

United States
Department of
Agriculture

Office of the
Chief Economist

Staff Report
WAOB-2004-1

USDA Agricultural Baseline Projections to 2013

Interagency Agricultural Projections Committee

World Agricultural Outlook Board, Chair
Economic Research Service
Farm Service Agency
Foreign Agricultural Service
Agricultural Marketing Service
Office of the Chief Economist
Office of Budget and Program Analysis
Risk Management Agency
Natural Resources Conservation Service
Cooperative State Research, Education, and Extension
Service

USDA Baseline 

Order Additional Copies of this Report

Online: Visit www.ntis.gov.

By Phone: Dial 1-800-999-6779. Toll free in the United States and Canada.
Other areas, call 1-703-605-6220.

Ask for *USDA Agricultural Baseline Projections to 2013 (WAOB-2004-1)*.

Abstract

This report provides long-run baseline projections for the agricultural sector through 2013. 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 baseline assumes that there are no shocks due to abnormal weather or other factors affecting global supply and demand. The 2002 Farm Act is assumed to remain in effect throughout the baseline. The baseline projections presented are one representative scenario for the agricultural sector for the next decade. As such, the baseline 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 2003, reflecting a composite of model results and judgment-based analysis. Projections were completed prior to the diagnosis of a case of bovine spongiform encephalopathy (BSE) in an adult Holstein cow in Washington State in December 2003.

Improved domestic and international economic growth after the 2001 through early 2003 slowdown provides a favorable demand setting for the U.S. agricultural sector. A relatively strong U.S. dollar, despite declines from a recent peak, and trade competition are constraining factors on U.S. exports. Nonetheless, improving economic growth, particularly in developing countries, provides a foundation for gains in global consumption and trade, U.S. agricultural exports, and farm commodity prices. With domestic demand for agricultural products also increasing, market prices and cash receipts rise, which help to improve the financial condition of the U.S. agricultural sector.

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

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Ave. SW, Washington, DC 20250-9410, or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Contents

	Page
A Note to Users of USDA Baseline Projections.....	iii
Baseline Projections on the Internet.....	iv
Baseline Contacts	iv
Acknowledgments.....	iv
Introduction.....	1
Summary of Projections.....	1
Macroeconomic Assumptions.....	7
Crops	23
Livestock.....	50
U.S. Agricultural Sector Aggregate Indicators: Farm Income, Food Prices, and U.S. Trade Value	62
Agricultural Trade.....	74
List of Tables	115

Features in this Report

	Page
Developing Asia's Growing Importance in Global GDP	11
Where Will Demographics Take the Pacific Food System?	14
Fertilizer Imports Would Rise if Natural Gas Market Tightened.....	19
A Note on Bovine Spongiform Encephalopathy (BSE)	50
EU CAP Reform, 2003	75
Effects of Enlargement of the European Union.....	77
Will Water Scarcity Affect China's Agricultural Production and Trade?.....	81
South America's Increasing Presence in the Global Soybean Market	97

A Note to Users of USDA Baseline Projections

USDA long-term agricultural baseline projections presented in this report are a Departmental consensus on a long-run 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, long-run scenario about what would be expected to happen under a continuation of the 2002 Farm Act and specific assumptions about external conditions. The baseline includes short-term projections from the November 2003 *World Agricultural Supply and Demand Estimates* report. The baseline was completed prior to the diagnosis of a case of bovine spongiform encephalopathy (BSE) in an adult Holstein cow in Washington State in December 2003. Trade projections in this report for 2004/05 incorporate long-term assumptions concerning weather, foreign trend yields, and foreign use and do not reflect short-term conditions that may affect trade that year.

Critical long-term assumptions are made for:

- U.S. and international macroeconomic conditions,
- U.S. and foreign agricultural and trade policies,
- Growth rates of agricultural productivity in the United States and abroad, and
- Weather.

Changes in assumptions for any of these items can significantly affect the baseline projections, and actual conditions that emerge will alter the outcomes.

The baseline projections analysis was conducted by interagency committees in USDA and reflects a composite of model results and judgment-based analysis. The Economic Research Service has the lead role in preparing the Departmental baseline 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 baseline 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.

Baseline Projections on the Internet

The new USDA baseline projections are available electronically on the Internet at:

<http://usda.mannlib.cornell.edu/data-sets/baseline/>

Also, the Economic Research Service has a briefing room for baseline projections at:

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

Baseline Contacts

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

Ronald Trostle, Economic Research Service, Room 5160, 1800 M Street, N.W., Washington, D.C. 20036-5831, phone: (202) 694-5280, e-mail: 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

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

Acknowledgments

The report coordinators, on behalf of the Interagency Agricultural Projections Committee, thank the many analysts across different agencies of USDA for their contributions to the baseline projections analysis as well as to the preparation and review of this baseline report.

USDA Agricultural Baseline Projections to 2013

Interagency Agricultural Projections Committee

Introduction

This report provides long-run baseline projections for the agricultural sector through 2013. Projections cover agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. The baseline identifies major forces and uncertainties affecting future agricultural markets; prospects for global long-term economic growth, consumption, and trade; and future price trends, trade flows, and U.S. exports of major farm commodities.

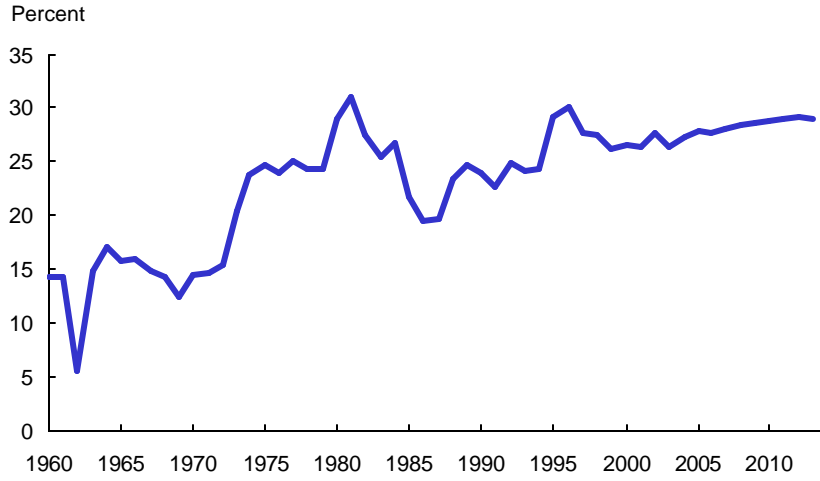
The projections are a conditional scenario with no shocks and are based on specific assumptions regarding the macroeconomy, agricultural policy, the weather, and international developments. The baseline assumes that current farm legislation, the Farm Security and Rural Investment Act of 2002 (the 2002 Farm Act), remains in effect through the projections period. The projections are not intended to be a Departmental forecast of what the future will be, but instead a description of what would be expected to happen under a continuation of the 2002 Farm Act, with very specific external circumstances. Thus, the baseline is 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 2003 in support of the fiscal year 2005 budget analysis. Projections reflect a composite of model results and judgment-based analysis. Normal weather is assumed. Short-term projections included in the baseline are from the November 2003 *World Agricultural Supply and Demand Estimates* report. The baseline projections were completed prior to the diagnosis of a case of bovine spongiform encephalopathy (BSE) in an adult Holstein cow in Washington State in December 2003.

Summary of Projections

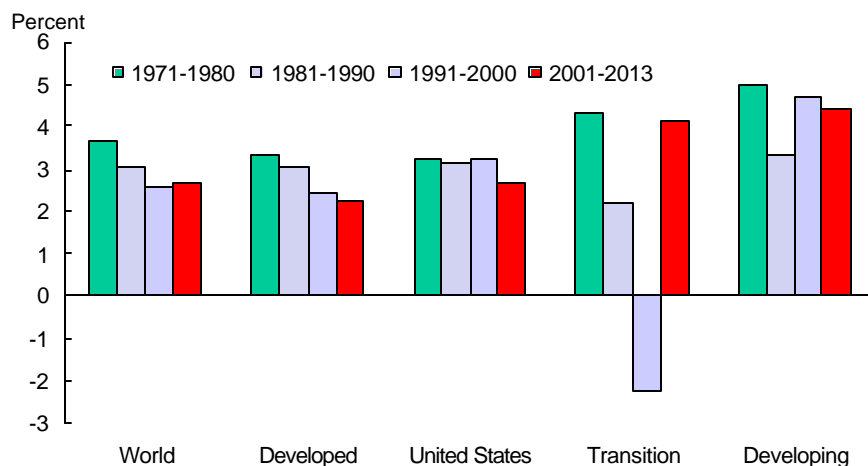
Stronger domestic and international growth following the economic slowdown of 2001 through early 2003 provides a favorable demand setting for the U.S. agricultural sector. Despite declines from a recent peak, a relatively strong U.S. dollar by historical standards and trade competition from countries such as Brazil, Argentina, and the Black Sea region are constraining factors on U.S. exports for some agricultural commodities. Nonetheless, improving economic growth, particularly in developing countries, provides a foundation for gains in global consumption and trade, U.S. agricultural exports, and farm commodity prices. Domestic demand also increases for meat, feeds, horticultural products, corn used in ethanol production, and food use of rice. As a result, market prices and cash receipts rise, which help to improve the financial condition of the U.S. agricultural sector. Consumer food prices are projected to continue a long-term trend of rising less than the general inflation rate. The trend in consumer food expenditures towards a larger share for meals eaten away from home is expected to continue.

U.S. agricultural export value relative to total market cash receipts



Agricultural export markets are important for sustaining prices and farm revenues. Exports account for a growing share of U.S. farm cash receipts, and are a key factor in determining gains in gross farm income.

World gross domestic product (GDP) growth rates, decade averages

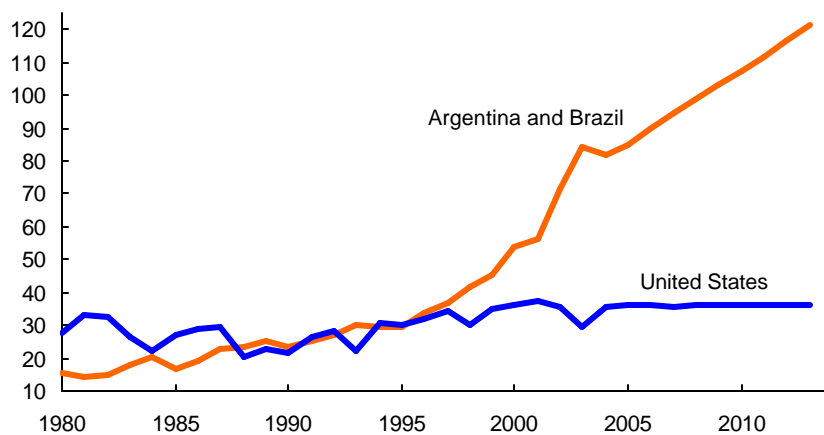


Agricultural trade depends on the economic prosperity of consumers throughout the world.

- Economic gains and population growth in developing countries will generate most of the increase in global food demand over the next decade.
- Economic growth in developing countries is important for global agricultural demand because many developing countries have incomes at levels where consumers diversify their diets to include more meats and other higher valued food products, and where consumption and imports of food and feed are particularly responsive to income changes.
- Projected growth in the transition economies (countries of the former Soviet Union and Central and Eastern Europe) of over 4 percent in 2004-13 is significant in comparison to the economic contraction of the 1990s. Economic reforms undertaken to shift to market economies and EU enlargement (see box, page 77) contribute to the improved growth prospects. This growth will increase consumer income and thereby raise demand for agricultural goods, such as livestock products, for which demand is relatively responsive to income changes.
- Although declining somewhat in the near term, the U.S. dollar is assumed to stay at historically strong levels throughout the projections as financial market returns attract financial flows into the United States. The strength of the dollar is a constraining factor for U.S. agricultural competitiveness and export growth.

Trade competition remains strong: Soybean and soybean meal exports

Million metric tons 1/

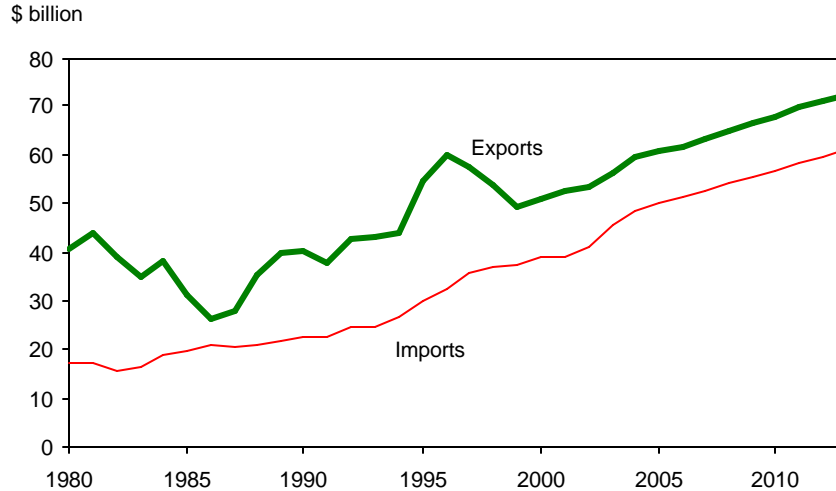


1/ Soybeans plus soybean meal converted to soybean-equivalent weight.

Competition in global agricultural markets will continue to be strong, with expanding production in a number of foreign countries.

- For example, increasing exports of soybeans and soybean meal from South America reflect a continuing conversion of land to crop production uses, particularly in Brazil.
- Competition in global wheat trade continues with traditional exporters (Australia, Argentina, Canada, and the European Union) as well as with more-recent exporters from the Black Sea region.
- Brazil and Canada provide competition to U.S. pork exports, while U.S. exports of broilers face strong competition from Brazil and Thailand.

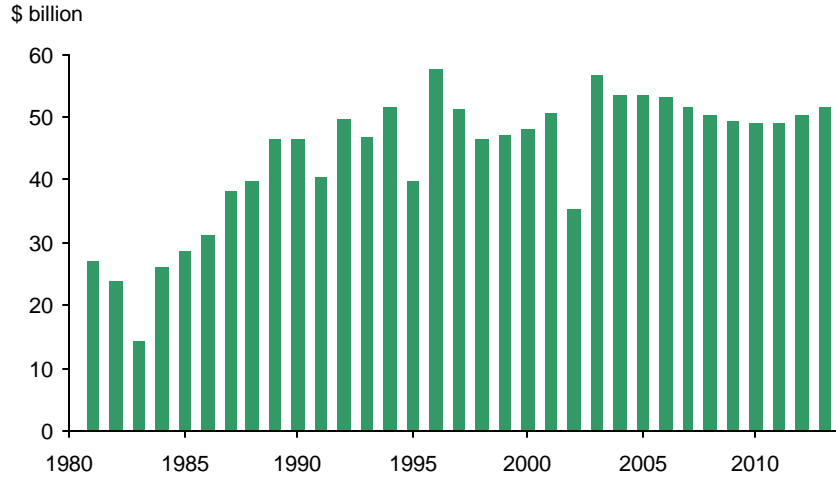
U.S. agricultural trade value



The value of U.S. agricultural exports, which fell from a record of almost \$60 billion in fiscal year 1996 to \$49.1 billion in 1999, is projected to exceed the prior record in 2005 through 2013.

- U.S. agricultural exports face continued strong trade competition throughout the baseline period. A relatively strong U.S. dollar by historical standards, despite declines from a recent peak, also is a constraining factor on U.S. agricultural exports.
- Nonetheless, strengthening world economic growth in the longer run, particularly in developing countries, provides a foundation for gains in U.S. agricultural exports, which increase to about \$72 billion by the end of the projections.
- U.S. agricultural imports rise by about the same amount as exports, with the agricultural trade surplus relatively stable in a \$10 to \$12 billion range during the projection period.

Net farm income



Strengthening market conditions lead to rising prices, increases in gross farm income, and improvement in the financial condition of the U.S. agricultural sector. Net farm income declines through much of the projections period from a high 2003 level, reflecting lower government payments and adjustments in the cattle sector.

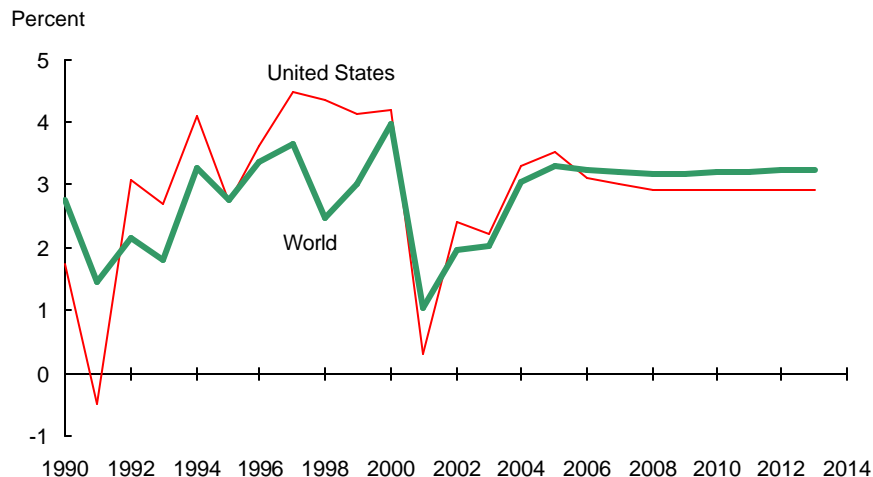
- Gross cash income gradually increases as crop and livestock receipts increase due to growing domestic and export demands.
- Production expenses are projected to increase at slightly less than the general inflation rate. Cash operating margins tighten somewhat, with cash expenses increasing from 75 percent of gross cash income in 2004 to about 78.5 percent at the end of the projections.
- Government payments become relatively less important over time as a greater share of gross cash income comes from the marketplace.
- Net farm income projections for the next decade average about \$51 billion, compared to \$47.6 billion in the 1990s. Income increases towards the end of the projections and reaches \$51.5 billion in 2013.
- Increasing gross cash income and relatively low interest rates through the baseline assist in asset accumulation and debt management. Debt-to-asset ratios decline to about 14 percent in the last several years of the projections, compared with over 20 percent in the mid-1980s and 14.7 percent in 2003.

Macroeconomic Assumptions

Macroeconomic assumptions underlying the USDA baseline are characterized by a rebound from the recent U.S. and global slowdown, with a return to sustained growth at average historical levels beginning in 2005. The baseline's macroeconomic assumptions were completed in September 2003, incorporating data and other information available at that time.

The United States and world economies continue to become increasingly interdependent both through growing trade and through financial market integration. The United States, as the world's largest economy with around 30 percent of global gross domestic product (GDP) and the largest capital market, is also the engine of world growth. Thus, what happens in the United States will continue to play a large role in determining economic conditions around the world. However, because of growing economic interdependence, international macroeconomic conditions affect U.S. consumer incomes, the U.S. exchange rate, global trade, inflation, and interest rates. All these factors have major effects on U.S. agriculture.

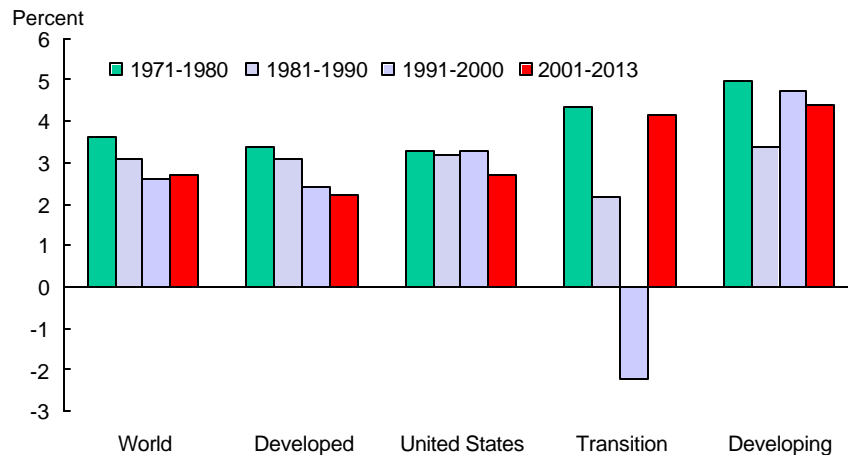
U.S. and world gross domestic product (GDP) growth



The baseline assumes that U.S. GDP growth improves in the near term (increasing to 3.3 percent in 2004 and 3.5 percent in 2005) as the economy continues to recover from the economic slowdown in 2001 through early 2003. U.S. growth then returns to a long-run sustainable rate near 3.0 percent in 2006. While there may have been some overinvestment in technology in the late 1990s, ongoing U.S. technological advances associated with computing and telecommunications will provide support for worldwide productivity growth throughout the 2004-2013 projection period. As the U.S. economy recently has been showing solid growth in investment in new technology, other economies will follow.

- A similar pattern is expected for global economic growth, with sustained gains projected in the longer term for most countries in the world. Despite modest European growth expected in 2004, most of the world will be moving much closer to normal economic growth with trend rates in 2006 and beyond. The modest expected real decline in oil prices in 2004 will give an extra boost to Asia and its manufacturing sector, which is far more dependent on energy for GDP growth than more developed economies.
- Improved global economic performance combined with continued, if slowing, population growth is expected to strengthen food demand in the baseline.
- Developing countries play an increasingly important role in global food demand growth in the baseline and become a more important destination for U.S. exports. Relatively high population and income growth, along with large food responsiveness to income growth in these countries, underlie this projection.

World gross domestic product (GDP) growth rates, decade averages

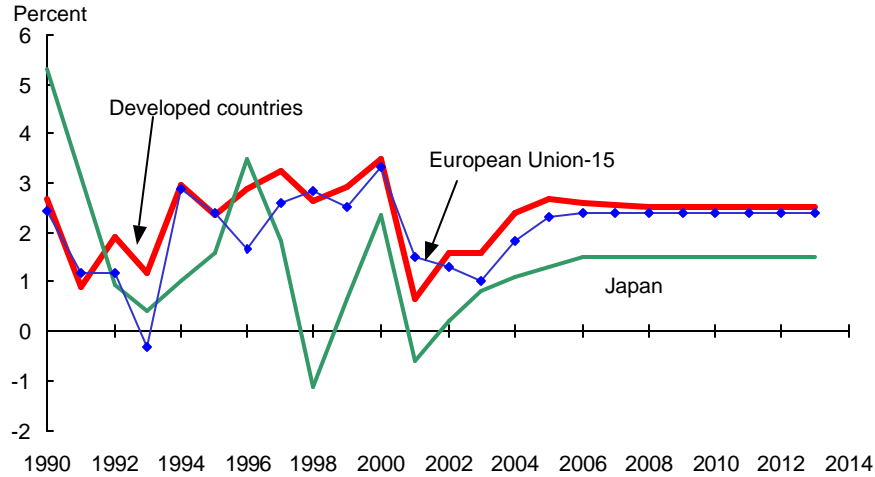


World economic growth is projected to average 2.3 percent annually between 2001 and 2005, before increasing to approximately a 3.2 percent average between 2006 and 2013.¹

- Increased global purchasing power and population growth are essential for gains in U.S. exports.
- Consumption and imports of food and feed in developing countries are particularly responsive to income changes. As incomes rise in these countries, consumers generally diversify their diets, moving away from staple foods to include more meat, fruits, vegetables, and processed foods. These consumption shifts increase import demand for feedstuffs and high-value food products. For the United States, this has included increases in meat and processed food exports.

¹ See tables 2 and 3 for countries included in developed, transition, and developing country groupings.

