262	259	256	253
Feed & residual	125	130	120	120	120	125	125	125	130	130	130	130
Food, seed, & industrial	74	75	75	75	75	75	75	75	75	75	75	75
Domestic	199	205	195	195	195	200	200	200	205	205	205	205
Exports	3	2	3	3	3	3	3	3	3	3	3	3
Total use	202	207	198	198	198	203	203	203	208	208	208	208
Ending stocks	51	45	47	49	51	53	55	57	54	51	48	45
Stocks/use ratio, percent	25.2	21.7	23.7	24.7	25.8	26.1	27.1	28.1	26.0	24.5	23.1	21.6
Prices (dollars per bushel):												
Farm price	1.87	2.40	2.45	2.45	2.30	2.25	2.25	2.25	2.25	2.25	2.30	2.30
Loan rate	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Variable costs of production (dollars):												
Per acre	95	105	110	113	115	117	118	120	121	123	125	127
Per bushel	1.59	1.72	1.74	1.78	1.80	1.81	1.83	1.84	1.85	1.87	1.89	1.90
Returns over variable costs (dollars per acre):												
Net returns	17	42	45	43	32	28	27	27	26	25	27	26

Note: Marketing year beginning June 1 for oats.

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	57.3	60.4	65.0	60.0	58.5	57.5	56.5	56.5	56.0	56.0	55.5	55.5
Harvested acres	46.8	51.0	55.3	51.0	49.7	48.9	48.0	48.0	47.6	47.6	47.2	47.2
Yields (bushels per acre):												
Yield/harvested acre	38.7	40.5	42.5	42.8	43.1	43.4	43.7	44.0	44.3	44.6	44.9	45.2
Supply and use (million bushels):												
Beginning stocks	571	456	312	606	703	742	749	732	716	696	683	661
Production	1,812	2,067	2,350	2,185	2,140	2,120	2,100	2,110	2,110	2,125	2,120	2,135
Imports	122	90	100	100	105	105	110	110	115	115	120	120
Supply	2,505	2,613	2,762	2,891	2,948	2,967	2,959	2,952	2,941	2,936	2,923	2,916
Food	934	940	950	959	968	977	986	995	1,004	1,013	1,022	1,031
Seed	81	86	81	79	78	76	76	76	76	75	75	75
Feed & residual	125	125	175	200	210	215	215	215	215	215	215	215
Domestic	1,140	1,151	1,206	1,238	1,256	1,268	1,277	1,286	1,295	1,303	1,312	1,321
Exports	909	1,150	950	950	950	950	950	950	950	950	950	950
Total use	2,049	2,301	2,156	2,188	2,206	2,218	2,227	2,236	2,245	2,253	2,262	2,271
Ending stocks	456	312	606	703	742	749	732	716	696	683	661	645
Stocks/use ratio, percent	22.3	13.6	28.1	32.1	33.6	33.8	32.9	32.0	31.0	30.3	29.2	28.4
Prices (dollars per bushel):												
Farm price	4.26	6.10	5.50	5.00	4.65	4.50	4.50	4.50	4.55	4.55	4.60	4.65
Loan rate	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Variable costs of production (dollars):												
Per acre	86	94	98	101	103	105	106	107	109	111	112	114
Per bushel	2.21	2.32	2.31	2.37	2.39	2.41	2.43	2.44	2.46	2.48	2.51	2.52
Returns over variable costs (dollars per acre):												
Net returns	79	153	135	113	97	91	91	91	92	92	94	96

Note: Marketing year beginning June 1 for wheat.

Table 13. U.S. soybean and products long-term projections

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<b>Soybeans</b>												
Area (million acres):												
Planted	75.5	63.7	71.0	69.5	69.0	68.5	68.5	68.5	68.0	68.0	68.0	68.0
Harvested	74.6	62.8	70.1	68.6	68.1	67.6	67.6	67.6	67.1	67.1	67.1	67.1
Yield/harvested acre (bushels)	42.7	41.3	42.1	42.6	43.0	43.5	43.9	44.4	44.8	45.3	45.7	46.2
Supply (million bushels)												
Beginning stocks, September 1	449	573	210	219	210	202	193	199	204	204	203	201
Production	3,188	2,594	2,950	2,920	2,930	2,935	2,970	3,000	3,005	3,035	3,065	3,095
Imports	9	6	6	4	4	4	4	4	4	4	4	4
Total supply	3,647	3,173	3,166	3,143	3,144	3,141	3,167	3,203	3,213	3,243	3,272	3,300
Disposition (million bushels)												
Crush	1,806	1,825	1,865	1,895	1,920	1,950	1,975	2,000	2,020	2,045	2,070	2,095
Seed and residual	149	163	177	173	172	173	174	174	174	175	176	177
Exports	1,118	975	905	865	850	825	820	825	815	820	825	825
Total disposition	3,074	2,963	2,947	2,933	2,942	2,948	2,969	2,999	3,009	3,040	3,071	3,097
Carryover stocks, August 31												
Total ending stocks	573	210	219	210	202	193	199	204	204	203	201	204
Stocks/use ratio, percent	18.6	7.1	7.4	7.2	6.9	6.5	6.7	6.8	6.8	6.7	6.5	6.6
Prices (dollars per bushel)												
Loan rate	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Soybean price, farm	6.43	9.00	8.85	8.90	8.75	8.80	8.80	8.80	8.85	8.90	8.95	9.00
Variable costs of production (dollars):												
Per acre	97	105	109	113	114	115	116	117	119	120	122	123
Per bushel	2.27	2.55	2.60	2.64	2.65	2.65	2.65	2.65	2.65	2.65	2.66	2.66
Returns over variable costs (dollars per acre):												
Net returns	178	266	263	267	262	268	270	273	278	283	287	293
<b>Soybean oil (million pounds)</b>												
Beginning stocks, October 1	3,010	2,912	2,017	1,882	1,967	1,967	1,987	1,947	1,872	1,782	1,757	1,772
Production	20,484	20,715	21,215	21,575	21,880	22,240	22,545	22,850	23,100	23,405	23,710	24,020
Imports	40	40	50	60	70	80	90	100	110	120	130	140
Total supply	23,533	23,667	23,282	23,517	23,917	24,287	24,622	24,897	25,082	25,307	25,597	25,932
Domestic disappearance	18,721	20,100	20,150	20,300	20,550	20,775	21,100	21,400	21,650	21,900	22,150	22,400
For methyl ester <sup>1</sup>	2,794	4,200	4,200	4,200	4,250	4,250	4,350	4,400	4,400	4,400	4,400	4,400
Exports	1,900	1,550	1,250	1,250	1,400	1,525	1,575	1,625	1,650	1,650	1,675	1,700
Total demand	20,621	21,650	21,400	21,550	21,950	22,300	22,675	23,025	23,300	23,550	23,825	24,100
Ending stocks, September 30	2,912	2,017	1,882	1,967	1,967	1,987	1,947	1,872	1,782	1,757	1,772	1,832
Soybean oil price (dollars per lb)	0.310	0.395	0.385	0.385	0.383	0.383	0.383	0.383	0.385	0.385	0.385	0.385
<b>Soybean meal (thousand short tons)</b>												
Beginning stocks, October 1	314	351	300	300	300	300	300	300	300	300	300	300
Production	43,021	43,384	44,385	45,085	45,735	46,385	46,985	47,560	48,135	48,710	49,310	49,910
Imports	155	165	165	165	165	165	165	165	165	165	165	165
Total supply	43,489	43,900	44,850	45,550	46,200	46,850	47,450	48,025	48,600	49,175	49,775	50,375
Domestic disappearance	34,288	35,300	35,850	36,400	36,950	37,500	38,050	38,625	39,200	39,775	40,375	40,975
Exports	8,850	8,300	8,700	8,850	8,950	9,050	9,100	9,100	9,100	9,100	9,100	9,100
Total demand	43,138	43,600	44,550	45,250	45,900	46,550	47,150	47,725	48,300	48,875	49,475	50,075
Ending stocks, September 30	351	300	300	300	300	300	300	300	300	300	300	300
Soybean meal price (dollars per ton)	205.44	250.00	240.00	242.50	237.00	238.00	238.00	238.50	238.50	240.00	241.50	243.00
Crushing yields (pounds per bushel)												
Soybean oil	11.34	11.35	11.38	11.39	11.40	11.41	11.42	11.43	11.44	11.45	11.46	11.47
Soybean meal	47.64	47.54	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60	47.60
Crush margin (dollars per bushel)	1.98	1.43	1.24	1.25	1.25	1.23	1.23	1.25	1.23	1.22	1.21	1.20

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

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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (thousand acres):												
Planted	2,838	2,748	2,800	2,900	2,950	3,000	3,050	3,100	3,125	3,150	3,175	3,200
Harvested	2,821	2,731	2,783	2,883	2,932	2,982	3,032	3,081	3,106	3,131	3,156	3,181
Yields (pounds per acre):												
Yield/harvested acre	6,868	7,247	7,222	7,284	7,351	7,419	7,481	7,543	7,608	7,666	7,725	7,784
Supply and use (million cwt):												
Beginning stocks	43.0	39.3	27.1	25.9	26.4	27.3	28.5	29.1	30.0	30.6	30.5	30.5
Production	193.7	197.9	201.0	210.0	215.5	221.2	226.8	232.4	236.3	240.0	243.8	247.6
Imports	20.6	21.5	22.0	22.7	23.3	24.0	24.8	25.5	26.3	27.1	27.9	28.7
Total supply	257.3	258.7	250.1	258.5	265.3	272.5	280.1	287.0	292.6	297.6	302.2	306.8
Domestic use and residual	126.7	124.7	126.2	128.1	130.0	132.0	134.0	136.0	138.0	140.1	142.2	144.3
Exports	91.3	107.0	98.0	104.0	108.0	112.0	117.0	121.0	124.0	127.0	129.5	132.0
Total use	218.0	231.7	224.2	232.1	238.0	244.0	251.0	257.0	262.0	267.1	271.7	276.3
Ending stocks (million cwt.)	39.3	27.1	25.9	26.4	27.3	28.5	29.1	30.0	30.6	30.5	30.5	30.5
Stocks/use ratio, percent	18.0	11.7	11.5	11.4	11.5	11.7	11.6	11.7	11.7	11.4	11.2	11.0
Milling rate, percent	71.0	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5	70.5
Prices (dollars per cwt.):												
World price	7.31	8.10	8.35	8.60	8.86	9.08	9.31	9.54	9.78	10.02	10.27	10.53
Average market price	9.74	11.00	11.15	11.30	11.46	11.58	11.71	11.84	11.98	12.12	12.32	12.53
Loan rate	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Variable costs of production (dollars):												
Per acre	437	470	492	508	516	523	530	536	544	552	560	568
Per cwt.	6.36	6.49	6.81	6.97	7.01	7.05	7.08	7.11	7.15	7.20	7.25	7.30
Returns over variable costs (dollars per acre):												
Net returns	232	327	313	315	327	336	346	357	367	377	391	407

Note: Marketing year beginning August 1 for rice.



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

Item	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Area (million acres):												
Planted acres	14.9	10.6	10.5	11.2	11.5	11.7	11.8	11.9	12.0	12.1	12.2	12.3
Harvested acres	12.4	10.3	9.7	10.3	10.6	10.8	10.9	10.9	11.0	11.1	11.2	11.3
Yields (pounds per acre):												
Yield/harvested acre	806	845	860	875	885	895	905	915	925	935	945	955
Supply and use (thousand bales):												
Beginning stocks	5,981	9,368	7,519	4,469	4,069	4,119	4,519	5,069	5,469	5,719	5,819	5,869
Production	20,823	18,050	17,400	18,800	19,500	20,100	20,600	20,800	21,200	21,600	22,100	22,500
Imports	10	10	10	10	10	10	10	10	10	10	10	10
Supply	26,814	27,428	24,929	23,279	23,579	24,229	25,129	25,879	26,679	27,329	27,929	28,379
Domestic use	4,907	4,560	4,450	4,400	4,350	4,300	4,250	4,200	4,150	4,100	4,050	4,000
Exports	12,338	15,400	16,000	14,800	15,100	15,400	15,800	16,200	16,800	17,400	18,000	18,500
Total use	17,245	19,960	20,450	19,200	19,450	19,700	20,050	20,400	20,950	21,500	22,050	22,500
Ending stocks	9,368	7,519	4,469	4,069	4,119	4,519	5,069	5,469	5,719	5,819	5,869	5,869
Stocks/use ratio, percent	54.3	37.7	21.9	21.2	21.2	22.9	25.3	26.8	27.3	27.1	26.6	26.1
Prices (dollars per pound):												
Farm price <sup>1</sup>	0.465	---	---	---	---	---	---	---	---	---	---	---
Loan rate	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Variable costs of production (dollars):												
Per acre	366	412	429	444	450	456	462	468	474	481	488	494
Per pound	0.45	0.49	0.50	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.52	0.52
Returns over variable costs (dollars per acre):												
Net returns	157	148	248	265	258	252	258	269	270	262	263	264

Note: Marketing year beginning August 1 for upland cotton.

1/ USDA is prohibited from publishing cotton price projections.

Table 16. U.S. sugar long-term projections 1/

Item	Units	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Sugarbeets</b>													
Planted area	1,000 acres	1,367	1,263	1,230	1,180	1,172	1,148	1,135	1,137	1,140	1,143	1,144	1,147
Harvested area	1,000 acres	1,304	1,241	1,203	1,155	1,147	1,124	1,111	1,114	1,117	1,119	1,121	1,123
Yield	Tons/acre	26.1	25.4	26.3	26.6	26.8	27.1	27.3	27.5	27.7	27.9	28.1	28.3
Production	Mil. s. tons	34.1	31.6	31.6	30.7	30.7	30.4	30.3	30.6	30.9	31.2	31.5	31.8
<b>Sugarcane</b>													
Harvested area	1,000 acres	847	833	835	820	750	752	753	754	755	756	757	758
Yield	Tons/acre	33.0	34.7	34.2	34.3	34.5	34.6	34.7	34.8	34.9	35.0	35.1	35.2
Production	Mil. s. tons	28.0	28.9	28.6	28.1	25.9	26.0	26.1	26.2	26.3	26.4	26.5	26.6
<b>Supply:</b>													
Beginning stocks	1,000 s. tons	1,698	1,787	1,849	1,850	1,846	1,850	1,846	1,845	1,843	1,841	1,839	1,838
Production	1,000 s. tons	8,434	8,451	8,466	8,311	8,071	8,074	8,109	8,206	8,302	8,399	8,491	8,591
Beet sugar	1,000 s. tons	5,002	4,791	4,811	4,688	4,712	4,679	4,683	4,747	4,811	4,875	4,934	5,000
Cane sugar	1,000 s. tons	3,432	3,659	3,655	3,622	3,359	3,394	3,426	3,458	3,491	3,524	3,557	3,591
Total imports	1,000 s. tons	2,080	2,194	2,614	2,945	3,177	3,486	3,475	3,530	3,585	3,638	3,693	3,748
TRQ imports	1,000 s. tons	1,624	1,339	1,377	1,380	1,382	1,385	1,390	1,392	1,395	1,397	1,402	1,405
Total supply	1,000 s. tons	12,211	12,431	12,928	13,105	13,095	13,410	13,430	13,580	13,730	13,878	14,023	14,176
<b>Use:</b>													
Exports	1,000 s. tons	422	250	250	250	250	250	250	250	250	250	250	250
Domestic deliveries	1,000 s. tons	10,124	10,300	10,394	10,440	10,531	10,567	10,630	10,693	10,756	10,818	10,883	10,945
Miscellaneous	1,000 s. tons	-122	0	0	0	0	0	0	0	0	0	0	0
Total use	1,000 s. tons	10,424	10,550	10,644	10,690	10,781	10,817	10,880	10,943	11,006	11,068	11,133	11,195
CCC Dispositions	1,000 s. tons	--	33	435	569	464	746	706	794	883	970	1,052	1,146
Ending stocks	1,000 s. tons	1,787	1,849	1,850	1,846	1,850	1,846	1,845	1,843	1,841	1,839	1,838	1,836
<b>Raw sugar price:</b>													
New York (No. 14)	Cents/lb.	20.79	20.67	20.68	20.68	20.67	20.66	20.66	20.66	20.66	20.66	20.66	20.66
Raw sugar loan rate	Cents/lb.	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Beet sugar loan rate	Cents/lb.	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90	22.90
<b>Grower prices:</b>													
Sugarbeets	Dol./ton	38.73	35.13	34.66	34.29	34.55	34.80	35.05	35.32	35.59	35.86	36.13	36.39
Sugarcane	Dol./ton	28.46	28.84	29.16	29.29	29.57	29.69	29.81	29.94	30.06	30.18	30.30	30.42

1/ Fiscal years, October 1 through September 30.

Table 17. Horticultural crops long-term projections: Production, values, and prices, calendar years

Item	Unit	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Production, farm value:													
Fruit and nuts													
Citrus	\$ Mil.	2,738	2,440	2,819	2,575	2,495	2,571	2,661	2,755	2,866	2,982	3,087	3,196
Noncitrus <sup>1</sup>	\$ Mil.	11,341	11,492	11,893	12,307	12,736	13,180	13,640	14,115	14,607	15,117	15,644	16,189
Tree nuts	\$ Mil.	3,454	3,540	3,647	3,802	3,963	4,131	4,307	4,489	4,680	4,879	5,086	5,301
Total fruit and nuts	\$ Mil.	17,534	17,472	18,359	18,684	19,195	19,882	20,608	21,360	22,154	22,977	23,817	24,687
Vegetables													
Fresh market <sup>2</sup>	\$ Mil.	10,379	11,481	11,174	11,584	12,009	12,450	12,907	13,381	13,872	14,381	14,909	15,457
Processing <sup>3</sup>	\$ Mil.	2,088	2,296	2,282	2,355	2,431	2,509	2,590	2,673	2,760	2,848	2,940	3,035
Potatoes <sup>4</sup>	\$ Mil.	3,226	3,307	3,417	3,530	3,647	3,768	3,894	4,023	4,156	4,294	4,437	4,584
Other <sup>5</sup>	\$ Mil.	2,659	2,733	2,810	2,889	2,970	3,053	3,138	3,226	3,316	3,409	3,505	3,603
Total vegetables	\$ Mil.	18,351	19,818	19,683	20,358	21,057	21,780	22,529	23,303	24,104	24,933	25,791	26,679
Nursery and greenhouse <sup>6</sup>	\$ Mil.	16,892	17,230	17,574	17,996	18,428	18,870	19,323	19,787	20,262	20,748	21,246	21,756
Total, horticultural crops <sup>7</sup>	\$ Mil.	53,254	55,006	56,110	57,542	59,192	61,054	62,991	64,990	67,070	69,219	71,424	73,702
Production, farm weight:													
Fruit and nuts													
Citrus	Mil. lbs.	23,490	20,528	24,960	25,334	25,841	26,358	27,017	27,692	28,246	28,811	29,243	29,682
Noncitrus <sup>1</sup>	Mil. lbs.	40,378	40,436	40,746	41,058	41,372	41,689	42,008	42,330	42,654	42,981	43,310	43,642
Tree nuts	Mil. lbs.	3,186	3,628	3,664	3,745	3,827	3,911	3,997	4,085	4,175	4,267	4,361	4,457
Total fruit and nuts	Mil. lbs.	67,054	64,592	69,370	70,137	71,040	71,958	73,022	74,107	75,075	76,059	76,914	77,780
Vegetables and melons													
Fresh market <sup>2</sup>	Mil. lbs.	42,738	43,000	44,052	44,555	45,063	45,578	46,098	46,624	47,157	47,696	48,241	48,793
Processing <sup>3</sup>	Mil. lbs.	38,915	42,800	40,500	40,865	41,232	41,603	41,978	42,356	42,737	43,121	43,510	43,901
Potatoes <sup>4</sup>	Mil. lbs.	44,135	44,797	45,155	45,517	45,881	46,248	46,618	46,991	47,367	47,746	48,128	48,513
Other <sup>5</sup>	Mil. lbs.	8,000	8,120	8,242	8,365	8,491	8,618	8,748	8,879	9,012	9,147	9,284	9,424
Total vegetables	Mil. lbs.	133,788	138,717	137,950	139,301	140,667	142,047	143,441	144,849	146,272	147,710	149,162	150,630
Total, produce and nuts <sup>7</sup>	Mil. lbs.	201,095	203,564	207,576	209,696	211,966	214,265	216,725	219,219	221,611	224,033	226,342	228,677
Producer price indexes <sup>8</sup>													
Fruit and nuts													
Citrus	2000=100	160.3	163.4	155.3	139.7	132.8	134.1	135.4	136.8	139.5	142.3	145.2	148.1
Noncitrus	2000=100	144.5	146.2	150.2	154.2	158.4	162.7	167.1	171.6	176.2	181.0	185.9	190.9
Tree nuts	2000=100	157.4	141.7	144.5	147.4	150.3	153.3	156.4	159.5	162.7	166.0	169.3	172.7
Total fruit and nuts	2000=100	168.0	173.8	170.1	171.2	173.6	177.6	181.4	185.2	189.6	194.1	199.0	204.0
Vegetables													
Fresh market	2000=100	111.5	122.5	116.4	119.3	122.3	125.4	128.5	131.7	135.0	138.4	141.8	145.4
Processing	2000=100	101.8	101.8	106.9	109.4	111.9	114.4	117.1	119.8	122.5	125.3	128.2	131.2
Potatoes	2000=100	144.9	146.4	150.0	153.8	157.6	161.6	165.6	169.7	174.0	178.3	182.8	187.4
Total vegetables	2000=100	121.4	126.4	126.3	129.3	132.5	135.7	139.0	142.4	145.8	149.4	153.0	156.7
Total produce and nuts	2000=100	138.9	142.6	142.6	144.9	147.7	151.2	154.8	158.4	162.2	166.2	170.3	174.5

1/ Includes melons; excludes olives. 2/ Includes sweet potatoes and fresh-market mushrooms; excludes melons. 3/ Includes pulses (dry edible beans, peas, and lentils), processing mushrooms, and olives. 4/ Includes seed, feed, own farm use, or unutilized potatoes. 5/ Specialty and minor vegetables; farm weight is from California (California Department of Food and Agriculture). 6/ Includes floral crops and greenhouse vegetables, such as tomatoes, cucumbers, and colored peppers. Data source is USDA, Economic Research Service. 7/ Includes honey, maple syrup, hops, peppermint and spearmint oils, and Hawaiian tropical crops. 8/ Computed from unit values of production, or production value divided into production volume. Data source: USDA, National Agricultural Statistics Service

Table 18. Horticultural crops long-term projections: Exports and imports, fiscal years

Item	Unit	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Exports</b>													
<b>Fruit and nuts</b>													
Fresh fruits	\$ Mil.	2,842	3,005	3,077	3,147	3,218	3,291	3,366	3,444	3,523	3,605	3,689	3,775
Citrus	\$ Mil.	673	668	670	672	674	676	678	680	683	685	687	689
Noncitrus	\$ Mil.	2,169	2,337	2,407	2,474	2,544	2,615	2,688	2,763	2,841	2,920	3,002	3,086
Processed fruits	\$ Mil.	1,739	2,013	2,054	2,095	2,137	2,179	2,223	2,267	2,313	2,359	2,406	2,454
Fruit juices	\$ Mil.	893	1,020	1,045	1,071	1,098	1,126	1,154	1,183	1,212	1,242	1,274	1,305
Tree nuts	\$ Mil.	2,926	2,938	3,026	3,117	3,210	3,306	3,406	3,508	3,613	3,721	3,833	3,948
Total fruit and nuts	\$ Mil.	7,507	7,956	8,157	8,358	8,565	8,777	8,995	9,219	9,449	9,685	9,928	10,177
<b>Vegetables</b>													
Fresh	\$ Mil.	1,629	1,771	1,824	1,877	1,932	1,988	2,045	2,105	2,166	2,228	2,293	2,360
Processed <sup>1</sup>	\$ Mil.	2,185	2,389	2,444	2,495	2,548	2,601	2,656	2,711	2,768	2,827	2,886	2,946
Frozen	\$ Mil.	656	771	789	805	822	839	857	875	893	912	931	951
Total vegetables	\$ Mil.	3,814	4,160	4,268	4,372	4,479	4,589	4,701	4,816	4,934	5,055	5,179	5,306
<b>Other horticulture</b>													
Nursery and greenhouse	\$ Mil.	310	355	373	381	390	399	408	417	427	437	447	457
Essential oils	\$ Mil.	1,041	1,141	1,199	1,236	1,274	1,314	1,354	1,396	1,439	1,484	1,530	1,578
Wine	\$ Mil.	787	905	996	1,035	1,077	1,120	1,165	1,211	1,260	1,310	1,363	1,417
Beer	\$ Mil.	210	231	245	246	248	249	250	251	253	254	255	256
Other <sup>2</sup>	\$ Mil.	3,006	3,162	3,320	3,446	3,577	3,713	3,854	4,001	4,153	4,310	4,474	4,644
Total horticulture	\$ Mil.	16,675	17,911	18,557	19,075	19,610	20,160	20,727	21,312	21,915	22,536	23,176	23,836
Fresh <sup>3</sup>	\$ Mil.	4,471	4,776	4,902	5,024	5,150	5,279	5,412	5,548	5,689	5,833	5,982	6,134
Processed <sup>3</sup>	\$ Mil.	3,924	4,402	4,498	4,590	4,684	4,780	4,879	4,979	5,081	5,186	5,292	5,401
Export share of production <sup>4</sup>	Percent	31	33	33	33	33	33	33	33	33	33	32	32
<b>Imports</b>													
<b>Fruit and nuts</b>													
Fresh fruits	\$ Mil.	4,687	5,406	6,035	6,342	6,601	6,805	7,016	7,233	7,457	7,689	7,928	8,175
Citrus	\$ Mil.	398	499	539	571	600	630	661	694	729	765	804	844
Noncitrus	\$ Mil.	4,289	4,907	5,496	5,771	6,001	6,175	6,355	6,539	6,728	6,924	7,124	7,331
Processed fruits	\$ Mil.	2,601	3,418	4,034	4,276	4,404	4,510	4,618	4,729	4,842	4,958	5,077	5,199
Fruit juices	\$ Mil.	1,056	1,618	1,973	2,171	2,279	2,339	2,399	2,462	2,526	2,591	2,659	2,728
Tree nuts	\$ Mil.	1,071	1,079	1,241	1,315	1,381	1,431	1,482	1,536	1,591	1,648	1,707	1,769
Total fruit and nuts	\$ Mil.	8,360	9,903	11,309	11,933	12,386	12,746	13,116	13,497	13,890	14,296	14,713	15,143
<b>Vegetables</b>													
Fresh	\$ Mil.	3,979	4,165	4,415	4,636	4,844	5,062	5,290	5,528	5,777	6,037	6,309	6,592
Processed <sup>1</sup>	\$ Mil.	2,754	3,149	3,401	3,605	3,785	3,929	4,087	4,250	4,420	4,597	4,781	4,972
Frozen	\$ Mil.	1,072	1,202	1,298	1,376	1,445	1,500	1,560	1,622	1,687	1,755	1,825	1,898
Total vegetables	\$ Mil.	6,733	7,314	7,816	8,241	8,630	8,992	9,377	9,778	10,197	10,634	11,089	11,564
<b>Other horticulture</b>													
Nursery and greenhouse	\$ Mil.	1,424	1,531	1,607	1,672	1,730	1,787	1,846	1,907	1,970	2,035	2,102	2,172
Essential oils	\$ Mil.	2,469	2,427	2,499	2,574	2,646	2,721	2,797	2,875	2,956	3,038	3,123	3,211
Wine	\$ Mil.	4,043	4,544	4,817	5,058	5,290	5,534	5,788	6,055	6,333	6,624	6,929	7,248
Beer	\$ Mil.	3,376	3,686	3,981	4,220	4,431	4,586	4,747	4,913	5,085	5,263	5,447	5,638
Other <sup>2</sup>	\$ Mil.	2,738	2,986	3,195	3,386	3,573	3,751	3,939	4,136	4,342	4,560	4,788	5,027
Total horticulture	\$ Mil.	29,142	32,391	35,225	37,084	38,687	40,116	41,609	43,161	44,774	46,450	48,192	50,003
Fresh <sup>3</sup>	\$ Mil.	8,666	9,571	10,450	10,978	11,446	11,868	12,306	12,761	13,234	13,726	14,237	14,767
Processed <sup>3</sup>	\$ Mil.	5,356	6,568	7,435	7,881	8,189	8,439	8,704	8,979	9,262	9,555	9,858	10,171
Import share of consumption	Percent	44	47	48	49	49	50	50	50	50	50	50	50

1/ Includes dry edible beans, peas, lentils, and potatoes. 2/ Includes hops, ginseng, sauces, condiments, food preparations, yeast, starches, etc. 3/ Includes fruits and vegetables only. 4/ Percent shares are based on values.

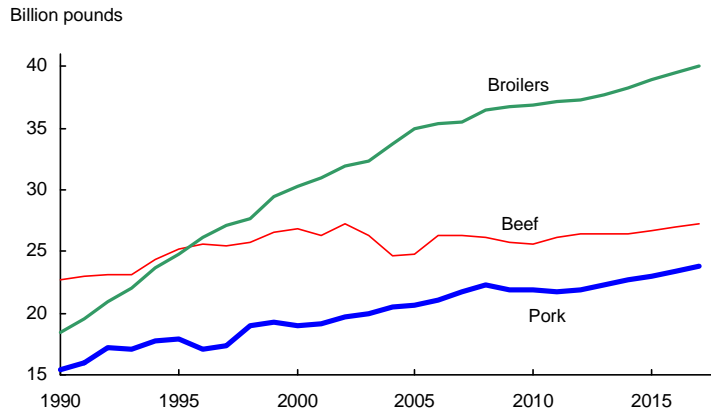
Exports are free alongside ship (FAS) value at U.S. port of exportation. Imports are customs value at U.S. port of entry.

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

## Livestock

Projections for the livestock sector include production adjustments in response to high grain and soybean meal prices resulting from the expansion of corn-based ethanol production. Returns to U.S. meat and poultry production fall below levels in recent years, slowing increases in or reducing production of all meats over the next several years. Once the sector adjusts, lower overall production combined with strong domestic demand and some strengthening in meat exports result in higher prices and higher returns, providing economic incentives for expansion in the sector and a resumption in meat production gains.

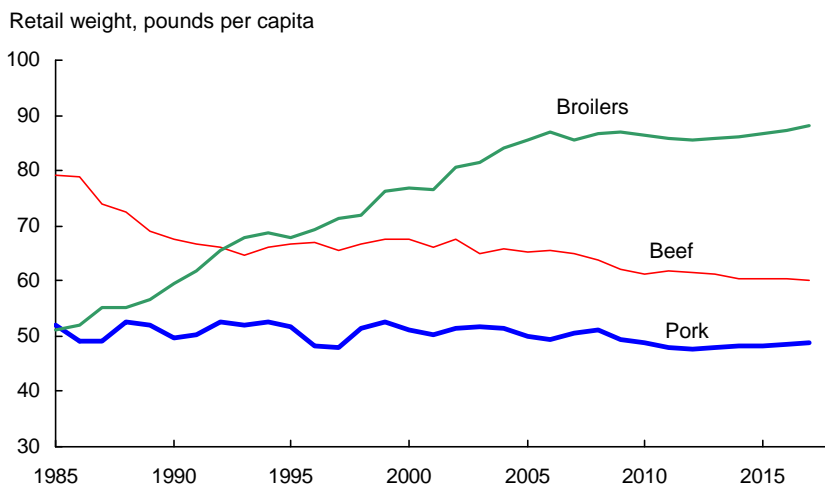
**U.S. red meat and poultry production**



Production of all meats slows or declines in the first half of the projection period, reflecting higher feed costs as more corn is used in ethanol production. Distillers grains, a coproduct of ethanol production, can be used in livestock rations, partially substituting for corn and sometimes for soybean meal. However, distillers grains can more easily be used by ruminants (such as cattle) compared to monogastric animals (such as hogs and chickens). Beef cattle feedlots located close to ethanol plants are best situated to benefit from a steady supply of distillers grains, also reflecting the ability of those animals to use the wet form of distillers grains. Meanwhile, distillers grains are less suitable in poultry and hog rations.

- Higher grain prices as well as effects of drought in recent years hold down cattle inventories, pushing U.S. beef production down in 2008-10. Production then rises in the remainder of the projection period as returns improve and herds are rebuilt. The cattle inventory remains in a range of 96-99 million head throughout the projections. Rising slaughter weights contribute to the moderate expansion of beef production beyond 2010. Higher costs of feedlot gain will result in stocker cattle remaining on pasture to heavier weights before entering feedlots.
- Pork production declines in 2009-11 in response to higher feed prices and then grows for the remainder of the projections as higher hog prices improve returns. Production coordination and market integration between the United States and Canada continue in the hog sector. Canada is the major supplier of live swine imported by the United States. Imported feeder pigs from Canada are finished and processed in the United States, where both finishing and processing costs are lower.
- Poultry production slows in 2009-13 while adjusting to higher feed costs, but begins to rise towards the end of the projections period. During the period, rising exports account for a larger share of total production.

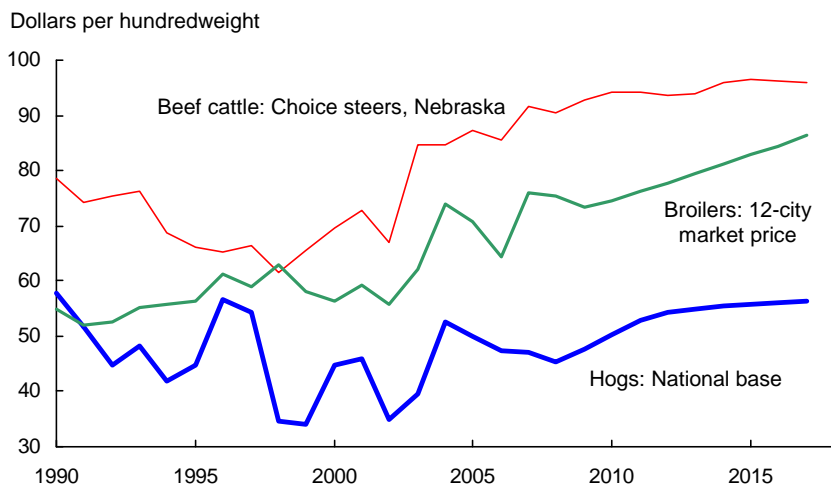
### U.S. per capita meat consumption



Livestock sector production adjustments to higher feed costs as well as gains in meat and poultry exports result in higher consumer prices and lower per capita consumption. Annual per capita consumption of red meats and poultry falls from 222 pounds in 2006 to a low of 214 pounds in 2012-14. Per capita consumption of red meats and poultry then resumes growth to almost 217 pounds in 2017.

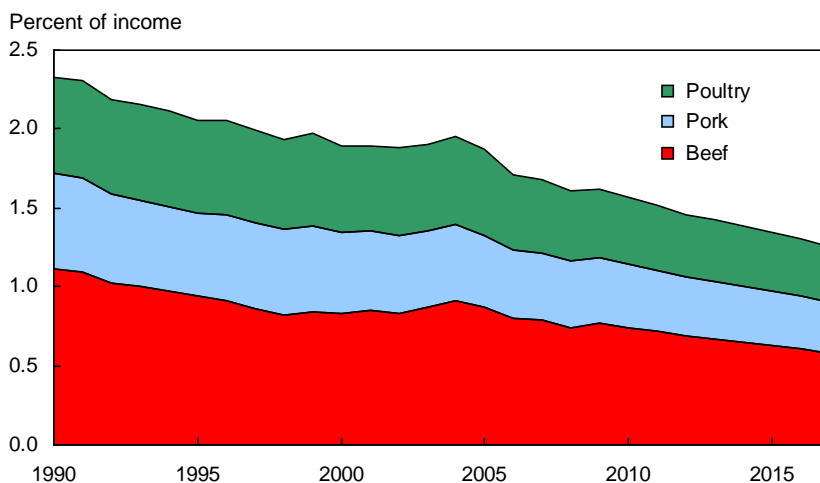
- Per capita beef consumption declines through the projection period, reflecting production adjustments in the industry to higher feed costs. U.S. beef exports rise through the projection period, further limiting domestic per capita beef consumption. A gradual rebuilding of U.S. beef exports to Japan and South Korea is assumed.
- Strong demand for consistent, high-quality beef continues in the domestic hotel and restaurant market, and increasingly in the retail market. Demand for U.S. beef in export markets is also primarily for high-quality beef.
- Higher feed costs lead to reductions in pork production, which combine with rising pork exports to push per capita pork consumption down through 2012. A gradual rebound in per capita pork consumption occurs over the remainder of the projection period as production gains strengthen.
- Due partly to higher feed conversion rates, poultry prices remain lower than red meat prices. However, as returns are squeezed, slower production growth and higher exports result in per capita consumption declines in 2010-12. Following these adjustments, production strengthens and per capita consumption slowly grows toward the end of the projection period.

### Nominal U.S. livestock prices



Livestock prices rise through most of the projection period reflecting production adjustments in response to higher feed costs.

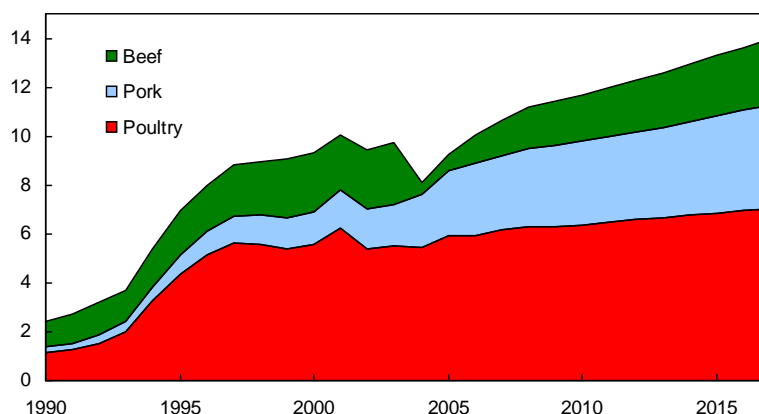
### U.S. spending on meat



Rising incomes facilitate gains in consumer spending on meat. Nonetheless, overall meat expenditures represent a declining proportion of disposable income, continuing a long-term trend.

## U.S. meat exports

Billion pounds



The domestic market remains the dominant source of overall meat demand, but exports account for a growing share of U.S. meat use. Despite higher prices, U.S. meat exports rise throughout the projection period, supported by global economic growth and a continued weak U.S. dollar.

### Beef

- U.S. beef exports primarily reflect demand for high-quality fed beef, with most U.S. beef exports typically going to Mexico, Canada, and markets in Pacific Rim nations. A gradual recovery of U.S. beef exports is assumed in the Japanese and South Korean export markets lost following the first U.S. case of bovine spongiform encephalopathy (BSE) in December 2003.
- U.S. imports of processing beef from Australia and New Zealand increase in the projections. With more demand in East Asian markets being met by the United States, exports from Australia and New Zealand are reduced, resulting in more of their product being shipped to the United States. The United States is a net beef importer by volume throughout the projection period as the recovery of high-quality fed beef exports does not reach levels of 2000-03 until the last several years of the projections.

### Pork

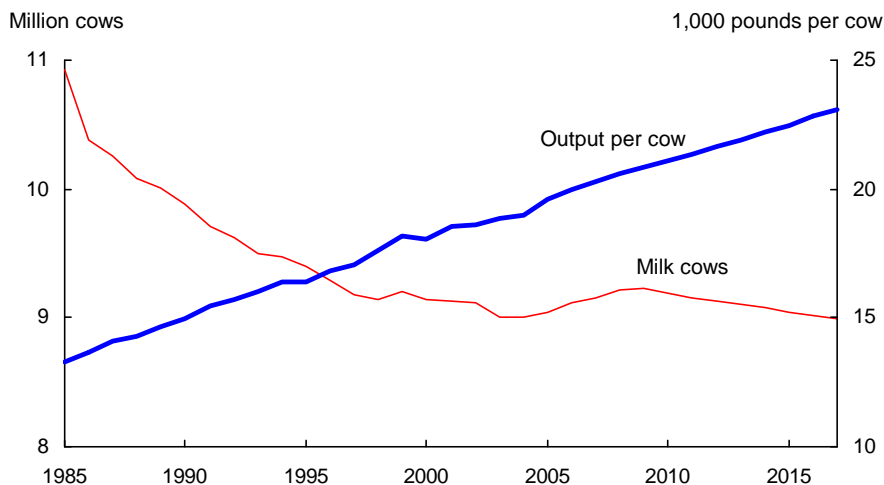
- Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports. Brazil is also a major pork exporter. However, no changes in the set of countries recognizing Brazil as free of foot-and-mouth disease (FMD) are assumed, thus limiting Brazilian pork producers' ability to compete in some markets. Consequently, Brazil's pork exports expand to markets such as Russia, Argentina, and Asian markets other than Japan and South Korea.
- Despite higher feed costs, increased efficiency in U.S. pork production enhances the competitiveness of U.S. pork products. Nonetheless, longer term gains in U.S. pork exports will be determined by costs of production and environmental regulations relative to competitors. Such costs tend to be lower in countries which are developing integrated pork industries, such as Brazil.
- The value of the U.S. dollar relative to currencies of other pork exporting countries is expected to enhance U.S. pork export volumes, particularly in the early years of the projection period.

### Poultry

- U.S. broiler exports rise through the projection period, although at a slower pace than in earlier years. Major U.S. export markets include China, Russia, and Mexico. Gains in these markets reflect economic growth and increasing consumer demand. Demand for poultry also remains strong due to its lower cost relative to beef and pork. U.S. producers will 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.



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



In 2007, U.S. prices for farm-level milk and for dairy products, such as cheese, nonfat dry milk, and dry whey, were high relative to historic levels due in part to the international dairy situation. Relatively high prices are expected to extend into 2008. As incomes in developing countries have grown, so has the global demand for dairy products. World milk supplies have been tight, however, due in part to reform of the Common Agricultural Policy (CAP) in the European Union and drought conditions in Australia. The U.S. dairy industry has become a major commercial exporter of nonfat dry milk, dry whey products, and cheese. Although U.S. milk production grew significantly in 2007, the growth was limited by high feed costs relative to historic levels and tight supplies of dairy heifers.

- Despite higher feed costs, strong farm-level milk prices are projected to encourage further increases in milk cow numbers through 2009. Combined with an upward trend in output per cow, the results are relatively strong gains in milk production in 2008 and 2009 and decreases in milk prices. Smaller production gains are projected on average over the rest of the projection period because milk cow numbers decline after 2009.
- Milk output per cow is projected to increase, although some slowing in these gains occurs in 2009 and 2010 in response to higher feed costs. Nonetheless, further development of large, specialized operations in most regions will contribute to a continuation of gains in output per cow.
- Milk cow numbers are expected to decline after 2009, although reductions are moderate as increasing specialization of dairy farms over time slows exit rates from milk production compared with past decades.
- Commercial use of dairy products increases slightly faster than the growth in population. 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.
- Farm-level milk prices decrease in 2009 from recent high levels as milk production gains are relatively strong. Milk prices then rise through the rest of the projections, but increases are projected to be less than the general inflation rate. Efficiency gains in production accommodate moderately higher overall per capita consumption at declining real prices.

Table 19. Per capita meat consumption, retail weight

Item	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	<i>Pounds</i>											
Total beef	65.7	65.0	63.7	62.0	61.2	61.7	61.5	61.1	60.4	60.3	60.3	60.1
Total veal	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
Total pork	49.3	50.5	51.1	49.4	48.8	47.8	47.6	47.8	48.1	48.3	48.5	48.8
Lamb and mutton	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
Total red meat	116.6	117.1	116.4	113.0	111.5	111.0	110.7	110.4	110.0	110.0	110.2	110.3
Broilers	87.1	85.4	86.8	87.0	86.4	85.9	85.6	85.7	86.2	86.8	87.4	88.1
Other chicken	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Turkeys	16.9	17.3	17.1	17.3	17.1	17.0	16.9	16.8	16.8	16.9	17.0	17.2
Total poultry	105.1	103.9	105.1	105.5	104.7	104.1	103.7	103.7	104.2	104.9	105.6	106.5
Red meat & poultry	221.7	221.0	221.5	218.5	216.2	215.1	214.3	214.1	214.2	214.8	215.8	216.8

Table 20. Consumer expenditures for meats

Item	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beef, dollars per person	260.81	270.42	265.54	279.05	289.75	293.82	295.86	297.64	302.72	306.66	309.10	311.33
Percent of income	0.80	0.79	0.74	0.75	0.74	0.72	0.69	0.67	0.65	0.63	0.61	0.58
Percent of meat expenditures	47.01	47.05	45.85	46.17	46.81	46.84	46.67	46.42	46.44	46.47	46.41	46.21
Pork, dollars per person	138.54	145.00	149.28	152.49	154.72	155.72	157.81	160.13	162.54	164.41	166.12	168.06
Percent of income	0.43	0.42	0.42	0.41	0.40	0.38	0.37	0.36	0.35	0.34	0.33	0.32
Percent of meat expenditures	24.97	25.23	25.78	25.23	25.00	24.83	24.89	24.97	24.93	24.91	24.94	24.94
Broilers, dollars per person	136.78	139.45	145.06	153.46	154.92	158.31	160.99	164.17	167.42	169.51	171.18	174.38
Percent of income	0.42	0.41	0.41	0.41	0.40	0.39	0.38	0.37	0.36	0.35	0.34	0.33
Percent of meat expenditures	24.65	24.26	25.05	25.39	25.03	25.24	25.40	25.60	25.68	25.69	25.70	25.88
Turkeys, dollars per person	18.72	19.92	19.21	19.44	19.59	19.39	19.28	19.24	19.21	19.37	19.57	20.03
Percent of income	0.06	0.06	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.04
Percent of meat expenditures	3.37	3.47	3.32	3.22	3.17	3.09	3.04	3.00	2.95	2.93	2.94	2.97
Total meat, dollars per person	554.85	574.80	579.08	604.44	618.98	627.24	633.93	641.18	651.90	659.95	665.98	673.79
Percent of income	1.71	1.68	1.62	1.62	1.59	1.54	1.49	1.44	1.40	1.35	1.31	1.26

Table 21. Beef long-term projections

Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning stocks	Mil. lbs.	571	630	575	600	600	600	600	600	600	600	600	600
Commercial production	Mil. lbs.	26,153	26,135	26,000	25,565	25,515	26,017	26,273	26,365	26,373	26,586	26,893	27,132
Change from previous year	Percent	6.0	-0.1	-0.5	-1.7	-0.2	2.0	1.0	0.4	0.0	0.8	1.2	0.9
Farm production	Mil. lbs.	105	105	105	105	105	105	105	105	105	105	105	105
Total production	Mil. lbs.	26,258	26,240	26,105	25,670	25,620	26,122	26,378	26,470	26,478	26,691	26,998	27,237
Imports	Mil. lbs.	3,085	3,244	3,420	3,466	3,513	3,560	3,607	3,656	3,705	3,754	3,804	3,855
Total supply	Mil. lbs.	29,914	30,114	30,100	29,736	29,733	30,282	30,585	30,726	30,783	31,045	31,402	31,692
Exports	Mil. lbs.	1,145	1,432	1,710	1,824	1,927	2,032	2,138	2,245	2,354	2,464	2,575	2,696
Ending stocks	Mil. lbs.	630	575	600	600	600	600	600	600	600	600	600	600
Total consumption	Mil. lbs.	28,139	28,107	27,790	27,312	27,206	27,650	27,847	27,881	27,829	27,981	28,227	28,396
Per capita, carcass weight	Pounds	93.8	92.9	91.0	88.6	87.4	88.1	87.9	87.3	86.3	86.1	86.1	85.9
Per capita, retail weight	Pounds	65.7	65.0	63.7	62.0	61.2	61.7	61.5	61.1	60.4	60.3	60.3	60.1
Change from previous year	Percent	0.4	-1.0	-2.0	-2.6	-1.3	0.7	-0.2	-0.8	-1.0	-0.3	0.0	-0.2
Prices:													
Beef cattle, farm	\$/cwt	87.09	90.16	89.07	91.22	92.77	92.78	92.20	92.50	94.53	95.04	94.66	94.57
Calves, farm	\$/cwt	133.42	125.03	123.56	127.77	121.91	123.84	123.50	123.74	126.78	127.44	126.35	125.30
Choice steers, Nebraska	\$/cwt	85.41	91.61	90.50	92.68	94.26	94.27	93.68	93.99	96.05	96.57	96.18	96.09
Deflated price	\$/cwt	42.37	44.21	42.49	42.36	42.02	41.01	39.76	38.92	38.79	38.06	36.98	36.04
Yearling steers, Oklahoma City	\$/cwt	107.18	108.21	106.75	110.39	105.32	106.99	106.70	106.91	109.53	110.10	109.16	108.26
Deflated price	\$/cwt	53.16	52.22	50.12	50.45	46.96	46.54	45.29	44.27	44.24	43.40	41.97	40.61
Retail: Beef and veal	1982-84=100	202.1	211.1	216.0	230.5	236.1	237.7	239.8	243.1	249.8	253.9	255.8	258.3
Retail: Other meats	1982-84=100	180.7	184.8	186.0	191.0	194.8	198.5	201.7	204.7	207.6	210.5	213.3	216.1
ERS retail beef	\$/lb.	3.97	4.16	4.17	4.50	4.73	4.77	4.81	4.87	5.01	5.09	5.13	5.18
Costs and returns, cow-calf enterprise:													
Variable expenses	\$/cow	257.78	285.28	283.52	287.26	289.23	290.35	293.96	298.63	303.03	307.25	308.75	312.67
Fixed expenses	\$/cow	130.49	135.54	139.89	142.63	145.03	147.28	149.48	151.65	153.95	156.21	156.21	158.54
Total cash expenses	\$/cow	388.27	420.82	423.42	429.89	434.25	437.64	443.45	450.28	456.98	463.46	464.96	471.21
Returns above cash costs	\$/cow	140.98	123.25	119.09	140.63	118.55	130.96	132.14	135.27	152.50	158.69	161.50	159.61
Cattle inventory	1,000 head	96,702	97,003	96,900	96,800	97,132	97,472	97,532	97,443	97,469	97,814	98,130	98,503
Beef cow inventory	1,000 head	32,994	32,894	32,780	32,910	33,175	33,603	33,685	33,935	34,203	34,486	34,712	34,974
Total cow inventory	1,000 head	42,123	42,003	41,859	41,987	42,208	42,593	42,645	42,868	43,100	43,340	43,519	43,725