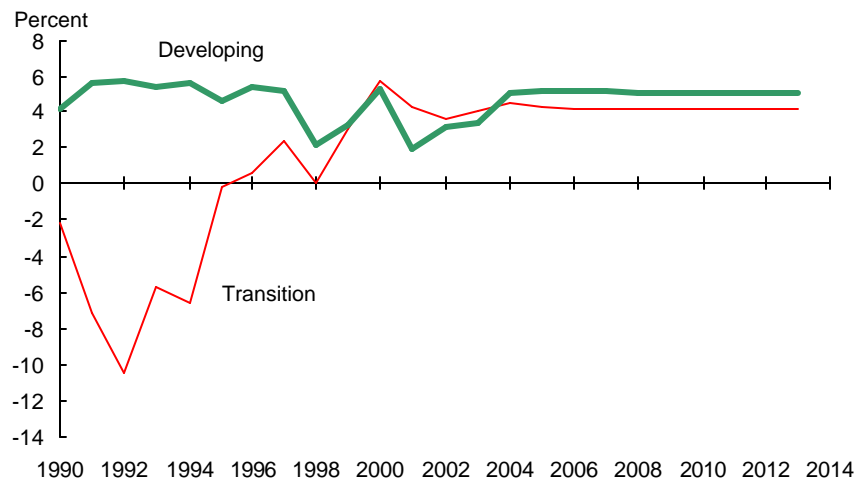
GDP growth for developed countries, European Union-15, and Japan



Developed economies are projected to grow at rates similar to those of the 1990s, averaging 2.5 percent in 2006 and beyond.

- The adoption of the euro continues to enhance cross-border trade and investment within the European Union (EU). Enlargement to include countries of Central and Eastern Europe implies closer integration, creating more trade and investment opportunities.
- In spite of this, the EU does not grow as rapidly as the United States because lingering structural rigidities, particularly in labor markets, constrain growth.
- Japan continues to face significant economic problems, largely the result of its ongoing banking problems and persistent deflation. Japan's share of world GDP is expected to decline to less than 13 percent by 2013, down from about 18 percent in 1991.

Developing and transition economies' GDP growth



Economic growth in developing countries is projected at a 5.1 percent annual rate in 2006-13. Long-term growth in the transition economies (countries of the former Soviet Union and Central and Eastern Europe) is projected at around 4.2 percent annually, a significant reversal from the contraction of their economies in the 1990s. Furthermore, strong growth performance throughout the developing and transition countries should encourage relative stability throughout the regions.

- Significant long-term growth exceeding 4 percent is projected for Latin America. This will attract foreign capital inflows, sustaining growth.
- Growth in East and Southeast Asia is projected to be about 6 percent for the next decade, but will still be below the very strong average growth of over 7 percent in the 1990s.
- China's economic growth has been consistently the strongest in Asia, and is expected to average around 7 percent over the next decade.
- Poland, Hungary, and the Czech Republic all grow near 4.5 percent due to their successful integration into the global economy and their accession to the European Union.
- Russia, Ukraine, and the other former Soviet Republics benefit from their shift to market economies, with annual GDP gains of more than 4 percent projected for the next decade.

Developing Asia's Growing Importance in Global GDP

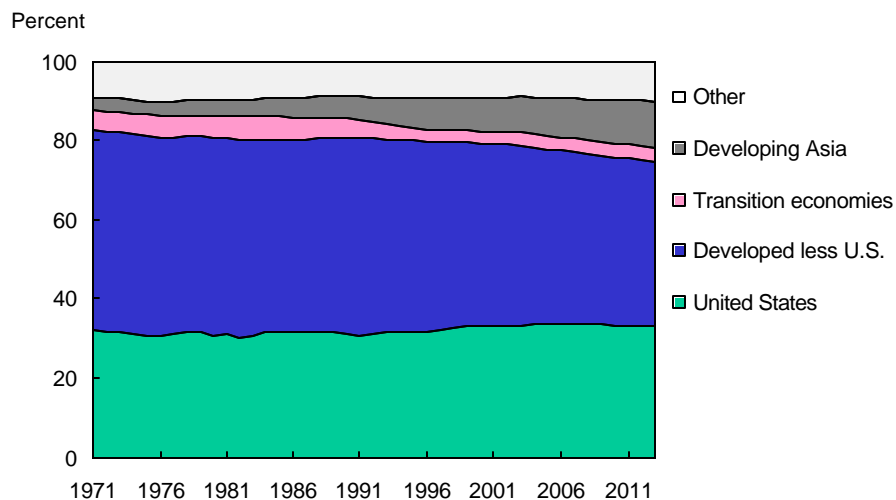
Economic growth rates vary from country to country and region to region, so over time the composition of world GDP changes. The United States generates around one third of world GDP despite having less than 5 percent of global population. This means that, on average, U.S. residents are more than six times as well off as the average citizen around the world. Because of high productivity growth, the United States continues to grow in line with global growth despite being a mature economy.

On the other hand, other developed countries, particularly Japan and Europe, have not been growing as fast as the global average and are therefore losing world GDP share. Nonetheless, even at the end of the 10-year baseline projection period, the 900 million citizens of the developed countries (out of a projected world population of more than 7 billion) will still be generating around 70 percent of world GDP.

If developed countries outside of the United States are losing global GDP shares, then where are shares increasing? The big gains have been made in developing Asia. These countries are projected to roughly quadruple their GDP share between 1971 and 2013, from around 3 percent to more than 12 percent. The high growth rates of developing Asian countries will continue to imply increasing shares of the world economy.

All other regions of the world have maintained stable, but relatively low shares of the global economy. Latin America, the Middle East, and Africa combined have only slightly more than a 10-percent share of world GDP. The transition economies (the former Soviet Union and the Central and Eastern European countries) have lost share of world GDP, moving from more

Developing Asia's share of world GDP has grown



--continued

Developing Asia's Growing Importance in Global GDP--continued

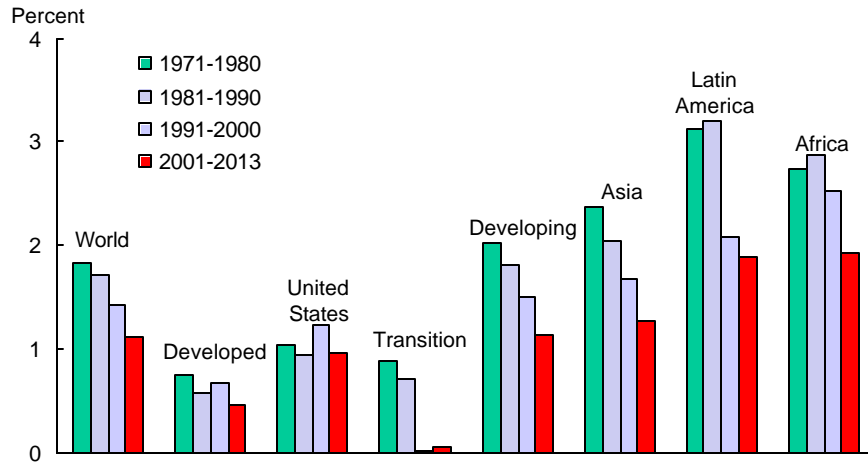
than 5.5 percent in the early 1980s to around 3 percent in 2000. Renewed growth in the transition countries will again begin to raise their share of world GDP. However, even at the end of the projection period, they are only likely to generate slightly more than 3.5 percent of world GDP.

Implications

The changing composition of world GDP has several important implications for U.S. and world agriculture. The relatively strong economic growth in developing Asia has resulted in a larger share of U.S. farm sector exports going to these markets, reflecting increased demand for agricultural products. Projected strong growth in the baseline implies that developing Asia will continue to become more important for U.S. agriculture.

A second implication reflects the increasing energy dependence of developing Asian economies. In contrast, developed economies, particularly the United States and Australia, have become relatively less energy dependent. Economic growth in developing Asia is concentrated in energy intensive manufacturing, while growth in the United States has been largely in the less energy intensive service sector. As a result, an increase in output in the developing Asian economy would require more energy than would a similar increase in the U.S. economy. If developing Asian growth is severely restricted by tight or expensive energy supplies, growth in U.S. agricultural exports to Asia could slow.

Population growth



Slowing population growth around the world will be a major factor that constrains the growth of agricultural demand over the next decade and beyond. Historically, about 70 percent of increases in food use have been related to population growth, leaving about 30 percent driven by increasing incomes and other factors. With population growth slowing in the projections, income growth will become a relatively more important factor underlying food and agricultural demand growth.

- 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 during the projection period.
- Developed and transition economies have very low projected rates of population growth in the baseline, 0.4 and 0.1 percent respectively. The projected population growth rate for the United States is the highest among developed countries, in part reflecting immigration.
- Population growth rates in developing economies decline by almost half between the 1970s and the projection period, but remain above those in the developed and transition economies. As a consequence, the share of world population accounted for by developing countries continues to increase over the projection period.
- China's population growth rate slows from 1.5 percent per year in 1981-90 to 0.6 percent in 2006-13. The population growth rate in India, the world's second most populous nation, is projected to decline from 2.1 to 1.3 percent per year over the same periods, but this growth narrows the gap between its population and China's.
- Brazil's population growth rate falls from 2.1 percent per year in 1981-90 to 1.0 percent annually in 2006-13, and Sub-Saharan Africa's population growth rate declines from 2.9 to 2.0 percent per year in the same years.

Where Will Demographics Take the Pacific Food System?

Economic growth and prices are closely monitored drivers of food demand in the Pacific region (countries in Asia, Oceania, North America, and South America that touch the Pacific Ocean). However, demographic changes--population growth, urbanization, and changes in age structure--may have more profound long-term implications for the region's food system.

400 Million More People to Feed

Although the population in the Pacific region is expected to grow by 400 million people, from 2.6 billion in 2000 to 3.0 billion in 2020, the rate of growth is lower than in regions like Africa and the Middle East. Since the 1960s, population growth in the Pacific region, as well as globally, has slowed, marking a shift from the geometric growth rates of previous decades. Currently, the number of people added to the Pacific region is declining each year.

Population growth throughout the Pacific region will not be evenly distributed. By 2020, the largest absolute increase will occur in China (160 million), followed by Indonesia (60 million) and the United States (50 million). In contrast, Japan's population will begin to decline in 2007.

While population growth in the Pacific region is slower than the rest of the world, immigration is relatively more important. In 2000, 760,000 more people entered the region than exited; that number is still small relative to the region's average annual natural increase of about 25 million people.

Population growth will undoubtedly place demands on the Pacific agri-food system; more people means more food consumption. But the changing rates and distribution of growth will also have significant implications. Japan's declining population implies lower levels of food demand in this affluent nation, a leading importer of food and agricultural products. More rapid population and economic growth in developing and middle-income economies will increase their influence in the Pacific food system, altering production, consumption, and trade patterns.

Rapid Urban Population Growth

The most significant demographic change in the region will be the rapid growth of urban populations, which are projected to grow by over 590 million people between 2000 and 2020, an increase of about 45 percent, compared to overall population growth of only 16 percent. Urban growth rates will be the most rapid in China and Southeast Asia; at intermediate rates in Latin America, North America, and Oceania; and slowest in East Asia. China's urban population is expected to grow by 300 million people in the next 20 years. Urban diets differ from those in rural areas, largely due to higher incomes and the substitution of animal products, fruits, and vegetables for more traditional food staples. Diets in urban areas tend to be more diverse, in terms of the variety of foods consumed. Urban dwellers tend to eat away from home more frequently and consume more convenience foods.

--continued

Where Will Demographics Take the Pacific Food System? --continued

Marketing food products in the Pacific region will increasingly focus on densely populated urban centers, such as the Hong Kong-Shenzen-Pearl River Delta area, Shanghai, Jakarta, Bangkok, Manila, Santiago-Valparaiso, and Lima-Callao. Many of these urban areas are coastal and have modern port facilities, making them easily accessible to foreign suppliers. In some instances, foreign suppliers are more competitive in these coastal urban markets than inland producers who confront inadequate infrastructure and cost-raising policies, like tolls, in getting their products to market.

A Graying Population: Declining Food Demand and a Tax on the Economy

Between 2000 and 2020, average life expectancy in the Pacific region is expected to rise from 72 to 77 years, and the median age from 30 to 36 years. The population age 65 and older will increase from 200 million in 2000 to 370 million in 2020. The Pacific countries with the oldest age structures are in East Asia, Australia, Canada, New Zealand, and the United States. These economies experienced the demographic transition—the decline in the fertility and mortality rates—quite a long time ago, driven by income growth, medical breakthroughs, healthcare investments, and public policy.

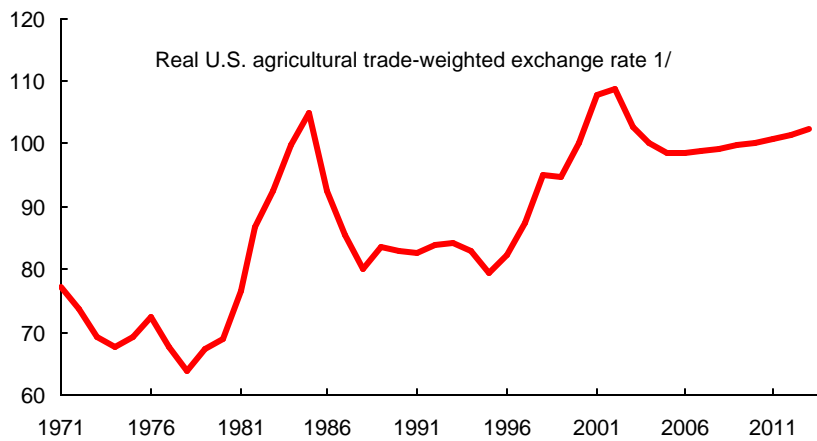
The changing age structure of the region's population affects food demand directly and indirectly. One direct effect is lower food demand. With an aging population, food demand declines, as activity levels and caloric needs decline. A second direct effect is change in dietary composition and the frequency of eating out. According to ERS research, older people eat more fresh fruit, fish, and eggs and eat out less frequently than younger people.

The dependent components of population (the young and the old relative to the working) for most of the high-income economies are projected to rise over the next two decades due to population aging. On the other hand, the dependent component for the lower income economies is projected to decline, providing an opportunity for these economies to save and invest resources for other purposes. This may give these economies a “demographic bonus,” or short-term economic boost.

For more information on this topic, see *Pacific Food System Outlook 2003-2004, Where Demographics Will Take the Food System*, Pacific Economic Cooperation Council, available at: <http://www.pecc.org/food/>

U.S. dollar stays high

Index values, 2000=100

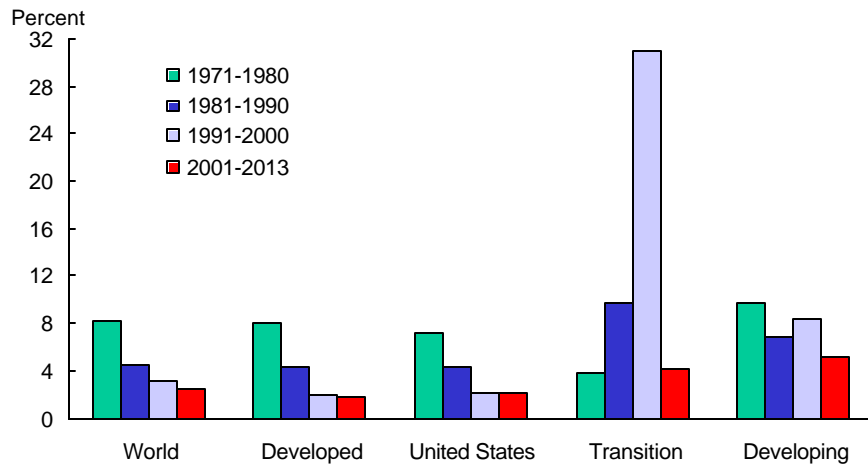


1/ See www.ers.usda.gov/data/exchangerates/questions.htm for an explanation of real U.S. agricultural trade-weighted exchange rates.

While there is a depreciation of the U.S. dollar in the near term, the projected long-term level is high by historical standards. A strong U.S. dollar reduces U.S. agricultural competitiveness and constrains growth in exports. This is partially offset by longer term global economic growth, which increases the demand for U.S. exports.

- When strong GDP growth returns in the United States, the dollar will likely appreciate.
- The U.S. dollar stays strong because capital flows into the United States to take advantage of well-functioning financial markets, a relatively risk-free environment, and high expected long-term financial returns.
- U.S. exports of bulk commodities and horticultural products tend to be the most sensitive agricultural products to the strong U.S. dollar due to relatively stronger global trade competition.

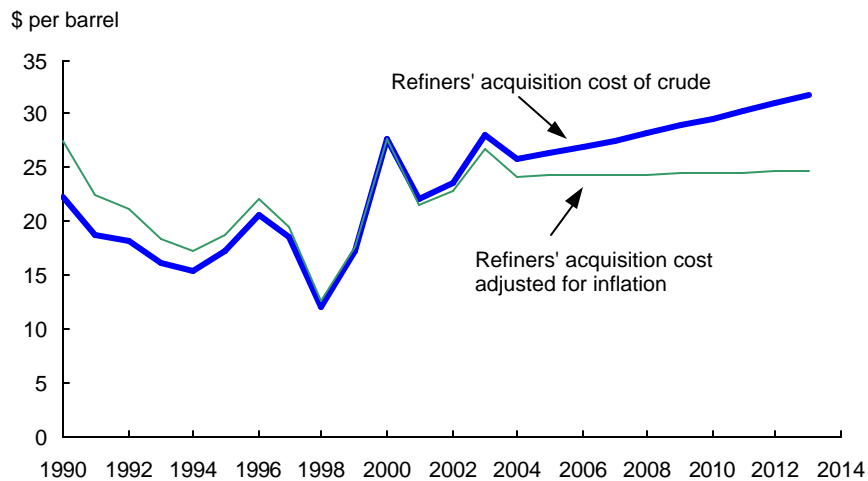
Inflation rates



Inflation rates, which came down in the 1990s (except in the transition economies), are projected to remain low through 2013.

- For developed countries and the world as a whole, inflation is projected to be 2.5 percent or less.
- For the transition economies, inflation rates in the baseline come down dramatically from an annual average exceeding 30 percent in the 1990s, to less than 3.5 percent per year in the projection period.
- Inflation rates in developing countries are also projected to fall, from over 7 percent to just over 5 percent. Inflation in Asia declines to rates comparable to those in developed countries. Those in Latin America and Africa and the Middle East, while declining, will remain substantially above inflation rates in the rest of the world.
- As the U.S. and world economies move solidly into the expansion phase, inflationary pressures will begin. In response, the Federal Reserve Board and central banks in other countries are assumed to raise short-term interest rates to prevent an inflationary spiral. In addition, as world economies grow more rapidly, demand for credit will rise and further boost interest rates. Finally, a weaker dollar relative to the yen and the euro will require U.S. interest rates to rise to continue financing the trade deficit. However, low inflation will keep interest rates from moving to the high levels seen in the 1980s.

Crude oil prices



Oil prices declined in 2001 from the high levels of 2000, but then moved back up in 2003 as uncertainties in the international oil market continued from an unstable situation in Iraq and as the economic expansion in developing Asia, especially in China, boosted oil demand. Continued growth in these economies will keep oil demand strong in 2004, but crude oil prices will drop modestly as some new crude supplies come onto the market. From 2005 forward, oil prices are projected to rise, but only slightly faster than the general inflation rate. These projections are generally consistent with the Energy Information Administration's January 2003 *Annual Long Term Outlook*.

- New oil discoveries, along with new technologies for finding and extracting oil, are assumed to allow for substantial growth in demand without significant energy price inflation.
- Most of the growth in world oil demand will be due to strong Asian GDP growth, which has relatively high energy dependence.
- Oil prices have historically affected prices of natural gas and supply conditions for 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. As a result, prices for natural gas and fertilizer may be somewhat volatile over the next several years (see box, page 19).

Fertilizer Imports Would Rise if Natural Gas Market Tightened

The market tightness and price volatility in the natural gas market seen in the winter of 2000-2001 and 2002-2003 may well persist for the medium term, which could have some implications for the farm sector. Although the direct use of natural gas on farms is small compared to use of other fuels and electric power, nitrogen-based fertilizer produced from natural gas feedstock is of considerable importance in the production of many crops, such as corn, cotton, and rice.

While the United States has been dependent on natural gas imports from Mexico and Canada, North America has been largely self-sufficient in natural gas production. The natural gas market could be tight as demand for this low-polluting fuel continues to be strong for use in electrical power generation, industrial production, and crude oil extraction in Canada.

Natural gas imports through shipments of liquefied natural gas (LNG) have become increasingly important and could provide some further relief to the demand pressures on prices. However, there currently are not enough facilities to convert LNG to natural gas to meet total estimated natural gas demand at current prices, with several years needed before new LNG conversion facilities will be available to ease this situation. Thus, natural gas prices could be high and somewhat volatile over the next several years.

If natural gas prices rise sharply, some U.S. plants that produce nitrogen-based fertilizer would shut down. Instead, the fertilizer company would import enough nitrogenates to meet its expected marketing needs. As a result, while fertilizer prices will rise when natural gas prices increase, the availability of fertilizer imports to augment domestic supplies will limit the size of nitrogenate price increases.

Table 1. U.S. macroeconomic assumptions

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
GDP, billion dollars												
Nominal	10,446	10,836	11,350	11,947	12,564	13,213	13,895	14,613	15,368	16,161	16,996	17,873
Real 1996 chained dollars	9,440	9,648	9,966	10,315	10,614	10,922	11,238	11,564	11,900	12,245	12,600	12,965
percent change	2.4	2.2	3.3	3.5	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Disposable personal income												
Nominal (billions)	7,810	8,154	8,553	9,015	9,502	10,015	10,556	11,126	11,727	12,360	13,028	13,731
percent change	5.6	4.4	4.9	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Nominal per capita, dollars	27,060	27,959	29,035	30,299	31,626	33,017	34,475	36,006	37,608	39,289	41,049	42,893
percent change	4.5	3.3	3.8	4.4	4.4	4.4	4.4	4.4	4.4	4.5	4.5	4.5
Real (billion 1996 chained)	7,032	7,229	7,482	7,759	8,007	8,263	8,528	8,801	9,082	9,373	9,673	9,982
percent change	4.2	2.8	3.5	3.7	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Real per capita, 96 dollars	24,364	24,788	25,398	26,077	26,650	27,241	27,851	28,480	29,127	29,793	30,479	31,183
percent change	3.1	1.7	2.5	2.7	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3
Consumer spending												
Real (billion 1996 chained)	6,576	6,760	6,943	7,144	7,330	7,520	7,716	7,916	8,122	8,333	8,550	8,772
percent change	3.1	2.8	2.7	2.9	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Inflation measures												
GDP price index, chained	110.7	112.3	113.9	115.8	118.4	121.0	123.6	126.4	129.1	132.0	134.9	137.9
percent change	1.1	1.5	1.4	1.7	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
CPI-U, 82-84=100	179.9	184.0	187.1	191.4	196.2	201.1	206.1	211.3	216.6	222.0	227.5	233.2
percent change	1.6	2.3	1.7	2.3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
PPI, finished goods 82=100	138.9	142.1	144.9	147.1	149.4	151.8	154.2	156.7	159.2	161.8	164.4	167.0
percent change	-1.3	2.3	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
PPI, crude goods 82=100	108.1	125.4	120.4	121.6	122.8	124.1	125.3	126.6	127.8	129.1	130.4	131.7
percent change	-10.6	16.0	-4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Crude oil price, \$/barrel												
Refiner acq. cost, imports	23.6	28.0	25.7	26.2	26.9	27.5	28.2	28.8	29.5	30.2	31.0	31.7
percent change	7.4	18.8	-8.2	1.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Real 1996 chained dollars	21.3	25.0	22.6	22.6	22.7	22.7	22.8	22.8	22.9	22.9	23.0	23.0
percent change	6.2	17.0	-9.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Labor compensation per hour												
nonfarm business, 92=100	139.8	144.4	149.3	154.4	159.7	165.1	170.7	176.5	182.5	188.7	195.1	201.7
percent change	2.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Interest rates, percent												
3-month T-bills	1.6	1.0	1.4	3.5	3.8	4.3	4.3	4.3	4.3	4.3	4.3	4.3
3-month commercial paper	1.7	1.2	1.6	3.9	4.2	4.5	4.7	4.7	4.7	4.7	4.7	4.7
Bank prime rate	4.7	4.1	4.4	5.7	6.4	7.5	8.0	8.0	8.0	8.0	8.0	8.0
Treasury bonds (10-year)	4.6	4.0	4.4	4.7	5.2	6.0	6.2	6.2	6.2	6.2	6.2	6.2
Moody's Aaa bonds	6.5	5.7	6.1	6.4	6.7	7.6	7.8	7.8	7.8	7.8	7.8	7.8
Civilian unemployment												
rate, percent	5.8	6.2	5.9	5.5	5.5	5.5	5.5	5.5	5.5	5.4	5.4	5.4
Nonfarm payroll emp., millions	130.4	130.0	131.5	133.0	134.5	135.9	137.4	138.9	140.3	141.7	143.2	144.6
percent change	-1.1	-0.3	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Total population, million												
percent change	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9

Domestic macroeconomic assumptions were completed in September 2003.