Table 22. Pork long-term projections

Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning stocks	Mil. lbs.	494	514	560	565	565	565	565	565	565	565	565	565
Commercial production	Mil. lbs.	21,055	21,754	22,265	21,884	21,866	21,737	21,904	22,230	22,623	23,004	23,372	23,756
Change from previous year	Percent	1.8	3.3	2.3	-1.7	-0.1	-0.6	0.8	1.5	1.8	1.7	1.6	1.6
Farm production	Mil. lbs.	20	20	20	20	20	20	20	20	20	20	20	20
Total production	Mil. lbs.	21,075	21,774	22,285	21,904	21,886	21,757	21,924	22,250	22,643	23,024	23,392	23,776
Imports	Mil. lbs.	990	1,005	1,025	1,045	1,065	1,085	1,105	1,125	1,150	1,175	1,200	1,225
Total supply	Mil. lbs.	22,559	23,293	23,870	23,514	23,516	23,407	23,594	23,940	24,358	24,764	25,157	25,566
Exports	Mil. lbs.	2,995	3,027	3,180	3,304	3,403	3,493	3,582	3,684	3,805	3,956	4,090	4,205
Ending stocks	Mil. lbs.	514	560	565	565	565	565	565	565	565	565	565	565
Total consumption	Mil. lbs.	19,050	19,706	20,125	19,645	19,548	19,349	19,447	19,691	19,988	20,243	20,502	20,796
Per capita, carcass weight	Pounds	63.5	65.1	65.9	63.7	62.8	61.6	61.4	61.6	62.0	62.3	62.5	62.9
Per capita, retail weight	Pounds	49.3	50.5	51.1	49.4	48.8	47.8	47.6	47.8	48.1	48.3	48.5	48.8
Change from previous year	Percent	-1.3	2.5	1.2	-3.3	-1.4	-1.9	-0.4	0.4	0.6	0.4	0.4	0.6
Prices:													
Hogs, farm	\$/cwt	46.25	46.17	44.46	46.82	49.24	51.89	53.36	54.04	54.42	54.77	55.10	55.37
National base, live equivalent	\$/cwt	47.26	46.98	45.25	47.65	50.11	52.81	54.31	55.00	55.38	55.74	56.07	56.35
Deflated price	\$/cwt	23.76	22.06	21.32	21.78	22.34	22.97	23.05	22.78	22.37	21.97	21.56	21.14
Retail: Pork	1982-84=100	177.3	180.9	185.0	195.4	201.1	206.3	209.8	212.1	214.0	215.5	216.9	218.1
ERS retail pork	\$/lb.	2.81	2.87	2.92	3.08	3.17	3.26	3.31	3.35	3.38	3.40	3.42	3.44
Costs and returns, farrow to finish:													
Variable expenses	\$/cwt	33.54	40.48	45.63	46.20	47.04	46.04	45.94	46.42	47.22	47.72	47.80	48.61
Fixed expenses	\$/cwt	7.72	7.81	5.23	5.73	5.62	5.49	5.44	5.45	5.48	5.51	5.39	5.40
Total cash expenses	\$/cwt	41.25	48.28	50.86	51.93	52.66	51.53	51.38	51.87	52.70	53.23	53.19	54.01
Returns above cash costs	\$/cwt	8.89	1.49	-5.61	-4.28	-2.55	1.28	2.92	3.14	2.68	2.50	2.89	2.34
Hog inventory,													
December 1, previous year	1,000 head	61,449	62,489	64,400	65,200	65,148	64,786	65,257	66,172	67,276	68,346	69,378	70,457

Table 23. Young chicken long-term projections

Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning stocks	Mil. lbs.	924	745	675	750	750	750	750	750	750	750	750	750
Federally inspected slaughter	Mil. lbs.	35,752	35,825	36,850	37,144	37,279	37,465	37,727	38,129	38,699	39,281	39,883	40,503
Change from previous year	Percent	1.1	0.2	2.9	0.8	0.4	0.5	0.7	1.1	1.5	1.5	1.5	1.6
Production	Mil. lbs.	35,369	35,442	36,456	36,772	36,906	37,090	37,350	37,748	38,312	38,888	39,484	40,098
Total supply	Mil. lbs.	36,340	36,251	37,191	37,582	37,716	37,900	38,160	38,558	39,122	39,698	40,294	40,908
Change from previous year	Percent	1.7	-0.2	2.6	1.1	0.4	0.5	0.7	1.0	1.5	1.5	1.5	1.5
Exports	Mil. lbs.	5,205	5,468	5,565	5,600	5,664	5,762	5,842	5,932	6,017	6,106	6,196	6,265
Ending stocks	Mil. lbs.	745	675	750	750	750	750	750	750	750	750	750	750
Consumption	Mil. lbs.	30,390	30,108	30,876	31,232	31,302	31,388	31,568	31,876	32,355	32,842	33,348	33,893
Per capita, carcass weight	Pounds	101.4	99.5	101.1	101.3	100.6	100.0	99.7	99.8	100.4	101.0	101.7	102.5
Per capita, retail weight	Pounds	87.1	85.4	86.8	87.0	86.4	85.9	85.6	85.7	86.2	86.8	87.4	88.1
Change from previous year	Percent	1.7	-1.9	1.6	0.2	-0.7	-0.6	-0.3	0.1	0.6	0.6	0.7	0.8
Prices:													
Broilers, farm	Cents/lb.	38.6	39.4	39.0	38.0	38.6	39.6	40.3	41.2	42.0	42.9	43.7	44.8
12-city market price	Cents/lb.	64.4	76.1	75.3	73.4	74.5	76.4	77.8	79.6	81.1	82.8	84.4	86.5
Deflated wholesale price	Cents/lb.	31.9	36.7	35.4	33.5	33.2	33.2	33.0	33.0	32.7	32.6	32.4	32.5
Change from previous year	Percent	-12.0	14.9	-3.5	-5.4	-0.9	0.0	-0.6	-0.2	-0.7	-0.3	-0.6	0.1
Composite retail broiler price	Cents/lb.	157.1	163.2	167.1	176.4	179.3	184.3	188.0	191.6	194.1	195.3	195.9	198.0
Costs and returns:													
Total costs	Cents/lb.	66.94	70.84	74.74	76.50	77.50	76.78	77.22	78.02	79.08	79.93	80.91	82.59
Net returns	Cents/lb.	-2.54	5.26	0.56	-3.15	-3.00	-0.38	0.56	1.58	1.98	2.90	3.48	3.95

Table 24. Turkey long-term projections

Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning stocks	Mil. lbs.	206	218	245	275	275	275	275	275	275	275	275	275
Federally inspected slaughter	Mil. lbs.	5,686	5,892	5,940	5,940	5,956	5,973	5,988	6,024	6,077	6,156	6,257	6,389
Change from previous year	Percent	3.3	3.6	0.8	0.0	0.3	0.3	0.2	0.6	0.9	1.3	1.6	2.1
Production	Mil. lbs.	5,612	5,815	5,862	5,863	5,879	5,896	5,910	5,946	5,998	6,076	6,176	6,306
Total supply	Mil. lbs.	5,830	6,043	6,119	6,150	6,166	6,183	6,197	6,233	6,285	6,363	6,463	6,593
Change from previous year	Percent	1.8	3.7	1.3	0.5	0.3	0.3	0.2	0.6	0.8	1.2	1.6	2.0
Exports	Mil. lbs.	547	554	605	549	557	567	575	584	592	601	610	619
Ending stocks	Mil. lbs.	218	245	275	275	275	275	275	275	275	275	275	275
Consumption	Mil. lbs.	5,065	5,244	5,239	5,326	5,334	5,341	5,347	5,374	5,419	5,487	5,578	5,699
Per capita	Pounds	16.9	17.3	17.1	17.3	17.1	17.0	16.9	16.8	16.8	16.9	17.0	17.2
Change from previous year	Percent	1.3	2.6	-1.0	0.7	-0.8	-0.8	-0.8	-0.4	0.0	0.4	0.8	1.3
Prices:													
Turkey, farm	Cents/lb.	48.6	45.4	43.0	42.6	44.5	45.5	46.8	48.2	49.4	51.0	52.6	54.7
Hen turkey (wholesale) East	Cents/lb.	77.0	82.4	78.0	77.3	80.8	82.6	85.0	87.4	89.7	92.6	95.4	99.2
Deflated hen turkey	Cents/lb.	38.9	35.9	35.5	35.3	36.0	35.9	36.1	36.2	36.2	36.5	36.7	37.2
Retail frozen turkey	Cents/lb.	110.8	115.0	112.0	112.6	114.3	114.0	114.2	114.4	114.3	114.7	115.0	116.2
Retail: Poultry	1982-84=100	182.0	191.4	194.5	203.0	206.3	210.8	214.3	217.6	219.9	221.2	221.8	224.2
Costs and returns:													
Total costs	Cents/lb.	62.40	68.48	72.63	73.87	74.90	74.36	74.62	75.27	76.15	76.79	77.48	77.40
Net returns	Cents/lb.	14.60	13.92	5.37	3.42	5.88	8.26	10.36	12.16	13.58	15.79	17.94	21.79

Table 25. Egg long-term projections

Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Beginning stocks	Mil. doz.	16	13	13	12	12	12	12	12	12	12	12	12
Production	Mil. doz.	7,572	7,533	7,625	7,656	7,694	7,748	7,825	7,911	7,998	8,086	8,175	8,265
Change from previous year	Percent	0.8	-0.5	1.2	0.4	0.5	0.7	1.0	1.1	1.1	1.1	1.1	1.1
Imports	Mil. doz.	11	14	14	14	14	14	14	14	14	14	14	14
Total supply	Mil. doz.	7,599	7,559	7,652	7,682	7,720	7,774	7,851	7,937	8,024	8,112	8,201	8,291
Change from previous year	Percent	0.8	-0.5	1.2	0.4	0.5	0.7	1.0	1.1	1.1	1.1	1.1	1.1
Hatching use	Mil. doz.	994	1,017	1,030	1,041	1,045	1,048	1,053	1,060	1,070	1,082	1,094	1,106
Exports	Mil. doz.	202	242	230	233	236	239	242	245	248	251	254	257
Ending stocks	Mil. doz.	13	13	12	12	12	12	12	12	12	12	12	12
Consumption	Mil. doz.	6,390	6,287	6,380	6,396	6,427	6,475	6,544	6,620	6,694	6,767	6,841	6,916
Per capita	Number	255.8	249.3	250.6	248.9	247.9	247.5	248.0	248.6	249.2	249.8	250.4	251.0
Change from previous year	Percent	0.2	-2.5	0.5	-0.7	-0.4	-0.2	0.2	0.3	0.2	0.2	0.2	0.2
Prices:													
Eggs, farm	Cents/doz.	57.2	87.6	75.6	82.8	86.1	87.7	88.6	89.4	90.2	91.0	91.8	92.7
New York, Grade A large	Cents/doz.	71.8	109.1	93.0	101.0	105.0	107.0	108.0	109.0	110.0	111.0	112.0	113.0
Deflated wholesale prices	Cents/doz.	35.6	52.7	43.7	46.2	46.8	46.5	45.8	45.1	44.4	43.8	43.1	42.4
Retail, Grade A, large	Cents/doz.	131	161	162	172	179	182	184	185	187	189	190	192
Retail: Eggs	1982-84=100	151.2	195.3	189.0	198.0	205.8	210.7	213.7	216.7	219.7	222.7	225.7	228.7
Costs and returns:													
Total costs	Cents/doz.	71.85	86.71	97.76	100.59	102.38	100.23	100.03	101.05	102.77	103.84	104.00	105.75
Net returns	Cents/doz.	-0.05	22.39	-4.76	0.41	2.62	6.77	7.97	7.95	7.23	7.16	8.00	7.25

Table 26. Dairy long-term projections

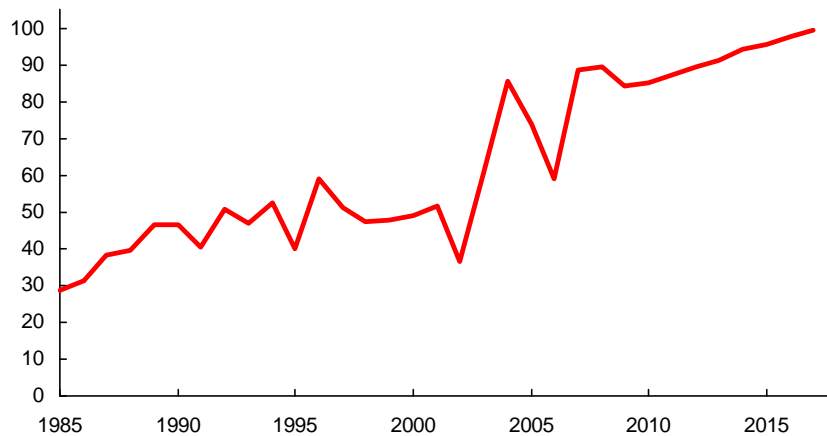
Item	Units	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Milk production and marketings:													
Number of cows	1,000	9,112	9,148	9,215	9,230	9,195	9,160	9,130	9,105	9,075	9,040	9,015	8,985
Milk per cow	Pounds	19,951	20,260	20,625	20,835	21,070	21,335	21,670	21,895	22,185	22,480	22,845	23,090
Milk production	Bil. lbs.	181.8	185.3	190.1	192.3	193.7	195.4	197.8	199.4	201.3	203.2	205.9	207.5
Farm use	Bil. lbs.	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Marketings	Bil. lbs.	180.7	184.2	188.9	191.3	192.7	194.4	196.8	198.4	200.4	202.3	205.0	206.6
Supply and use, milkfat basis:													
Beginning commercial stocks	Bil. lbs.	8.0	9.5	9.9	9.3	9.1	9.0	8.9	8.8	8.7	8.7	8.7	8.6
Marketings	Bil. lbs.	180.7	184.2	188.9	191.3	192.7	194.4	196.8	198.4	200.4	202.3	205.0	206.6
Imports	Bil. lbs.	5.0	4.8	4.7	4.9	5.0	5.2	5.3	5.4	5.5	5.6	5.7	5.8
Commercial supply	Bil. lbs.	193.6	198.5	203.6	205.5	206.8	208.6	211.0	212.6	214.6	216.6	219.4	221.0
Commercial use	Bil. lbs.	184.1	188.6	194.3	196.4	197.8	199.7	202.2	203.9	205.9	207.9	210.8	212.4
Ending commercial stocks	Bil. lbs.	9.5	9.9	9.3	9.1	9.0	8.9	8.8	8.7	8.7	8.7	8.6	8.6
CCC net removals	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
Supply and use, skim solids basis:													
Beginning commercial stocks	Bil. lbs.	9.0	9.1	9.3	9.2	9.4	9.5	9.5	9.6	9.7	9.8	9.9	10.0
Marketings	Bil. lbs.	180.7	184.2	188.9	191.3	192.7	194.4	196.8	198.4	200.4	202.3	205.0	206.6
Imports	Bil. lbs.	4.8	4.4	4.4	5.2	5.3	5.4	5.6	5.7	5.9	6.0	6.1	6.2
Commercial supply	Bil. lbs.	194.4	197.7	202.7	205.7	207.4	209.3	211.9	213.7	216.0	218.1	221.0	222.8
Commercial use	Bil. lbs.	184.5	188.4	193.5	196.3	197.9	199.8	202.3	204.0	206.2	208.2	211.0	212.7
Ending commercial stocks	Bil. lbs.	9.1	9.3	9.2	9.4	9.5	9.5	9.6	9.7	9.8	9.9	10.0	10.1
CCC net removals	Bil. lbs.	0.7	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	12.90	19.00	18.15	17.05	17.30	17.60	17.85	18.10	18.35	18.65	18.95	19.25
Retail, all dairy products	1982-84=100	181.4	194.8	200.0	199.5	203.5	208.0	212.5	217.0	221.5	226.0	231.0	236.0

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

Steady domestic and international economic growth supports gains in consumption, trade, and prices. In addition, large increases in corn-based ethanol production affect production, use, and prices of farm commodities throughout the sector. These factors combine to result in higher market prices and increasing cash receipts. Rising production expenses and lower government payments offset some of the gains in cash receipts and other sources of farm income, although net farm income remains strong and reaches record levels in the second half of the projections. Similarly, U.S. agricultural export values are robust through the projections and set new records beyond 2012. On average, consumer food prices are projected to rise more slowly than the general rate of inflation over the next decade, although continuing adjustments due to higher energy-related costs and agricultural commodity prices push food prices up faster in some years.

### U.S. net farm income

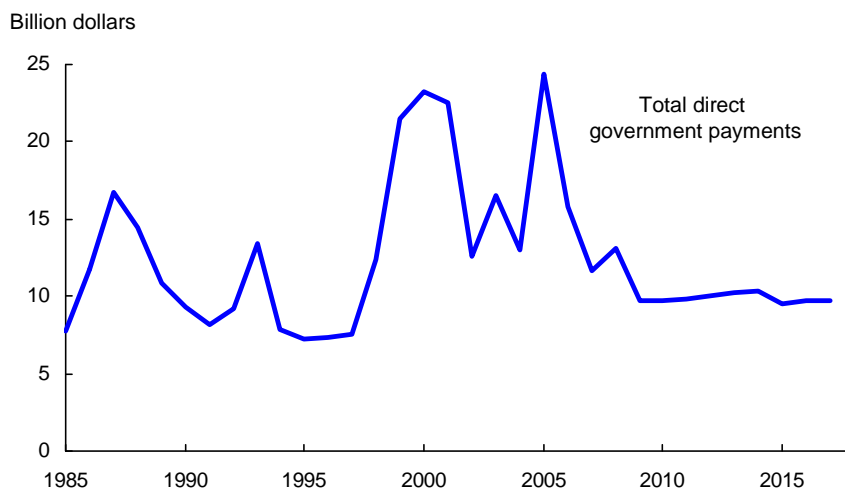
Billion dollars



Strong domestic use and export demand push U.S. net farm income from a projected record of about \$90 billion in 2008 to almost \$100 billion by 2017.

- Expansion of corn-based ethanol production is a major factor underlying large increases in cash receipts in 2006-08. Continuing demand strength in domestic and international markets result in further gains in cash receipts through the projections. Lower government payments, due to higher commodity prices, and rising farm production expenses offset some of the gains in cash receipts, although net farm income remains historically high.

### Direct government payments



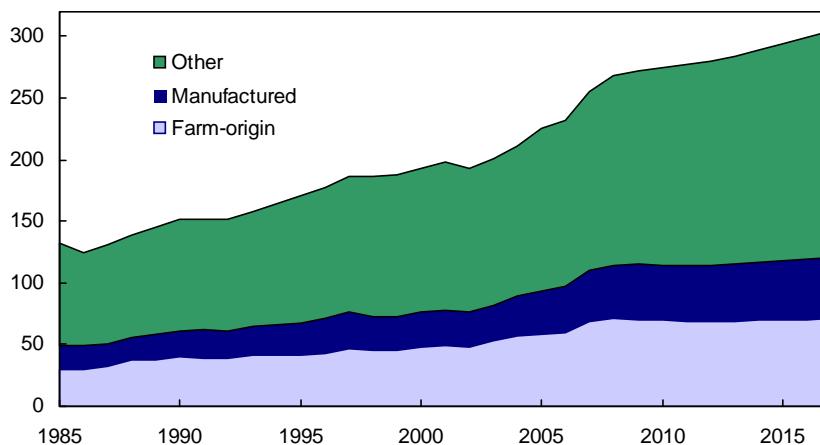
Direct government payments to farmers are projected to fall from \$13 billion in 2008 to an average of less than \$10 billion annually in 2009 to 2017, largely due to higher commodity prices and correspondingly lower price-dependent program benefits.

- Strong domestic and international demand for crops, including corn for ethanol production, causes projected market prices for crops to be at levels that result in very low government payments for price-sensitive income-support programs. For example, even with stochastic considerations included here to capture potential variation in farm program benefits due to shocks to production yields, payments for marketing loan benefits and counter-cyclical payments for feed grains are minimal, totaling less than \$500 million over calendar years 2008-17 for the projections scenario in this report.
- In contrast, with higher crop prices, use of land for production is more valuable, so rental rates for land in the Conservation Reserve Program (CRP) rise and push overall annual CRP payments to close to \$3 billion toward the end of the projections. As a result, fixed direct payments under the 2002 Farm Act and conservation payments account for a larger share of total direct government payments in the farm income accounts, over 80 percent in 2015-17.
- With lower government payments, the agriculture sector relies on the market for more of its income, and the share of income provided by government payments falls. Government payments, which represented more than 8 percent of gross cash income in 2005, account for less than 3 percent during most of the projection period. Conversely, cash receipts plus farm-related income rises to over 97 percent of gross cash income.



## U.S. farm production expenses

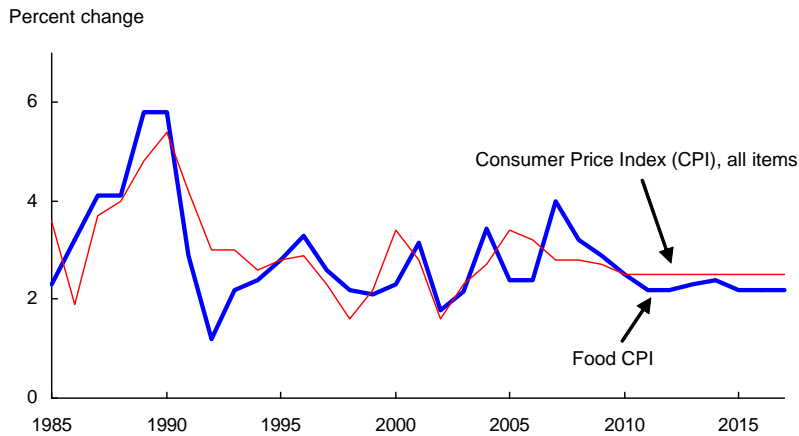
Billion dollars



Total production expenses increase at less than the general inflation rate from 2009-17, following the adjustments to higher energy costs that started in 2004. These expenses are divided into three categories in the chart above: farm-origin (seed, feed, and feeder livestock), manufactured (fuel, fertilizer, pesticides, and electricity), and other (labor, interest, net rent to nonoperator landlords, and other expenses).

- The largest percentage increase is for “other” expenses, reflecting increases in labor expenses, interest costs, and net rent to nonoperator landlords. Labor expenses rise as sector output increases and wage rates rise. Projected increases in interest costs reflect higher interest rates, as well as increased debt facilitated by higher income. Increases for net rent reflect higher cash receipts and profitability as well as larger sector output.
- Projected manufactured-input expenses reflect high oil prices and larger crop production. After increases in 2004-08 that were mostly due to rising oil prices, these expenses increase moderately through 2013 during a period of relatively stable oil prices. Then as oil prices rise faster than the general inflation rate over the remainder of the projection period, production expenses for manufactured inputs rise more rapidly.
- Farm-origin expenses rise less than the general inflation rate. Feed expenses, which have risen sharply in recent years with higher corn prices, are relatively flat in the projections period as corn prices stabilize. Seed expenses increase only moderately as acreage declines from 2008 highs and then stabilizes. Expenses for purchased livestock also increase moderately as the livestock sector continues to adjust to higher feed costs.
- Cash operating margins remain relatively stable over the projections period at about 73 percent as cash receipts and gross cash incomes rise at close to the same pace as cash expenses.

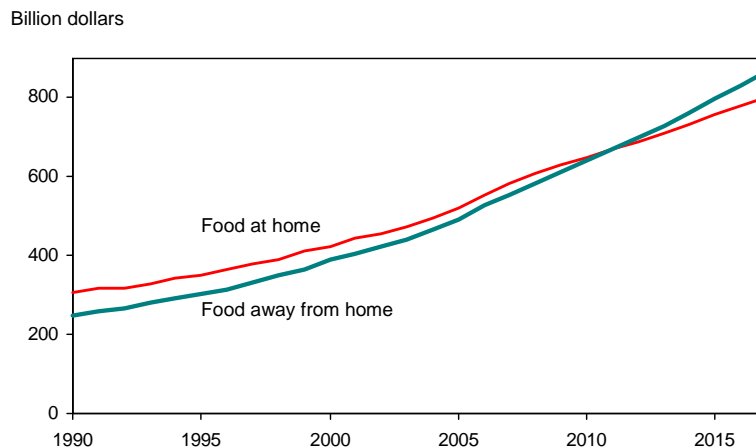
### U.S. food inflation



Adjustments in retail prices due to higher energy and agricultural commodity prices are projected to continue for the next 2 years and lead to food price increases somewhat larger than general inflation in 2008 and 2009. For the rest of the projections period, however, retail food prices increase less than the general inflation rate.

- Relatively large price increases are expected in 2008 for fats and oils and for cereals and bakery products, reflecting higher prices for vegetable oils and wheat. Consumer prices for red meats, poultry, and eggs exceed the general inflation rate in 2009 as the livestock sector adjusts to higher feed costs due to the expansion in corn-based ethanol production. Smaller increases in meat prices are then projected as production growth resumes.
- Prices for food away from home reflect the overall inflation rate as well as some effect of price movements for retail meat and poultry. Income growth supports continuing gains in prices for food consumption away from home, although competition in the fast-food and foodservice industries tend to moderate these price increases.

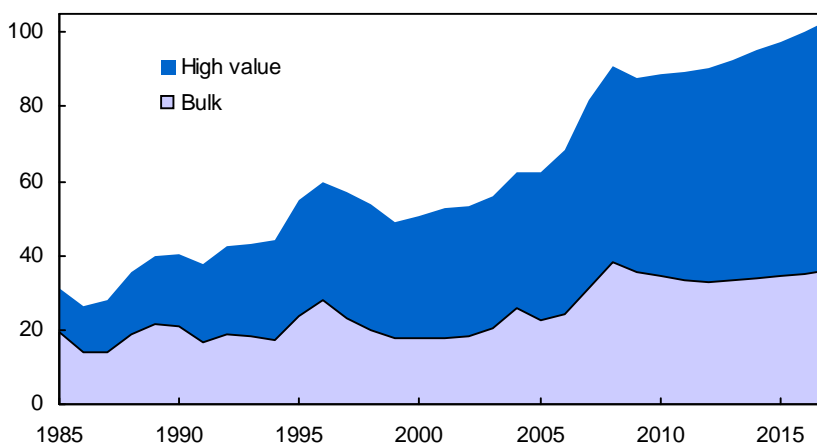
### U.S. food expenditures



- Expenditures for meals prepared away from home account for a growing share of food spending, reaching about 52 percent of total food expenditures by 2017.

### U.S. agricultural export value: Bulk and high value 1/

Billion dollars



1/ Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value products include semi-processed and processed grains and oilseeds, animals and animal products, horticultural products, and sugar and tropical products.

The value of U.S. agricultural exports rises in the projections due to increases in both export volumes and prices. Strong domestic economic growth and consumer demand boost agricultural imports.

- The value of U.S. agricultural exports is projected to grow from \$82 billion in fiscal year 2007 to more than \$103 billion in 2017. The lower value U.S. dollar is an important factor underlying recent export gains and the projected growth. In addition, steady world economic growth, particularly in developing countries, provides a foundation for gains in trade and U.S. agricultural exports. Higher commodity prices due to expansion of global biofuel demand also contribute to the gains in export values.
- Recent increases in bulk commodity prices have strengthened bulk export values, pushing the share of exports accounted for by high-value products (HVP) down through fiscal year 2008. In the longer run, however, HVP export values grow in importance again, representing about 65 percent of the value of U.S. exports by the end of the projection period. Much of the growth in HVP exports is for animal products and horticultural products.
- U.S. agricultural import values rise to almost \$105 billion in 2017, boosted by gains in consumer income and demand for a large variety of foods. Strong growth in horticultural imports is assumed to continue, contributing over half of the overall agricultural import increase.
- Overall, the U.S. agricultural trade surplus is projected at \$15.5 billion in fiscal year 2008, largely due to recent gains in bulk commodity prices and bulk export values. The agricultural trade balance declines from this level over the projections period, as bulk exports remain relatively flat while imports continue steady gains.

Table 27. Farm receipts, expenses, and income, long-term projections

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	<i>Billion dollars</i>											
Cash receipts:												
Crops	120.0	143.2	161.5	162.1	163.2	164.1	166.0	169.3	172.9	176.4	180.1	184.2
Livestock and products	119.3	141.0	138.3	137.6	139.1	142.0	143.8	145.6	148.4	150.8	152.9	154.9
All commodities	239.3	284.2	299.8	299.8	302.3	306.1	309.9	314.9	321.3	327.2	333.0	339.1
Farm-related income	17.5	18.8	19.3	19.8	20.3	20.7	21.2	21.7	22.2	22.7	23.2	23.7
Government payments	15.8	11.7	13.1	9.7	9.7	9.8	10.0	10.2	10.3	9.6	9.7	9.7
Gross cash income	272.5	314.6	332.2	329.3	332.2	336.6	341.1	346.7	353.8	359.5	366.0	372.5
Cash expenses	204.7	227.2	238.1	241.4	243.8	245.2	247.5	251.8	256.4	261.2	265.7	270.9
Net cash income	67.9	87.4	94.1	87.9	88.4	91.5	93.5	95.0	97.4	98.3	100.3	101.7
Value of inventory change	-1.6	5.8	0.4	1.5	1.6	0.6	0.5	0.8	0.9	1.2	1.1	1.4
Noncash income	20.5	23.8	24.7	25.8	26.3	26.8	27.4	27.9	28.4	29.0	29.5	30.1
Gross farm income	291.5	344.2	357.3	356.5	360.1	364.1	369.0	375.4	383.2	389.7	396.6	404.0
Noncash expenses	18.2	18.3	18.7	19.5	19.8	20.1	20.3	20.5	20.7	20.9	21.1	21.3
Operator dwelling expenses	9.6	10.1	11.2	11.4	11.5	11.6	11.8	11.9	12.1	12.2	12.3	12.5
Total production expenses	232.5	255.5	268.1	272.3	275.1	276.9	279.6	284.2	289.2	294.3	299.1	304.7
Net farm income	59.0	88.6	89.2	84.2	85.0	87.2	89.4	91.2	94.0	95.3	97.5	99.4

Table 28. Consumer food price indexes and food expenditures, long-term projections

CPI category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>1982-84=100</i>												
Consumer price indexes:												
All food	195.2	202.9	209.4	215.5	220.8	225.7	230.6	235.8	241.5	246.8	252.2	257.7
Food away from home	199.4	206.7	212.9	219.7	225.4	231.0	236.5	242.4	248.7	254.7	260.8	267.1
Food at home	193.1	201.2	207.9	213.7	218.7	223.3	227.9	232.7	238.0	242.9	247.9	253.0
Meats	188.8	195.0	198.9	210.3	215.6	218.6	221.4	224.3	228.8	231.9	233.9	236.1
Beef and veal	202.1	211.1	216.0	230.5	236.1	237.7	239.8	243.1	249.8	253.9	255.8	258.3
Pork	177.3	180.9	185.0	195.4	201.1	206.3	209.8	212.1	214.0	215.5	216.9	218.1
Other meats	180.7	184.8	186.0	191.0	194.8	198.5	201.7	204.7	207.6	210.5	213.3	216.1
Poultry	182.0	191.4	194.5	203.0	206.3	210.8	214.3	217.6	219.9	221.2	221.8	224.2
Fish and seafood	209.5	219.1	226.8	233.6	240.6	247.8	255.2	262.9	270.8	278.9	287.3	295.9
Eggs	151.2	195.3	189.0	198.0	205.8	210.7	213.7	216.7	219.7	222.7	225.7	228.7
Dairy products	181.4	194.8	200.0	199.5	203.5	208.0	212.5	217.0	221.5	226.0	231.0	236.0
Fats and oils	168.0	172.9	182.4	186.6	191.0	195.6	200.3	205.1	210.0	214.9	220.1	225.4
Fruits and vegetables	252.9	262.6	271.5	276.6	282.5	289.2	296.0	303.0	310.4	318.0	325.8	333.8
Sugar and sweets	171.5	176.8	181.2	185.3	188.6	192.5	196.3	200.2	204.3	208.3	212.5	216.7
Cereals and bakery products	212.8	222.1	235.4	239.7	243.9	248.6	254.0	259.9	266.1	272.3	278.8	285.5
Nonalcoholic beverages	147.4	153.4	159.5	165.1	170.1	174.4	178.8	183.3	187.9	192.6	197.4	202.3
Other foods	185.0	188.2	193.9	199.2	204.0	208.7	213.5	218.4	223.5	228.6	233.9	239.3
Food expenditures:												
<i>Billion dollars</i>												
All food	1,082.5	1,137.7	1,190.2	1,241.9	1,290.7	1,339.2	1,388.6	1,440.9	1,497.0	1,553.0	1,610.5	1,671.1
Food at home	553.4	583.6	608.3	629.8	650.4	670.2	690.3	711.2	733.8	756.1	778.6	802.4
Food away from home	529.1	554.1	581.9	612.1	640.3	669.0	698.3	729.7	763.2	796.9	831.9	868.7

Table 29. Changes in consumer food prices, long-term projections

CPI category	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Percent</i>												
All food	2.4	4.0	3.2	2.9	2.5	2.2	2.2	2.3	2.4	2.2	2.2	2.2
Food away from home	3.1	3.6	3.0	3.2	2.6	2.5	2.4	2.5	2.6	2.4	2.4	2.4
Food at home	1.7	4.2	3.3	2.8	2.3	2.1	2.1	2.1	2.3	2.1	2.1	2.1
Meats	0.7	3.3	2.0	5.7	2.5	1.4	1.3	1.3	2.0	1.4	0.9	0.9
Beef and veal	0.8	4.4	2.3	6.7	2.4	0.7	0.9	1.4	2.8	1.6	0.7	1.0
Pork	-0.2	2.0	2.3	5.6	2.9	2.6	1.7	1.1	0.9	0.7	0.6	0.6
Other meats	1.8	2.3	0.6	2.7	2.0	1.9	1.6	1.5	1.4	1.4	1.3	1.3
Poultry	-1.8	5.1	1.6	4.4	1.6	2.2	1.7	1.5	1.1	0.6	0.3	1.1
Fish and seafood	4.7	4.6	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Eggs	4.9	29.2	-3.2	4.8	3.9	2.4	1.4	1.4	1.4	1.4	1.3	1.3
Dairy products	-0.5	7.4	2.7	-0.2	2.0	2.2	2.2	2.1	2.1	2.0	2.2	2.2
Fats and oils	0.2	2.9	5.5	2.3	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4
Fruits and vegetables	4.8	3.8	3.4	1.9	2.1	2.4	2.4	2.4	2.4	2.4	2.5	2.5
Sugar and sweets	3.8	3.1	2.5	2.3	1.8	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Cereals and bakery products	1.8	4.4	6.0	1.8	1.8	1.9	2.2	2.3	2.4	2.3	2.4	2.4
Nonalcoholic beverages	2.1	4.1	4.0	3.5	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Other foods	1.4	1.8	3.0	2.7	2.4	2.3	2.3	2.3	2.3	2.3	2.3	2.3

Table 30. Summary of U.S. agricultural trade long-term projections, fiscal years

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Billion dollars</i>												
Agricultural exports (value):												
Livestock, dairy, and poultry	13.4	16.3	17.1	16.9	17.6	18.4	19.1	19.8	20.7	21.5	22.3	23.2
Livestock, poultry, and products	11.6	13.9	14.5	14.7	15.4	16.1	16.8	17.5	18.3	19.1	19.8	20.7
Dairy products	1.8	2.5	2.6	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.5
Grain and feeds	18.3	24.2	27.5	24.9	24.9	24.0	23.8	24.2	24.9	25.4	26.2	27.1
Coarse grains	6.8	9.6	11.7	11.0	11.2	10.5	10.2	10.3	10.7	11.0	11.3	11.9
Oilseeds and products	10.6	13.7	16.3	14.8	14.9	14.5	14.6	14.6	14.8	14.9	15.1	15.3
Soybeans and products	8.2	11.0	13.3	11.8	11.9	11.4	11.5	11.5	11.5	11.5	11.6	11.7
Horticultural products	16.7	17.9	18.6	19.1	19.6	20.2	20.7	21.3	21.9	22.5	23.2	23.8
Fruits and vegetables, fresh	4.5	4.8	4.9	5.0	5.1	5.3	5.4	5.5	5.7	5.8	6.0	6.1
Fruits and vegetables, processed	3.9	4.4	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4
Cotton and linters	4.7	4.3	5.8	6.6	6.4	6.5	6.6	6.9	6.9	7.2	7.3	7.6
Other exports	5.0	5.6	5.8	5.4	5.5	5.7	5.8	6.0	6.1	6.2	6.3	6.5
Total agricultural exports	68.6	81.9	91.0	87.8	88.9	89.2	90.7	92.8	95.3	97.7	100.3	103.4
Bulk commodity exports	24.5	31.4	38.0	35.7	34.6	33.4	32.9	33.2	33.9	34.4	35.2	36.3
High-value product exports	44.1	50.6	53.0	52.1	54.3	55.8	57.8	59.6	61.4	63.3	65.1	67.1
High-value product share	64.4%	61.7%	58.2%	59.3%	61.1%	62.6%	63.7%	64.2%	64.5%	64.8%	64.9%	64.9%
<i>Million metric tons</i>												
Agricultural exports (volume):												
Bulk commodity exports	120.7	124.7	130.8	116.9	115.2	114.4	114.2	115.2	117.0	118.4	121.4	124.3
<i>Billion dollars</i>												
Agricultural imports (value):												
Livestock, dairy, and poultry	11.5	12.0	12.3	13.2	13.6	14.0	14.3	14.7	15.2	15.7	16.0	16.5
Livestock and meats	8.5	8.9	9.2	9.9	10.2	10.5	10.8	11.0	11.4	11.7	12.0	12.3
Dairy products	2.6	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.5
Grain and feeds	4.9	6.0	6.6	6.9	7.1	7.3	7.6	7.9	8.2	8.6	9.0	9.4
Grain products	3.4	3.9	4.2	4.5	4.7	4.9	5.2	5.5	5.7	6.0	6.3	6.6
Oilseeds and products	3.5	4.0	4.8	5.1	5.3	5.5	5.7	5.9	6.1	6.3	6.5	6.8
Vegetable oils	2.4	2.8	3.5	3.7	3.9	4.0	4.1	4.3	4.4	4.6	4.8	4.9
Horticultural products	29.1	32.4	35.2	37.1	38.7	40.1	41.6	43.2	44.8	46.4	48.2	50.0
Fruits and vegetables, fresh	8.7	9.6	10.4	11.0	11.4	11.9	12.3	12.8	13.2	13.7	14.2	14.8
Fruits and vegetables, processed	5.4	6.6	7.4	7.7	7.8	7.9	8.0	8.1	8.2	8.4	8.5	8.6
Wine and beer	7.4	8.2	8.8	9.3	9.7	10.1	10.5	11.0	11.4	11.9	12.4	12.9
Sugar and tropical products	13.6	14.1	15.0	15.6	16.2	16.7	17.2	17.8	18.4	19.0	19.6	20.3
Sugar and related products	3.3	2.8	3.1	3.2	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1
Cocoa, coffee, and products	5.8	6.2	6.5	6.8	7.0	7.2	7.5	7.7	8.0	8.2	8.5	8.8
Other imports	1.4	1.5	1.6	1.5	1.5	1.6	1.7	1.6	1.7	1.7	1.7	1.6
Total agricultural imports	64.0	70.0	75.5	79.4	82.4	85.2	88.1	91.1	94.4	97.7	101.0	104.6
Net agricultural trade balance	4.6	11.9	15.5	8.3	6.5	4.0	2.6	1.7	0.9	0.0	-0.7	-1.2

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

Notes: The projections were completed in November 2007 based on policy decisions and other information known at that time. For updates of the nearby year forecasts, see USDA's *Outlook for U.S. Agricultural Trade* report, published in February, May, August, and November. Other exports includes tobacco, seeds, sugar and tropical products, and beverages and preparations. Bulk commodity exports covers wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value product (HVP) exports is calculated as total exports less the 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.

## Agricultural Trade

World consumption of many grain, oilseed, and meats has exceeded production in the past several years. As a result, global stocks have dropped sharply—to record lows in some cases—and prices have risen. Tight market conditions are projected to persist for many commodities over most of the coming decade, keeping agricultural commodity prices high.

Robust global economic growth provides a foundation for gains in world demand for agricultural products. Rapid expansion of ethanol and biodiesel production in some countries also adds to the growth in global agricultural demand.

The growing economies of 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 those countries, with movement away from staple foods and increased diversification of diets. The import demand of developing countries is further reinforced by population growth rates that remain nearly twice that of developed countries.

International trade in animal products, however, remains heavily dependent on demand from developed countries and from the market access achieved under existing trade agreements. Strong policy support for domestically produced meat is expected to motivate growth in feed grain imports, especially in regions where limited land availability or agroclimatic conditions preclude expanding domestic crop production, such as North Africa, the Middle East, and East and Southeast Asia.

Traditional exporters of a wide range of agricultural commodities, such as Argentina, Australia, Canada, the European Union (EU-27), and the United States, remain important in the coming decade. But countries that are making significant investments in their agricultural sectors, including Brazil, Russia, Ukraine, and Kazakhstan, are expected to have an increasing presence in export markets for basic agricultural commodities.

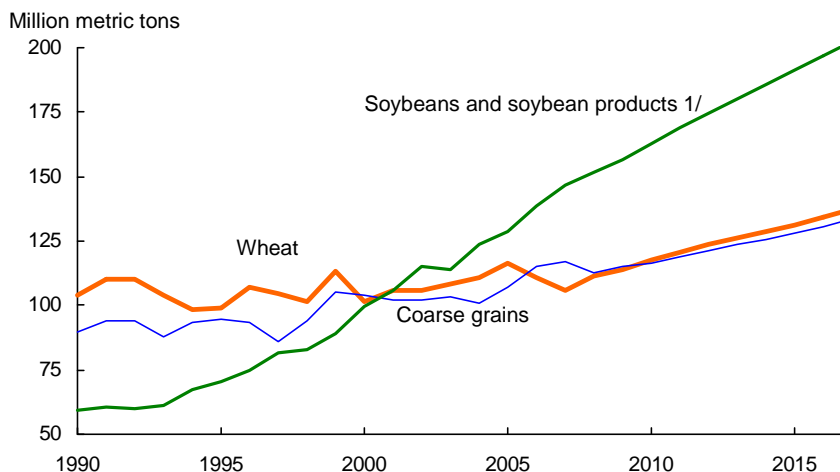
World agricultural production rises in response to high prices and technology enhancements. However, limited ability to expand planted area in many countries and higher input costs, particularly for energy intensive inputs such as fuel and fertilizer, constrain production growth and raise uncertainties about future supply response.

### General International Assumptions

Trade projections to 2017 are founded on assumptions concerning trends in foreign area, yields, and use and on 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 policy reforms in place or signed by November 2007.

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, economic and trade reforms underway 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.

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



1/ Soybeans and soybean meal in soybean-equivalent units.

Global trade in soybeans and soybean products has risen rapidly since the early 1990s, and has surpassed not only wheat—the traditional leader in agricultural commodity trade—but also 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, is expected to maintain soybean and soybean-product trade well above wheat and coarse grains trade throughout the next decade.

- Wheat, coarse grains, and oilseeds (including soybeans) compete with each other and with other crops for limited cropland. Higher prices for vegetable oils, partially the result of increased demand for biodiesel, are bringing previously uncropped land in Brazil and Indonesia into soybean and palm oil production.
- In the projections, the growth in total area planted to all crops rises less than a half-percent per year in most countries. Area expansion occurs more rapidly in countries with a reserve of available land and policies that enable farmers to respond to higher projected world prices. Such countries include Brazil, Argentina, other South American countries, some Eastern European countries, and Ukraine. About two-thirds of the growth in global production is derived from rising yields. The growth rate in crop yields has slowed somewhat during the last several decades and is projected to continue to do so.
- The impact of slowing growth in total crop production is partially offset by slowing growth in world population. Nonetheless, population is a significant factor driving overall growth in demand for agricultural products. Additionally, rising per capita income in many countries generates growth in demand for vegetable oils, livestock products, and horticultural products.
- In the coming decade, overall gains in global grain trade come from a broad range of countries, particularly from countries in Africa and the Middle East. Also, China exports less grain and imports more.



## Global Demand for Biofuel Feedstocks

Investments in biofuel production capacity are occurring in many countries. Although the main feedstocks used are corn and sugarcane for ethanol and rapeseed and soybean oils for biodiesel, other feedstocks are also being used, such as barley, wheat, rye, wine, and cassava for ethanol production and a variety of other vegetable oils, recycled oils, and fats from the food industry for biodiesel.

### Assumptions Used for the USDA Projections

Biofuels production and the demand for biofuels feedstocks are projected to continue growing in a number of countries. The projections are based on a combination of historical biofuel production data, USDA interpretation of statements by foreign governments about their plans for biofuel development, and other information about potential investments in biofuel production capacity.

### Country Assumptions

**EU:** The EU has a “target” to obtain 5.75 percent of transportation fuel from biofuels by 2010. Additionally, EU policy has provided a per-acre subsidy for the production of energy crops, although the subsidy level has been reduced recently. Individual member states also offer tax credits on biofuels. The projections assume that about two-thirds of the EU target is met by 2010 and that, with increasing total fuel use, the 2010 target is still not quite reached by 2017. The projections further assume that biodiesel accounts for two-thirds of total biofuels and ethanol accounts for the other third. Rapeseed oil is the feedstock for nearly all EU biodiesel production. In the EU, area planted to rapeseed and oilseed crushing capacity are both projected to increase sharply. In addition, the EU increases rapeseed oil imports from Russia and Ukraine. It also imports some palm oil from Southeast Asia, as well as some biodiesel (processed from palm oil) from Southeast Asia. Some biodiesel is also imported from the United States. Since the 5.75 percent “target” was set, the EU has established a “mandate” that biofuels account for 10 percent of transportation fuel use by 2020. USDA’s assumptions imply progress toward this mandate would be behind schedule throughout the projections period.

**Brazil:** Sugarcane is the feedstock for nearly all of Brazil’s ethanol production. In southern Brazil, some land has already been shifted from grain and oilseeds production to sugarcane. The projections assume this trend continues, but at a slower pace. As a result of implementation of a domestic fuel mandate in 2008, biodiesel production is assumed to increase sharply during the next several years before leveling off. Much of the new capacity will be in the soybean production areas in the Central-West region of the country, which will reduce petroleum-based diesel fuel that has to be trucked to the interior.

**Canada:** Canadian biodiesel production is projected to more than double between 2007 and 2017. Most of the increased production will be from rapeseed produced and processed in the Prairie Provinces. Ethanol production is projected to continue expanding rapidly also. The amount of corn and wheat used for feedstocks is expected to rise sharply during the next half decade.

--Continued

### **Global Demand for Biofuel Feedstocks** *(Continued)*

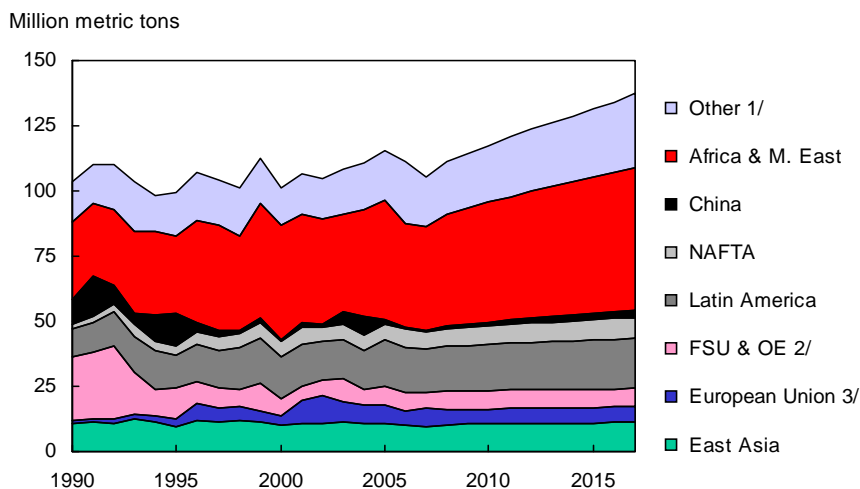
**Argentina:** The production of biodiesel in Argentina is assumed to more than double between 2007 and 2017. Argentina has a system of differential export taxes that has lower tax rates for biofuels exports than the tax rate on exports of feedstocks such as corn or soybean oil. In turn, the export tax on soybean oil is lower than the tax on soybean exports. For biodiesel, this provides an incentive for further investments in Argentina's already large crushing industry. Argentina is projected to import some soybeans from other South American countries to keep its crushing facilities running at near full capacity.

**Other Europe and the former Soviet Union:** This region is assumed to respond to the EU's expanding demand for biodiesel by rapidly increasing rapeseed production. In Russia and Ukraine, rapeseed production more than triples in the projections. Much of the production gains are destined for export to the EU, either as rapeseed oil or as rapeseed for crushing in the EU.

**China:** In 2007, approximately 3.5 million tons of corn were used to produce fuel ethanol in China. About five times as much corn was used to produce ethanol for industrial and beverage uses. Because of its food security policy, the government is trying to slow the growth in overall corn-based ethanol production, attempting to focus on the use of nongrain feedstocks such as sweet potatoes and cassava. Consequently, increases in corn-based ethanol production for industrial and beverage uses are expected to slow and no further growth is projected for corn-based fuel ethanol.

**Malaysia and Indonesia:** Growing worldwide demand for vegetable oils for human consumption and biodiesel production stimulates further expansion of the area planted to oil palm. The projections assume moderate growth in Malaysian and Indonesian palm oil production and exports for biodiesel use.

## Global wheat imports



1/ Predominantly South and Southeast Asia.

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

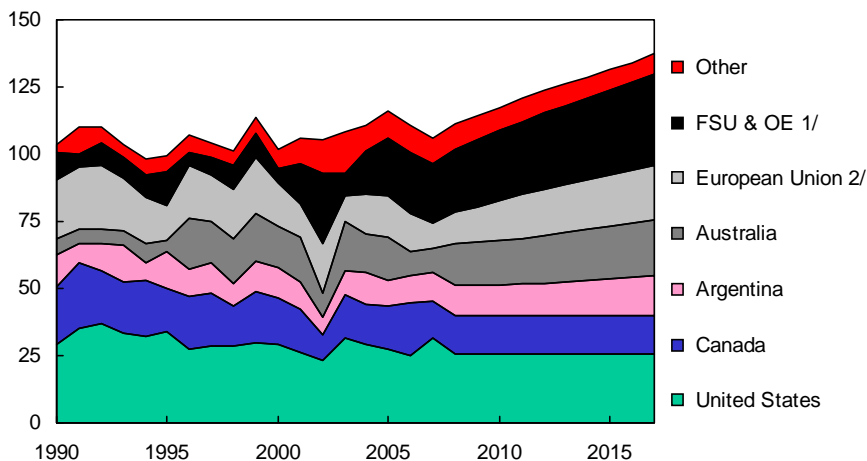
3/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Growth in wheat imports is concentrated in those developing countries where robust growth in income and population underpins increases in demand. Important growth markets include Sub-Saharan Africa, Egypt, Pakistan, Algeria, Indonesia, the Philippines, and Brazil. World wheat trade (including flour) expands by more than 26 million tons (23 percent) between 2008 and 2017 to 137 million tons.