Table 2. Global real GDP growth assumptions

Region/country	Share of world GDP 1996-2000	2001	2002	2003	2004	2005	2006	2007	Average		
									1991-2000	2001-2005	2006-2013
	Percent	Percent change									
World	100.0	1.0	2.0	2.0	3.0	3.3	3.2	3.2	2.8	2.3	3.2
less United States	69.6	1.4	1.8	2.0	2.9	3.2	3.3	3.3	2.5	2.2	3.3
Developed economies	76.1	0.7	1.6	1.5	2.4	2.7	2.6	2.5	2.4	1.8	2.5
United States	30.5	0.3	2.4	2.2	3.3	3.5	3.1	3.0	3.3	2.3	2.9
Canada	2.1	1.5	3.4	2.4	3.5	3.3	3.2	3.2	2.7	2.8	3.2
Japan	15.9	-0.6	0.2	0.8	1.1	1.3	1.5	1.5	1.4	0.6	1.5
Australia	1.2	3.9	3.6	3.5	3.2	3.3	3.5	3.5	3.7	3.5	3.5
European Union-15	24.9	1.5	1.3	1.0	1.8	2.3	2.4	2.4	2.0	1.6	2.4
Other Western Europe	1.3	1.4	1.3	1.3	2.0	2.2	2.4	2.4	1.8	1.6	2.4
Transition economies	2.3	4.2	3.6	4.1	4.5	4.3	4.2	4.2	-1.8	4.1	4.2
Eastern Europe	1.2	2.4	2.7	3.5	4.3	4.2	4.1	4.1	1.5	3.4	4.1
Czech Republic	0.2	0.5	2.0	2.9	3.9	4.4	4.6	4.5	0.1	2.7	4.4
Hungary	0.1	3.8	3.1	3.9	4.5	4.5	4.5	4.5	0.9	4.0	4.5
Poland	0.5	1.0	1.3	3.1	4.5	4.4	4.4	4.4	3.7	2.9	4.4
Former Soviet Union	1.1	6.2	4.5	4.6	4.7	4.3	4.2	4.2	-4.2	4.9	4.2
Russia	0.8	5.0	4.3	4.5	4.8	4.4	4.2	4.2	-3.9	4.6	4.2
Ukraine	0.1	9.1	4.8	4.5	4.6	4.2	4.2	4.2	-7.7	5.4	4.2
Other	0.2	9.1	5.0	4.8	4.3	4.3	4.3	4.3	-3.5	5.5	4.3
Developing countries	21.6	1.9	3.1	3.5	5.1	5.2	5.2	5.1	4.8	3.7	5.1
Asia	9.7	4.0	5.8	5.5	6.0	6.0	6.0	6.0	6.8	5.4	6.0
East & Southeast Asia	7.4	4.0	6.1	5.6	6.2	6.2	6.2	6.1	7.3	5.5	6.1
China	3.1	7.3	8.0	8.2	7.7	7.5	7.2	7.0	10.2	7.5	7.0
Hong Kong	0.5	0.1	2.3	1.7	4.0	4.3	4.7	4.8	4.4	2.5	4.8
South Korea	1.4	3.0	6.3	3.5	5.4	5.4	5.4	5.4	6.2	4.7	5.2
Taiwan	0.9	-1.9	3.5	3.4	4.6	4.8	5.3	5.2	6.4	2.9	5.2
Indonesia	0.5	3.3	3.7	3.5	4.3	4.8	5.0	5.0	4.4	3.9	5.0
Malaysia	0.3	0.4	4.1	4.1	5.3	5.5	5.8	5.7	7.2	3.9	5.5
Philippines	0.2	2.7	4.6	4.4	4.6	4.8	5.0	5.0	4.0	4.2	5.0
Thailand	0.4	1.8	4.4	3.9	4.9	5.4	5.3	5.2	4.5	4.1	5.2
Vietnam	0.1	6.8	6.5	6.5	7.0	6.9	6.8	6.7	7.5	6.7	6.5
South Asia	1.7	5.1	5.1	5.2	5.4	5.4	5.7	5.7	5.2	5.3	5.7
India	1.4	5.4	5.2	5.3	5.5	5.5	5.8	5.8	5.5	5.4	5.8
Pakistan	0.2	2.7	4.4	5.1	5.1	5.1	5.1	5.1	4.0	4.5	5.1
Bangladesh	0.1	5.3	4.8	4.9	5.3	5.2	5.2	5.1	4.8	5.1	5.1
Latin America	6.4	0.0	-0.9	2.4	3.6	3.8	3.9	4.0	3.4	1.8	4.1
Caribbean & Central America	0.6	2.5	2.0	4.2	4.1	3.5	3.4	3.4	3.6	3.3	3.4
Mexico	1.7	-0.3	0.9	2.6	3.8	4.2	4.3	4.4	3.6	2.2	4.5
South America	4.1	-0.3	-2.2	2.0	3.4	3.7	3.8	3.9	3.3	1.3	4.0
Argentina	1.0	-4.5	-10.9	2.3	3.3	3.7	3.5	3.6	4.7	-1.2	3.7
Brazil	1.9	1.5	1.5	2.2	3.2	3.5	3.7	3.9	2.7	2.4	4.1
Other	1.2	0.0	-2.0	1.6	3.7	4.1	4.0	4.0	3.3	1.5	4.0
Middle East	3.8	-0.7	2.5	-0.5	5.2	5.5	5.0	4.6	3.8	2.4	4.2
Iran	0.9	4.8	3.9	4.3	4.6	3.7	3.8	3.8	4.1	4.3	3.8
Iraq	0.6	-6.0	5.5	-22.0	37.0	19.8	9.3	5.9	4.1	6.9	5.1
Saudi Arabia	0.6	1.2	1.2	3.3	3.5	3.9	3.7	3.6	2.2	2.6	3.3
Turkey	0.6	-7.4	7.6	0.3	2.8	2.2	3.5	4.2	3.6	1.1	4.1
Other	1.1	0.9	2.1	3.1	4.0	4.0	4.0	4.0	4.6	2.8	4.0
Africa	1.6	3.2	3.3	3.2	4.0	4.2	4.4	4.3	2.7	3.6	4.2
North Africa	0.6	3.5	3.2	3.6	4.0	4.1	4.4	4.6	3.3	3.7	4.5
Algeria	0.2	2.1	3.8	4.1	5.2	5.0	5.3	5.4	1.7	4.0	5.4
Egypt	0.3	2.9	2.3	2.6	2.8	3.2	3.8	4.0	4.4	2.8	4.0
Morocco	0.1	6.5	5.5	5.5	4.8	4.5	4.3	4.3	2.4	5.4	4.3
Tunisia	0.1	4.9	1.7	4.1	5.5	5.4	5.3	5.2	4.8	4.3	5.0
Sub-Saharan Africa	0.6	3.5	3.6	3.3	4.4	4.8	4.7	4.6	2.7	3.9	4.6
South Africa	0.4	2.2	3.0	2.5	3.6	3.4	3.8	3.6	1.7	2.9	2.8

Global macroeconomic assumptions were completed in September 2003.

Table 3. Population growth assumptions

Region/country	Population in 2001	Population							Average		
		2001	2002	2003	2004	2005	2006	2007	1991-2000	2001-2005	2006-2013
	Millions	Percent change									
World ¹	6,154	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.4	1.2	1.1
less United States	5,868	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.4	1.2	1.1
Developed economies	859	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.4
United States	286	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.2	1.0	0.9
Canada	32	1.0	1.0	1.0	0.9	0.9	0.9	0.9	1.2	1.0	0.8
Japan	127	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.3	0.1	-0.1
Australia	19	1.0	1.0	0.9	0.9	0.9	0.9	0.8	1.2	0.9	0.8
European Union-15	378	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.1
Transition economies	411	-0.1	-0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Eastern Europe	121	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1
Czech Republic	10	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.2
Hungary	10	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2	-0.3	-0.3
Poland	39	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Former Soviet Union	290	-0.1	-0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.2
Russia	145	-0.4	-0.3	-0.3	-0.3	-0.3	-0.2	-0.2	-0.1	-0.3	-0.2
Ukraine	49	-0.8	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.5	-0.7	-0.5
Other	96	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.7	0.7	1.0
Developing countries	4,885	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.7	1.4	1.3
Asia	3,291	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.5	1.2	1.1
East & Southeast Asia	1,822	0.9	0.9	0.9	0.8	0.8	0.8	0.8	1.2	0.9	0.8
China	1,271	0.7	0.6	0.6	0.6	0.6	0.6	0.6	1.0	0.6	0.6
Hong Kong	7	1.3	1.3	1.2	1.2	1.2	1.1	1.1	2.3	1.2	1.0
South Korea	48	0.8	0.7	0.7	0.6	0.6	0.6	0.6	1.0	0.7	0.5
Taiwan	22	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.9	0.7	0.5
Indonesia	228	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.8	1.5	1.3
Malaysia	22	2.0	1.9	1.9	1.9	1.8	1.8	1.8	2.2	1.9	1.7
Philippines	81	2.0	2.0	2.0	1.9	1.9	1.8	1.8	2.2	2.0	1.7
Thailand	63	1.1	1.0	1.0	0.9	0.9	0.9	0.8	1.2	1.0	0.7
Vietnam	80	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.7	1.3	1.3
South Asia	1,296	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.8	1.6	1.4
India	1,019	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.8	1.5	1.3
Pakistan	145	2.2	2.1	2.1	2.0	1.9	1.9	1.9	2.2	2.1	1.8
Bangladesh	133	2.0	2.0	2.1	2.1	2.1	2.1	2.1	1.7	2.0	2.0
Latin America	531	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.7	1.4	1.2
Caribbean & Central America	75	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.7	1.6	1.4
Mexico	102	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.7	1.5	1.2
South America	355	1.4	1.4	1.3	1.3	1.2	1.2	1.2	1.7	1.3	1.1
Argentina	38	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.3	1.1	0.9
Brazil	178	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.5	1.2	1.0
Other	139	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.9	1.6	1.4
Middle East	247	2.0	2.0	1.9	1.9	1.9	1.9	1.9	2.1	1.9	1.9
Iran	67	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.4	1.1	1.1
Iraq	23	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.3	2.8	2.5
Saudi Arabia	23	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Turkey	66	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.6	1.2	1.0
Other	68	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.9	2.7	2.5
Africa	815	2.2	2.1	2.1	2.0	2.0	2.0	1.9	2.5	2.1	1.8
North Africa	144	1.8	1.8	1.8	1.7	1.7	1.6	1.6	2.1	1.8	1.5
Algeria	32	1.7	1.7	1.7	1.6	1.6	1.6	1.6	2.1	1.7	1.5
Egypt	72	2.0	2.0	1.9	1.9	1.8	1.8	1.7	2.2	1.9	1.6
Morocco	31	1.7	1.7	1.7	1.6	1.6	1.6	1.6	2.0	1.7	1.5
Tunisia	10	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.6	1.1	1.0
Sub-Saharan Africa	629	2.4	2.3	2.3	2.3	2.2	2.2	2.1	2.7	2.3	2.0
South Africa	43	0.5	0.3	0.1	-0.1	-0.4	-0.6	-0.8	1.3	0.1	-1.1

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 2003.

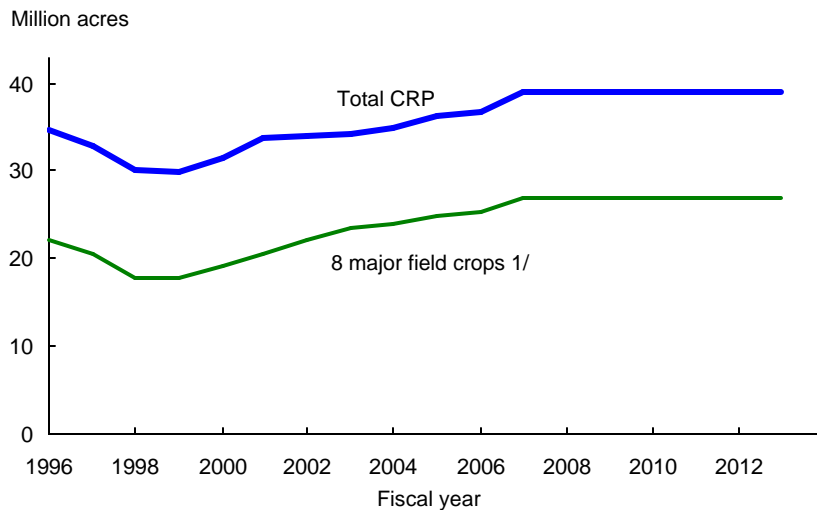
Crops

Improved U.S. and global economic growth following the slowdown of 2001-2003 provides a favorable demand setting for field crops, supporting longer run increases in consumption, trade, and prices. A relatively strong U.S. dollar, despite declines from a recent peak, and trade competition from areas such as Brazil, Argentina, and the Black Sea region constrain U.S. exports for some crops, however.

Baseline assumptions for field crops reflect provisions of the Farm Security and Rural Investment Act of 2002 (2002 Farm Act), which is assumed to continue through the projection period. The 2002 Farm Act continues planting flexibility provisions, giving farmers almost complete flexibility in deciding which crops to plant. Additionally, marketing assistance loans are continued.

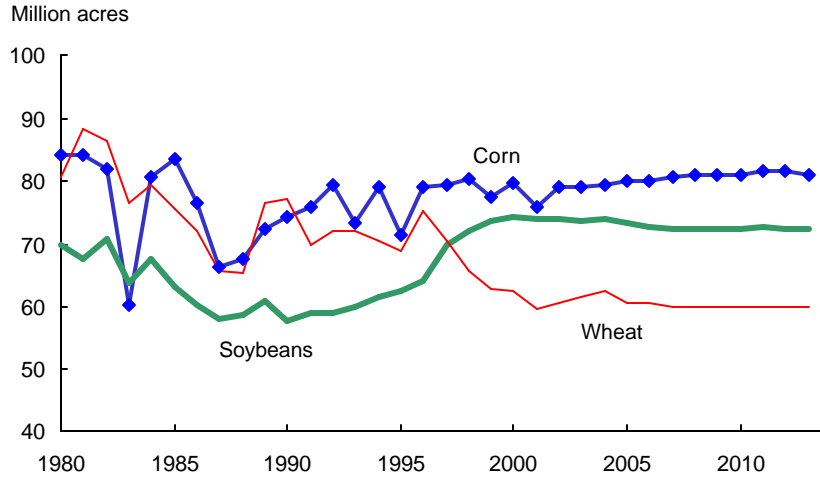
The maximum area in the Conservation Reserve Program (CRP) was increased to 39.2 million acres under the 2002 Farm Act, up from 36.4 million acres under the 1996 Farm Act. Under the CRP, farmland owners submit bids to retire highly erodible and other environmentally sensitive cropland from production for 10-15 years. CRP enrollment is designed to enhance environmental quality and improve wildlife habitat. Farmers receive a cost-share payment to establish a permanent cover crop and annual rental payments for retiring land and maintaining specified conservation practices. The expansion of the CRP under the 2002 Farm Act will reduce land available for crop production somewhat, with the planting history for about two-thirds of land in the reserve being for the eight major field crops.

Conservation Reserve Program (CRP) acreage



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

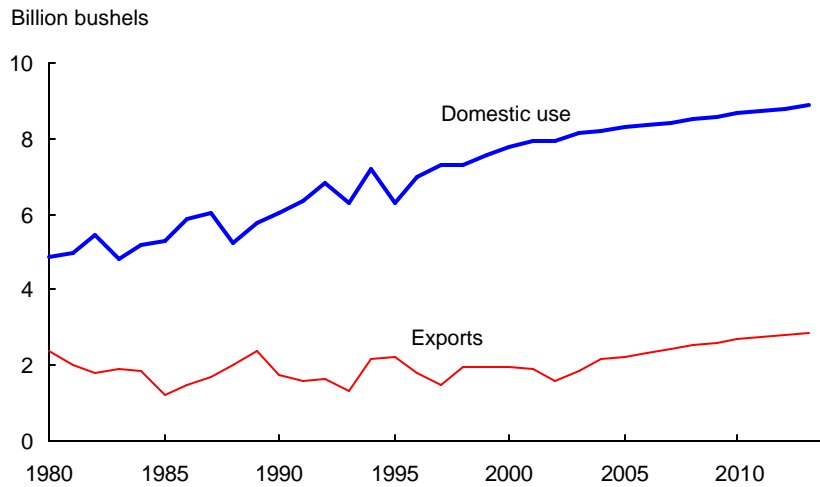
Planted area: Corn, wheat, and soybeans



Projected plantings for eight major field crops in the United States remain relatively stable at 249 to 250 million acres through much of the baseline, considerably below the recent high level of over 260 million acres in 1996. Corn, wheat, and soybeans account for about 86 percent of this acreage. The cropping mix shifts somewhat more to corn and away from wheat and soybeans, reflecting underlying growth in demand reflected in price signals and net returns. Yield gains also contribute to production increases and limit the need for additional land to be cropped.

- Corn acreage rises gradually through the projections as increasing export and domestic demands lead to rising prices and net returns.
- Wheat acreage declines to 60 million acres for most of the baseline as relatively weaker gains in demand are generally met through gains in yields. Marketing loan benefits augment market revenues for wheat through most of the projections, keeping net returns relatively flat and holding land in wheat.
- Soybean plantings initially rise in response to relatively high prices and net returns. Soybean acreage then declines somewhat before stabilizing in the second half of the projection period as yield gains are sufficient to meet growing domestic demand. Also, higher prices and net returns for competing crops, particularly corn, keep soybeans from gaining much acreage.

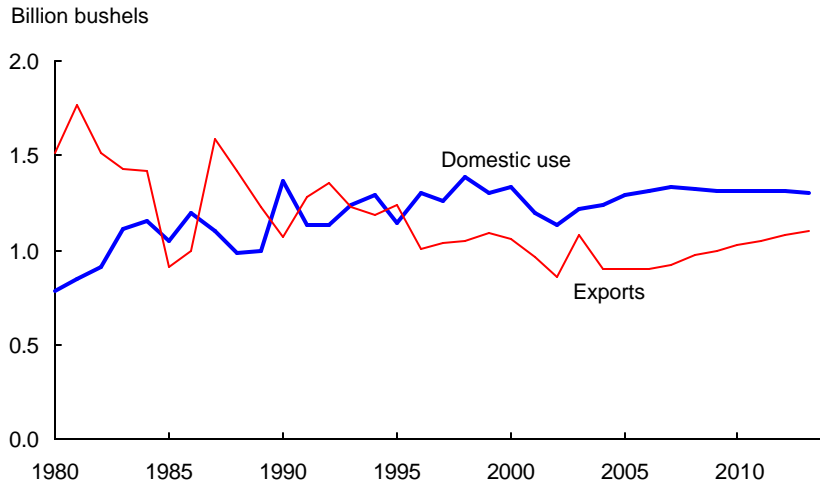
Corn: Domestic use and exports



Domestic corn use is strong in the initial years and continues growing throughout the period. Global economic recovery underlies longrun growth in U.S. corn exports.

- Feed and residual use of corn is initially unchanged with fewer cattle on feed and lower pork production offsetting increases in poultry output. Feed use then rises through the remainder of the projections as meat production increases.
- Significant growth is expected for ethanol use over the next several years as many States ban methyl tertiary butyl ether (MTBE) as a fuel oxygenate.
- Gains in most other food and industrial components are projected to be smaller than in the past decade. Additionally, near-term gains in the use of corn for high-fructose corn syrup (HFCS) and glucose and dextrose are small due to dietary concerns. Projected gains for these uses later in the baseline largely reflect population growth.
- U.S. corn exports rise faster than global trade with the United States increasing its market share. China's corn exports drop as its livestock sector expands. Additionally, corn exports from Eastern European countries will increasingly remain in Europe following the expansion of the EU in 2004. Also, the reduction and elimination of the high-tariff rate for over-quota corn imports by Mexico from the United States under the North American Free Trade Agreement (NAFTA) shifts some U.S. exports to corn from sorghum. Corn exports from Argentina will continue to grow, increasing that country's global market share.

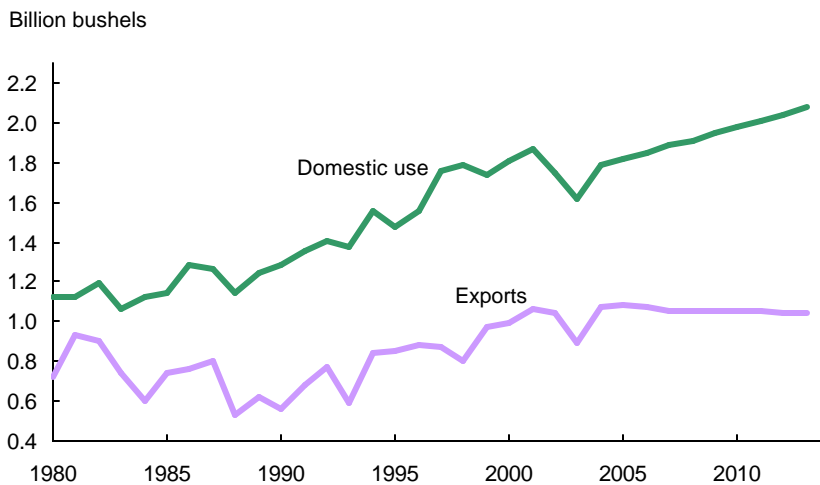
Wheat: Domestic use and exports



Demand in the U.S. wheat sector grows slowly, with steady domestic food use gains, relatively large feed use, and moderate long-term increases in exports.

- Domestic wheat demand is relatively mature. After declining from 2000 to 2004, food use of wheat resumes very slow growth in the projections, reflecting consumer adjustments to diets that include fewer carbohydrates. Additionally, new technologies can significantly extend the shelf life of bread and reduce spoilage, lowering flour needs required to meet consumer demand. Income support provided by marketing loan benefits when prices are low keeps land in wheat, resulting in large supplies relative to domestic food use and exports. Consequently, feed use of wheat rebounds from low levels in 2002/03 to relatively high levels through most of the projections, with annual wheat feeding largely reflecting prices of wheat relative to corn.
- U.S. wheat exports initially decline from 2003/04 to 900 million bushels in 2004/05 through 2006/07 as wheat production in the EU rebounds from drought-reduced levels in 2003, while production levels in Russia and Ukraine recover from a large winter kill. As income and population in developing countries grow over the remainder of the baseline, global wheat trade and U.S. exports increase as well. Competition from the EU, Canada, Argentina, Australia, and exporters from the Black Sea region continues through the projections, holding the U.S. market share relatively low at about 23 percent.