- Egypt maintains its position as the world's largest importing country, as imports climb slowly to nearly 9 million tons. Imports by Brazil, another large importer, are projected to exceed 8 million tons. Brazil's climate generally does not favor wheat, and in some key wheat-producing states, winter corn is expected to have better returns than wheat.
- Imports by developing countries in Sub-Saharan Africa, North Africa, and the Middle East rise nearly 12 million tons and account for 45 percent of the total increase in world wheat trade. In most developing countries, little change in per capita wheat consumption is expected but imports expand modestly because of population growth and limited potential to expand production.
- Changing consumption patterns will boost wheat imports by some major importing countries. In Indonesia, strong economic growth and diversification of diets are projected to increase per capita wheat consumption. Mexican consumers are projected to continue substituting wheat for corn in their diets as incomes rise.
- Lower wheat-to-corn price ratios during most of the projection period enable wheat to compete effectively with corn for feed use in a number of countries. Europe is expected to continue to account for the largest share of global wheat feeding.
- China has been a small net exporter of wheat in recent years, but production constraints cause it to become a small net importer toward the end of the projections.

## 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.

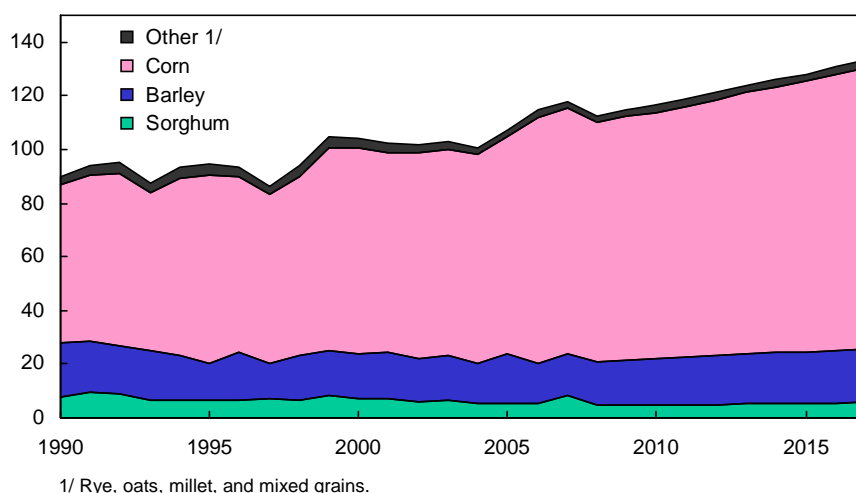
2/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

The top five wheat-exporting nations (the United States, Australia, the EU, Argentina, and Canada) account for 70 percent of world trade in 2008-17. This is down from 89 percent in 1997/98, mostly due to increased exports from the Black Sea area. U.S. wheat exports are projected to account for less than 19 percent of global wheat trade at the end of the projection period, down from 25 percent in the past 5 years. The global stocks-to-use ratio has declined sharply during the last half decade to the lowest level on record. Despite a significant rebound in global production, low stocks and relatively high prices are projected to persist for most of the next decade.

- Shares of the world wheat market held by Canada and the United States decline slightly, while shares increase for the EU, Ukraine, Russia, Australia, and Argentina.
- In Canada, increased demand for vegetable oils, especially rapeseed oil for biodiesel production, and increasing demand for barley are expected to reduce wheat area, and limit any growth in wheat exports.
- Ukraine, Russia, and Kazakhstan have become significant wheat exporters in recent years. Low costs of production and new investment in their agricultural sectors have enabled their combined world market share to climb to about 20 percent in the last 2 years. Exports from Ukraine and Russia are projected to continue gaining market share, more than offsetting a slight decline in the share held by Kazakhstan. However, because of the region's highly variable weather and yields, year-to-year volatility in production and trade can be expected. Also, continued real appreciation of these countries' currencies, caused mainly by strong foreign exchange earnings and domestic inflation, could moderate the rise in exports.
- Wheat exports by Turkey and other smaller exporters change little or trend slowly downward during the projection period. Although India has exported some wheat in recent years, exports are expected to be minimal and imports to increase as domestic demand outpaces production and stocks remain relatively low.

### Global coarse grain trade, by type

Million metric tons

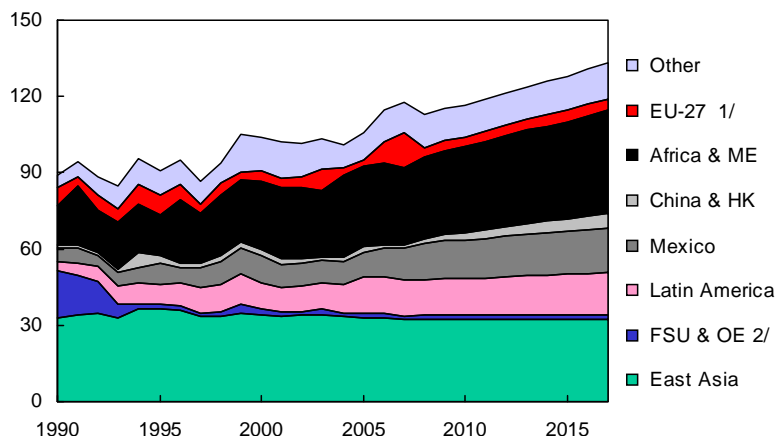


Growth in coarse grain trade is strongly linked to expansion of livestock production in regions unable to meet their own feed needs. Key growth markets include China, Mexico, North Africa, the Middle East, and Southeast Asia. Japan and South Korea are large but mature import markets for coarse grains.

- Corn is the dominant feed grain traded in international markets. Corn accounts for an average of 79 percent of all coarse grain trade through the projection period, followed by barley (15 percent) and sorghum (4 percent).
- 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 become increasingly commercialized, higher quality feeds are used, boosting the demand for corn and soybean meal.
- Mexico's composition of coarse grain imports is expected to change during the early part of the projection period. Under the North American Free Trade Agreement (NAFTA), Mexico's over-quota tariff on U.S. and Canadian corn ended on January 1, 2008. Consequently, Mexico's grain imports shift more to corn rather than sorghum. Also, after 2008/09, Mexico's imports of kibbled and cracked corn (processed corn that has already been tariff free) are projected to be increasingly replaced by whole-grain corn. Mexico's corn imports continue to rise through the rest of the projections, while sorghum imports resume growth after 2009/10.

### Global coarse grain imports

Million metric tons



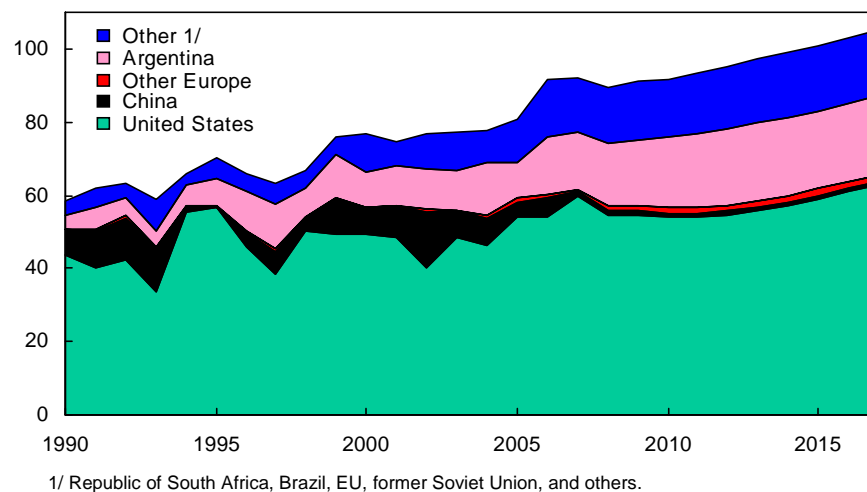
1/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.  
 2/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

World coarse grain trade expands nearly 21 million tons (18 percent) from 2008 to 2017. About two-thirds of global coarse grain production is used as animal feed. Industrial uses, such as starch, ethanol, and malt production, are smaller but growing. Food use of coarse grains, concentrated in parts of Latin America, Africa, and Asia, is projected to continue declining.

- World prices for grains have risen during the last several years as global stocks of grain declined sharply. Although the higher prices are projected to stimulate grain production, neither stocks-to-use ratios nor prices return to levels common during the last 3 decades.
- Steady longrun growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East is projected to account for most of the growth in world coarse grain imports during the next decade.
- Mexico's corn imports are projected to rise from 8.8 million tons in 2006/07 to 15 million tons in 2017. Imports will be stimulated by rising poultry production and the elimination of Mexico's over-quota tariff on U.S. and Canadian corn on January 1, 2008. Some corn imports will substitute for imports of kibbled corn and sorghum, which already had tariff-free status.
- North Africa and the Middle East experience continued growth in import demand for grain and protein meals through 2017 as rising populations and increasing incomes sustain strong demand growth for domestically-produced animal products. In Egypt, government policy has shifted toward allowing more poultry meat imports. Still, poultry production is projected to rise, boosting corn imports more than 1 million tons.
- In Japan, South Korea, and Taiwan, environmental regulations constrain meat production, which results in increasing meat imports and no growth in coarse grain imports.
- The EU's corn and sorghum imports decline in 2008 as production returns to normal levels, but in subsequent years corn imports from Other Europe, particularly Serbia, are expected to increase.
- Countries in Southeast Asia raise corn imports more than 1.5 million tons (30 percent) during the projection period as their increased demand for livestock products exceeds their capacity to grow more feed grains.

## Global corn exports

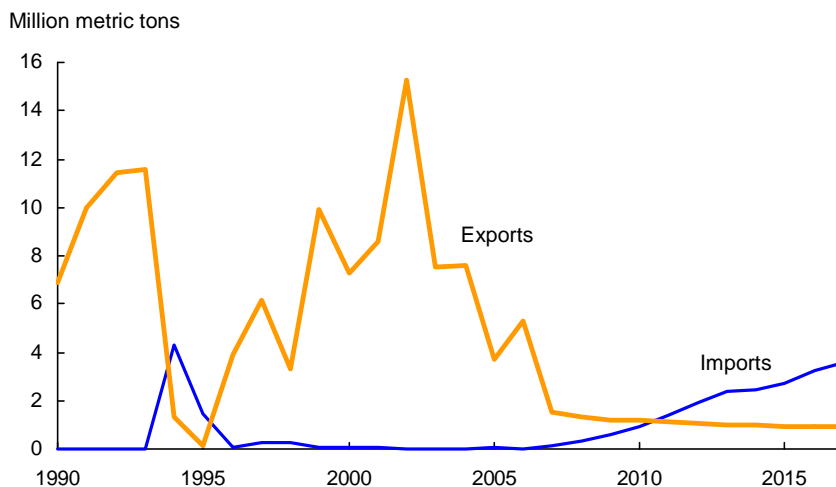
Million metric tons



The United States dominates world trade in coarse grains, particularly corn. However, increasing use of corn for U.S. ethanol production and reduced world trade are assumed to limit U.S. export growth early in the projection period. During the next half decade, some countries respond to higher world prices by increasing corn production and exports—most notably Argentina and Ukraine. Still, U.S. corn exports are projected to resume growth during the middle part of the projection period after the ramp-up in domestic ethanol production slows. The U.S. share of world corn trade stays close to 60 percent as few countries have the capability to respond to rising international demand for corn.

- Argentina, with a small domestic market, remains the world's second-largest corn exporter. Argentina's corn planted area gradually increases in response to higher prices. Corn exports rise steadily by 27 percent to more than 21 million tons. Argentina and other South American countries increase corn exports to Chile to support its expanding pork exports to South Korea.
- Corn exports from some countries of the former Soviet Union, primarily Ukraine, double to 7 million tons by 2017. Favorable resource endowments, increasing economic openness, and greater investment in their agricultural sectors stimulate corn production, and combined with increasing meat imports, leave a corn surplus available for export.
- Brazil's corn exports are at record high levels during the early years of the projections in response to higher corn prices relative to soybean prices. In the last several years, Brazil has targeted the EU's demand for non-genetically modified grain. This ability is assumed to diminish as Brazil legalizes planting genetically modified varieties of corn and the EU reduces imports. Also, strong growth in domestic demand from its livestock and poultry sectors and the profitability of growing soybeans limits corn exports.
- China's corn exports decline in the projections, reflecting strengthening domestic demand driven by its expanding livestock and industrial sectors.

### China: Corn imports and exports



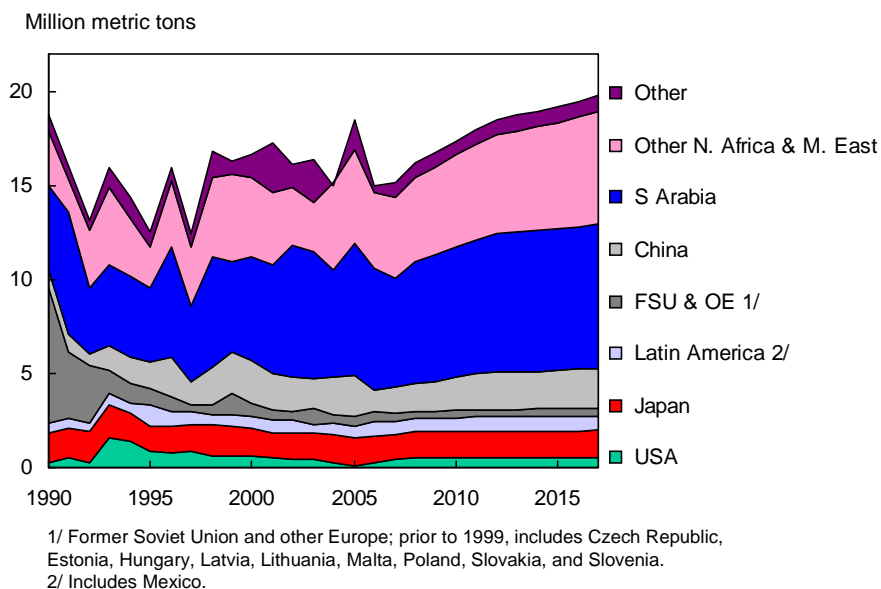
Although Chinese corn production is projected to increase, China becomes a net corn importer midway through the projection period as demand for livestock feed overtakes China's internal supplies of corn. Due to regional supply and demand differences, China continues to export corn throughout the projection period, although in declining amounts (see note below).

- Corn is the favored crop in northeast China. Proximity to Asian markets, especially South Korea, provides a nearby source of demand, while various government measures—including waivers of certain transportation construction taxes—keep corn exports competitively priced in international markets. High ocean-freight rates raise the delivered cost of U.S. corn to Asian markets, another factor that keeps Chinese corn competitive. Shipments of corn from northeast China to the country's southern markets are limited by China's high internal transportation costs.
- As China's corn consumption continues to grow, the country is projected to increase imports and reduce exports, and to eventually become a net corn importer by the middle of the projection period. Livestock feeding continues to increase as income growth raises meat demand. Industrial use of corn, especially for starch, is also expected to grow robustly in China, but direct human consumption declines.

**Note:** Projections do not reflect China's December 2007 policy changes that reduce incentives to export grains and grain products. The first policy change eliminated an export subsidy (refunds of value-added taxes on exports of various grain and grain products). A second policy change imposed export taxes on shipments of a similar set of grain and grain products.



## Global barley imports

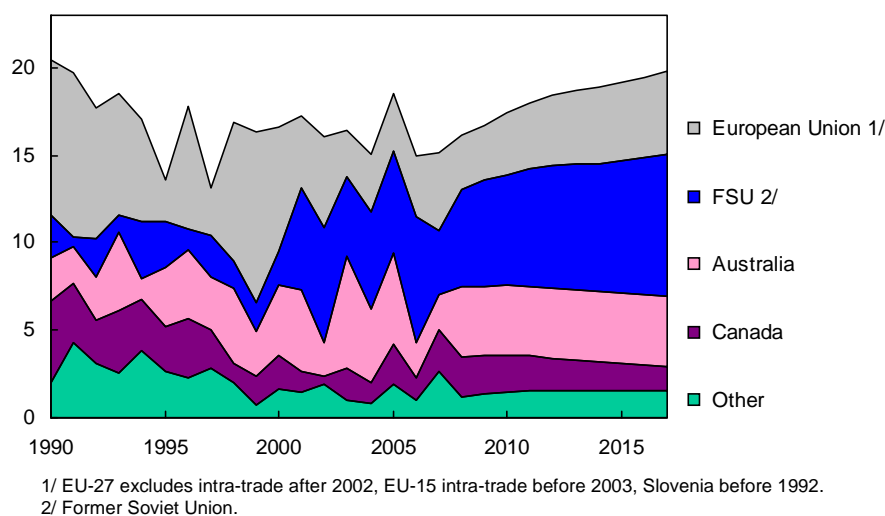


Global barley trade expands 3.6 million tons (22 percent) during the projection period. Rising demand for both malting and feed barley underpin the increased trade.

- Feed barley imports by North African and Middle Eastern countries grow steadily over the next decade. In the mid-1990s, corn overtook barley as the principal coarse grain imported by these countries, due mainly to rising poultry production. This pattern is expected to continue through the projection period. However, the North Africa and Middle East region is expected to remain the world's largest barley importing area.
- Saudi Arabia—the world's foremost barley importer—accounts for over 35 percent of world barley trade through the coming decade. Saudi Arabia's barley imports are used primarily as feed for camels, goats, and sheep.
- International demand for malting barley is boosted by strong growth in beer demand in many developing countries, notably China—the world's largest malting barley importer. China's beer demand is rising steadily due to growth in incomes and population. Expansion in China's brewing capacity is being aided by foreign investment. China's breweries also use rice and other grains to produce alcoholic beverages. Australia and Canada are China's main sources of malting barley imports.

## Global barley exports

Million metric tons

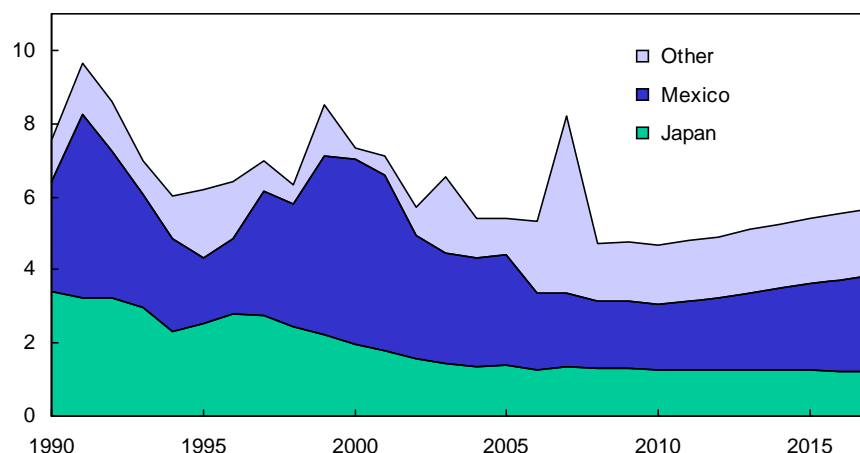


Historically, global barley exports have originated primarily from the EU, Australia, and Canada. However, Ukraine and, to a lesser extent, Russia have emerged as important competitors in international feed barley markets and remain so throughout the projection period.

- Barley production is expected to increase in the EU as a result of Common Agricultural Policy (CAP) reform. The abolition of EU intervention for rye, combined with high barley prices, will stimulate the allocation of more area to barley production. EU exports to non-EU countries are projected to climb nearly 50 percent to 4.7 million tons over the projection period (24 percent of world trade), as projected prices are high enough that the EU is able to export barley without subsidies.
- The FSU remains a major barley exporter throughout the coming decade as exports surpass 8 million tons. Together, the FSU and EU account for nearly 65 percent of world barley exports by 2017.
- Malting barley is a different quality than feed barley and commands a substantial price premium over feed barley. This premium is expected to influence planting decisions in Canada and Australia and, in both countries, malting barley's share of total barley area rises during the projection period. However, some of Canada's total barley area shifts to canola because of stronger prices due to the demand for biodiesel feedstocks, and total barley exports trend downward during the coming decade.

## Global sorghum imports

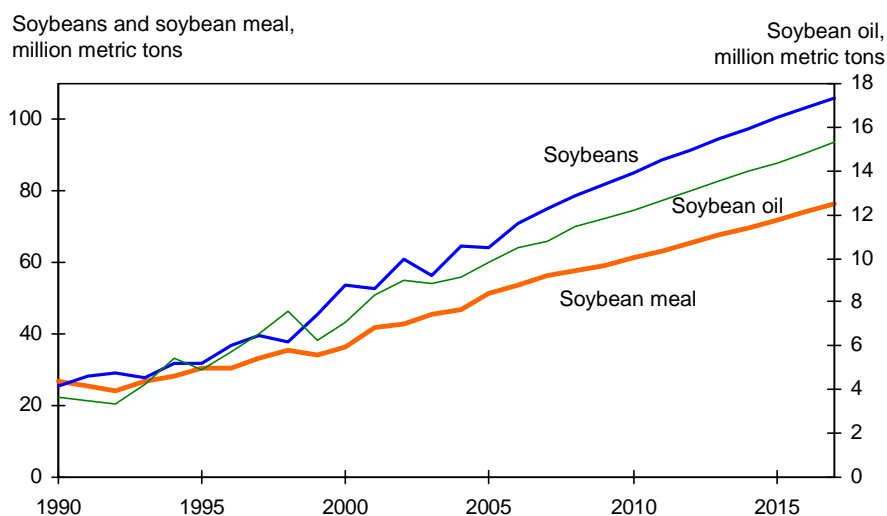
Million metric tons



World sorghum trade, which averaged nearly 6.5 million tons during the last decade, declines to below 5 million tons in the middle of the projection period before rising slightly through the remainder of the coming decade. This trade is driven almost entirely by U.S. exports to Mexico and Japan.

- Mexico is the world's leading sorghum importer in most years. Some sorghum imports are expected to be replaced by corn imports because, under NAFTA, Mexico's over-quota tariff on U.S. and Canadian corn ended on January 1, 2008. Mexico's sorghum imports are projected to increase slightly in the later years, but remain below 2.7 million tons. Even at this reduced import level, Mexico accounts for more than 45 percent of world sorghum imports.
- The EU normally imports small quantities of sorghum, but became the world's largest importer in 2007/08. As the EU's corn production declined in 2006 and again in 2007, the region increased imports of nongenetically modified corn, generally from Brazil. However, as exportable world supplies of nongenetically modified corn became more limited and corn prices jumped, the EU began to import sorghum as an alternative. EU corn production is assumed to return to normal levels in 2008 and its 2008/09 imports of both corn and sorghum are projected to recede.
- Japan imports a fairly constant volume of sorghum (1.3 million tons) throughout the period to maintain diversity and stability in its feed grain supplies.
- The United States is the largest exporter of sorghum, accounting for more than 80 percent of world trade in recent years. During most of the projection period, the U.S. share remains in the 80-83 percent range even though some of its sorghum exports to Mexico shift to corn.
- The primary sorghum markets for Argentina, the world's second largest exporter, are Japan, Chile, and Europe. In Argentina, prices and profitability are expected to favor planting soybeans and corn, so sorghum exports remain relatively flat during the projection period.
- Brazil has begun to export small quantities of sorghum and the volume is projected to rise during the projection period. In the Central-West region of Brazil, sorghum is increasingly planted during the dry season between crops of soybeans or cotton.

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

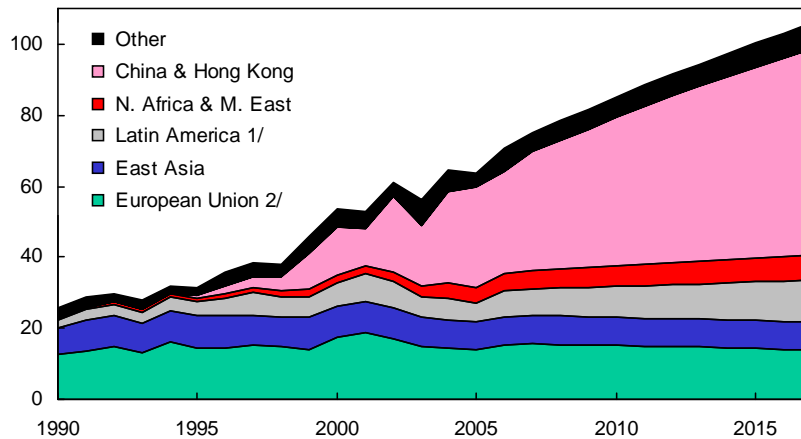


Strong income and population growth in developing countries generate increasing demand for vegetable oils for food consumption and for protein meals used in livestock production. Additional demand is generated by the use of vegetable oils in biodiesel production in some countries. As a result, world trade in soybeans and soybean oil each grow at an average annual rate of 3.3 percent through the projection period, compared with 3.1 percent for soybean meal.