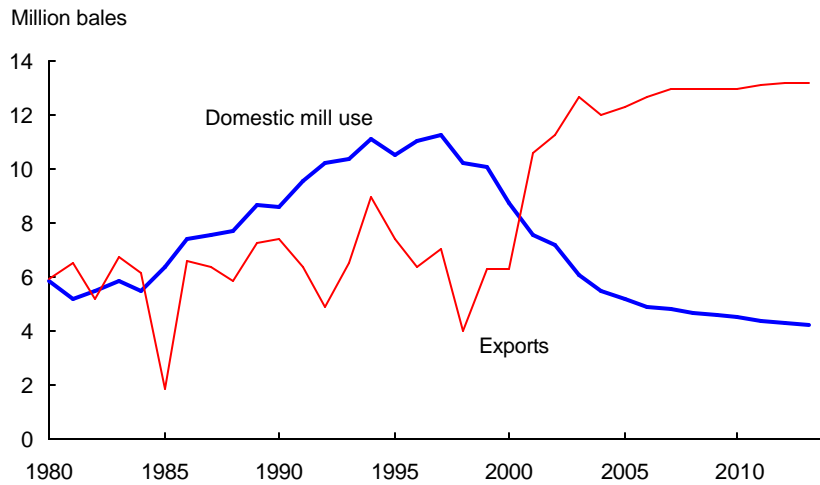
Soybeans: Domestic use and exports



Domestic use of soybeans continues to rise, but exports decline due to increased competition.

- Growth in domestic soybean crush is largely driven by increasing demand for domestic soybean meal, mostly because of rising feed demand for expanding pork and poultry production.
- U.S. soybean exports rebound in 2004/05 from a decline in 2003/04 caused by reduced 2003 production. U.S. exports then gradually decline through the rest of the projections, largely due to strong competition from Brazil. Consequently, the U.S. market share of global soybean trade declines in the baseline.
- U.S. exports of soybean meal and soybean oil also face competition from South American producers, resulting in moderate growth but declining U.S. trade shares in those markets.

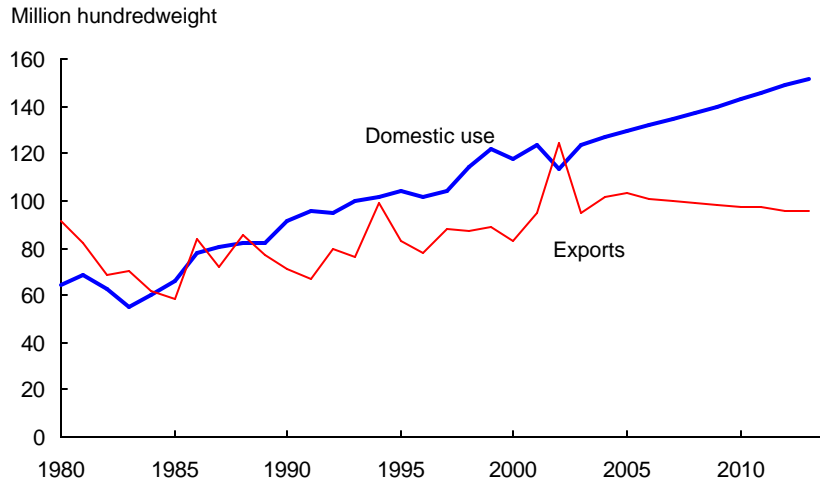
Upland cotton: Domestic mill use and exports



Domestic mill use of upland cotton continues to fall sharply through 2006/07, with further gradual declines over the remainder of the projection period. However, upland cotton exports rise to about 13 million bales as cotton is exported for processing in developing countries with lower labor costs.

- After 2004, import quotas that have protected the U.S. textile industry will be completely eliminated per the Uruguay Round's Agreement on Textiles and Clothing. Without the quotas originally instituted under the Multi-Fiber Arrangement (MFA), apparel imports rise. This lowers the apparel industry's demand for fabric and yarn produced in the United States.
- Some increase in U.S. yarn and fabric exports is likely as a result of tariff reductions in other countries. However, the effects of these tariff adjustments are not expected to offset the impact of reduced U.S. apparel production on domestic mill use.
- After increasing somewhat through 2007/08, upland cotton exports remain relatively stable at about 13 million bales annually for the rest of the baseline. Foreign competition strengthens and keeps U.S. cotton exports from expanding further. With world cotton trade expanding throughout the projections, the U.S. share of global exports declines but is still about 39 percent in 2013/14.

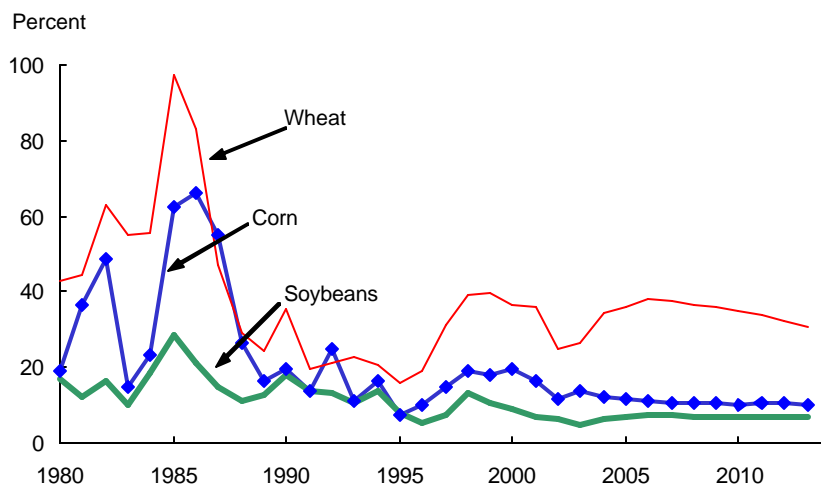
Rice: Domestic use and exports



Steady growth in domestic food use of rice is projected in the baseline. U.S. rice exports increase in 2004/05 and 2005/06, but decline moderately for the remainder of the projections.

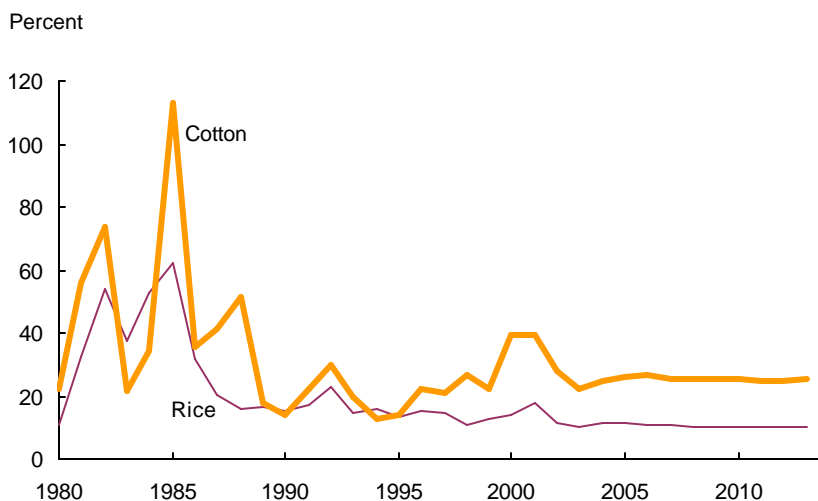
- The expansion in domestic use of rice reflects a growing share of the U.S. population of Asian and Latin American descent and the greater use of rice for processed foods, including pet foods.
- An initial increase in U.S. rice exports in 2004/05 and 2005/06 is due to increasing production and total supplies more than offsetting rising domestic use, and a declining price difference between U.S and foreign rice. Continued expansion in domestic use of rice pushes U.S. prices higher relative to Asian competitors' prices later in the projection period, resulting in a longer term small downward trend in U.S. rice exports after 2005/06.

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



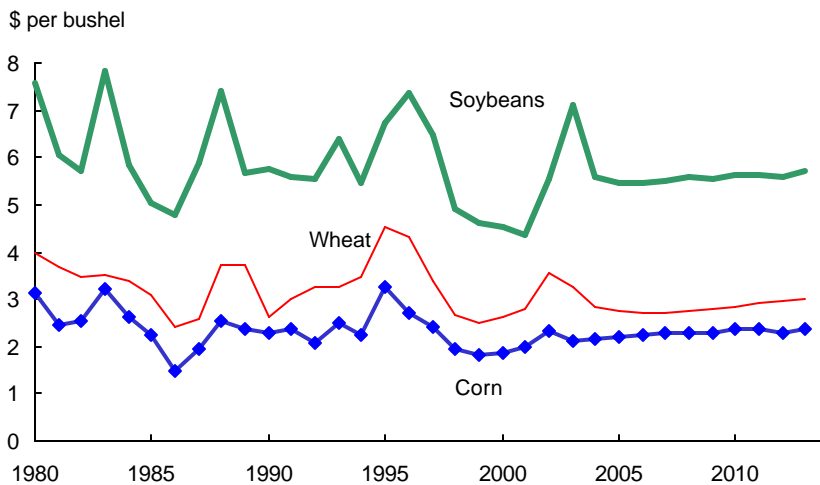
U.S. stocks-to-use ratios for corn, wheat, and soybeans initially increase from reduced levels at the end of 2002/03 (corn and wheat) or 2003/04 (soybeans) caused by low yields and reduced production. Stocks-to-use ratios for corn and soybeans are then relatively flat throughout the rest of the projections as production gains match increases in domestic use and exports. The stocks-to-use ratio for wheat rises through 2007/08, largely reflecting weak exports, but declines in subsequent years as exports strengthen.

Stocks-to-use ratios: Cotton and rice



The stocks-to-use ratio for cotton becomes relatively stable at about 25 percent for most of the baseline projection period. The rice stocks-to-use ratio initially rises as production rebounds from the 2003 level, and then remains at 10 to 11 percent as prices and exports adjust to reflect available supplies and domestic demand.

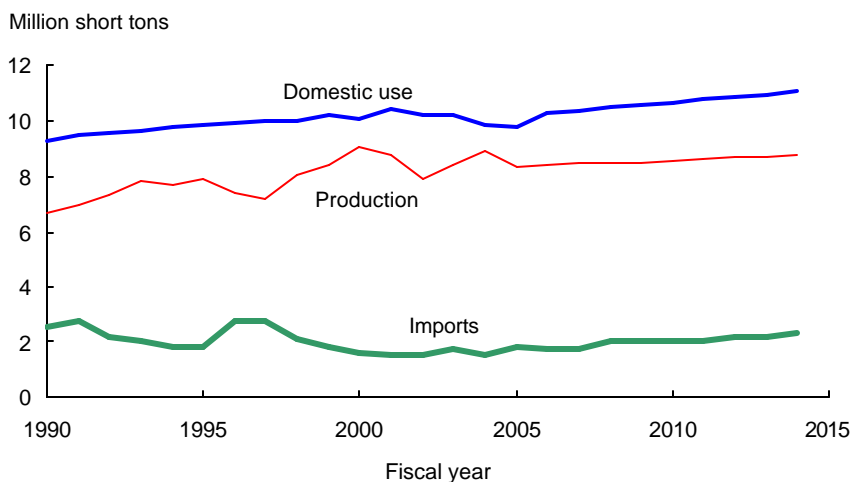
Corn, wheat, and soybean prices



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

- Price declines in the near term reflect the rebound in production from the reduced levels of the 2002 crops of corn and wheat and the 2003 soybean crop.
- Prices for corn and soybeans rise for several years with only moderate changes for the remainder of the baseline as growth in demand is largely matched by gains in production. Wheat prices decline through 2006/07 reflecting weak near-term exports, but then increase in later years as exports strengthen and push demand up more than gains in production.

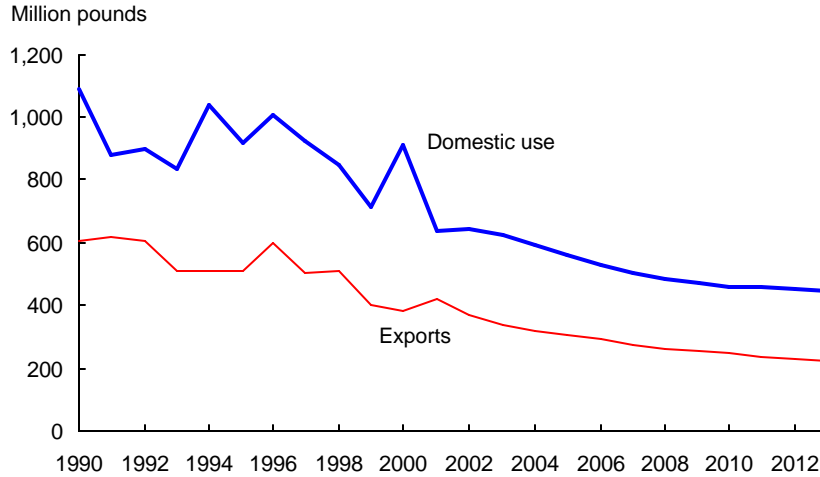
Sugar: Domestic production, use, and imports



The sugar price support program includes the loan rate program and marketing allotments. Marketing allotments are functioning each year in the baseline through fiscal year (FY) 2014.

- The annual marketing allotment is set at a level to keep prices just above the forfeiture level. Since area planted and harvested are functions of sugar crop prices relative to alternative crop uses, there is little incentive to increase sugar acreage. Sugarbeet planted area varies little over the projection period and averages about 1.34 million acres a year. Sugarcane harvested area declines a small amount (about 31,000 acres) from FY 2005 to FY 2014; for the projection period, it averages about 880,000 acres a year. Historical growth trends in productivity measures (sugar per acre, and beet and cane yields) are assumed to hold in the projections and are responsible for almost all the growth in production of 400,000 short tons, raw value (STRV) during the period FY 2005 to FY 2014.
- Sugar deliveries to producers of sugar-containing products (SCP) and to non-industrial endusers are a function of U.S. population growth. After accounting for SCP trade, the underlying yearly sugar delivery growth is projected at about 98,000 STRV between FY 2005 and FY 2014.
- The sugar baseline projects that the raw sugar tariff-rate quota (TRQ) is established each year at 1,231,497 STRV, the World Trade Organization (WTO) minimum access level, until FY 2007. After FY 2007, the raw sugar TRQ is increased to compensate for levels of domestic production below the Overall Allotment Quantity. The refined sugar TRQ is established each year at 42,990 STRV. The yearly raw sugar TRQ shortfall is assumed to equal 50,000 STRV.
- The Mexican consumption tax on soft drinks that use fructose is assumed to remain in place through the projections period, thereby limiting sugar available for export to the United States under the terms of the North American Free Trade Agreement (NAFTA). Sugar imports from Mexico reach a high of 224,000 STRV in FY 2005 but fall each year thereafter until they reach zero in FY 2011.

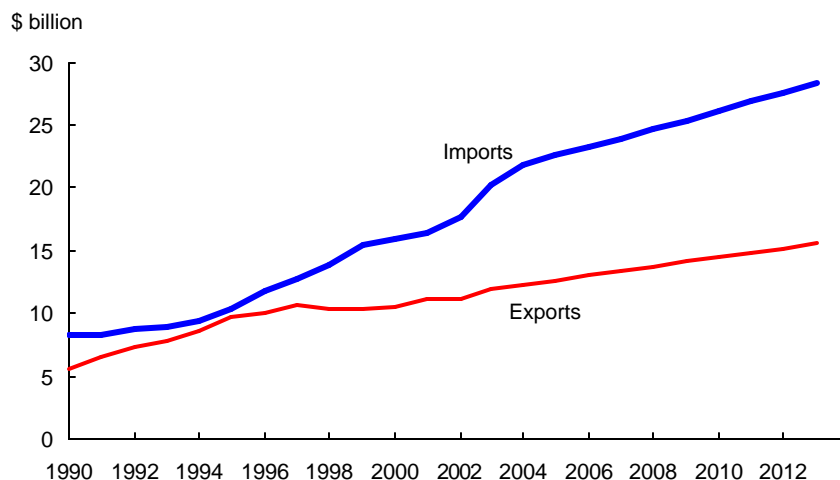
U.S. flue-cured and burley tobacco: Domestic use and exports



Both flue-cured and burley tobacco production, which together account for 92 percent of total 2003 U.S. leaf production, are expected to decline during the baseline period. Both are grown under a quota program. The marketing quota for both is determined by manufacturers' purchase intentions, the last 3 years' average exports, and an adjustment to maintain a specified reserve stock level. Manufacturers' purchase intentions have declined as cigarette output levels have fallen and imported tobacco use has risen. Furthermore, exports of both flue-cured and burley have slipped in the past 5 years as U.S. tobacco faces strong price competition from foreign producers, particularly Brazil, which has boosted output substantially in the past decade. Adjustments for high reserve stocks have further reduced quota levels. Tobacco price supports rise in the projections, reflecting increasing production costs. Tobacco prices will continue to edge up as price supports are raised.

- Declining cigarette consumption and exports, combined with increased use of imported leaf, reduce the volume of domestic leaf used by the cigarette manufacturing industry.
- U.S. cigarette consumption is falling 1 to 2 percent per year. As cigarette smoking in public places becomes more restricted and both prices and taxes increase, cigarette smokers are reducing per capita and total consumption, even though about the same proportion of the population smokes.
- Cigarette exports have declined steadily since their record high of 244 billion pieces in 1996. Exports during calendar 2003 are expected to be about 120 billion pieces. Cigarette exports have declined at least 5 percent annually since 2000 but are expected to level off in the upcoming years.
- Use of imported cigarette leaf reached record high levels in the last few years. The imported component of U.S.-manufactured cigarettes exceeded 50 percent in 2002. Manufacturers use less expensive imported leaf to produce more economical blends and reduce manufacturing costs. Imported leaf is expected to continue to displace domestic leaf in U.S. cigarettes.

Value of horticultural trade



The United States remains a net importer of horticultural products (fruit and nuts, vegetables, and greenhouse and nursery products). Exports continue to be crucial to the success of the U.S. horticultural sector, averaging about 21 percent of production value during the baseline period.

- Grapes, oranges, apples, fresh and processed potatoes, and processed tomatoes are among the leading horticultural export commodities.
- Major export markets for U.S. horticultural products include Canada, Japan, and Southeast Asian nations.
- Imports will continue to play an important role in the domestic supply of fresh vegetables during the winter months and, increasingly, during other times of the year.
- Major U.S. horticultural imports include bananas, grapes, frozen concentrated orange juice, potatoes, and tomatoes from Mexico, Chile, Canada, and Brazil.
- Canadian potato production and potato processing capacity have been increasing more than U.S. production levels and processing capacity. As a result, the United States is a net importer of potatoes and potato products during some years of the baseline.

Table 4. Summary baseline policy variables

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Target prices	<i>Dollars</i> ¹											
Corn	2.60	2.60	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63	2.63
Sorghum	2.54	2.54	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57	2.57
Barley	2.21	2.21	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24	2.24
Oats	1.40	1.40	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44	1.44
Wheat	3.86	3.86	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
Rice	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
Upland cotton	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724	0.724
Soybeans	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80
Marketing assistance loan rates												
Corn	1.98	1.98	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Sorghum	1.98	1.98	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95	1.95
Barley	1.88	1.88	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85	1.85
Oats	1.35	1.35	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
Wheat	2.80	2.80	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Rice	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Upland cotton	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Soybeans	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Direct payment rates												
Corn	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Sorghum	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Barley	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Oats	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024
Wheat	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Rice	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35	2.35
Upland cotton	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667	0.0667
Soybeans	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
Counter-cyclical payment rates ²												
Corn	0.00	0.22	0.20	0.15	0.10	0.05	0.05	0.05	0.00	0.00	0.05	0.00
Sorghum	0.00	0.04	0.17	0.17	0.12	0.12	0.12	0.12	0.12	0.12	0.17	0.12
Barley	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oats	0.00	0.000	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066	0.066
Wheat	0.00	0.09	0.55	0.65	0.65	0.65	0.65	0.60	0.55	0.50	0.45	0.40
Rice	1.65	0.90	1.65	1.65	1.65	1.65	1.65	1.65	1.62	1.38	1.18	0.93
Soybeans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

2/ Counter-cyclical payment rates for upland cotton are not shown because USDA is prohibited from publishing cotton price projections.

Table 5. Conservation Reserve Program acreage assumptions

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Million acres</i>												
Crop allocation												
Corn	5.3	5.6	5.8	6.0	6.1	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Sorghum	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Barley	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Oats	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Wheat	8.0	8.7	8.9	9.2	9.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Upland cotton	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Soybeans	5.0	5.2	5.3	5.5	5.6	5.9	6.0	6.0	6.0	6.0	6.0	6.0
Subtotal	22.0	23.4	23.8	24.9	25.2	26.8	26.9	26.9	26.9	26.9	26.9	26.9
Other	12.0	10.7	10.9	11.4	11.5	12.3	12.3	12.3	12.3	12.3	12.3	12.3
Total	34.0	34.1	34.7	36.3	36.7	39.1	39.2	39.2	39.2	39.2	39.2	39.2

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

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Million acres</i>												
Planted area, 8 major crops												
Corn	79.1	79.1	79.5	80.0	80.0	80.5	81.0	81.0	81.0	81.5	81.5	81.0
Sorghum	9.6	9.5	9.3	9.2	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1
Barley	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0
Oats	5.0	4.6	4.5	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3
Wheat	60.5	61.7	62.5	60.5	60.5	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Rice	3.2	3.0	3.3	3.2	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.2
Upland cotton	13.7	13.5	14.4	14.5	14.4	14.3	14.3	14.2	14.1	14.0	14.0	14.0
Soybeans	73.9	73.6	74.0	73.3	72.8	72.3	72.3	72.5	72.5	72.8	72.5	72.5
Total	250.1	250.3	252.7	250.3	249.5	248.9	249.4	249.2	249.1	249.8	249.5	249.1
Harvested area, 8 major crops												
Corn	69.3	71.8	72.3	72.8	72.8	73.3	73.8	73.8	73.8	74.3	74.3	73.8
Sorghum	7.3	7.9	7.7	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.5	7.5
Barley	4.1	4.7	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3
Oats	2.1	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Wheat	45.9	52.8	52.5	51.4	51.4	51.0	51.0	51.0	51.0	51.0	51.0	51.0
Rice	3.2	3.0	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
Upland cotton	12.2	11.9	13.0	13.1	13.0	12.9	12.9	12.8	12.7	12.6	12.6	12.6
Soybeans	72.4	72.5	72.7	71.9	71.4	70.9	70.9	71.2	71.2	71.4	71.2	71.2
Total	216.5	226.8	228.0	226.5	225.7	225.2	225.7	225.6	225.5	226.1	225.9	225.4

Table 7. Selected supply, use, and price variables for major field crops, baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Yields¹												
Corn	130.0	143.2	142.3	144.1	145.9	147.7	149.5	151.3	153.1	154.9	156.7	158.5
Sorghum	50.7	51.0	66.8	67.2	67.7	68.1	68.6	69.0	69.5	69.9	70.4	70.8
Barley	54.9	58.9	62.4	63.0	63.6	64.2	64.8	65.4	66.0	66.6	67.2	67.8
Oats	56.7	65.0	61.7	62.1	62.5	62.9	63.3	63.7	64.1	64.5	64.9	65.3
Wheat	35.3	44.2	41.7	42.1	42.4	42.8	43.1	43.5	43.8	44.2	44.5	44.9
Rice	6,578	6,656	6,720	6,792	6,858	6,913	6,965	7,017	7,070	7,123	7,176	7,229
Upland cotton	651	715	650	652	654	656	658	660	662	664	666	668
Soybeans	38.0	33.8	40.1	40.5	40.9	41.3	41.7	42.1	42.5	42.9	43.3	43.7
Production²												
Corn	9,008	10,278	10,290	10,490	10,620	10,825	11,035	11,165	11,300	11,510	11,645	11,695
Sorghum	370	400	515	510	515	520	520	520	520	525	530	530
Barley	227	276	280	285	280	280	285	280	285	285	290	290
Oats	119	145	130	125	125	125	125	120	120	125	125	125
Wheat	1,619	2,337	2,190	2,165	2,180	2,185	2,200	2,220	2,235	2,255	2,270	2,290
Rice	211.0	198.2	216.8	215.7	214.4	216.1	217.6	219.2	220.7	222.3	224.2	226.2
Upland cotton	16,530	17,773	17,600	17,800	17,700	17,600	17,700	17,600	17,500	17,400	17,500	17,500
Soybeans	2,749	2,452	2,915	2,910	2,920	2,930	2,955	3,000	3,025	3,065	3,085	3,110
Exports²												
Corn	1,592	1,875	2,150	2,225	2,325	2,425	2,525	2,600	2,675	2,750	2,825	2,875
Sorghum	186	190	230	230	210	200	190	185	180	175	175	175
Barley	30	25	30	30	30	30	30	30	30	30	30	30
Oats	3	2	2	2	2	2	2	2	2	2	2	2
Wheat	854	1,075	900	900	900	925	975	1,000	1,025	1,050	1,075	1,100
Rice	124.6	95.0	102.0	103.0	101.0	100.0	99.0	98.0	97.0	97.0	96.0	96.0
Upland cotton	11,266	12,675	12,000	12,300	12,700	13,000	13,000	13,000	13,000	13,100	13,200	13,200
Soybeans	1,045	890	1,070	1,080	1,070	1,050	1,055	1,050	1,050	1,055	1,045	1,040
Soybean meal	6,050	4,500	5,700	6,000	6,150	6,300	6,400	6,500	6,600	6,675	6,750	6,825
Ending stocks²												
Corn	1,086	1,349	1,289	1,244	1,174	1,149	1,174	1,169	1,144	1,194	1,244	1,209
Sorghum	43	43	73	73	73	73	73	73	73	78	78	73
Barley	69	92	98	103	102	100	102	98	98	102	105	107
Oats	50	74	78	76	78	79	79	78	76	73	74	74
Wheat	491	608	735	789	842	852	840	830	813	793	766	736
Rice	26.8	22.0	26.3	26.5	25.2	24.6	24.4	24.6	25.1	24.8	25.2	25.2
Upland cotton	5,140	4,148	4,294	4,584	4,674	4,464	4,454	4,444	4,434	4,324	4,314	4,404
Soybeans	169	125	186	203	210	210	205	211	211	214	216	216
Prices³												
Corn	2.32	2.10	2.15	2.20	2.25	2.30	2.30	2.30	2.35	2.35	2.30	2.35
Sorghum	2.32	2.15	2.05	2.05	2.10	2.10	2.10	2.10	2.10	2.10	2.05	2.10
Barley	2.72	2.80	2.45	2.45	2.50	2.50	2.50	2.50	2.55	2.55	2.50	2.55
Oats	1.81	1.40	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Wheat	3.56	3.25	2.85	2.75	2.70	2.70	2.75	2.80	2.85	2.90	2.95	3.00
Rice	4.22	7.25	5.85	5.47	5.72	5.95	6.15	6.35	6.53	6.77	6.97	7.22
Soybeans	5.53	7.10	5.60	5.45	5.45	5.50	5.60	5.55	5.65	5.65	5.60	5.70
Soybean oil	0.220	0.260	0.230	0.228	0.230	0.235	0.235	0.233	0.230	0.230	0.233	0.235
Soybean meal	181.6	225.0	188.5	177.5	176.0	176.5	180.0	179.0	183.0	182.0	178.0	180.0

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 baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	79.1	79.1	79.5	80.0	80.0	80.5	81.0	81.0	81.0	81.5	81.5	81.0
Harvested acres	69.3	71.8	72.3	72.8	72.8	73.3	73.8	73.8	73.8	74.3	74.3	73.8
Yields (bushels per acre):												
Yield/harvested acre	130.0	143.2	142.3	144.1	145.9	147.7	149.5	151.3	153.1	154.9	156.7	158.5
Supply and use (million bushels):												
Beginning stocks	1,596	1,086	1,349	1,289	1,244	1,174	1,149	1,174	1,169	1,144	1,194	1,244
Production	9,008	10,278	10,290	10,490	10,620	10,825	11,035	11,165	11,300	11,510	11,645	11,695
Imports	14	10	10	10	10	10	10	10	10	10	10	10
Supply	10,619	11,374	11,649	11,789	11,874	12,009	12,194	12,349	12,479	12,664	12,849	12,949
Feed & residual	5,642	5,700	5,700	5,750	5,775	5,800	5,825	5,875	5,925	5,950	5,975	6,025
Food, seed, & industrial	2,298	2,450	2,510	2,570	2,600	2,635	2,670	2,705	2,735	2,770	2,805	2,840
Fuel alcohol use	953	1,100	1,150	1,200	1,220	1,240	1,260	1,280	1,300	1,320	1,340	1,360
Domestic use	7,940	8,150	8,210	8,320	8,375	8,435	8,495	8,580	8,660	8,720	8,780	8,865
Exports	1,592	1,875	2,150	2,225	2,325	2,425	2,525	2,600	2,675	2,750	2,825	2,875
Total use	9,533	10,025	10,360	10,545	10,700	10,860	11,020	11,180	11,335	11,470	11,605	11,740
Ending stocks	1,086	1,349	1,289	1,244	1,174	1,149	1,174	1,169	1,144	1,194	1,244	1,209
Stocks/use ratio, percent	11.4	13.5	12.4	11.8	11.0	10.6	10.7	10.5	10.1	10.4	10.7	10.3
Prices (dollars per bushel):												
Farm price	2.32	2.10	2.15	2.20	2.25	2.30	2.30	2.30	2.35	2.35	2.30	2.35
Loan rate	1.98	1.98	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	142.59	149.67	150.69	152.99	155.42	157.70	159.89	162.25	164.66	166.88	168.83	170.76
Per bushel	1.10	1.05	1.06	1.06	1.07	1.07	1.07	1.07	1.08	1.08	1.08	1.08
Returns over variable costs (dollars per acre):												
Net returns ¹	159.01	162.50	155.26	164.03	172.86	182.01	183.96	185.74	195.12	197.14	191.58	201.72

1/ Net returns include estimates of marketing loan benefits.

Table 9. U.S. sorghum baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	9.6	9.5	9.3	9.2	9.2	9.2	9.2	9.1	9.1	9.1	9.1	9.1
Harvested acres	7.3	7.9	7.7	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.5	7.5
Yields (bushels per acre):												
Yield/harvested acre	50.7	51.0	66.8	67.2	67.7	68.1	68.6	69.0	69.5	69.9	70.4	70.8
Supply and use (million bushels):												
Beginning stocks	61	43	43	73	73	73	73	73	73	73	78	78
Production	370	400	515	510	515	520	520	520	520	525	530	530
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Supply	431	443	558	583	588	593	593	593	593	598	608	608
Feed & residual	158	165	195	215	235	245	250	250	250	250	255	255
Food, seed, & industrial	45	45	60	65	70	75	80	85	90	95	100	105
Domestic	203	210	255	280	305	320	330	335	340	345	355	360
Exports	186	190	230	230	210	200	190	185	180	175	175	175
Total use	388	400	485	510	515	520	520	520	520	520	530	535
Ending stocks	43	43	73	73	73	73	73	73	73	78	78	73
Stocks/use ratio, percent	11.1	10.8	15.1	14.3	14.2	14.0	14.0	14.0	14.0	15.0	14.7	13.6
Prices (dollars per bushel):												
Farm price	2.32	2.15	2.05	2.05	2.10	2.10	2.10	2.10	2.10	2.10	2.05	2.10
Loan rate	1.98	1.98	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	87.18	91.92	92.48	93.74	95.05	96.28	97.47	98.74	100.03	101.27	102.39	103.52
Per bushel	1.72	1.80	1.38	1.39	1.40	1.41	1.42	1.43	1.44	1.45	1.45	1.46
Returns over variable costs (dollars per acre):												
Net returns ¹	30.44	19.26	51.14	50.74	50.50	50.14	50.02	49.61	49.39	49.02	48.97	48.70

1/ Net returns include estimates of marketing loan benefits.

Table 10. U.S. barley baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	5.1	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	5.0	5.0	5.0
Harvested acres	4.1	4.7	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3
Yields (bushels per acre):												
Yield/harvested acre	54.9	58.9	62.4	63.0	63.6	64.2	64.8	65.4	66.0	66.6	67.2	67.8
Supply and use (million bushels):												
Beginning stocks	93	69	92	98	103	102	100	102	98	98	102	105
Production	227	276	280	285	280	280	285	280	285	285	290	290
Imports	18	30	35	35	35	35	35	35	35	40	40	40
Supply	338	375	407	418	418	417	420	417	418	423	432	435
Feed & residual	65	85	105	110	110	110	110	110	110	110	115	115
Food, seed, & industrial	173	173	174	175	176	177	178	179	180	181	182	183
Domestic	238	258	279	285	286	287	288	289	290	291	297	298
Exports	30	25	30	30	30	30	30	30	30	30	30	30
Total use	269	283	309	315	316	317	318	319	320	321	327	328
Ending stocks	69	92	98	103	102	100	102	98	98	102	105	107
Stocks/use ratio, percent	25.7	32.5	31.7	32.7	32.3	31.5	32.1	30.7	30.6	31.8	32.1	32.6
Prices (dollars per bushel):												
Farm price	2.72	2.80	2.45	2.45	2.50	2.50	2.50	2.50	2.55	2.55	2.50	2.55
Loan rate	1.88	1.88	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	81.58	85.13	85.76	87.05	88.42	89.71	90.95	92.28	93.63	94.89	96.03	97.16
Per bushel	1.49	1.45	1.37	1.38	1.39	1.40	1.40	1.41	1.42	1.42	1.43	1.43
Returns over variable costs (dollars per acre):												
Net returns ¹	67.75	79.79	73.36	73.60	73.76	74.00	74.29	74.49	74.67	74.94	75.33	75.73

^{1/} Net returns include estimates of marketing loan benefits.

Table 11. U.S. oats baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	5.0	4.6	4.5	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3
Harvested acres	2.1	2.2	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Yields (bushels per acre):												
Yield/harvested acre	56.7	65.0	61.7	62.1	62.5	62.9	63.3	63.7	64.1	64.5	64.9	65.3
Supply and use (million bushels):												
Beginning stocks	63	50	74	78	76	78	79	79	78	76	73	74
Production	119	145	130	125	125	125	125	120	120	125	125	125
Imports	95	100	100	100	105	105	105	110	110	110	115	115
Supply	277	294	304	303	306	308	309	309	308	311	313	314
Feed & residual	152	145	150	150	150	150	150	150	150	155	155	155
Food, seed, & industrial	72	73	74	75	76	77	78	79	80	81	82	83
Domestic	224	218	224	225	226	227	228	229	230	236	237	238
Exports	3	2	2	2	2	2	2	2	2	2	2	2
Total use	227	220	226	227	228	229	230	231	232	238	239	240
Ending stocks	50	74	78	76	78	79	79	78	76	73	74	74
Stocks/use ratio, percent	22.0	33.6	34.5	33.5	34.2	34.5	34.3	33.8	32.8	30.7	31.0	30.8
Prices (dollars per bushel):												
Farm price	1.81	1.40	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35	1.35
Loan rate	1.35	1.35	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	49.91	52.23	52.57	53.38	54.20	54.95	55.67	56.45	57.24	57.98	58.64	59.30
Per bushel	0.88	0.80	0.85	0.86	0.87	0.87	0.88	0.89	0.89	0.90	0.90	0.91
Returns over variable costs (dollars per acre):												
Net returns ¹	52.72	48.52	41.83	41.63	41.43	41.28	41.18	41.01	40.83	40.71	40.66	40.61

1/ Net returns include estimates of marketing loan benefits.

Table 12. U.S. wheat baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	60.5	61.7	62.5	60.5	60.5	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Harvested acres	45.9	52.8	52.5	51.4	51.4	51.0	51.0	51.0	51.0	51.0	51.0	51.0
Yields (bushels per acre):												
Yield/harvested acre	35.3	44.2	41.7	42.1	42.4	42.8	43.1	43.5	43.8	44.2	44.5	44.9
Supply and use (million bushels):												
Beginning stocks	777	491	608	735	789	842	852	840	830	813	793	766
Production	1,619	2,337	2,190	2,165	2,180	2,185	2,200	2,220	2,235	2,255	2,270	2,290
Imports	77	75	75	80	80	85	85	85	85	85	85	85
Supply	2,473	2,903	2,873	2,980	3,049	3,112	3,137	3,145	3,150	3,153	3,148	3,141
Food	918	910	905	908	910	913	915	918	920	923	925	928
Seed	84	85	83	83	82	82	82	82	82	82	82	82
Feed & residual	126	225	250	300	315	340	325	315	310	305	300	295
Domestic	1,128	1,220	1,238	1,291	1,307	1,335	1,322	1,315	1,312	1,310	1,307	1,305
Exports	854	1,075	900	900	900	925	975	1,000	1,025	1,050	1,075	1,100
Total use	1,982	2,295	2,138	2,191	2,207	2,260	2,297	2,315	2,337	2,360	2,382	2,405
Ending stocks	491	608	735	789	842	852	840	830	813	793	766	736
Stocks/use ratio, percent	24.8	26.5	34.4	36.0	38.2	37.7	36.6	35.9	34.8	33.6	32.2	30.6
Prices (dollars per bushel):												
Farm price	3.56	3.25	2.85	2.75	2.70	2.70	2.75	2.80	2.85	2.90	2.95	3.00
Loan rate	2.80	2.80	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	59.12	61.73	62.22	63.23	64.31	65.31	66.26	67.29	68.33	69.30	70.16	71.01
Per bushel	1.67	1.40	1.49	1.50	1.52	1.53	1.54	1.55	1.56	1.57	1.58	1.58
Returns over variable costs (dollars per acre):												
Net returns ¹	66.55	81.92	64.97	65.17	65.01	65.23	65.20	65.39	65.26	65.51	65.57	65.93

¹/ Net returns include estimates of marketing loan benefits.

Table 13. U.S. rice baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted	3,240	3,005	3,250	3,200	3,150	3,150	3,148	3,148	3,146	3,145	3,148	3,153
Harvested	3,207	2,978	3,226	3,176	3,126	3,126	3,124	3,124	3,122	3,121	3,124	3,129
Yields (pounds per acre):												
Yield/harvested acre	6,578	6,656	6,720	6,792	6,858	6,913	6,965	7,017	7,070	7,123	7,176	7,229
Supply and use (million cwt):												
Beginning stocks	39.0	26.8	22.0	26.3	26.5	25.2	24.6	24.4	24.6	25.1	24.8	25.2
Production	211.0	198.2	216.8	215.7	214.4	216.1	217.6	219.2	220.7	222.3	224.2	226.2
Imports	14.8	16.0	16.5	17.0	17.5	18.0	18.5	19.1	19.7	20.3	20.9	21.5
Total supply	264.7	241.0	255.2	259.0	258.3	259.3	260.8	262.7	265.0	267.6	269.9	272.9
Domestic use and residual	113.4	124.0	126.9	129.5	132.1	134.7	137.4	140.1	142.9	145.8	148.7	151.7
Exports	124.6	95.0	102.0	103.0	101.0	100.0	99.0	98.0	97.0	97.0	96.0	96.0
Total use	238.0	219.0	228.9	232.5	233.1	234.7	236.4	238.1	239.9	242.8	244.7	247.7
Ending stocks (million cwt.)	26.8	22.0	26.3	26.5	25.2	24.6	24.4	24.6	25.1	24.8	25.2	25.2
Stocks/use ratio, percent	11.2	10.0	11.5	11.4	10.8	10.5	10.3	10.3	10.4	10.2	10.3	10.2
Milling rate, percent	68.3	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0	69.0
Prices (dollars per cwt.):												
Premium	0.94	3.15	1.75	1.25	1.37	1.47	1.54	1.60	1.64	1.73	1.78	1.87
World price	3.28	4.10	4.10	4.22	4.35	4.48	4.61	4.75	4.89	5.04	5.19	5.35
Average market price	4.22	7.25	5.85	5.47	5.72	5.95	6.15	6.35	6.53	6.77	6.97	7.22
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	306	319	322	326	332	337	342	347	352	358	362	367
Per cwt.	4.65	4.80	4.79	4.80	4.83	4.87	4.91	4.95	4.98	5.02	5.05	5.08
Returns over variable costs (dollars per acre):												
Net returns ¹	183	323	233	200	208	214	218	221	223	229	232	238

1/ Net returns include estimates of marketing loan benefits.

Table 14. U.S. upland cotton baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area (million acres):												
Planted acres	13.7	13.5	14.4	14.5	14.4	14.3	14.3	14.2	14.1	14.0	14.0	14.0
Harvested acres	12.2	11.9	13.0	13.1	13.0	12.9	12.9	12.8	12.7	12.6	12.6	12.6
Yields (pounds per acre):												
Yield/harvested acre	651	715	650	652	654	656	658	660	662	664	666	668
Supply and use (thousand bales):												
Beginning stocks	7,120	5,140	4,148	4,294	4,584	4,674	4,464	4,454	4,444	4,434	4,324	4,314
Production	16,530	17,773	17,600	17,800	17,700	17,600	17,700	17,600	17,500	17,400	17,500	17,500
Imports	8	20	5	5	5	5	5	5	5	5	5	5
Supply	23,658	22,933	21,753	22,099	22,289	22,279	22,169	22,059	21,949	21,839	21,829	21,819
Domestic use	7,166	6,110	5,500	5,200	4,900	4,800	4,700	4,600	4,500	4,400	4,300	4,200
Exports	11,266	12,675	12,000	12,300	12,700	13,000	13,000	13,000	13,000	13,100	13,200	13,200
Total use	18,432	18,785	17,500	17,500	17,600	17,800	17,700	17,600	17,500	17,500	17,500	17,400
Ending stocks	5,140	4,148	4,294	4,584	4,674	4,464	4,454	4,444	4,434	4,324	4,314	4,404
Stocks/use ratio, percent	27.9	22.1	24.5	26.2	26.6	25.1	25.2	25.3	25.3	24.7	24.7	25.3
Prices (dollars per pound):												
Farm price ¹	0.445	---	---	---	---	---	---	---	---	---	---	---
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	313.85	329.10	327.14	331.76	337.10	342.39	347.65	353.13	358.79	364.17	369.20	374.15
Per pound	0.48	0.46	0.50	0.51	0.52	0.52	0.53	0.54	0.54	0.55	0.55	0.56
Returns over variable costs (dollars per acre):												
Net returns ²	96.41	205.50	116.36	113.10	110.17	106.84	105.58	103.65	102.10	100.23	98.80	104.68

1/ USDA is prohibited from publishing cotton price projections.

2/ Net returns include estimates of marketing loan benefits.

Table 15. U.S. soybean and products baseline

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Soybeans												
Area (million acres):												
Planted	73.9	73.6	74.0	73.3	72.8	72.3	72.3	72.5	72.5	72.8	72.5	72.5
Harvested	72.4	72.5	72.7	71.9	71.4	70.9	70.9	71.2	71.2	71.4	71.2	71.2
Yield/harvested acre (bushels)	38.0	33.8	40.1	40.5	40.9	41.3	41.7	42.1	42.5	42.9	43.3	43.7
Supply (million bushels)												
Beginning stocks, Sep. 1	208	169	125	186	203	210	210	205	211	211	214	216
Production	2,749	2,452	2,915	2,910	2,920	2,930	2,955	3,000	3,025	3,065	3,085	3,110
Imports	5	8	5	5	5	5	5	5	5	5	5	5
Total supply	2,962	2,629	3,045	3,101	3,128	3,145	3,170	3,210	3,241	3,281	3,304	3,331
Disposition (million bushels)												
Crush	1,615	1,485	1,620	1,650	1,680	1,715	1,740	1,775	1,805	1,835	1,865	1,895
Seed and residual	132	130	169	168	168	170	170	174	175	177	178	180
Exports	1,045	890	1,070	1,080	1,070	1,050	1,055	1,050	1,050	1,055	1,045	1,040
Total disposition	2,793	2,505	2,859	2,898	2,918	2,935	2,965	2,999	3,030	3,067	3,088	3,115
Carryover stocks, Aug. 31												
Total ending stocks	169	125	186	203	210	210	205	211	211	214	216	216
Stocks/use ratio, percent	6.1	5.0	6.5	7.0	7.2	7.2	6.9	7.0	7.0	7.0	7.0	6.9
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	5.53	7.10	5.60	5.45	5.45	5.50	5.60	5.55	5.65	5.65	5.60	5.70
Variable costs of production (dollars):												
Per acre	82.30	85.39	85.97	87.10	88.36	89.61	90.84	92.12	93.46	94.68	95.77	96.79
Per bushel	2.17	2.53	2.14	2.15	2.16	2.17	2.18	2.19	2.20	2.21	2.21	2.21
Returns over variable costs (dollars per acre):												
Net returns ¹	127.84	154.59	138.59	133.62	134.54	137.54	142.68	141.54	146.67	147.70	146.71	152.30
Soybean oil (million pounds)												
Beginning stocks, Oct. 1	2,358	1,485	1,155	1,085	1,100	1,150	1,240	1,310	1,450	1,555	1,645	1,700
Production	18,435	16,735	18,275	18,630	18,985	19,395	19,695	20,110	20,470	20,825	21,185	21,545
Imports	47	85	105	110	115	120	125	130	135	140	145	150
Total supply	20,840	18,305	19,535	19,825	20,200	20,665	21,060	21,550	22,055	22,520	22,975	23,395
Domestic disappearance	17,055	16,300	17,200	17,525	17,850	18,175	18,500	18,850	19,200	19,550	19,925	20,300
Exports	2,300	850	1,250	1,200	1,200	1,250	1,250	1,250	1,300	1,325	1,350	1,400
Total demand	19,355	17,150	18,450	18,725	19,050	19,425	19,750	20,100	20,500	20,875	21,275	21,700
Ending stocks, Sep. 30	1,485	1,155	1,085	1,100	1,150	1,240	1,310	1,450	1,555	1,645	1,700	1,695
Soybean oil price (dollars per lb)	0.220	0.260	0.230	0.228	0.230	0.235	0.235	0.233	0.230	0.230	0.233	0.235
Soybean meal (thousand short tons)												
Beginning stocks, Oct. 1	240	220	200	250	250	250	250	250	250	250	250	250
Production	38,205	35,340	38,510	39,310	40,010	40,760	41,460	42,210	42,960	43,685	44,410	45,135
Imports	160	340	240	240	240	240	240	240	240	240	240	240
Total supply	38,605	35,900	38,950	39,800	40,500	41,250	41,950	42,700	43,450	44,175	44,900	45,625
Domestic disappearance	32,334	31,200	33,000	33,550	34,100	34,700	35,300	35,950	36,600	37,250	37,900	38,550
Exports	6,050	4,500	5,700	6,000	6,150	6,300	6,400	6,500	6,600	6,675	6,750	6,825
Total demand	38,384	35,700	38,700	39,550	40,250	41,000	41,700	42,450	43,200	43,925	44,650	45,375
Ending stocks, Sep. 30	220	200	250	250	250	250	250	250	250	250	250	250
Soybean meal price (dollars per ton)	181.57	225.00	188.50	177.50	176.00	176.50	180.00	179.00	183.00	182.00	178.00	180.00
Crushing yields (pounds per bushel)												
Soybean oil	11.42	11.27	11.28	11.29	11.30	11.31	11.32	11.33	11.34	11.35	11.36	11.37
Soybean meal	47.30	47.60	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)	1.28	1.19	1.48	1.34	1.34	1.36	1.34	1.34	1.31	1.29	1.28	1.26

^{1/} Net returns include estimates of marketing loan benefits.