- Prices for vegetable oils rise due to increasing consumer demand in developing countries and the expansion of biodiesel production. As more of the value of oilseeds derives from the oil content relative to the protein meal content, vegetable oil prices rise in comparison to prices for oilseeds and protein meals.
- Many countries with limited opportunity to expand oilseed production continue investment in oilseed crushing capacity, such as China and some countries in North Africa, the Middle East, and South Asia. As a result, import demand for soybeans and rapeseed grows rapidly. However, strong competition in international protein meal markets is expected to shift some of the import demand from oilseeds to cheaper meals. The competitive pressure of new oilseed crushing capacity is expected to result in some inefficient crushers going out of business.
- China's expansion of domestic crushing capacity instead of importing protein meal and vegetable oil significantly influences the composition of world trade by raising global import demand for soybeans and other oilseeds rather than for oilseed products.
- Brazil's rapidly increasing soybean area enables it to gain a larger share of world soybean and soybean meal exports, despite increasing domestic feed use. Its share of world exports of soybeans plus the soybean equivalent of soybean meal rises from about 30-35 percent in recent years to 43 percent by 2017.
- The expansion in Argentine soybean area slows as incentives to grow corn and sunflower seed improve and the conversion of pasture land to crop land slows.
- The EU set-aside rate is assumed to be zero during the projections. Except in 2008, most land previously set aside will be planted to rapeseed destined for biodiesel production.

## Global soybean imports

Million metric tons



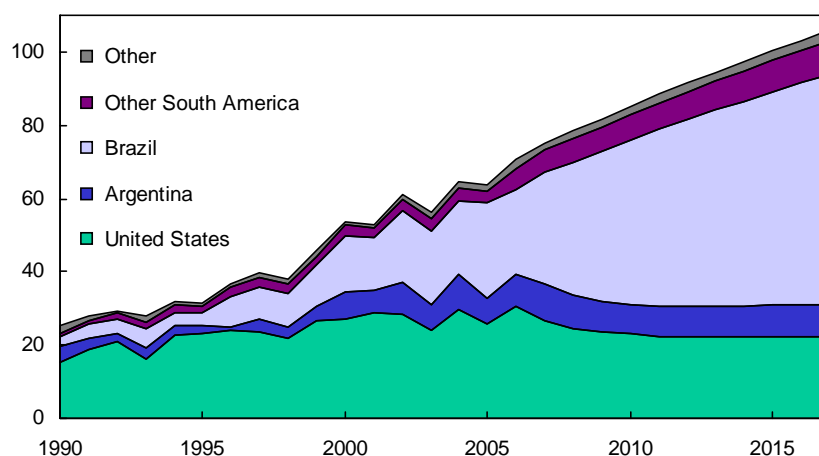
1/ Includes Mexico. 2/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

World soybean trade is projected to rise rapidly, climbing more than 27 million metric tons (35 percent) during the next decade.

- The EU was the world's leading importer of soybeans until 2002. However, increases in grain and rapeseed meal feeding and rising imports of soybean meal have resulted in declining soybean imports since then.
- China will face policy decisions regarding tradeoffs in producing or importing corn and soybeans. The projections assume that Chinese policies will support maintaining domestic corn production and importing soybeans. Thus, China accounts for 80 percent of the world's 27-million-ton growth in soybean imports over the next 10 years. Significant investments in oilseed crushing infrastructure by China drive strong gains in soybean imports as China seeks to capture the value added from processing oilseeds into protein meal and vegetable oil. The use of vegetable oils for biofuels production is assumed to have a negligible impact on China's total vegetable oil use.
- East Asia's trade outlook is dominated by a continuing shift from importing feedstuffs to importing meat and other livestock products. As a result, this region's import demand for protein meal and oilseeds does not rise during the coming decade despite rising meat consumption.
- As Argentina seeks to operate its expanding crushing facilities at full capacity, it is projected to import 4 million tons of soybeans from Brazil, Paraguay, Uruguay, and Bolivia by the end of the period.

## Global soybean exports

Million metric tons

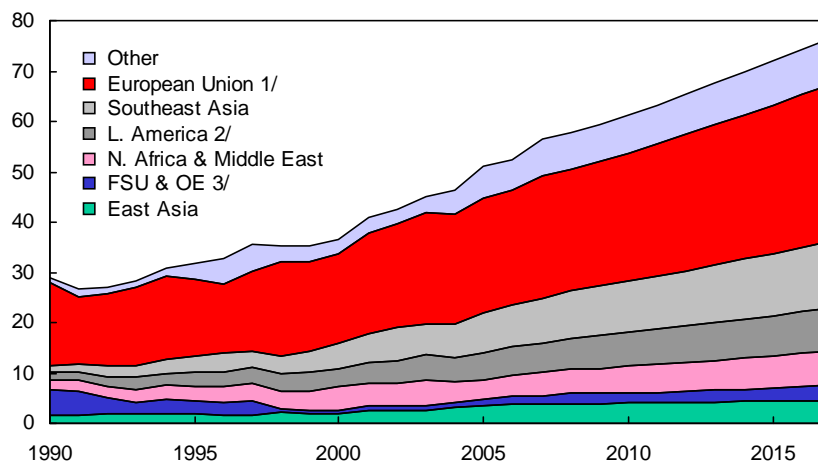


The three leading soybean exporters—the United States, Brazil, and Argentina—have accounted for more than 90 percent of world trade in recent years. Their market share is projected to decline to slightly less than 90 percent as exports rise from minor exporting countries, such as Uruguay, Paraguay, and Bolivia.

- With continuing area gains, Brazil maintains its position as the world's leading exporter of soybeans and soybean products. Combating soybean rust disease increases production costs. However, because of increased domestic demand for soybean meal for feed and soybean oil for human consumption and biodiesel production, soybeans remain more profitable than other crops in most areas of Brazil. It is assumed that some land in southern Brazil will shift from oilseed to corn production during the middle of the projection period in response to higher corn prices and more limited competition from U.S. corn exports. Still, with expanded soybean plantings in the Cerrado regions, the growth rate for Brazil's soybean planted area is projected to average nearly 3.5 percent a year, reaching about 31 million hectares by 2017. Soybean exports are projected to almost double.
- Argentina's export tax rates are higher for soybeans than for soybean products. This favors domestic crushing of whole seeds and exporting the products. Also, Argentina is projected to divert some land from soybeans to corn. As a result, Argentina's soybean exports remain around 8 to 9 million tons.
- Other South American countries, principally Uruguay, Paraguay, and Bolivia, expand exports 40 percent to more than 9 million tons. Four million tons are destined for the crushing industry in Argentina.
- Russia and Ukraine respond to higher international market prices for oilseeds by increasing production of rapeseed and soybeans. Although rapeseed production will be most affected, soybean exports are projected to increase somewhat.
- In the United States, reduced soybean acreage and increased domestic crush limit exportable supplies, but their competitiveness is aided by depreciation of the U.S. dollar.

## Global soybean meal imports

Million metric tons



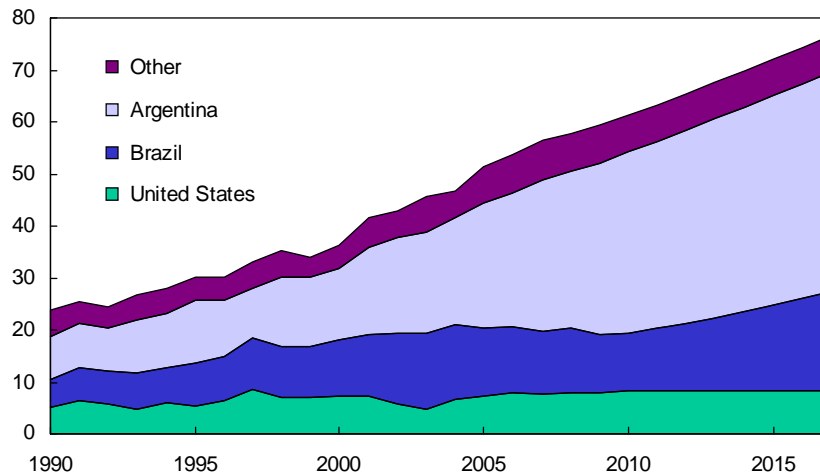
1/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.  
2/ Includes Mexico. 3/ Former Soviet Union and other Europe; prior to 1999, includes Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

World trade in soybean meal grows briskly during the projections, rising more than 18 million tons (over 30 percent) by 2017. Continuing growth in the demand for livestock products and limited capability to increase oilseed production boost demand for soybean meal by a number of countries with rising middle-income populations. Lower import prices of soybean meal relative to soybeans and grains provide incentives for countries to import soybean meal for inclusion at a higher rate in livestock feed rations.

- The EU remains the world's largest destination for soybean meal throughout the projection period, despite increased domestic feeding of grains. Growth in soybean meal imports is expected to continue even though there will be more rapeseed meal available as a result of the biofuels expansion. Also, an increase in the dairy production quota increases soybean meal feeding.
- The regions of Southeast Asia, Latin America, and North Africa and the Middle East all become larger importers of soybean meal as the demand for livestock feed boosts import demand in a number of countries.
- Mexico's strong growth in demand for protein feed and vegetable oils is projected to continue. The crushing industry in Mexico is also expected to continue expansion. This will boost soybean imports, but soybean meal imports from the United States are also expected to grow rapidly.

## Global soybean meal exports

Million metric tons



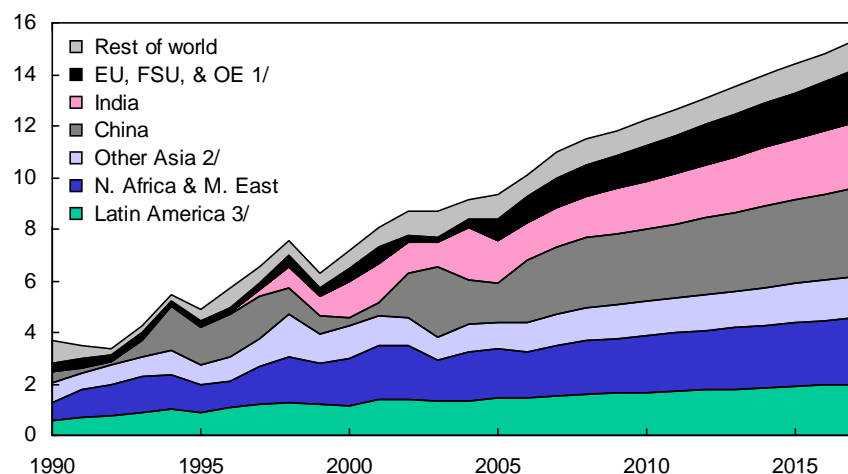
Argentina, Brazil, and the United States remain the three major exporters in international protein meal markets. Together they account for around 90 percent of total world soybean meal trade during the next 10 years. Argentina, the world's largest soybean meal exporter, increases its share of the world market from around 45 percent in recent years to more than 55 percent after 2008/09. Brazil's share of world exports remains in the 20-25 percent range while the shares held by the United States and other exporters fall.

- Argentina imposes higher export taxes on soybeans than on soybean products. This has provided an incentive for the country to develop a large oilseed crushing capacity. Argentina maintains high utilization of its growing crushing capacity by importing soybeans from Brazil and other South American countries.
- In Brazil, strong growth in domestic meal consumption due to rapid expansion of the poultry and pork sectors limits increases in soybean meal exports. Also, domestic soybean crushing capacity is not expected to grow as fast as soybean production because Brazil's differential export tax structure favors exporting soybeans rather than soybean meal or soybean oil.
- U.S. soybean meal exports hold steady at around 8 million tons throughout the projections, but the U.S. share of world trade declines steadily from more than 14 percent in recent years to less than 11 percent by 2017.
- The EU continues to be a small but steady exporter of soybean meal to Russia and other East European countries. India remains an exporter, although export volume declines as domestic use, especially for poultry feed, rapidly expands.



## Global soybean oil imports

Million metric tons



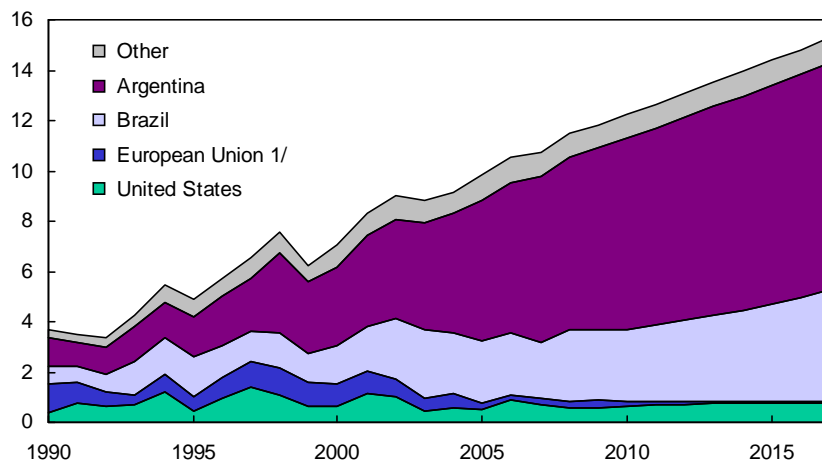
1/ European Union, former Soviet Union, and other Europe.  
2/ Asia excluding India and China. 3/ Includes Mexico.

World demand for soybean oil imports climbs 3.8 million metric tons (33 percent) in the projections, bolstered by rising food use and increased demand for use in biofuel production. China and India are the world's two largest soybean oil importers—importing primarily for food use. In recent years, their combined imports have been around 3.5 million tons, nearly 40 percent of the world total.

- Import demand for soybean oil rises in nearly all countries and regions. Income and population growth in North Africa, the Middle East, and Latin America (particularly Central America and the Caribbean) drive rapid gains in soybean oil imports. Although rising international prices for soybean oil will temper consumption, especially in developing countries, imports by the North Africa and the Middle East region are projected to be exceeded only by those of China.
- India is one of the world's largest soybean oil importers. Factors that contribute to continued growth in imports include burgeoning domestic demand for vegetable oils and limited capacity for domestic production of oilseeds. Low yields, associated with erratic rainfed growing conditions and low input use, inhibit growth of oilseed production in India. Lower Indian tariffs on soybean oil (held down by World Trade Organization (WTO) tariff-binding commitments) compared with tariffs for other vegetable oils support continued large imports of soybean oil.
- China experiences a growing demand for vegetable oils. However, land-use competition from other crops constrains area planted to oilseed crops. Even with strong increases in soybean imports for crush, domestic demand outpaces domestic vegetable oil production and fuels a moderate expansion in soybean oil imports.
- The EU imports more soybean oil to replace some of the rapeseed oil that is used in the production of biodiesel.

## Global soybean oil exports

Million metric tons



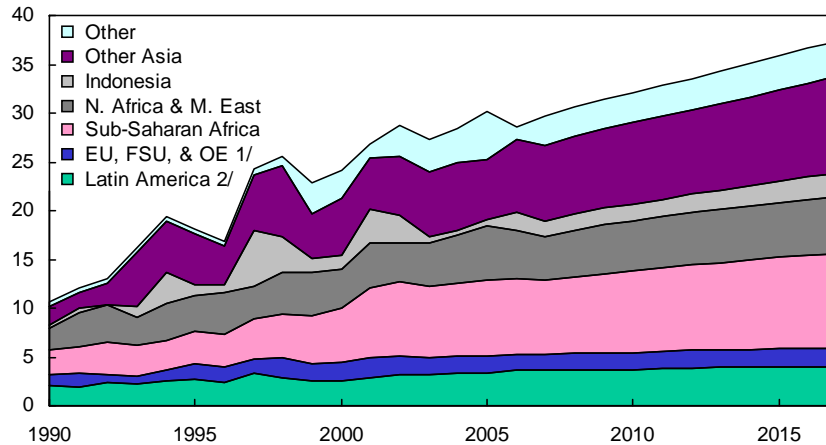
1/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Argentina's and Brazil's combined share of world soybean oil exports rises from less than 80 percent in recent years to more than 85 percent by the end of the projections.

- Argentina is the leading exporter of soybean oil, reflecting 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. Increases in soybean crush and soybean oil exports are supported by gains in Argentine soybean production due to extensive double-cropping, further adjustments to crop-pasture rotations, and the addition of marginal lands in the northwest part of the country. Argentina also increases soybean imports from other South American countries in order to more fully utilize its crushing capacity. Growth in Argentina's biodiesel production capacity, with incentives from a lower export tax for biodiesel than for soybean oil, may constrain growth in soybean oil exports in the future.
- Brazil's expansion of soybean production into new areas of cultivation enables it to increase both its volume of soybean oil exports and its share of world trade.
- The United States remains the world's next largest soybean oil exporter. U.S. soybean oil exports are initially constrained by increased use for biodiesel production but expand moderately after 2010/11 as output gains exceed growth in domestic consumption. However, the U.S. share of world trade is projected to be well below the average of recent years.
- In the EU, exportable supplies of vegetable oils are limited by the growth in biodiesel production.

## Global rice imports

Million metric tons



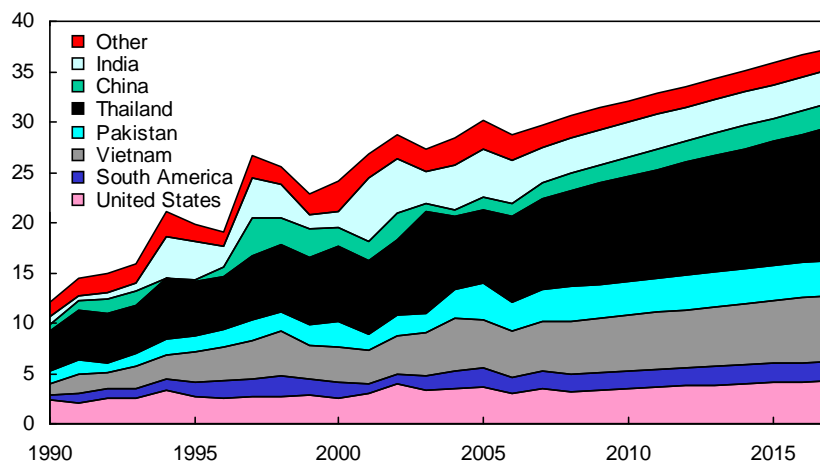
1/ European Union, former Soviet Union, and other Europe. 2/ Includes Mexico.

Global rice trade is projected to grow 2.2 percent per year from 2008 to 2017. By 2017, global rice trade exceeds 37 million tons, nearly 24 percent above the record set in 2005. The main factors driving the expansion in global trade are a steady growth in demand—largely due to population growth in developing countries—and the inability to significantly boost production in key importing nations.

- 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 rice account for 10-12 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.
- Indonesia, the Philippines, and Bangladesh become the three largest rice-importing countries by the end of the projection period. By 2017, each country is projected to import 1.9 million tons or more. These three countries have limited ability to expand production and are expected to account for nearly 30 percent of the increase in global rice imports over the next decade.
- In Sub-Saharan Africa and the Middle East, strong demand growth is driven by rapidly expanding populations. Production growth is limited by climate in the Middle East and by infrastructure deficiencies in Sub-Saharan Africa. Sub-Saharan Africa accounts for 27 percent of the increase in world rice trade between 2008 and 2017. Iraq and Saudi Arabia account for most of the increase in imports by the Middle East.
- The Central American and Caribbean region is projected to expand imports over the next decade, increasing about 0.5 million tons to 2.2 million by 2017. Population growth and rising per capita incomes boost rice consumption and raise this region's imports.
- The EU will remain a major market for rice, although import growth will be modest. Consumption growth will be driven by a larger immigrant population. North American imports will also expand over the next decade, with both total and per capita consumption rising. Imports by the former Soviet Union are projected to decline as result of strong production growth and stagnant demand.

## Global rice exports

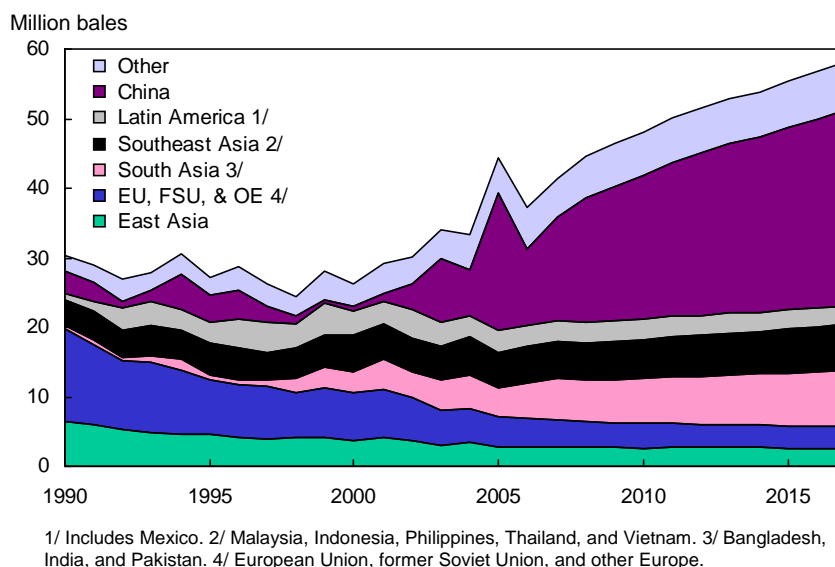
Million metric tons



Asia remains the largest rice-exporting region throughout the projection period.

- Thailand and Vietnam, the world's largest rice-exporting countries, account for half of all rice exports and nearly three-fourths of the growth in world exports in the coming decade. Thailand's exports increase 3.6 million tons to more than 13 million by 2017. Both area and yield are projected to increase in Thailand. Vietnam's export expansion is smaller, from 5.3 to 6.5 million tons, as the area planted to rice is not expected to expand. Per capita consumption declines for both exporters.
- India is currently the third-largest rice exporter. India has been a major exporter since the mid-1990s, although export levels have been rather volatile, primarily due to fluctuating production and stock levels. Exports are projected to decline about 300,000 tons to 3.3 million as consumption growth outpaces production. Inability to expand area is the main production constraint. India's export volume is surpassed by the United States in 2011 and by Pakistan in 2012.
- The United States is currently the fourth-largest rice-exporting country and is expected to increase exports from 3.4 million tons in 2007 to 4.2 million by 2017. Modest area expansion, continued yield growth, and slow growth in domestic consumption result in larger exportable supplies. By 2011, the United States is expected to become the third-largest exporting country. The Western Hemisphere remains the top market for U.S. rice.
- Pakistan is currently the world's fifth-leading rice exporter and exports are projected to slightly increase over the next decade to 3.5 million tons by 2017. Pakistan has boosted rice area and production in the past few years. However, Pakistan can expand rice area only a little beyond its current record level, and its agricultural sector is confronting a growing water shortage and a decaying infrastructure, limiting production and export gains.
- China, the sixth-largest rice exporting country, is projected to raise exports by 0.8 million tons to more than 2.4 million tons by 2017. The increase in exports is primarily due to a long-term decline in stocks. Little change in production or total disappearance is expected. Higher yields are projected to offset declining area. Reductions in per capita consumption, a result of continued diet diversification resulting from higher incomes, are expected to offset population growth.

## Global cotton imports



With global cotton consumption growing dramatically, international trade has become increasingly important in world cotton markets. During the last decade, world consumption climbed at a 4.7-percent growth rate while world trade rose 6.5 percent a year. Not only has textile trade liberalization helped boost world cotton demand through increased efficiency, but geographic shifts in mill use of cotton have increased the role of trade in meeting the global textile industry's need for cotton. Trade's importance has rebounded in recent years as the textile sectors in China and, to a lesser extent, Pakistan have grown substantially faster than domestic cotton production.

- The textile industries in China, India, and Pakistan are the major beneficiaries of textile trade liberalization through the elimination of Multifiber Arrangement (MFA) quotas.
- China has been importing record amounts of cotton as its textile industry's growth rapidly accelerated with a booming economy and WTO accession. Both its textile industry and its cotton imports are expected to grow more slowly than the rapid increases since 2001. However, during the next decade, the increase in cotton imports by China is projected to more than offset the decline in imports by other countries, and China accounts for almost half of world imports by 2017.
- Pakistan has emerged as a major importer in recent years and is projected to be the world's third largest importer during the next 10 years.
- In recent years, Turkey's textile industry has benefited from favorable trade access to the EU, its major market for textile and apparel exports. However, the end of the MFA quotas gives lower cost competitors more favorable access to EU markets. Turkey's cotton imports are projected to rise slowly over the next 10 years, but not enough to keep its share of world trade from falling slightly.
- The EU, Japan, Taiwan, and South Korea all steadily reduce their cotton imports as textile trade reforms and/or higher wages in these countries drive textile production to countries with lower wages and other costs.

## China's Cotton Supply and Demand Estimates and the Residual Component

China and its role in the world economy have been transformed beyond recognition in the last decade. Nevertheless, a textbook on cotton marketing from the 1920s highlights a problem that remains all too familiar to this day:

“The size of the Chinese cotton crop has always been a puzzle, owing to the lack of reliable statistics.” W. Hustace Hubbard, *Cotton and the Cotton Market*, D. Appleton and Company, New York, 1923.

Now, 85 years after this observation, the world continues to face uncertainties in how to interpret information on China's cotton. The data available to the world at large have developed severe inconsistencies in recent years. As a result, there have been some official revisions to the cotton production estimates produced by China's National Bureau of Statistics. However, a large inconsistency remains, and USDA publishes supply-and-demand estimates for cotton in China that include an unexplained residual.

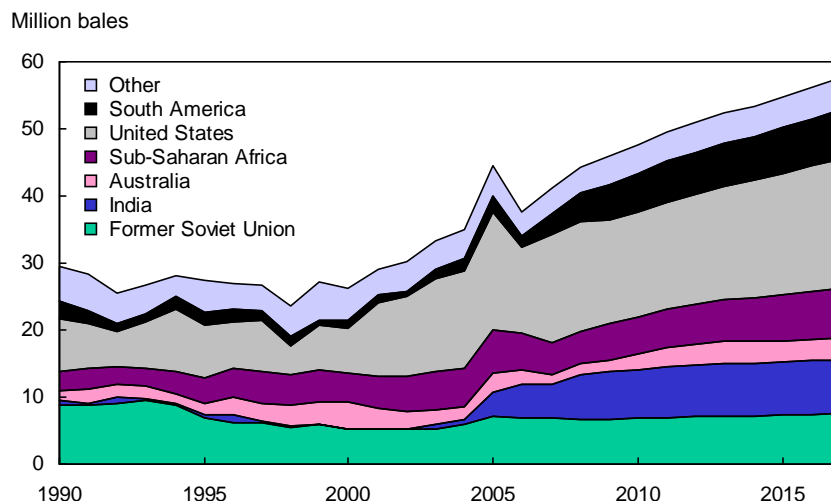
The inconsistency is a shortfall between net imports and estimated excess demand (consumption minus production). Since 1999, China's net cotton imports have been smaller than excess demand every year. Ordinarily, a gap between net imports and excess demand would be made up by drawing down stocks from earlier years. China's gap has persisted for so long, and at such a high level, that it has become clear that previous estimates of stocks were not sufficient to account for this shortfall. Therefore, either the estimates of cotton production from China's government were too low, or the widely accepted estimates of cotton consumption in China were too high.

China's international demand for cotton has historically been both volatile and crucial in global price determination. Given this, and the ambiguity of the historical data for supply and demand, USDA has traditionally sought to link its historical data estimates to official data from China. In the interest of transparency, USDA has sought to minimize its deviations from this official data even though this necessitates the inclusion of an unexplained residual. Therefore, production and consumption for China in these projections start from China's official historical data.

Although the residual has grown significantly in recent years, the absence of good information to explain the residual makes its future movements uncertain. Thus, in the projections, the unexplained residual is held constant throughout the coming decade. This methodology simplifies an understanding of the projections. Further, it allows readers who feel they have insights about future trends in the factors causing the residual to easily adjust the USDA forecasts for alternative assumptions. Hopefully, in the future, improved data and a better understanding of China's cotton sector will prevail so there will no longer be a need for either ad hoc adjustments or unexplained residuals.

(For further information see: MacDonald, Stephen, *China's Cotton Supply and Demand: Issues and Impact on the World Market*, Outlook Report No. CWS-07I-01, U.S. Department of Agriculture, Economic Research Service, November 2007.)

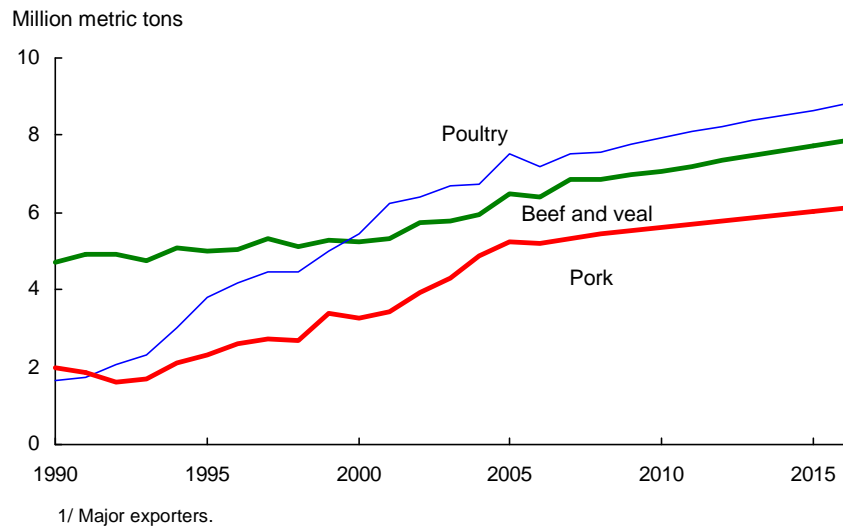
## Global cotton exports



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. Such producer/exporter regions include the United States, Sub-Saharan Africa, and Brazil. The importance of technology has been highlighted by the impact of India's rapid adoption of genetically modified cotton, nearly all *Bacillus thuringiensis* (Bt) cotton.

- The United States continues as the world's leading cotton exporter throughout the projections. Exports climb 16 percent to more than 19 million bales by 2017/18.
- The Central Asian countries of the former Soviet Union have been the principal U.S. competitors since the early 1990s. However, government policies in Central Asia promoting investment in textiles have resulted, to some extent, in exports of textile products rather than exports of raw cotton. Furthermore, the region's cotton production is expected to grow only slowly.
- Sub-Saharan Africa's exports rose rapidly during the last decade in large part due to economic reforms. West Africa's 1994 currency devaluation led to nearly a decade of growth within the region's monetary union. As West Africa's production gains began to lag at the end of the 1990s, several southern African countries began increasing their cotton production, aided by reforms such as eliminating marketing board monopolies. Continued increases in output are expected as these economies develop and Bt cotton is adopted by the region's producers. The region's exports are projected to rise more than 50 percent during the next 10 years.
- Improved cotton yields in India, in part due to the adoption of Bt cotton, have raised India's output in recent years. Rapid yield growth is projected to continue as the area planted to Bt cotton expands rapidly. The increase in cotton output is expected to enable India to increase domestic textile production as well as significantly raise cotton exports. By 2009/10, India's cotton exports are projected to surpass those of Central Asia, making India the principal competitor to the United States in world markets.

### Meat exports 1/



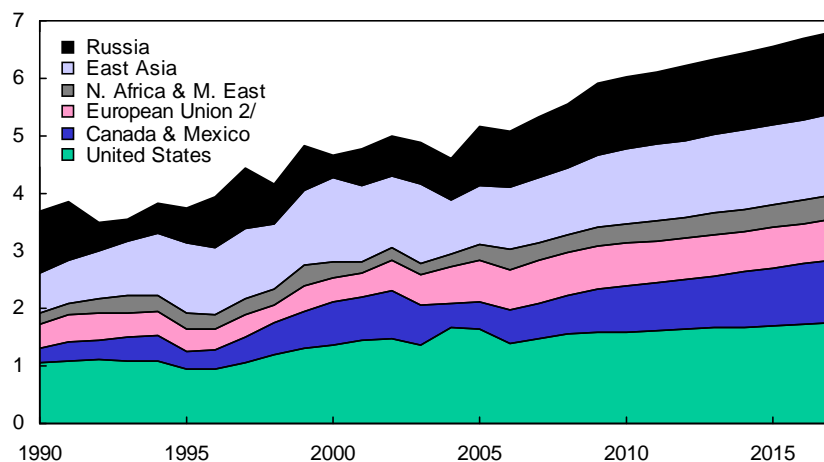
Growth rates of exports from major exporters of beef, pork, and poultry meat average 1.1, 2.1, and 1.9 percent a year, respectively, between 2008 and 2017. During this period, exports rise 0.8 million tons for beef, 1.0 million for pork, and 1.2 million for poultry. Rising per capita incomes combined with population growth in a number of countries are the driving forces behind the projected growth in global meat demand.

- Bovine spongiform encephalopathy (BSE) in Canada and the United States affected Canada's beef and live cattle exports to the United States in recent years. After falling in 2006 and 2007, Canadian beef exports are expected to recover once again in 2008, rising to a level just below their 2002 record. Additionally, recent changes in U.S. regulations, the projections assume Canadian cattle and beef from cattle over 30 months of age can be exported to the United States under the conditions that they are age-verifiable and born after March 1, 1999.
- EU beef exports remain well below the annual WTO limit on subsidized exports (817,000 tons) as a stronger euro limits their competitiveness in international markets and policy changes lower both beef production and the need to remove beef from the domestic market.
- Argentine beef exports rose sharply in 2004 and 2005. However, export taxes on beef and changes in other policies have made Argentina's exports less competitive. Beef production and exports are projected to decline and remain below their 2004 level.
- The projections assume no changes in the set of countries recognizing Brazil as free of foot-and-mouth disease (FMD), thus limiting Brazilian pork's ability to compete in some markets. However, 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.
- Canada is projected to remain the world's third largest pork exporter.
- During the coming decade, Brazil is expected to continue to be the largest exporter of poultry products, bolstered by low production costs and competitive export prices.
- U.S. poultry meat exports are projected to increase, due in part to a weak dollar that increases the competitiveness of U.S. exports.
- Poultry exports from countries affected by avian influenza, such as Thailand and China, are expected to be mostly fully cooked products.



## Beef imports 1/

Million metric tons



1/ Selected importers.

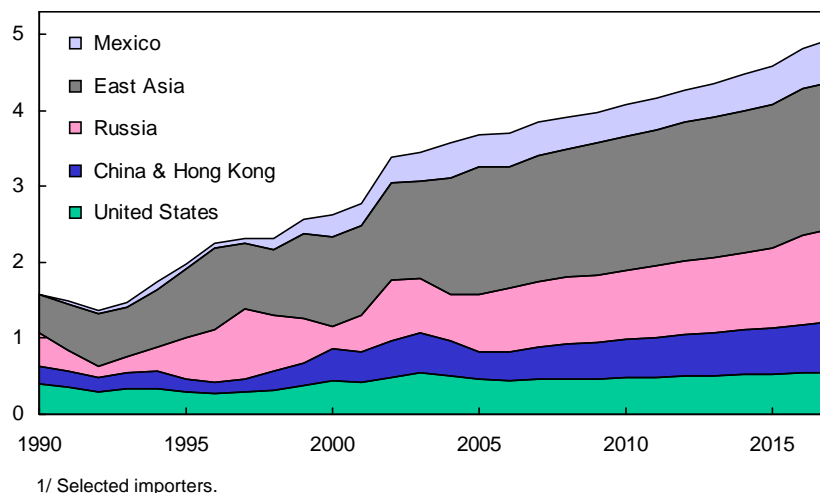
2/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Beef imports by major importers expand about 1.3 million tons (23 percent) between 2008 and 2017. Traditionally, developed countries were the primary importers of beef. However, Brazil has become a large exporter of lower quality beef that is imported by lower income countries. The projections assume gradual recovery of U.S. and Canadian exports to Japan and South Korea.

- Higher income countries, such as Japan and South Korea, increase beef imports, reflecting domestic cattle sectors that are constrained by land availability. These imports are primarily of grain-fed beef. U.S. beef exports to these countries are projected to rebuild over the next 10 years. Also, there continues to be a strong presence of Australia and New Zealand in these East Asian markets.
- U.S. beef imports, primarily of grass-fed lean beef from Australia and New Zealand for use in ground beef and processed products, rise slightly through the period. Even with decreases in exports due to weather and land availability in the early part of the projection period, strong Asian imports of beef from Australia and New Zealand enable these countries to maintain significant levels of exports over the projection period.
- Robust import growth of higher quality beef from the United States is projected for Mexico.
- The projections assume that Russia's tariff-rate quota (TRQ) for beef, first imposed in 2003, remains in effect until 2009. In the longer run, the growth in Russia's beef imports resumes as rising consumer demand outpaces gains in domestic production. Russia remains a large market for EU and Brazilian beef exports.

### Pork imports 1/

Million metric tons

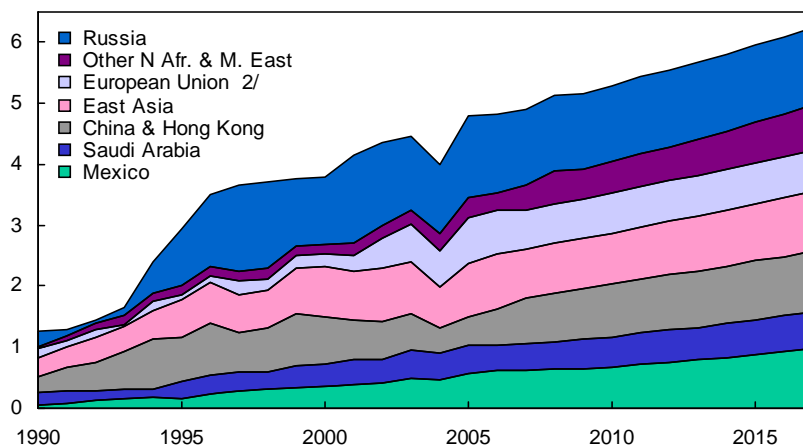


The major pork importers are projected to increase trade by nearly 1 million tons (24 percent) between 2008 and 2017.

- Mexican pork imports increase more than 150,000 tons (38 percent) between 2008 and 2017, making Mexico one of the fastest growing pork importers. Increases in income and population are the primary drivers of Mexico's increasing demand for pork.
- Higher income parts of East Asia, such as Japan, Hong Kong, and South Korea, increase pork imports as their domestic hog sectors are constrained by environmental concerns. In South Korea and Japan, BSE-related concerns regarding beef also boost pork demand.
- As with beef, the projections assume the TRQ that Russia imposed for pork in 2003 remains in effect until 2009. Although the TRQ initially lowered pork imports, Russia remains a major destination for competitively priced pork exports from the EU and Brazil as demand growth continues to exceed Russian pork production gains. By 2017, Russia is projected to import over 200,000 tons more pork than in 2008, a larger increase than any other country.
- In China, increasing incomes boost per capita pork consumption and raise imports in the projections. However, China's pork production and exports also continue to rise.

## Poultry imports 1/

Million metric tons



1/ Selected importers.

2/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Poultry meat imports by major importers are projected to increase by about 1.0 million tons (18 percent) from 2008 to 2017.

- Russia is expected to remain the world's largest poultry importer. Despite slow population growth, rising consumer income increases demand for poultry products. However, increased consumption is expected to be met by rising domestic production, so imports are not expected to change much during the coming decade.
- In Mexico, economic growth raises poultry consumption and imports. Domestic poultry production continues to increase, but lags rising consumer demand.
- China's rising consumption of poultry meat is met by expanding domestic production, while the country's poultry imports and exports each grow by more than 25 percent.
- East Asia, a major importing region, is projected to import 20 percent more poultry meat in 2017 than in 2008. Most of the increase is imported by South Korea.
- Because of avian influenza, some major poultry-exporting countries such as Thailand and China have shifted most of their exports to fully cooked products. Due to their higher costs, these cooked poultry products will be marketed to developed or high-income countries in Asia, Europe, and the Middle East.
- Poultry imports by Saudi Arabia and the Other North Africa and the Middle East region are projected to grow throughout the projection period. Animal disease issues in a number of countries is expected to slow growth in domestic production and increase demand for imports.
- Rising consumer incomes increase poultry demand and imports in a number of Central America and Caribbean countries. Poultry products remain relatively less expensive than beef or pork, further stimulating demand. Together with Mexico, these countries form one of the largest markets for poultry imports.

Table 31. Coarse grains trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
	<i>Imports, million metric tons</i>											
<b>Importers</b>												
Former Soviet Union <sup>1</sup>	0.9	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.1
Other Europe	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
European Union <sup>2</sup>	8.1	13.8	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6
North Africa & Middle East	29.8	28.7	30.5	31.4	32.0	33.0	33.9	34.9	35.7	36.6	37.5	38.5
Sub-Saharan Africa <sup>3</sup>	2.8	1.4	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0
Japan	19.6	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.0	19.0
South Korea	8.8	8.9	8.8	8.8	8.8	8.8	8.9	8.9	8.9	8.8	8.8	8.8
Taiwan	4.6	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6
China	1.2	1.5	1.8	2.2	2.7	3.4	4.0	4.4	4.5	4.7	5.4	5.7
Other Asia & Oceania	5.0	5.2	5.3	5.1	5.1	5.2	5.3	5.6	5.9	6.2	6.6	6.9
Mexico	11.0	12.3	14.0	15.1	15.3	15.6	15.9	16.3	16.7	17.0	17.5	17.8
Central America & Caribbean	4.9	5.0	5.0	5.2	5.3	5.5	5.6	5.8	6.0	6.2	6.4	6.6
Brazil	1.3	1.0	0.9	0.8	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.2
Other South America	8.4	8.2	8.3	8.4	8.4	8.5	8.5	8.6	8.7	8.8	8.8	8.9
Other foreign <sup>4</sup>	5.1	4.4	5.0	4.6	4.5	4.5	4.4	4.4	4.5	4.5	4.5	4.5
United States	2.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Total trade	114.7	118.0	112.8	115.1	116.5	118.8	121.2	123.8	125.9	128.1	130.8	133.4
	<i>Exports, million metric tons</i>											
<b>Exporters</b>												
European Union <sup>2</sup>	4.7	5.1	3.9	3.8	4.2	4.4	4.7	5.0	5.2	5.3	5.4	5.5
China	5.4	1.5	1.4	1.2	1.3	1.2	1.1	1.0	1.0	1.0	1.0	1.0
Argentina	17.2	17.6	17.8	19.2	19.9	20.8	21.5	22.0	22.2	22.1	22.4	22.4
Australia	2.1	2.2	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.6
Canada	3.6	4.6	4.4	4.3	4.1	4.0	3.9	3.9	3.8	3.7	3.6	3.5
Republic of South Africa	0.5	1.0	1.7	1.7	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.9
Other Europe	1.1	0.3	1.1	1.2	1.5	1.7	1.8	1.8	1.9	1.9	1.9	2.0
Former Soviet Union <sup>1</sup>	8.4	5.4	8.8	9.9	10.8	11.7	12.6	13.2	13.8	14.2	14.7	15.3
Other foreign	13.1	12.4	10.3	10.3	10.3	10.2	10.1	10.0	9.8	9.6	9.4	9.2
United States	58.4	67.8	59.0	59.0	58.4	58.5	59.3	60.7	62.1	64.1	66.1	68.2
	<i>Percent</i>											
U.S. trade share	51.0	57.5	52.3	51.3	50.1	49.2	48.9	49.0	49.3	50.0	50.5	51.1

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

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

3/ Includes Republic of South Africa.

4/ Includes unaccounted.

The projections were completed in November 2007.

Table 32. Com trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
<b>Importers</b>												
European Union <sup>1</sup>	7.1	9.5	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4
Former Soviet Union <sup>2</sup>	0.5	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Egypt	4.8	4.5	4.8	4.9	5.0	5.1	5.3	5.4	5.6	5.8	5.9	6.0
Algeria	2.4	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2	3.3
Morocco	1.6	1.5	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.8	1.8
Iran	3.0	2.7	2.9	3.0	3.0	3.1	3.2	3.2	3.3	3.4	3.5	3.6
Saudi Arabia	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.7	1.7	1.8	1.8
Turkey	1.0	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5
Other N. Africa & Middle East	5.1	6.0	6.2	6.3	6.3	6.5	6.6	6.8	6.9	7.1	7.2	7.4
Japan	16.7	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.2	16.2
South Korea	8.7	8.8	8.8	8.8	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.6
Taiwan	4.4	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
China	0.0	0.1	0.3	0.6	0.9	1.4	1.9	2.4	2.5	2.7	3.3	3.6
Indonesia	1.2	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.3	1.4
Malaysia	2.6	2.7	2.7	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4
Other Asia & Oceania	1.2	1.5	1.6	1.4	1.3	1.3	1.4	1.5	1.7	1.8	2.0	2.2
Canada	2.1	2.3	2.2	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Mexico	8.8	10.2	12.0	13.1	13.4	13.6	13.9	14.0	14.4	14.5	14.8	15.0
Central America & Caribbean	4.9	5.0	5.0	5.2	5.3	5.5	5.6	5.8	6.0	6.2	6.3	6.5
Brazil	0.9	0.8	0.7	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8
Other South America	7.9	7.7	7.8	7.9	7.9	8.0	8.0	8.1	8.1	8.1	8.2	8.3
Sub-Saharan Africa <sup>3</sup>	2.3	0.9	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4
Other foreign <sup>4</sup>	2.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
United States	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total trade	91.6	92.0	89.3	91.0	91.9	93.5	95.3	97.4	99.1	100.9	103.1	105.1
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
European Union <sup>1</sup>	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
China	5.3	1.5	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9
Argentina	15.8	16.0	17.0	18.3	19.1	20.1	20.8	21.2	21.4	21.3	21.6	21.6
Brazil	9.7	8.0	7.0	6.8	6.6	6.4	6.2	6.0	5.7	5.4	5.1	4.8
Republic of South Africa	0.5	1.0	1.7	1.7	1.5	1.7	1.7	1.8	1.7	1.8	1.8	1.9
Other Europe	1.1	0.3	1.0	1.2	1.4	1.6	1.7	1.7	1.8	1.8	1.9	1.9
Former Soviet Union <sup>2</sup>	1.1	1.6	3.2	3.8	4.4	4.9	5.4	5.9	6.4	6.6	6.8	7.0
Other foreign	3.4	3.6	3.1	3.2	3.3	3.4	3.5	3.6	3.6	3.7	3.8	3.9
United States	54.0	59.7	54.6	54.6	54.0	54.0	54.6	55.9	57.2	59.1	61.0	62.9
<i>Percent</i>												
U.S. trade share	58.9	64.9	61.1	60.0	58.8	57.7	57.3	57.4	57.7	58.6	59.1	59.8

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

<sup>2/</sup> Covers FSU-12, includes intra-FSU trade.

<sup>3/</sup> Includes Republic of South Africa.

<sup>4/</sup> Includes unaccounted.

The projections were completed in November 2007.

Table 33. Sorghum trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
Importers												
Japan	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2
Mexico	2.1	2.0	1.8	1.9	1.8	1.9	2.0	2.1	2.2	2.4	2.5	2.6
North Africa & Middle East	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
South America	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sub-Saharan Africa <sup>1</sup>	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Other <sup>2</sup>	1.4	4.2	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Total trade	5.3	8.2	4.7	4.8	4.7	4.8	4.9	5.1	5.2	5.4	5.5	5.7
<i>Exports, million metric tons</i>												
Exporters												
Argentina	1.0	1.1	0.4	0.5	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.4
Australia	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	0.3	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
United States	4.0	7.0	3.8	3.8	3.8	3.9	4.1	4.2	4.3	4.4	4.6	4.7
<i>Percent</i>												
U.S. trade share	74.7	84.9	80.9	79.8	81.7	81.8	83.2	82.3	82.7	82.4	82.8	82.8

1/ Includes the Republic of South Africa.

2/ EU-27 and the rest of the world. Excludes intra-EU trade. Includes unaccounted.  
The projections were completed in November 2007.

Table 34. Barley trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
Importers												
Former Soviet Union <sup>1</sup>	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Japan	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
South Korea	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Taiwan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	1.1	1.4	1.5	1.6	1.8	1.9	2.0	2.0	2.0	2.0	2.1	2.1
European Union <sup>2</sup>	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Latin America <sup>3</sup>	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Algeria	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Saudi Arabia	6.5	5.8	6.5	6.7	6.9	7.1	7.3	7.4	7.5	7.5	7.6	7.7
Morocco	0.4	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Tunisia	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Republic of South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Iran	0.6	0.6	0.7	1.0	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6
Other N. Africa & M. East	2.1	2.0	2.1	2.2	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8
Other foreign <sup>4</sup>	0.2	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
United States	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total trade	15.0	15.1	16.2	16.7	17.4	18.0	18.5	18.7	18.9	19.2	19.5	19.8
<i>Exports, million metric tons</i>												
Exporters												
European Union <sup>2</sup>	3.5	4.5	3.2	3.1	3.5	3.7	4.0	4.2	4.4	4.5	4.6	4.7
Australia	2.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Canada	1.2	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4
Russia	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Ukraine	5.1	1.0	2.7	3.3	3.5	3.8	3.9	3.9	3.9	4.0	4.2	4.4
Other Former Soviet Union <sup>5</sup>	0.6	1.0	1.2	1.2	1.2	1.4	1.6	1.7	1.8	1.9	2.0	2.1
Turkey	0.3	0.0	0.1	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Other foreign	0.3	1.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
United States	0.4	1.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<i>Percent</i>												
U.S. trade share	2.9	7.2	3.4	3.3	3.1	3.0	2.9	2.9	2.9	2.8	2.8	2.8

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

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

3/ Includes Mexico.

4/ Includes unaccounted.

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

The projections were completed in November 2007.