Table 16. U.S. sugar baseline 1/

Item	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sugarbeets													
Planted area	1,000 acres	1,427	1,362	1,361	1,352	1,348	1,339	1,336	1,338	1,338	1,334	1,329	1,325
Harvested area	1,000 acres	1,361	1,346	1,334	1,326	1,321	1,312	1,309	1,311	1,311	1,307	1,303	1,299
Yield	Tons/acre	20.4	22.8	22.3	22.4	22.6	22.8	23.0	23.2	23.4	23.5	23.7	23.9
Production	Mil. s. tons	27.7	30.6	29.7	29.7	29.9	30.0	30.1	30.4	30.6	30.8	30.9	31.1
Sugarcane													
Harvested area	1,000 acres	971	947	898	899	898	883	883	880	877	873	870	867
Yield	Tons/acre	34.8	36.1	34.7	34.6	34.7	34.7	34.7	34.8	34.8	34.8	34.8	34.9
Production	Mil. s. tons	33.8	34.2	31.2	31.1	31.1	30.7	30.7	30.6	30.5	30.4	30.3	30.2
Supply:													
Beginning stocks	1,000 s. tons	1,426	1,305	1,950	2,343	2,208	1,994	2,057	2,040	2,032	2,028	2,057	2,083
Production	1,000 s. tons	8,378	8,895	8,365	8,397	8,454	8,446	8,505	8,573	8,633	8,675	8,718	8,765
Beet sugar	1,000 s. tons	4,416	4,720	4,438	4,456	4,492	4,514	4,550	4,605	4,654	4,688	4,720	4,756
Cane sugar	1,000 s. tons	3,963	4,175	3,927	3,941	3,962	3,932	3,954	3,968	3,980	3,987	3,997	4,009
Total imports	1,000 s. tons	1,713	1,584	1,774	1,726	1,691	2,075	2,036	2,077	2,117	2,206	2,257	2,304
TRQ less NAFTA ²	1,000 s. tons	1,200	1,224	1,224	1,224	1,224	1,646	1,645	1,721	1,792	1,881	1,932	1,979
Mexico - NAFTA low-tier	1,000 s. tons	0	0	0	0	0	0	0	0	0	0	0	0
Mexico - NAFTA high-tier ³	1,000 s. tons	10	10	224	176	142	104	66	31	0	0	0	0
Other high-tier tariff	1,000 s. tons	0	0	0	0	0	0	0	0	0	0	0	0
Re-export and polyhydric	1,000 s. tons	488	325	300	300	300	300	300	300	300	300	300	300
Other	1,000 s. tons	15	25	25	25	25	25	25	25	25	25	25	25
Total supply	1,000 s. tons	11,517	11,785	12,088	12,466	12,353	12,516	12,598	12,689	12,783	12,909	13,031	13,151
Use:													
Exports	1,000 s. tons	142	160	150	150	150	150	150	150	150	150	150	150
Domestic deliveries	1,000 s. tons	9,978	9,675	9,595	10,107	10,209	10,309	10,408	10,507	10,604	10,702	10,799	10,894
Miscellaneous	1,000 s. tons	92	0	0	0	0	0	0	0	0	0	0	0
Total use	1,000 s. tons	10,212	9,835	9,745	10,257	10,359	10,459	10,558	10,657	10,754	10,852	10,949	11,044
Ending stocks	1,000 s. tons	1,305	1,950	2,343	2,208	1,994	2,057	2,040	2,032	2,028	2,057	2,083	2,107
Stocks/use ratio	Percent	12.8	19.8	24.1	21.5	19.3	19.7	19.3	19.1	18.9	19.0	19.0	19.1
Raw sugar price:													
New York (No. 14)	Cents/lb.	21.76	21.21	20.51	20.68	21.22	20.72	20.86	20.96	21.05	21.01	20.98	20.96
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
Grower prices:													
Sugarbeets	Dol./ton	41.73	39.02	37.91	38.16	38.98	38.22	38.43	38.58	38.70	38.64	38.60	38.56
Sugarcane	Dol./ton	27.19	26.55	26.32	26.44	26.93	26.44	26.54	26.60	26.65	26.58	26.52	26.46

1/ Fiscal years, October 1 through September 30.

2/ Includes 8,000 STRV allocated to Mexico as part of the raw sugar TRQ and 3,256 STRV to Mexico as part of the refined sugar TRQ.

3/ Starting in FY 2008 under NAFTA, Mexico can ship duty-free sugar to the United States with no quantitative limit.

Table 17. Flue-cured tobacco baseline

Item	Unit	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area, yield, and production:													
Planted area	1,000 acres	246	238	233	238	229	217	217	215	210	205	200	195
Harvested area	1,000 acres	246	238	233	238	229	217	217	215	210	205	200	195
Yield	lbs./acre	2,106	1,998	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Production	Mil. lbs.	517	476	490	500	480	455	455	452	441	431	420	410
Supply:													
Beginning stocks	Mil. lbs.	916	838	744	664	624	594	569	564	559	559	549	539
Marketings	Mil. lbs.	565	506	490	500	480	455	455	450	445	430	420	410
Total ¹	Mil. lbs.	1,481	1,344	1,234	1,164	1,104	1,049	1,024	1,014	1,004	989	969	949
Imports	Mil. lbs.	165	180	200	235	235	240	240	240	235	235	230	230
Use:													
Domestic	Mil. lbs.	423	410	390	370	350	330	320	320	315	315	310	310
Exports	Mil. lbs.	220	190	180	170	160	150	140	135	130	125	120	115
Total ¹	Mil. lbs.	643	600	570	540	510	480	460	455	445	440	430	425
Ending stocks:													
Total	Mil. lbs.	838	744	664	624	594	569	564	559	559	549	539	524
Price:													
Avg. to growers	\$/cwt	183	185	187	189	191	193	195	197	199	201	203	205
Support	\$/cwt	166	166	168	170	172	174	176	178	180	182	184	186

1/ Domestic tobacco only.

Table 18. Burley tobacco baseline

Item	Unit	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area, yield, and production:													
Planted area	1,000 acres	159	149	140	134	135	135	135	130	125	120	115	110
Harvested area	1,000 acres	159	149	140	134	135	135	135	130	125	120	115	110
Yield	lbs./acre	1,892	2,033	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Production	Mil. lbs.	301	303	294	281	284	284	284	273	263	252	242	231
Supply:													
Beginning stocks	Mil. lbs.	648	579	527	467	412	372	347	337	337	337	337	327
Marketings	Mil. lbs.	300	303	280	270	270	270	270	270	260	250	240	230
Total ¹	Mil. lbs.	948	882	807	737	682	642	617	607	597	587	577	557
Imports	Mil. lbs.	193	200	205	205	210	210	215	210	210	205	205	205
Use:													
Domestic	Mil. lbs.	220	210	200	190	180	170	160	150	145	140	140	135
Exports	Mil. lbs.	149	145	140	135	130	125	120	120	115	110	110	105
Total ¹	Mil. lbs.	369	355	340	325	310	295	280	270	260	250	250	240
Ending stocks:													
Total	Mil. lbs.	579	527	467	412	372	347	337	337	337	337	327	317
Price:													
Avg. to growers	\$/cwt	197	197	198	199	200	202	204	206	208	210	212	214
Support	\$/cwt	184	185	186	188	190	192	194	196	198	200	202	204

1/ Domestic tobacco only.

Table 19. Fruit, vegetable, and greenhouse/nursery baseline, production and prices

Item	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Production value:													
Fruit and nuts													
Citrus	\$ Mil.	2,611	2,297	2,552	2,761	2,809	2,859	2,911	2,963	3,016	3,069	3,122	3,176
Noncitrus	\$ Mil.	8,164	8,083	8,583	8,974	9,315	9,628	9,941	10,254	10,567	10,882	11,199	11,519
Nuts	\$ Mil.	2,054	2,251	2,212	2,389	2,327	2,529	2,467	2,680	2,616	2,837	2,769	2,996
Total	\$ Mil.	12,829	12,631	13,346	14,125	14,451	15,017	15,319	15,897	16,198	16,787	17,090	17,691
Vegetables													
Fresh ¹	\$ Mil.	8,912	9,196	9,548	9,922	10,350	10,791	11,247	11,719	12,210	12,722	13,255	13,813
Processed ²	\$ Mil.	1,423	1,482	1,481	1,494	1,550	1,585	1,618	1,649	1,678	1,706	1,733	1,758
Potatoes	\$ Mil.	3,066	2,975	3,143	3,177	3,217	3,246	3,271	3,292	3,311	3,328	3,344	3,357
Sweet potatoes	\$ Mil.	210	226	237	242	248	254	260	266	272	278	284	290
Pulses	\$ Mil.	582	542	606	645	698	739	758	782	804	826	848	871
Mushrooms	\$ Mil.	908	889	883	902	920	938	956	973	989	1,005	1,020	1,035
Total	\$ Mil.	15,101	15,311	15,898	16,382	16,983	17,554	18,109	18,682	19,265	19,866	20,484	21,124
Greenhouse/Nursery	\$ Mil.	14,275	14,420	14,636	14,929	15,227	15,532	15,843	16,159	16,483	16,812	17,149	17,492
Production:													
Fruit and nuts													
Citrus	1,000 MT	14,691	13,762	15,751	14,753	14,868	15,010	15,146	15,278	15,408	15,536	15,661	15,784
Noncitrus	1,000 MT	15,617	15,629	15,994	16,191	16,415	16,559	16,722	16,893	17,062	17,231	17,401	17,569
Nuts	1,000 MT	720	686	647	603	670	626	694	650	718	673	741	696
Total	1,000 MT	31,028	30,077	32,391	31,546	31,953	32,195	32,561	32,821	33,188	33,440	33,803	34,048
Vegetables													
Fresh ¹	1,000 MT	19,536	19,766	20,598	21,089	21,659	22,195	22,719	23,236	23,751	24,268	24,788	25,314
Processed ²	1,000 MT	15,892	15,682	15,661	15,760	16,242	16,519	16,776	17,019	17,254	17,483	17,707	17,926
Potatoes	1,000 MT	20,856	20,831	21,075	22,988	23,152	23,437	23,708	23,978	24,247	24,515	24,781	25,047
Sweet potatoes	1,000 MT	584	640	665	669	677	685	693	701	709	717	725	734
Pulses	1,000 MT	1,673	1,408	1,693	1,785	1,889	1,965	1,989	2,027	2,056	2,086	2,115	2,144
Mushrooms	1,000 MT	383	383	392	401	411	420	430	440	450	460	471	481
Total	1,000 MT	58,924	58,710	60,085	62,693	64,030	65,221	66,315	67,401	68,467	69,528	70,587	71,646
Prices:													
Grower													
Fruit and nuts	1990-92=100	105	103	111	115	117	119	121	124	126	128	130	132
Vegetables	1990-92=100	142	131	135	138	140	142	144	146	149	151	153	155
Potatoes	\$/MT	147	143	149	138	139	139	138	137	137	136	135	134
Dry beans	\$/MT	375	446	441	448	454	461	468	475	482	489	497	504
Retail													
Fruit and vegetables	1982-84=100	221	225	231	238	244	250	257	263	270	276	283	290
Fresh fruit	1982-84=100	270	280	289	298	306	315	324	333	341	350	359	369
Fresh vegetables	1982-84=100	245	247	252	258	265	271	278	285	292	300	307	314
Processed fruit & veg.	Dec 1997=100	113	114	116	119	122	125	127	130	133	135	138	141

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

2/ Includes asparagus, lima beans, snap beans, broccoli, beets, cabbage, carrots, cauliflower, sweet corn, cucumbers, green peas, spinach, and tomatoes.

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

Item	Unit	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Imports													
Fruit and nuts ¹													
Fresh	\$ Mil.	3,553	3,635	3,755	3,890	4,027	4,163	4,299	4,435	4,571	4,707	4,843	4,979
Processed	\$ Mil.	4,132	4,745	4,677	4,904	5,087	5,279	5,479	5,688	5,907	6,136	6,376	6,627
Nuts	\$ Mil.	665	718	732	747	762	777	793	809	825	841	858	875
Total	\$ Mil.	8,350	9,099	9,164	9,542	9,876	10,219	10,571	10,932	11,303	11,685	12,077	12,481
Vegetables ²													
Fresh	\$ Mil.	2,742	2,977	2,858	2,921	3,012	3,119	3,232	3,348	3,465	3,583	3,700	3,818
Processed	\$ Mil.	1,174	1,145	1,184	1,219	1,253	1,289	1,324	1,360	1,396	1,432	1,469	1,506
Potatoes	\$ Mil.	575	640	680	710	736	767	800	833	868	905	944	984
Sweet potatoes	\$ Mil.	27	29	29	29	29	30	31	32	32	33	34	35
Pulses	\$ Mil.	134	107	84	87	90	93	97	100	103	107	110	113
Mushrooms	\$ Mil.	179	201	191	187	187	187	189	191	193	195	198	200
Total	\$ Mil.	4,833	5,099	5,026	5,154	5,307	5,486	5,672	5,864	6,058	6,255	6,454	6,656
Greenhouse/Nursery	\$ Mil.	1,133	1,266	1,304	1,344	1,384	1,425	1,468	1,512	1,558	1,604	1,652	1,702
Exports													
Fruit and nuts ¹													
Fresh	\$ Mil.	2,134	2,235	2,302	2,364	2,417	2,472	2,529	2,587	2,646	2,708	2,771	2,835
Processed	\$ Mil.	1,857	1,870	1,898	1,957	2,016	2,076	2,136	2,196	2,256	2,317	2,378	2,440
Nuts	\$ Mil.	1,308	1,439	1,425	1,453	1,481	1,509	1,538	1,567	1,596	1,625	1,654	1,683
Total	\$ Mil.	5,300	5,544	5,625	5,774	5,915	6,058	6,203	6,349	6,498	6,649	6,803	6,958
Vegetables ²													
Fresh	\$ Mil.	1,204	1,215	1,286	1,302	1,345	1,373	1,409	1,439	1,472	1,502	1,534	1,564
Processed	\$ Mil.	1,093	1,145	1,172	1,203	1,235	1,267	1,299	1,331	1,364	1,397	1,430	1,463
Potatoes	\$ Mil.	723	637	666	719	771	788	808	828	849	870	891	913
Sweet potatoes	\$ Mil.	15	15	15	16	16	17	17	18	19	20	20	21
Pulses	\$ Mil.	281	278	297	315	337	355	363	375	385	395	405	416
Mushrooms	\$ Mil.	17	19	23	24	25	26	27	29	30	31	32	33
Total	\$ Mil.	3,333	3,310	3,459	3,578	3,729	3,826	3,925	4,021	4,118	4,215	4,313	4,411
Greenhouse/Nursery	\$ Mil.	250	269	277	285	294	303	312	321	331	341	351	362

1/ Fresh fruit includes bananas, excludes melons. Processed fruit includes juices and wine.

2/ Fresh vegetables includes melons. Processed includes seed and juices.

Note: Fiscal year trade value projections for total horticultural products are shown in table 33.

Livestock

Livestock sector projections initially reflect stronger meat animal prices in 2003, largely due to very tight beef supplies, particularly of high-quality beef. Total meat production falls in 2004 in the baseline, assuming normal moisture conditions, largely because of lower beef production due to already-reduced cattle inventories and as cattle herds begin to rebuild.

In the longer run, a combination of high cattle prices and rising hog and broiler prices, gains in production efficiency, and only moderate increases in feed prices encourage growth in total meat production. Poultry use becomes a larger proportion of total meat consumption in the projections. Meat exports benefit from stronger foreign economic growth.

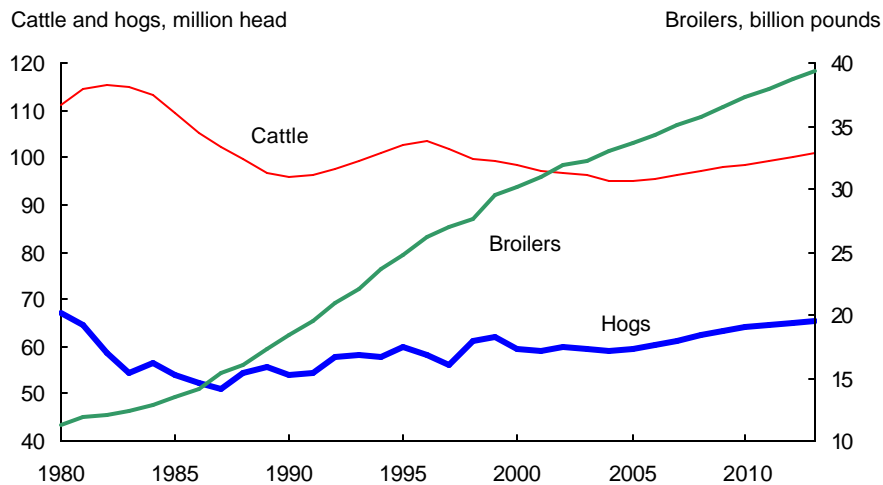
A Note on Bovine Spongiform Encephalopathy (BSE)

Over the past few years, bovine spongiform encephalopathy (BSE) has become a major trade issue. The discovery of BSE in a single cow in Canada on May 20, 2003, resulted in a ban on imports of ruminant animals and products from Canada. Under current guidance provided by international standards set by the World Organization for Animal Health, a country would not be considered BSE free until 7 years after the last occurrence of the disease, a consideration that has been used by some countries to restrict meat imports.

On August 8, 2003, USDA announced conditions for resuming imports of certain ruminant-derived products from Canada: boneless bovine meat from cattle under 30 months of age, boneless veal from calves 36 weeks of age or younger, and boneless sheep and goat meat from animals under 12 months of age. Mexico and a few other countries have established similar guidelines. Cattle and products from cattle over 30 months of age will remain burdensome in Canada until these products can move into international trade. Additionally, a proposal was published in the *Federal Register* on November 4, 2003 by the U.S. Department of Agriculture to amend its BSE regulations to establish a new category of regions that recognizes countries or regions that present a minimal risk of introducing BSE into the United States via the importation of certain low-risk live animals and products. The proposed rule would place Canada on a list of countries considered a minimal risk for BSE, thus allowing Canada to export certain live animals and products to the United States.

The baseline projections in this report were completed prior to the diagnosis of a case of BSE in an adult Holstein cow in Washington State in December 2003. While this BSE situation is still evolving, economic impacts include early-period declines in U.S. beef exports resulting in increased supplies of beef available domestically and, consequently, lower prices for beef and cattle to move the larger quantities in the U.S. market. Farm income will also be reduced.

Livestock inventories and broiler production

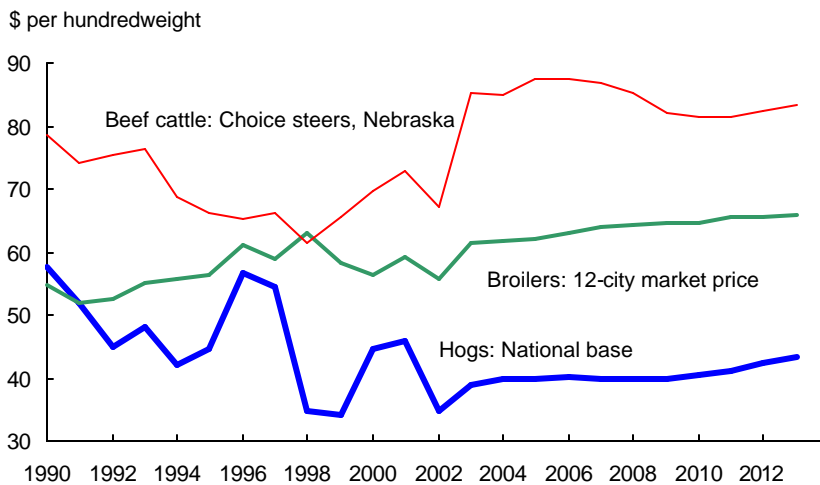


Beef production declines in the near term as producers retain cows and heifers for expansion. Cattle herds are expected to increase somewhat from cyclical lows near 95 million head in 2004-2005. Rising slaughter weights augment gradual herd expansion over the remainder of the projections. Pork production grows slowly, as the more coordinated/integrated industrial structure dampens the U.S. hog cycle. Poultry production continues to rise, but at a lower rate than during the 1980s and 1990s due to the maturity of the domestic sector and slower export growth.

The trend toward larger and more commercialized livestock systems continues throughout the baseline period; efficiency gains allow production to expand while real prices generally decline.

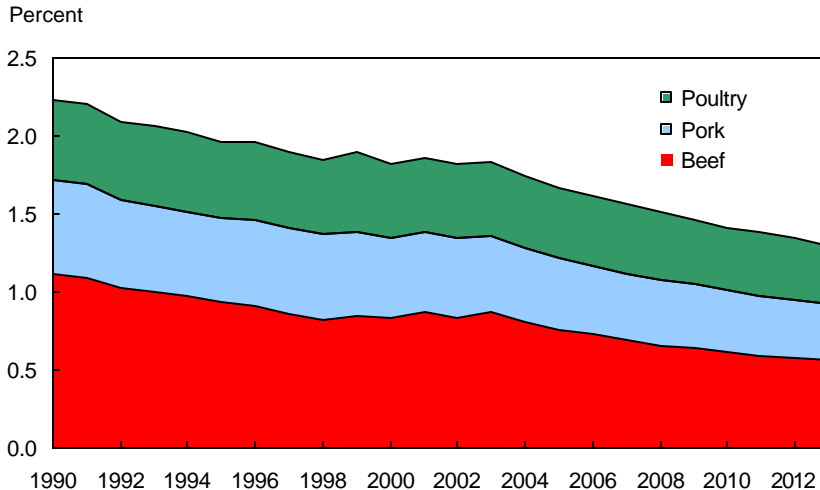
- Vertical coordination increases in the beef sector as strong demand for higher quality beef continues, particularly for the export and hotel and restaurant markets, but increasingly also at retail.
- The increase in efficiency of the U.S. hog breeding herd over the last 5 to 10 years reflects a shift to larger, more efficient operations and the decline in smaller, less efficient operations. For the baseline, the increase in efficiency slows somewhat since larger, more efficient operations (those with more than 5,000 head) now account for three-fourths of the U.S. pig crop.
- Production coordination and market integration between the United States and Canada increase in the hog sector. Feeder pigs produced in Canada are finished and processed in the United States, where feed grain prices remain favorable and processing costs are lower. Large North American retailers and hotels, restaurants, and institutions source pork cuts where prices are attractive, with demand accommodated by trade between the countries.
- The poultry sector has benefited from economies of scale associated with the industry's horizontal and vertical integration. Projected gains in efficiency over the next decade are smaller than in the past 25 years.

Nominal livestock prices



Hog and broiler prices increase moderately in response to growing domestic market demand coupled with export gains. Projected price increases are slower than the general inflation rate. Cattle prices decline in the projections from record high levels.