Table 35. Wheat trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
	<i>Imports, million metric tons</i>											
<b>Importers</b>												
Algeria	4.9	4.4	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.5	6.7
Egypt	7.3	6.8	6.9	7.3	7.9	8.1	8.3	8.5	8.5	8.6	8.7	8.8
Morocco	1.8	4.0	3.0	3.2	3.4	3.5	3.5	3.6	3.7	3.7	3.8	3.8
Iran	1.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
Iraq	3.0	3.0	3.8	4.0	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7
Tunisia	1.4	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.6
Other N. Africa & Middle East	9.2	8.0	8.4	8.6	8.9	9.1	9.3	9.6	9.8	10.0	10.2	10.4
Sub-Saharan Africa <sup>1</sup>	11.4	10.8	12.9	13.2	13.5	13.9	14.3	14.6	15.0	15.4	15.8	16.2
Mexico	3.6	3.6	3.6	3.6	3.7	3.8	3.9	4.0	4.0	4.1	4.2	4.2
Central America & Caribbean	3.3	3.2	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.7
Brazil	7.8	7.0	7.2	7.2	7.3	7.5	7.6	7.7	7.8	7.9	8.1	8.2
Other South America	6.2	6.0	6.3	6.3	6.4	6.5	6.5	6.6	6.6	6.7	6.8	6.8
European Union <sup>2</sup>	5.1	6.5	5.5	5.5	5.6	5.7	5.7	5.8	5.8	5.9	5.9	6.0
Other Europe	1.5	1.2	1.8	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.4	1.3
Former Soviet Union <sup>3</sup>	5.9	5.1	5.2	5.3	5.2	5.3	5.3	5.4	5.4	5.4	5.5	5.5
Japan	5.7	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4	5.4	5.3	5.3
South Korea	3.4	3.0	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.4
Philippines	2.7	2.5	2.7	2.8	2.9	2.9	3.0	3.0	3.1	3.2	3.2	3.3
Indonesia	5.6	5.3	5.7	5.9	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4
China	0.4	0.2	0.6	0.8	0.9	1.0	1.2	1.4	1.7	1.9	2.1	2.3
Bangladesh	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8
Malaysia	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Thailand	1.1	1.2	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.6	1.6	1.7
Vietnam	1.3	1.2	1.3	1.3	1.4	1.5	1.6	1.6	1.7	1.8	1.9	1.9
Pakistan	0.1	0.5	0.2	0.4	0.6	0.8	1.0	1.1	1.3	1.5	1.8	2.0
Other Asia & Oceania	11.7	6.6	7.0	7.3	7.7	8.2	8.6	8.8	9.1	9.4	9.6	9.9
Other foreign <sup>4</sup>	-0.7	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.2
United States	3.3	2.4	2.7	2.9	3.0	3.0	3.1	3.1	3.3	3.3	3.4	3.4
<b>Total trade</b>	<b>111.2</b>	<b>105.1</b>	<b>111.2</b>	<b>114.0</b>	<b>117.4</b>	<b>120.5</b>	<b>123.6</b>	<b>126.2</b>	<b>128.8</b>	<b>131.5</b>	<b>134.2</b>	<b>137.2</b>
	<i>Exports, million metric tons</i>											
<b>Exporters</b>												
European Union <sup>2</sup>	13.9	9.5	12.0	13.5	15.0	16.6	17.5	17.9	18.4	19.0	19.6	20.4
Canada	19.6	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
Australia	9.0	9.0	15.5	16.0	16.5	17.0	17.6	18.2	18.8	19.4	20.0	20.6
Argentina	10.5	10.5	11.1	11.1	11.6	11.7	12.2	12.8	13.4	13.9	14.5	15.0
Russia	10.8	12.0	12.2	12.7	13.2	13.7	14.2	14.7	15.2	15.7	16.3	17.0
Ukraine	3.4	1.5	4.1	4.5	5.1	5.7	6.2	6.8	7.2	7.6	8.1	8.5
Other Former Soviet Union <sup>5</sup>	8.2	8.1	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9
Other Europe	0.6	0.3	0.3	0.3	0.2	0.3	0.4	0.5	0.5	0.6	0.6	0.6
India	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
China	2.8	3.0	2.8	2.7	2.4	2.3	2.1	2.0	1.8	1.7	1.6	1.5
Turkey	2.0	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
Other foreign	5.6	4.4	4.6	4.6	4.6	4.5	4.5	4.4	4.4	4.4	4.3	4.3
United States	24.7	31.3	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
	<i>Percent</i>											
U.S. trade share	22.2	29.8	23.3	22.7	22.0	21.4	20.9	20.5	20.1	19.7	19.3	18.8

1/ Includes Republic of South Africa.

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

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

4/ Includes unaccounted which can be negative.

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

The projections were completed in November 2007.

Table 36. Soybean trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
Importers												
European Union <sup>1</sup>	15.4	15.8	15.5	15.4	15.2	15.0	14.8	14.6	14.4	14.3	14.1	13.9
Japan	4.1	4.2	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.2
South Korea	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2
Taiwan	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Mexico	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.1
Former Soviet Union <sup>2</sup>	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Europe	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
China	28.7	33.5	36.2	38.8	41.8	44.7	47.0	49.3	51.5	53.8	56.0	58.3
Malaysia	0.5	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Indonesia	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0
Other	12.4	11.4	12.1	12.5	13.1	13.7	14.3	14.9	15.5	16.1	16.7	17.3
Total imports	70.7	75.2	78.5	81.6	85.2	88.6	91.6	94.5	97.3	100.3	103.1	106.0
<i>Exports, million metric tons</i>												
Exporters												
Argentina	8.7	10.2	9.1	8.5	7.7	8.2	8.2	8.2	8.3	8.5	8.6	8.7
Brazil	23.5	30.7	36.1	40.7	45.0	48.3	51.0	53.4	56.1	58.4	60.6	62.9
Other South America	5.4	5.8	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1
China	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Other foreign	2.2	1.7	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5	2.6
United States	30.4	26.5	24.6	23.5	23.1	22.5	22.3	22.5	22.2	22.3	22.5	22.5
Total exports	70.7	75.2	78.5	81.6	85.2	88.6	91.6	94.5	97.3	100.3	103.1	106.0
<i>Percent</i>												
U.S. trade share	43.0	35.3	31.4	28.8	27.2	25.3	24.4	23.8	22.8	22.3	21.8	21.2

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

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

The projections were completed in November 2007.



Table 37. Soybean meal trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
Importers												
European Union <sup>1</sup>	22.9	24.4	24.0	24.8	25.6	26.4	27.2	27.9	28.7	29.5	30.3	31.1
Former Soviet Union <sup>2</sup>	0.9	1.1	1.4	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.2
Other Europe	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Canada	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Japan	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Southeast Asia	8.4	9.0	9.4	9.8	10.2	10.6	11.0	11.5	11.9	12.3	12.8	13.2
Latin America	7.4	7.8	8.2	8.6	8.9	9.3	9.7	10.1	10.4	10.8	11.2	11.6
North Africa & Middle East	4.3	4.6	4.8	5.0	5.3	5.5	5.7	5.9	6.2	6.4	6.6	6.9
Other	4.8	5.7	6.0	5.9	6.1	6.2	6.4	6.6	6.8	7.0	7.2	7.4
Total imports	52.4	56.4	57.7	59.3	61.3	63.3	65.4	67.6	69.7	71.9	74.2	76.4
<i>Exports, million metric tons</i>												
Exporters												
Argentina	25.6	29.5	30.2	33.1	35.0	35.9	37.0	38.2	39.2	40.2	41.1	42.0
Brazil	12.7	12.0	12.3	11.0	11.1	12.1	13.1	14.1	15.2	16.5	17.8	19.1
Other South America	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.4	2.4
China	0.9	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5
India	3.5	3.5	3.5	3.4	3.3	3.3	3.2	3.1	3.1	3.0	3.0	2.9
European Union <sup>1</sup>	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Other foreign	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
United States	8.0	7.5	7.9	8.0	8.1	8.2	8.3	8.3	8.3	8.3	8.3	8.3
Total exports	53.7	56.4	57.7	59.3	61.3	63.3	65.4	67.6	69.7	71.9	74.2	76.4
<i>Percent</i>												
U.S. trade share	14.9	13.4	13.7	13.5	13.2	13.0	12.6	12.2	11.8	11.5	11.1	10.8

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

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

The projections were completed in November 2007.

Table 38. Soybean oil trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
Importers												
China	2.4	2.6	2.7	2.8	2.8	2.8	2.9	3.0	3.1	3.2	3.2	3.3
India	1.5	1.5	1.6	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.4	2.5
Other Asia	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6
Latin America	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9
North Africa & Middle East	1.8	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5
European Union <sup>1</sup>	0.9	1.1	1.1	1.2	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8
Former Soviet Union & Other Europe <sup>2</sup>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other	0.8	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1
Total imports	10.1	11.0	11.5	11.8	12.2	12.6	13.1	13.5	13.9	14.4	14.4	14.8
<i>Exports, million metric tons</i>												
Exporters												
Argentina	6.0	6.6	6.9	7.2	7.6	7.8	8.0	8.3	8.5	8.7	8.7	8.9
Brazil	2.5	2.3	2.9	2.8	2.8	3.0	3.2	3.4	3.7	3.9	3.9	4.2
European Union <sup>1</sup>	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Other foreign	1.0	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0
United States	0.9	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8
Total exports	10.5	10.7	11.5	11.8	12.2	12.6	13.1	13.5	13.9	14.4	14.4	14.8
<i>Percent</i>												
U.S. trade share	8.2	6.5	4.9	4.8	5.2	5.5	5.5	5.5	5.4	5.2	5.2	5.1

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

2/ Includes intra-FSU trade.

The projections were completed in November 2007.

Table 39. Rice trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million metric tons</i>												
<b>Importers</b>												
Canada	0.35	0.37	0.37	0.38	0.38	0.39	0.39	0.40	0.41	0.41	0.42	0.42
Mexico	0.60	0.63	0.64	0.65	0.67	0.68	0.70	0.72	0.74	0.76	0.78	0.80
Central America/Caribbean	1.74	1.67	1.77	1.82	1.85	1.91	1.96	2.01	2.05	2.10	2.14	2.19
Brazil	0.85	0.85	0.80	0.77	0.76	0.75	0.74	0.70	0.71	0.66	0.61	0.55
Other South America	0.46	0.47	0.49	0.47	0.44	0.46	0.47	0.46	0.46	0.47	0.47	0.46
European Union <sup>1</sup>	1.10	1.10	1.13	1.15	1.18	1.21	1.25	1.27	1.29	1.32	1.35	1.37
Former Soviet Union <sup>2</sup>	0.36	0.44	0.41	0.41	0.43	0.42	0.42	0.42	0.41	0.41	0.40	0.40
Other Europe	0.13	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.13	0.13	0.13
Bangladesh	0.77	0.80	1.00	1.00	1.15	1.25	1.27	1.37	1.48	1.62	1.78	1.92
China	0.60	0.70	0.70	0.72	0.73	0.74	0.75	0.76	0.78	0.79	0.81	0.82
Japan	0.65	0.70	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
South Korea	0.27	0.27	0.29	0.31	0.33	0.35	0.37	0.39	0.41	0.41	0.41	0.41
Indonesia	1.90	1.60	1.70	1.70	1.75	1.80	1.90	2.00	2.10	2.20	2.30	2.40
Malaysia	0.90	0.80	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.88	0.89	0.91
Philippines	1.80	1.80	1.90	1.92	1.95	1.97	2.00	2.02	2.05	2.08	2.13	2.20
Other Asia & Oceania	2.46	2.64	2.70	2.68	2.67	2.70	2.72	2.74	2.77	2.82	2.87	2.92
Iraq	0.70	1.10	1.10	1.16	1.20	1.25	1.29	1.33	1.37	1.41	1.45	1.49
Iran	1.20	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Saudi Arabia	1.45	0.96	1.18	1.28	1.30	1.32	1.35	1.37	1.39	1.41	1.43	1.45
Other N. Africa & M. East	1.62	1.49	1.59	1.66	1.70	1.75	1.80	1.84	1.88	1.93	1.98	2.03
Sub-Saharan Africa <sup>3</sup>	6.82	6.70	6.90	7.22	7.45	7.61	7.80	8.00	8.18	8.35	8.53	8.70
Republic of South Africa	0.96	0.90	0.90	0.94	0.94	0.95	0.97	0.98	0.99	1.00	1.01	1.03
Other foreign <sup>4</sup>	0.33	2.03	1.90	1.94	1.99	2.04	2.08	2.16	2.20	2.25	2.26	2.28
United States	0.64	0.68	0.70	0.72	0.74	0.76	0.79	0.81	0.84	0.86	0.89	0.91
<b>Total imports</b>	<b>28.65</b>	<b>29.69</b>	<b>30.66</b>	<b>31.42</b>	<b>32.13</b>	<b>32.85</b>	<b>33.57</b>	<b>34.30</b>	<b>35.08</b>	<b>35.85</b>	<b>36.61</b>	<b>37.35</b>
<i>Exports, million metric tons</i>												
<b>Exporters</b>												
Australia	0.20	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Argentina	0.45	0.45	0.46	0.47	0.48	0.49	0.52	0.55	0.58	0.62	0.66	0.70
Other South America	1.14	1.31	1.32	1.32	1.32	1.31	1.30	1.30	1.29	1.29	1.31	1.34
European Union <sup>1</sup>	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17
China	1.30	1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.30	2.35	2.40	2.45
India	4.20	3.40	3.60	3.50	3.45	3.42	3.40	3.37	3.35	3.32	3.30	3.28
Pakistan	3.00	3.20	3.43	3.37	3.40	3.40	3.42	3.43	3.45	3.47	3.50	3.50
Thailand	8.50	9.00	9.52	10.10	10.50	10.88	11.20	11.60	12.00	12.40	12.80	13.20
Vietnam	4.60	5.00	5.28	5.36	5.50	5.65	5.77	5.90	6.05	6.20	6.35	6.50
Egypt	1.00	1.10	1.03	0.97	0.91	0.87	0.83	0.81	0.80	0.79	0.79	0.79
Other foreign	1.17	1.04	1.01	1.02	1.03	1.05	1.08	1.08	1.09	1.13	1.15	1.17
United States	2.94	3.42	3.13	3.33	3.45	3.58	3.74	3.87	3.97	4.06	4.14	4.22
<b>Total exports</b>	<b>28.65</b>	<b>29.69</b>	<b>30.66</b>	<b>31.42</b>	<b>32.13</b>	<b>32.85</b>	<b>33.57</b>	<b>34.30</b>	<b>35.08</b>	<b>35.85</b>	<b>36.61</b>	<b>37.35</b>
<i>Percent</i>												
U.S. trade share	10.3	11.5	10.2	10.6	10.7	10.9	11.1	11.3	11.3	11.3	11.3	11.3

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

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

3/ Excludes Republic of South Africa

4/ Includes unaccounted.

The projections were completed in November 2007.

Table 40. All cotton trade long-term projections

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
<i>Imports, million bales</i>												
<b>Importers</b>												
European Union <sup>1</sup>	2.1	2.0	1.9	1.9	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.5
Former Soviet Union <sup>2</sup>	1.8	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
Indonesia	2.2	2.3	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.5
Thailand	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1
India	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4
Brazil	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Other Europe	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Asia & Oceania	4.0	4.1	4.2	4.4	4.7	5.0	5.1	5.4	5.7	6.0	6.3	6.6
Pakistan	2.3	3.0	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.6	3.7	3.8
Japan	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
South Korea	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
China	10.6	14.5	17.6	19.0	20.1	21.8	23.0	24.0	24.8	25.9	26.8	27.8
Taiwan	1.2	1.2	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.1
Turkey	4.0	3.8	4.1	4.2	4.3	4.3	4.3	4.4	4.4	4.5	4.6	4.6
Mexico	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4
Other	3.0	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1
<b>Total imports</b>	<b>37.3</b>	<b>41.4</b>	<b>44.6</b>	<b>46.4</b>	<b>48.0</b>	<b>50.1</b>	<b>51.4</b>	<b>52.8</b>	<b>53.9</b>	<b>55.3</b>	<b>56.7</b>	<b>58.1</b>
<i>Exports, million bales</i>												
<b>Exporters</b>												
Former Soviet Union <sup>2</sup>	6.9	6.9	6.7	6.8	6.8	7.0	7.1	7.1	7.2	7.3	7.4	7.5
Australia	2.1	1.5	1.5	1.9	2.4	2.8	3.0	3.2	3.2	3.2	3.2	3.3
Argentina	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Pakistan	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
India	5.1	5.0	6.7	7.0	7.2	7.5	7.7	7.9	7.9	7.9	8.0	8.0
Egypt	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9
Brazil	1.3	2.8	3.8	5.0	5.3	5.8	6.0	6.1	6.2	6.4	6.7	6.9
Other Latin America	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Sub-Saharan Africa <sup>3</sup>	5.3	4.7	4.8	5.4	5.5	5.8	6.0	6.3	6.6	6.9	7.2	7.5
Other foreign	2.6	2.6	2.7	3.0	3.1	3.1	3.2	3.3	3.3	3.4	3.4	3.5
United States	13.0	16.2	16.6	15.4	15.7	16.1	16.5	16.9	17.5	18.1	18.7	19.2
<b>Total exports</b>	<b>37.6</b>	<b>41.1</b>	<b>44.2</b>	<b>45.9</b>	<b>47.5</b>	<b>49.6</b>	<b>50.9</b>	<b>52.3</b>	<b>53.4</b>	<b>54.8</b>	<b>56.2</b>	<b>57.6</b>
<i>Percent</i>												
<b>U.S. trade share</b>	<b>34.6</b>	<b>39.4</b>	<b>37.6</b>	<b>33.6</b>	<b>33.1</b>	<b>32.4</b>	<b>32.3</b>	<b>32.3</b>	<b>32.7</b>	<b>33.0</b>	<b>33.2</b>	<b>33.3</b>

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

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

3/ Includes Republic of South Africa.

The projections were completed in November 2007.

Table 41. Beef trade long-term projections

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Imports, thousand metric tons, carcass weight</i>												
Importers												
Japan	678	715	725	783	811	822	830	836	839	843	849	851
South Korea	298	315	320	356	366	373	383	394	399	409	416	430
Taiwan	104	105	105	112	116	119	122	125	127	130	132	135
Philippines	136	160	167	179	183	190	194	199	207	216	222	229
European Union <sup>1</sup>	717	725	750	764	757	740	732	725	718	716	712	709
Russia	939	1,050	1,100	1,219	1,232	1,252	1,268	1,290	1,320	1,348	1,374	1,398
Other Europe	30	30	30	31	32	36	37	39	39	39	39	39
Egypt	291	250	255	272	280	287	295	302	309	316	324	332
Mexico	383	400	410	471	499	534	562	602	641	681	724	765
Canada	180	225	255	278	283	286	292	298	305	311	320	332
United States	1,399	1,471	1,551	1,572	1,594	1,615	1,636	1,658	1,680	1,703	1,725	1,748
Major importers	5,155	5,446	5,669	6,038	6,151	6,254	6,352	6,468	6,584	6,712	6,837	6,969
<i>Exports, thousand metric tons, carcass weight</i>												
Exporters												
Australia	1,430	1,450	1,380	1,295	1,304	1,315	1,325	1,327	1,332	1,335	1,336	1,339
New Zealand	530	515	530	504	501	504	504	508	510	512	515	517
Other Asia	767	824	902	851	873	892	912	932	951	965	980	995
European Union <sup>1</sup>	216	175	175	164	165	172	174	175	173	176	177	180
Argentina	552	525	535	480	449	408	375	367	372	386	405	417
Brazil	2,084	2,400	2,650	2,688	2,749	2,812	2,865	2,913	2,946	2,980	3,013	3,051
Canada	477	480	550	555	562	561	561	567	576	587	598	608
United States	519	650	776	828	874	922	970	1,018	1,068	1,118	1,168	1,223
Major exporters	6,575	7,019	7,498	7,365	7,476	7,585	7,687	7,807	7,927	8,059	8,191	8,330

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

The projections were completed in November 2007.

Table 42. Pork trade long-term projections

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Imports, thousand metric tons, carcass weight</i>												
Importers												
Japan	1,154	1,200	1,210	1,220	1,230	1,240	1,250	1,260	1,270	1,280	1,290	1,300
China	90	130	150	168	183	206	223	231	236	244	256	266
Hong Kong	277	293	300	307	315	323	332	343	354	366	379	391
South Korea	410	450	475	495	510	520	531	542	553	564	575	587
Russia	835	855	875	897	919	942	966	990	1,015	1,040	1,066	1,093
Mexico	446	435	410	398	400	412	428	450	477	506	536	566
Canada	145	160	165	175	185	195	205	215	225	235	245	255
United States	449	456	465	474	483	492	501	511	522	533	545	556
Major importers	3,806	3,979	4,050	4,132	4,225	4,329	4,435	4,541	4,652	4,768	4,891	5,013
<i>Exports, thousand metric tons, carcass weight</i>												
Exporters												
Brazil	639	715	775	785	764	803	840	860	891	911	932	961
Canada	1,081	1,040	1,010	990	980	978	980	995	1,012	1,032	1,055	1,078
Mexico	66	70	80	83	85	88	91	94	97	100	103	106
European Union <sup>1</sup>	1,283	1,270	1,147	1,148	1,190	1,203	1,225	1,243	1,253	1,264	1,281	1,300
China	595	440	465	479	499	513	526	539	547	555	566	576
United States	1,359	1,373	1,442	1,500	1,545	1,586	1,626	1,672	1,727	1,796	1,857	1,909
Major exporters	5,023	4,908	4,919	4,985	5,063	5,171	5,287	5,403	5,527	5,657	5,793	5,929

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

The projections were completed in November 2007.

Table 43. Poultry trade long-term projections<sup>1</sup>

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<i>Imports, thousand metric tons, ready to cook</i>												
Importers												
Russia	1,285	1,245	1,235	1,241	1,248	1,255	1,259	1,262	1,264	1,264	1,265	1,265
European Union <sup>2</sup>	717	655	655	658	662	665	668	672	675	678	682	685
Other Europe	5	5	5	7	6	5	5	5	5	5	6	6
Canada	122	150	162	164	166	168	170	172	175	177	179	182
Mexico	619	612	632	654	677	729	758	791	834	884	930	979
Central America/Caribbean	307	310	327	326	334	338	342	347	351	359	368	376
Japan	716	675	680	683	692	692	697	695	700	703	704	704
Hong Kong	243	233	245	250	253	256	259	262	265	269	272	275
China	343	513	560	577	605	626	642	657	677	690	702	724
South Korea	76	61	70	79	92	105	118	131	147	162	178	195
Saudi Arabia	423	440	450	476	492	505	521	537	553	569	585	601
Other N. Africa & M. East	293	397	550	471	508	534	563	592	621	661	702	745
Major importers	5,149	5,296	5,571	5,586	5,734	5,879	6,002	6,123	6,267	6,421	6,571	6,737
<i>Exports, thousand metric tons, ready to cook</i>												
Exporters												
European Union <sup>2</sup>	820	810	805	709	714	710	691	668	640	640	644	652
Brazil	2,658	3,068	3,279	3,300	3,388	3,462	3,538	3,610	3,703	3,813	3,914	4,044
China	322	353	390	432	442	451	461	474	495	509	522	531
Thailand	261	315	320	350	352	360	374	384	396	401	406	412
United States	2,609	2,732	2,799	2,789	2,822	2,871	2,911	2,956	2,998	3,042	3,087	3,123
Major exporters	6,670	7,278	7,593	7,580	7,719	7,854	7,974	8,091	8,232	8,405	8,574	8,762

1/ Broilers and turkeys only.

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

The projections were completed in November 2007.

## List of Tables

	Page
Table 1. U.S. macroeconomic assumptions.....	17
Table 2. Global real GDP growth assumptions .....	18
Table 3. Population growth assumptions.....	19
Table 4. Summary policy variables for major field crops, 2005-2016.....	33
Table 5. Conservation Reserve Program acreage assumptions .....	33
Table 6. Planted and harvested acreage for major field crops, long-term projections .....	34
Table 7. Selected supply, use, and price variables for major field crops, long-term projections .....	35
Table 8. U.S. corn long-term projections .....	36
Table 9. U.S. sorghum long-term projections .....	37
Table 10. U.S. barley long-term projections .....	38
Table 11. U.S. oats long-term projections .....	39
Table 12. U.S. wheat long-term projections.....	40
Table 13. U.S. soybean and products long-term projections.....	41
Table 14. U.S. rice long-term projections, rough basis .....	42
Table 15. U.S. upland cotton long-term projections.....	43
Table 16. U.S. sugar long-term projections.....	44
Table 17. Horticultural crops long-term projections: Production, values, and prices, calendar years ....	45
Table 18. Horticultural crops long-term projections: Exports and imports, fiscal years.....	46
Table 19. Per capita meat consumption, retail weight.....	52
Table 20. Consumer expenditures for meats .....	52
Table 21. Beef long-term projections .....	53
Table 22. Pork long-term projections .....	54
Table 23. Young chicken long-term projections .....	54
Table 24. Turkey long-term projections .....	55
Table 25. Egg long-term projections .....	55
Table 26. Dairy long-term projections .....	56
Table 27. Farm receipts, expenses, and income, long-term projections.....	62
Table 28. Consumer food price indexes and food expenditures, long-term projections .....	63
Table 29. Changes in consumer food prices, long-term projections .....	63
Table 30. Summary of U.S. agricultural trade long-term projections, fiscal years .....	64
Table 31. Coarse grains trade long-term projections.....	94
Table 32. Corn trade long-term projections.....	95
Table 33. Sorghum trade long-term projections .....	96
Table 34. Barley trade long-term projections .....	96
Table 35. Wheat trade long-term projections .....	97
Table 36. Soybean trade long-term projections.....	98
Table 37. Soybean meal trade long-term projections .....	99
Table 38. Soybean oil trade long-term projections.....	99
Table 39. Rice trade long-term projections .....	100
Table 40. All cotton trade long-term projections .....	101
Table 41. Beef trade long-term projections.....	102
Table 42. Pork trade long-term projections .....	102
Table 43. Poultry trade long-term projections.....	103