Percent of U.S. income spent on meat

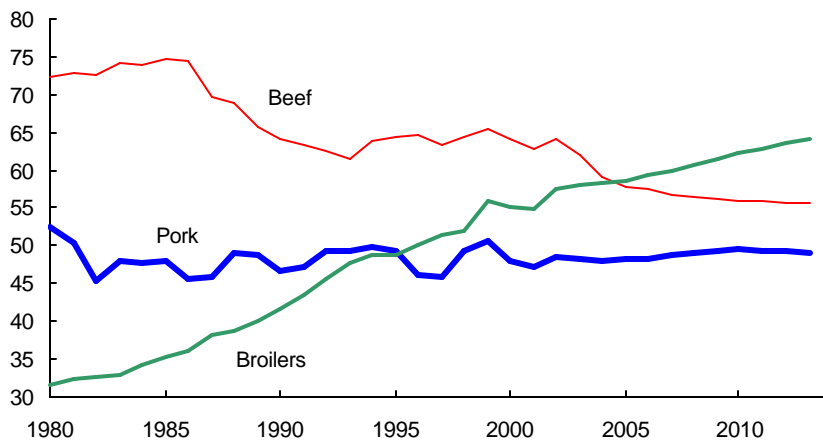


U.S. consumers buy more meat but use a smaller proportion of disposable income for these purchases, continuing a long-term trend. Over the next 10 years, consumer meat expenditures decline from about 1.8 percent to 1.4 percent of disposable income.

- The trend continues of poultry expenditures rising as a share of consumer spending on meats.

Per capita meat consumption

Pounds (boneless) per capita

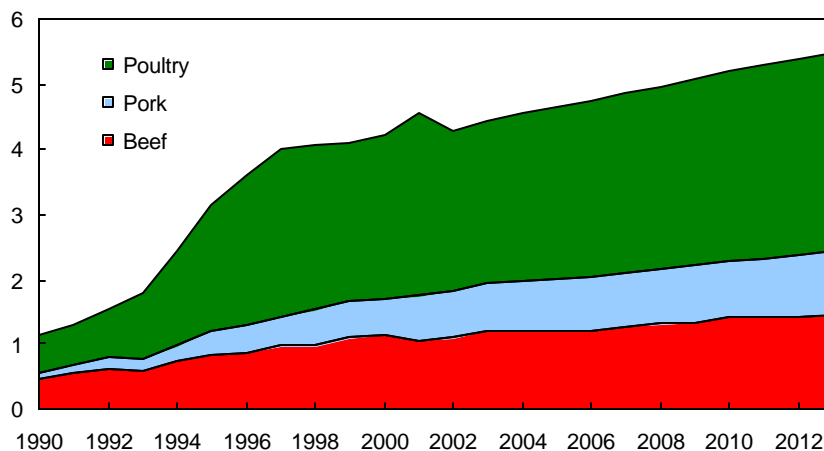


Total per capita meat consumption (boneless weight basis) declines from about 185 pounds in 2003 to near 181 pounds, before rising back to 185 pounds at the end of the projection period.

- Per capita consumption of relatively lower priced poultry increases throughout the baseline, allowing poultry to gain a larger share of total meat consumption and meat expenditures.
- Per capita consumption of beef initially declines, but then stabilizes later in the projections, while pork consumption varies between 48 and 50 pounds per person.

U.S. meat exports

Million metric tons



U.S. meat exports rise throughout the baseline period, reflecting improved global economic growth and rising demand for meats. U.S. imports of beef and cattle from Canada recover from reduced levels in 2003, which followed the discovery of BSE in Canada. Baseline projections were completed prior to the diagnosis of a case of bovine spongiform encephalopathy (BSE) in an adult Holstein cow in Washington State in December 2003.

Beef

- The United States, which imports grass-fed beef from Australia and New Zealand, becomes a net beef exporter in the latter part of the projections as cattle inventories rise and exports of high-quality fed beef exceed imports of lower quality processing beef.
- The United States remains the primary source of high-quality fed beef for export, largely to Pacific Rim nations.

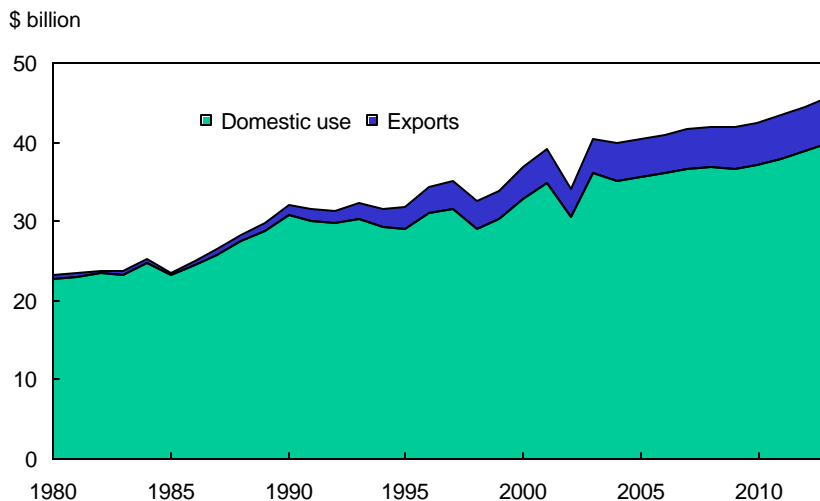
Pork

- Pacific Rim nations and Mexico remain key markets for long-term growth of U.S. pork exports. Canada continues to be a strong competitor for pork trade in these markets. Brazil also is a major pork exporter, competing with the United States, Canada, and the EU in international markets.
- While increased efficiency in pork production helps limit production costs, 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 with growing pork industries, such as Brazil and Mexico.

Poultry

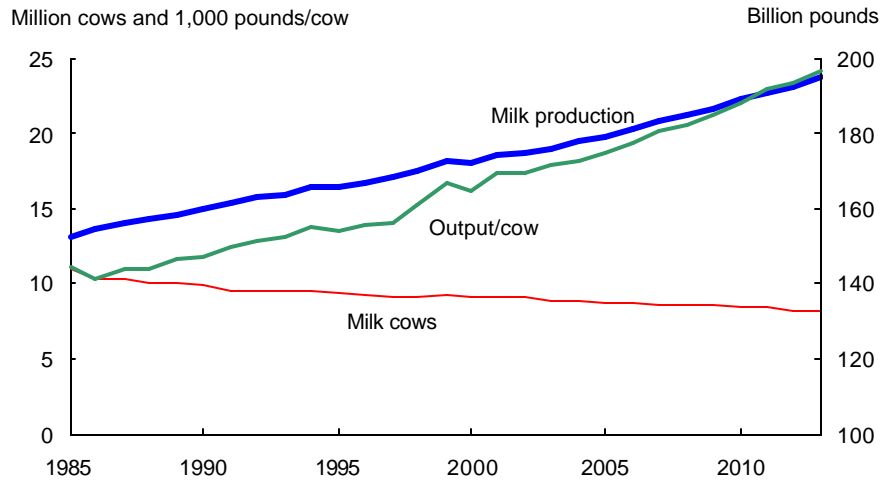
- U.S. broiler export growth is expected to slow from the rate of the 1990s. U.S. producers will face strong competition from other major broiler exporting countries, particularly Brazil and Thailand.
- Major U.S. export markets include Asia, Russia, Eastern Europe, and Mexico. Growth in U.S. poultry exports to Russia is not expected to return to the pace of the last decade, reflecting higher production in Russia, greater competition in that market, and current import quotas which are assumed to continue through early 2006.

Farm value of domestically produced meat



While U.S. meat exports grow in importance, the domestic market remains the dominant source of demand. Meat exports account for about 11 percent of the total value of domestically produced meat in 2003, growing to more than 12 percent in the second half of the projections.

Milk production and dairy herd



Farm milk prices during the next several years are expected to recover from recent low levels. Growth in milk production is projected to slow through 2005/06 because of the recent low prices and the loss of payments under Milk Income Loss Contracts after the 2004/05 marketing year. Meanwhile, demand for dairy products is expected to recover from its recent slump.

- Management and productivity gains are expected to boost milk output. Further development of large, specialized operations in many regions will be a significant contributor to these gains.
- Milk per cow is projected to continue to grow, while cow numbers decline. However, the rates of change may well be slower than in the past as milk per cow is less easily boosted by simply increasing the amount of concentrate feeds fed. Also, increasing specialization of dairy farms over time (and the associated less attractive salvage uses for dairy capital and other inputs) probably has made exit from milk production more sluggish than in past decades.
- Domestic dairy product use grows slowly throughout the baseline period, slightly faster than the growth in population. Cheese and butter demand benefit from greater consumption of prepared foods and increased away-from-home eating. Per capita consumption of fluid milk, however, is projected to shrink slowly.
- Following the near-term price adjustments, real farm milk prices are projected to decline slowly in the long run.

Table 21. Per capita meat consumption, retail and boneless weight

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Retail weight:													
Total beef	Pounds	67.6	65.5	62.3	61.1	60.6	60.0	59.5	59.2	59.0	58.9	58.8	58.7
Total veal	Pounds	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
Total pork	Pounds	51.5	51.4	51.1	51.3	51.4	51.8	52.2	52.5	52.7	52.6	52.4	52.3
Lamb and mutton	Pounds	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9
Total red meat	Pounds	120.9	118.5	115.1	114.1	113.6	113.3	113.2	113.2	113.1	112.9	112.6	112.3
Broilers	Pounds	80.5	81.1	81.6	82.0	82.9	83.8	84.8	85.8	86.8	87.8	88.6	89.5
Other chicken	Pounds	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Turkeys	Pounds	17.7	17.8	17.8	17.8	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Total poultry	Pounds	99.6	100.2	100.8	101.4	102.3	103.2	104.2	105.2	106.3	107.2	108.1	108.9
Red meat & poultry	Pounds	220.4	218.8	215.9	215.4	215.9	216.5	217.4	218.4	219.4	220.1	220.7	221.2
Boneless weight:													
Total beef	Pounds	64.0	62.1	59.0	57.9	57.4	56.8	56.4	56.1	55.9	55.8	55.7	55.6
Total veal	Pounds	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Total pork	Pounds	48.4	48.3	48.0	48.2	48.3	48.7	49.1	49.3	49.5	49.4	49.2	49.1
Lamb & mutton	Pounds	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Total red meat	Pounds	113.8	111.6	108.3	107.3	106.9	106.7	106.6	106.5	106.5	106.3	106.0	105.7
Broilers	Pounds	57.6	58.1	58.4	58.7	59.3	60.0	60.7	61.4	62.2	62.9	63.5	64.1
Other chicken	Pounds	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Turkeys	Pounds	14.0	14.0	14.1	14.1	14.1	14.1	14.1	14.2	14.2	14.2	14.2	14.2
Total poultry	Pounds	72.5	72.9	73.4	73.7	74.4	75.1	75.8	76.5	77.3	78.0	78.6	79.2
Red meat and poultry	Pounds	186.2	184.5	181.7	181.1	181.3	181.7	182.3	183.1	183.7	184.2	184.5	184.9

Table 22. Consumer expenditures for meats

Item	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beef, dollars per person	224.50	245.04	236.12	236.79	236.89	234.68	234.88	235.69	237.44	240.55	243.39	246.61
Percent of income	0.83	0.88	0.82	0.78	0.75	0.71	0.68	0.66	0.63	0.61	0.59	0.58
Percent of meat expenditures	43.99	46.09	44.75	44.61	44.17	43.42	43.00	42.66	42.44	42.36	42.31	42.30
Pork, dollars per person	136.93	136.62	137.00	137.44	139.37	141.99	144.61	147.04	149.44	151.31	152.98	154.84
Percent of income	0.51	0.49	0.47	0.46	0.44	0.43	0.42	0.41	0.40	0.39	0.37	0.36
Percent of meat expenditures	26.83	25.70	25.97	25.89	25.98	26.27	26.47	26.61	26.71	26.64	26.60	26.56
Broilers, dollars per person	130.31	130.64	135.06	137.01	140.19	143.49	146.37	149.32	152.06	155.37	158.18	160.88
Percent of income	0.48	0.47	0.47	0.45	0.44	0.44	0.43	0.41	0.40	0.40	0.39	0.38
Percent of meat expenditures	25.53	24.57	25.60	25.81	26.14	26.55	26.79	27.02	27.18	27.36	27.50	27.60
Turkeys, dollars per person	18.63	19.41	19.42	19.55	19.90	20.34	20.41	20.46	20.51	20.65	20.65	20.65
Percent of income	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.05
Percent of meat expenditures	3.65	3.65	3.68	3.68	3.71	3.76	3.74	3.70	3.67	3.64	3.59	3.54
Total meat, dollars per person	510.37	531.71	527.60	530.80	536.35	540.51	546.28	552.51	559.45	567.87	575.20	582.98
Percent of income	1.90	1.92	1.83	1.76	1.70	1.64	1.59	1.54	1.49	1.45	1.40	1.36

Table 23. Beef baseline

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beginning stocks	Mil. lbs.	606	691	500	550	540	540	540	540	540	540	540	540
Commercial production	Mil. lbs.	27,090	26,772	25,400	25,028	25,143	25,382	25,697	26,012	26,344	26,699	27,039	27,369
Change from previous year	Percent	3.8	-1.2	-5.1	-1.5	0.5	0.9	1.2	1.2	1.3	1.3	1.3	1.2
Farm production	Mil. lbs.	102	105	105	106	106	106	106	106	106	106	106	106
Total production	Mil. lbs.	27,192	26,877	25,505	25,134	25,249	25,488	25,803	26,118	26,450	26,805	27,145	27,475
Imports	Mil. lbs.	3,218	2,851	3,430	3,500	3,500	3,300	3,100	3,000	2,900	2,800	2,700	2,600
Total supply	Mil. lbs.	31,016	30,419	29,435	29,184	29,289	29,328	29,443	29,658	29,890	30,145	30,385	30,615
Exports	Mil. lbs.	2,447	2,628	2,660	2,675	2,725	2,800	2,875	2,975	3,075	3,125	3,175	3,250
Ending stocks	Mil. lbs.	691	500	550	540	540	540	540	540	540	540	540	540
Total consumption	Mil. lbs.	27,878	27,291	26,225	25,969	26,024	25,988	26,028	26,143	26,275	26,480	26,670	26,825
Per capita, carcass weight	Pounds	96.6	93.6	89.0	87.3	86.6	85.7	85.0	84.6	84.3	84.2	84.0	83.8
Per capita, retail weight	Pounds	67.6	65.5	62.3	61.1	60.6	60.0	59.5	59.2	59.0	58.9	58.8	58.7
Change from previous year	Percent	2.1	-3.1	-4.9	-1.9	-0.8	-1.0	-0.8	-0.5	-0.4	-0.1	-0.2	-0.2
Prices:													
Beef cattle, farm	\$/cwt	66.61	81.78	81.54	83.76	83.89	83.19	81.66	78.83	78.12	78.23	79.05	80.02
Calves, farm	\$/cwt	97.56	104.22	108.67	110.15	110.37	110.77	106.89	103.24	101.85	102.42	103.62	104.65
Choice steers, Nebraska	\$/cwt	67.04	85.10	85.00	87.32	87.45	86.72	85.12	82.17	81.43	81.55	82.40	83.42
Deflated price	\$/cwt	37.27	46.25	45.42	45.61	44.57	43.12	41.29	38.89	37.60	36.73	36.21	35.77
Yearling steers, Okla. City	\$/cwt	80.04	89.19	92.50	93.76	93.95	94.28	90.99	87.88	86.69	87.18	88.20	89.08
Deflated price	\$/cwt	44.50	48.47	49.43	48.98	47.88	46.88	44.14	41.59	40.03	39.27	38.76	38.19
Retail: Beef and veal	1982-84=100	160.6	175.0	178.0	182.0	183.5	183.7	185.4	186.9	189.0	191.7	194.4	197.4
Retail: Other meats	1982-84=100	161.9	165.5	166.0	167.9	170.5	173.0	175.5	178.1	180.8	183.7	186.6	189.5
ERS retail beef	\$/lb.	3.32	3.74	3.79	3.87	3.91	3.91	3.95	3.98	4.02	4.08	4.14	4.20
Costs and returns, cow-calf enterprise:													
Variable expenses	\$/cow	209.83	216.17	219.26	219.31	222.01	227.52	233.46	238.48	243.47	249.54	253.25	257.86
Fixed expenses	\$/cow	120.58	122.25	124.89	130.62	137.15	139.95	142.70	145.77	148.73	151.87	155.04	158.73
Total cash expenses	\$/cow	330.41	338.42	344.15	349.94	359.16	367.47	376.16	384.25	392.20	401.41	408.28	416.59
Returns above cash costs	\$/cow	40.84	82.82	93.01	94.17	88.33	82.50	59.75	38.17	28.97	25.91	27.71	26.74
Cattle inventory	1,000 head	96,704	96,106	95,133	95,100	95,598	96,183	97,090	97,869	98,436	99,429	100,130	100,791
Beef cow inventory	1,000 head	33,118	32,947	32,775	32,650	33,229	33,522	33,861	34,162	34,291	34,389	34,503	34,821
Total cow inventory	1,000 head	42,229	42,099	41,790	41,575	42,059	42,282	42,556	42,797	42,866	42,904	42,963	43,231

Projections were completed prior to the diagnosis of a case of BSE in an adult Holstein cow in Washington State in December 2003.

Table 24. Pork baseline

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beginning stocks	Mil. lbs.	536	533	540	540	540	540	540	540	540	540	540	540
Commercial production	Mil. lbs.	19,664	19,719	19,725	19,987	20,229	20,599	20,976	21,295	21,556	21,727	21,872	22,018
Change from previous year	Percent	2.7	0.3	0.0	1.3	1.2	1.8	1.8	1.5	1.2	0.8	0.7	0.7
Farm production	Mil. lbs.	21	22	22	22	22	22	22	22	22	22	22	22
Total production	Mil. lbs.	19,685	19,741	19,747	20,009	20,251	20,621	20,998	21,317	21,578	21,749	21,894	22,040
Imports	Mil. lbs.	1,070	1,250	1,375	1,430	1,455	1,480	1,505	1,535	1,570	1,600	1,630	1,665
Total supply	Mil. lbs.	21,291	21,524	21,662	21,979	22,246	22,641	23,043	23,392	23,688	23,889	24,064	24,245
Exports	Mil. lbs.	1,611	1,681	1,715	1,755	1,800	1,845	1,890	1,940	1,985	2,035	2,090	2,140
Ending stocks	Mil. lbs.	533	540	540	540	540	540	540	540	540	540	540	540
Total consumption	Mil. lbs.	19,147	19,303	19,407	19,684	19,906	20,256	20,613	20,912	21,163	21,314	21,434	21,565
Per capita, carcass weight	Pounds	66.3	66.2	65.9	66.2	66.3	66.8	67.3	67.9	67.9	67.8	67.5	67.4
Per capita, retail weight	Pounds	51.5	51.4	51.1	51.3	51.4	51.8	52.2	52.5	52.7	52.6	52.4	52.3
Change from previous year	Percent	2.4	-0.2	-0.5	0.4	0.1	0.8	0.8	0.5	0.3	-0.2	-0.3	-0.3
Prices:													
Hogs, farm	\$/cwt	33.28	37.02	38.00	37.76	38.14	37.94	37.76	37.78	38.31	39.10	40.14	41.23
National base, live equivalent	\$/cwt	34.92	38.98	40.00	39.75	40.15	39.94	39.74	39.77	40.33	41.15	42.25	43.41
Deflated price	\$/cwt	19.42	21.19	21.43	20.95	20.59	19.98	19.40	18.94	18.74	18.65	18.68	18.72
Retail: pork	1982-84=100	161.8	164.8	166.2	166.1	168.2	170.0	171.7	173.7	176.0	178.5	181.1	183.7
ERS retail pork	\$/lb.	2.66	2.66	2.68	2.68	2.71	2.74	2.77	2.80	2.84	2.88	2.92	2.96
Costs and returns, farrow to finish:													
Variable expenses	\$/cwt	28.08	30.88	31.26	29.54	28.89	29.23	29.95	30.56	31.13	32.01	32.13	32.41
Fixed expenses	\$/cwt	4.88	4.90	4.92	4.95	4.97	5.00	5.02	5.05	5.07	5.10	5.13	5.15
Total cash expenses	\$/cwt	32.95	35.78	36.18	34.49	33.87	34.23	34.98	35.61	36.20	37.11	37.26	37.56
Returns above cash costs	\$/cwt	1.97	3.20	3.82	5.26	6.28	5.71	4.77	4.17	4.13	4.05	4.99	5.84
Hog inventory,													
Dec. 1, previous year	1,000 head	59,804	59,513	58,900	59,633	60,309	61,344	62,399	63,291	64,021	64,501	64,906	65,314

Table 25. Young chicken baseline

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beginning stocks	Mil. lbs.	712	763	625	650	650	650	650	650	650	650	650	650
Federally inspected slaughter	Mil. lbs.	32,240	32,634	33,450	33,969	34,648	35,387	36,128	36,922	37,673	38,386	39,081	39,755
Change from previous year	Percent	3.1	1.2	2.5	1.6	2.0	2.1	2.1	2.2	2.0	1.9	1.8	1.7
Production	Mil. lbs.	31,895	32,285	33,092	33,606	34,278	35,008	35,742	36,527	37,270	37,976	38,663	39,330
Total supply	Mil. lbs.	32,619	33,060	33,729	34,268	34,940	35,670	36,404	37,189	37,932	38,638	39,325	39,992
Change from previous year	Percent	2.7	1.4	2.0	1.6	2.0	2.1	2.1	2.2	2.0	1.9	1.8	1.7
Exports	Mil. lbs.	4,807	4,916	5,100	5,200	5,310	5,425	5,540	5,660	5,750	5,840	5,920	6,000
Ending stocks	Mil. lbs.	763	625	650	650	650	650	650	650	650	650	650	650
Consumption	Mil. lbs.	27,049	27,519	27,979	28,417	28,980	29,595	30,213	30,879	31,532	32,148	32,755	33,342
Per capita, carcass weight	Pounds	93.7	94.4	95.0	95.5	96.5	97.6	98.7	99.9	101.1	102.2	103.2	104.2
Per capita, retail weight	Pounds	80.5	81.1	81.6	82.0	82.9	83.8	84.8	85.8	86.8	87.8	88.6	89.5
Change from previous year	Percent	5.0	0.7	0.6	0.5	1.0	1.1	1.1	1.2	1.2	1.1	1.0	1.0
Prices:													
Broilers, farm	Cents/lb.	29.8	34.6	34.8	34.8	35.3	35.8	36.0	36.2	36.2	36.6	36.8	36.9
12-city market price	Cents/lb.	55.6	61.3	61.8	62.1	63.0	64.0	64.3	64.6	64.6	65.4	65.7	65.9
Deflated wholesale price	Cents/lb.	30.9	33.3	33.0	32.5	32.1	31.8	31.2	30.6	29.8	29.4	28.9	28.3
Change from previous year	Percent	-7.4	7.8	-0.9	-1.7	-1.0	-1.0	-1.8	-2.1	-2.4	-1.3	-1.9	-2.1
Composite retail broiler price	Cents/lb.	161.9	161.1	165.5	167.0	169.1	171.2	172.6	174.0	175.1	177.0	178.4	179.7
Costs and returns:													
Total costs	Cents/lb.	46.29	51.85	53.62	52.10	51.71	52.86	54.62	55.96	57.24	59.01	59.60	60.20
Net returns	Cents/lb.	9.31	9.45	8.18	10.02	11.31	11.09	9.72	8.64	7.35	6.36	6.14	5.74

Table 26. Turkey baseline

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beginning stocks	Mil. lbs.	241	333	325	325	325	325	325	325	325	325	325	325
Federally inspected slaughter	Mil. lbs.	5,713	5,697	5,790	5,884	5,954	6,021	6,096	6,164	6,227	6,287	6,345	6,404
Change from previous year	Percent	2.7	-0.3	1.6	1.6	1.2	1.1	1.3	1.1	1.0	1.0	0.9	0.9
Production	Mil. lbs.	5,638	5,622	5,714	5,807	5,876	5,942	6,016	6,083	6,145	6,205	6,262	6,320
Total supply	Mil. lbs.	5,879	5,956	6,040	6,133	6,202	6,268	6,342	6,409	6,471	6,531	6,588	6,646
Change from previous year	Percent	2.6	1.3	1.4	1.5	1.1	1.1	1.2	1.1	1.0	0.9	0.9	0.9
Exports	Mil. lbs.	439	452	465	500	511	524	535	544	553	559	568	580
Ending stocks	Mil. lbs.	333	325	325	325	325	325	325	325	325	325	325	325
Consumption	Mil. lbs.	5,107	5,179	5,250	5,308	5,366	5,419	5,482	5,540	5,594	5,647	5,695	5,741
Per capita	Pounds	17.7	17.8	17.8	17.8	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
Change from previous year	Percent	1.0	0.4	0.4	0.1	0.1	0.0	0.2	0.1	0.1	0.1	0.0	-0.1
Prices:													
Turkey, farm	Cents/lb.	36.5	35.1	36.0	36.3	36.9	37.7	37.7	37.8	37.9	38.1	38.1	38.1
Hen turkey (whsle.) East	Cents/lb.	64.5	61.7	63.3	63.6	64.7	66.1	66.2	66.3	66.4	66.8	66.8	66.9
Deflated hen turkey	Cents/lb.	35.9	33.5	33.8	33.2	33.0	32.9	32.1	31.4	30.7	30.1	29.4	28.7
Retail frozen turkey	Cents/lb.	105.3	109.3	109.0	109.6	111.4	113.9	114.0	114.1	114.4	115.0	115.1	115.2
Retail: poultry	1982-84=100	167.0	168.7	174.0	175.3	177.6	180.1	181.4	182.6	183.6	185.4	186.6	187.7
Costs and returns:													
Total costs	Cents/lb.	58.01	60.89	61.53	60.63	60.23	60.62	61.32	61.78	62.21	62.87	62.94	63.00
Net returns	Cents/lb.	6.49	0.81	1.77	3.01	4.49	5.51	4.89	4.50	4.20	3.94	3.89	3.87

Table 27. Egg baseline

Item	Units	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Beginning stocks	Mil. doz.	10	10	12	12	12	12	12	12	12	12	12	12
Production	Mil. doz.	7,221	7,203	7,260	7,383	7,494	7,584	7,675	7,760	7,845	7,931	8,018	8,099
Change from previous year	Percent	0.9	-0.2	0.8	1.7	1.5	1.2	1.2	1.1	1.1	1.1	1.1	1.0
Imports	Mil. doz.	15	13	12	10	10	10	10	10	10	10	10	10
Total supply	Mil. doz.	7,246	7,227	7,284	7,405	7,516	7,606	7,697	7,782	7,867	7,953	8,040	8,121
Change from previous year	Percent	1.0	-0.3	0.8	1.7	1.5	1.2	1.2	1.1	1.1	1.1	1.1	1.0
Hatching use	Mil. doz.	961	957	980	993	1,008	1,023	1,039	1,055	1,070	1,084	1,097	1,111
Exports	Mil. doz.	174	155	173	175	178	182	186	190	193	197	201	205
Ending stocks	Mil. doz.	10	12	12	12	12	12	12	12	12	12	12	12
Consumption	Mil. doz.	6,101	6,103	6,119	6,225	6,318	6,389	6,460	6,525	6,592	6,660	6,730	6,793
Per capita	Number	253.6	251.1	249.2	251.1	252.3	252.7	253.2	253.4	253.7	254.1	254.5	254.6
Change from previous year	Percent	0.4	-1.0	-0.7	0.7	0.5	0.2	0.2	0.1	0.1	0.1	0.2	0.1
Prices:													
Eggs, farm	Cents/doz.	59.7	73.6	78.8	74.8	68.6	66.9	68.6	70.4	72.2	73.9	75.7	77.4
New York, Grade A large	Cents/doz.	67.1	85.3	90.0	85.0	78.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
Deflated wholesale prices	Cents/doz.	37.3	46.4	48.1	44.4	39.8	37.8	37.8	37.9	37.9	37.8	37.8	37.7
Retail, Grade A, large	Cents/doz.	103	120	122	117	109	108	112	115	118	121	124	127
Retail: Eggs	1982-84=100	138.2	155.1	155.0	149.6	141.2	140.6	147.3	152.1	156.9	161.8	166.5	171.4
Costs and returns:													
Total costs	Cents/doz.	62.43	69.93	72.31	70.26	69.74	71.29	73.67	75.47	77.20	79.59	80.38	81.18
Net returns	Cents/doz.	4.67	15.37	17.69	14.74	8.26	4.71	4.33	4.53	4.80	4.41	5.62	6.82

Table 28. Dairy baseline

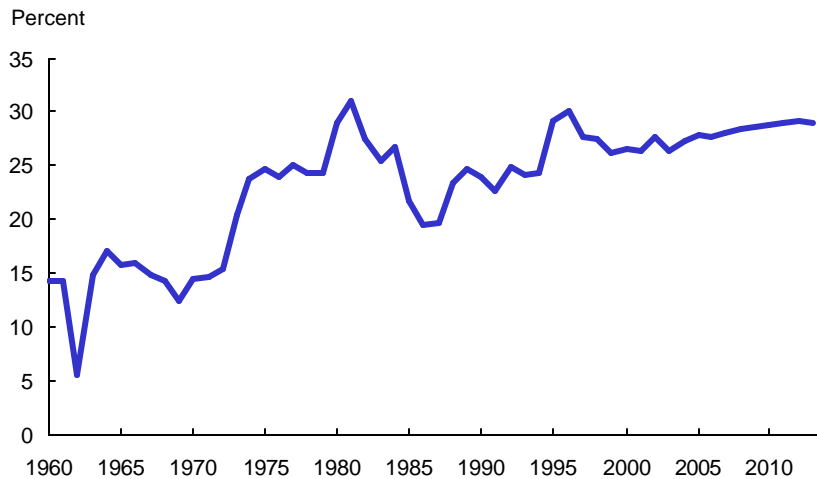
Item	Units	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Production data:													
Number of cows	1,000	9,120	8,980	8,890	8,795	8,725	8,660	8,600	8,540	8,480	8,425	8,375	8,330
Milk per cow	Pounds	18,630	19,085	19,460	19,865	20,305	20,815	21,235	21,710	22,195	22,725	23,140	23,635
Milk production	Bil. lbs.	169.9	171.4	173.0	174.7	177.2	180.3	182.6	185.4	188.2	191.5	193.8	196.9
Commercial use:													
Milkfat basis	Bil. lbs.	172.7	176.7	175.9	178.0	180.4	183.6	186.0	188.8	191.7	194.9	197.4	200.4
Skim solids	Bil. lbs.	164.3	169.5	171.6	174.9	178.8	182.1	185.4	188.0	191.1	194.0	196.8	199.5
Net removals:													
Milkfat basis	Bil. lbs.	1.2	0.5	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Skim solids	Bil. lbs.	9.2	6.1	5.2	3.9	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Prices:													
All milk	\$/cwt	11.90	12.50	12.95	13.60	13.95	14.25	14.30	14.45	14.60	14.70	14.90	15.15
Manufactured milk value ¹	\$/cwt	11.05	11.50	11.90	12.45	12.75	13.00	13.05	13.20	13.35	13.45	13.65	13.85
Retail, all dairy products	1982-84=100	166.6	173.3	179.0	182.5	187.5	192.5	197.0	201.5	206.5	211.0	216.5	222.0
Costs and returns:													
Ration value	\$/cwt	7.76	7.86	7.70	7.75	7.90	8.05	8.10	8.15	8.30	8.35	8.30	8.45
Returns above concentrate costs	\$/cwt	8.68	9.24	9.75	10.38	10.67	10.91	10.94	11.07	11.16	11.23	11.46	11.64
Milk-feed ratio	ratio	1.53	1.59	1.68	1.75	1.77	1.77	1.77	1.77	1.76	1.76	1.80	1.79

^{1/} Estimated value of milk used in manufactured products.

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

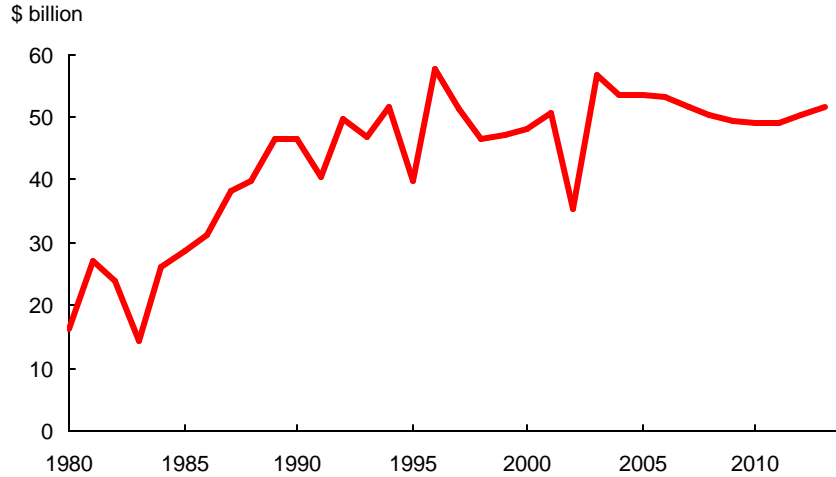
Long-run developments for the U.S. farm sector reflect strengthening domestic and international economic growth, which support gains in consumption, trade, and prices. While export competition is projected to continue, improving world economic growth, particularly in developing countries, provides a foundation for gains in global trade and U.S. agricultural exports. Combined with gains in domestic demand, the results are rising market prices and cash receipts, as well as improvement in the financial condition of the agricultural sector. Consumer food prices are projected to continue a long-term trend of rising more slowly than the general rate of inflation.

U.S. agricultural export value relative to total market cash receipts



Export revenues account for an increasing share of total U.S. farm cash receipts, rising from 26 percent to 29 percent over the projections period. With the productivity of U.S. agriculture growing faster than domestic demand, farmers rely increasingly on export market growth.

Net farm income

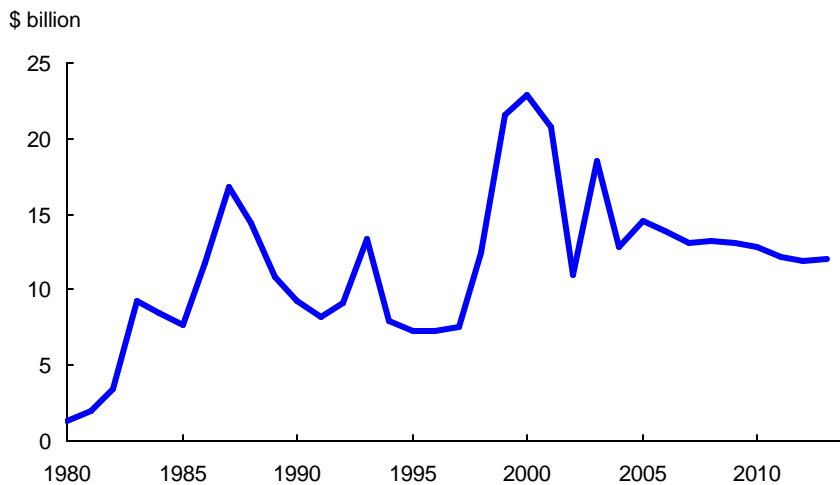


Income projections for the next decade average about \$51 billion, compared to \$47.6 billion in the 1990s.²

- Net farm income falls from high 2003 levels through much of the projections period, reflecting lower government payments and adjustments in the cattle sector, but then increases towards the end of the projections to \$51.5 billion in 2013. Longer run gains reflect strengthening domestic demand and exports.

² Projections were completed prior to the diagnosis of a case of BSE in an adult Holstein cow in Washington State in December 2003.

Direct government payments

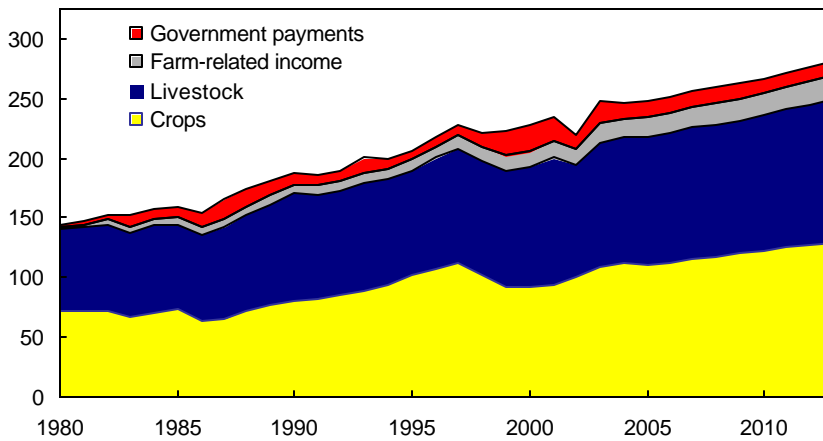


Government payments generally decline through the projections, largely due to rising market prices for program commodities, which reduce marketing loan benefits and counter-cyclical payments.

- Direct government payments are projected to fall from over \$18 billion in 2003 to about \$12 billion in 2011-2013. Toward the end of the projections, direct government payments largely reflect direct and counter-cyclical payments under the 2002 Farm Act, payments for the Conservation Reserve Program, and financial assistance for other conservation programs.

Gross cash income

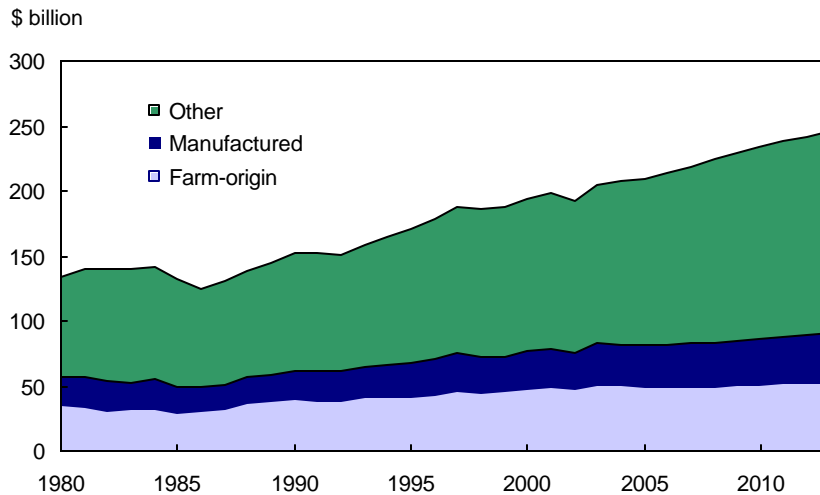
\$ billion



Gross cash income gradually rises through the projections. Cash receipts for both crops and livestock increase.

- Longer run gains in cash receipts and gross cash income reflect strengthening domestic demand and exports, which help to improve financial conditions in the sector.
- The agriculture sector relies on the market for most of its income. The share of income provided by government payments declines through the projections. Government payments, which represented about 10 percent of gross cash income in 2000, account for 4 to 5 percent at the end of the projections.

Farm production expenses

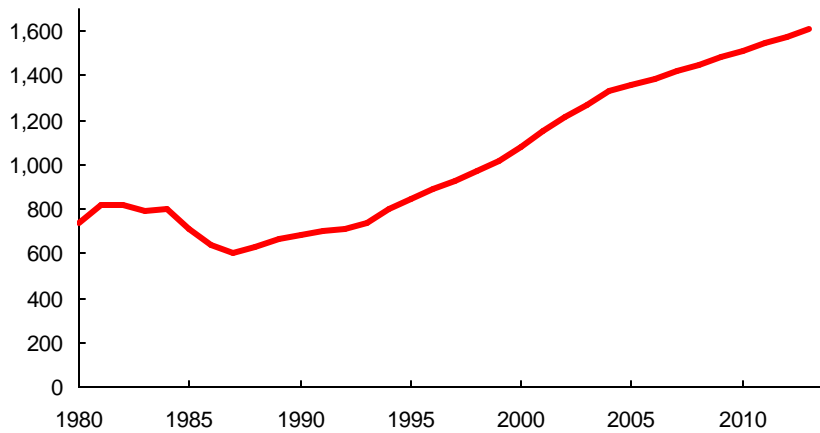


Production expenses increase modestly from 2004 to 2013, at slightly less than the general inflation rate. These expenses are divided into three categories in the accompanying chart: farm-origin (seed, feed, and feeder livestock), manufactured (fuel, fertilizer, pesticides, and electricity), and other (labor, interest, and other expenses).

- The largest percentage increase is for the other expenses category, reflecting increases in labor expenses and interest costs. Labor expenses rise as sector output increases and wage rates rise. Projected increases in interest costs reflect higher interest rates, as well as higher debt facilitated by rising gross cash income.
- Manufactured input expenses increase through the projections as oil prices rise and crop production expands.
- Cash operating margins tighten somewhat, with cash expenses increasing from 75 percent of gross cash income in 2004 to about 78.5 percent at the end of the projections.

Farmland value

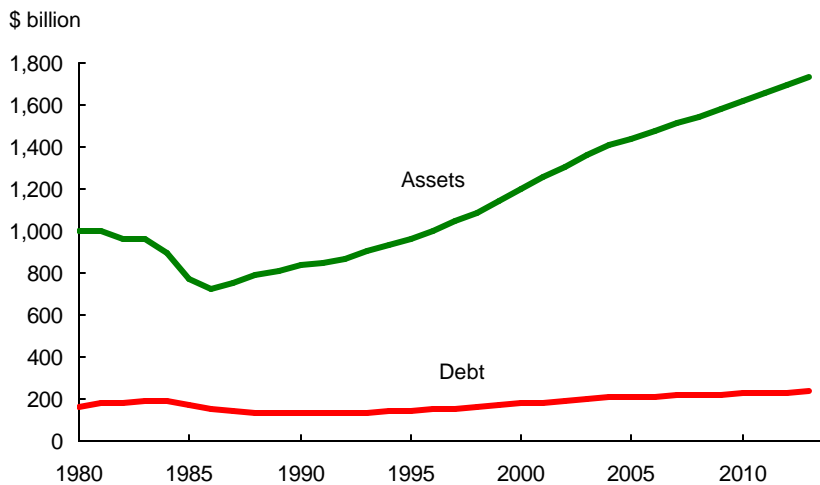
\$ per acre



Strengthening cash receipts and gross cash income through the projections support gains in farmland values. Increasing demand for land use from nonagricultural sources, such as housing and recreation, also affects farmland values.

- There is considerable variation in the growth of farmland prices across the country. This reflects a variety of factors, including differences in land quality and location, demand for urban and recreational development, credit conditions, nonfarm investment opportunities, government farm policies, and production risks and weather uncertainties unique to each region's agriculture.
- As the general economy continues to expand, demand for land for nonagricultural uses contributes to rising farmland values. Continuation of favorable inflation and interest rates will facilitate the conversion of farmland to nonfarm uses.
- Benefiting most from the general economic expansion will be farmland in the path of urban development. Farmland in areas with recreational amenities also will increase in value as second-home market demand remains strong.

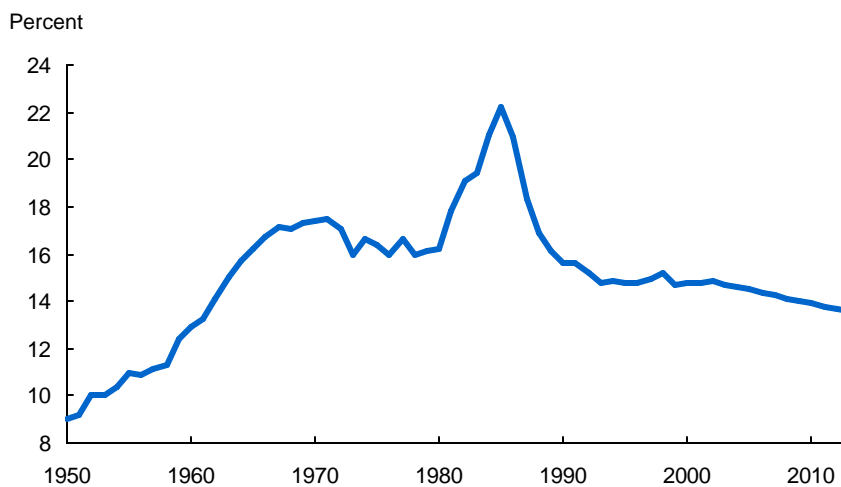
Farm assets and debt



Increasing gross cash income and moderate interest rates assist in asset accumulation and debt management.

- Farm debt moves up less rapidly than asset values in the projections, rising an average of about 1.6 percent a year compared with an increase of 2.4 percent annually for assets.

Debt-to-asset ratios

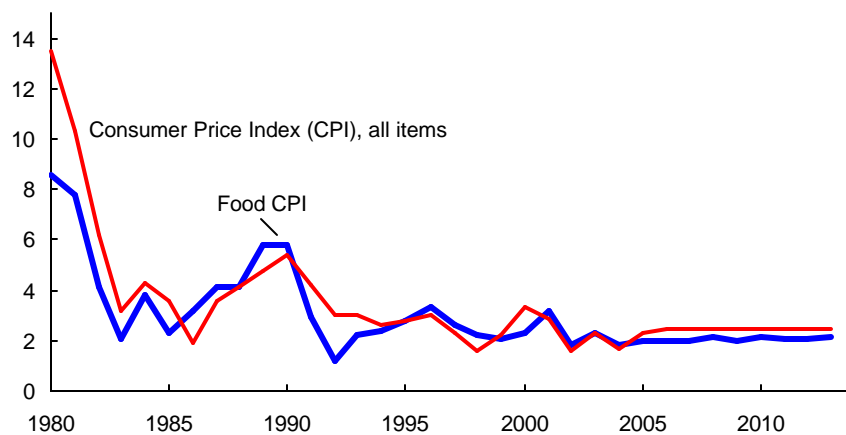


Increasing gross cash income and rising farm equity lead to improved financial conditions in the agricultural sector.

- Debt-to-asset ratios decline slowly through the projections to under 14 percent by 2013, compared with over 20 percent in the mid-1980s.

Food inflation

Percent change

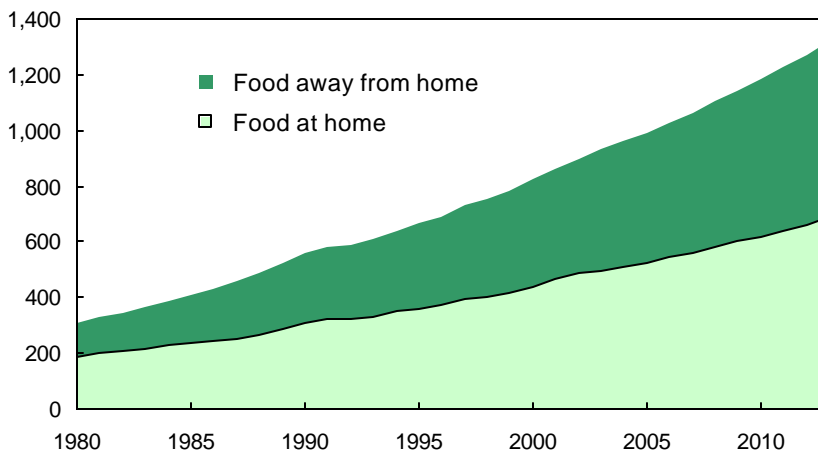


Retail food prices continue a long-term trend of increasing less than the general inflation rate.

- Among foods purchased for consumption at home, projected price increases are generally strongest for more highly processed foods such as cereals and bakery products and fats and oils. For these foods, prices are related more to processing and marketing costs than to farm-level prices and, therefore, rise at a rate near the general inflation rate.

Food expenditures

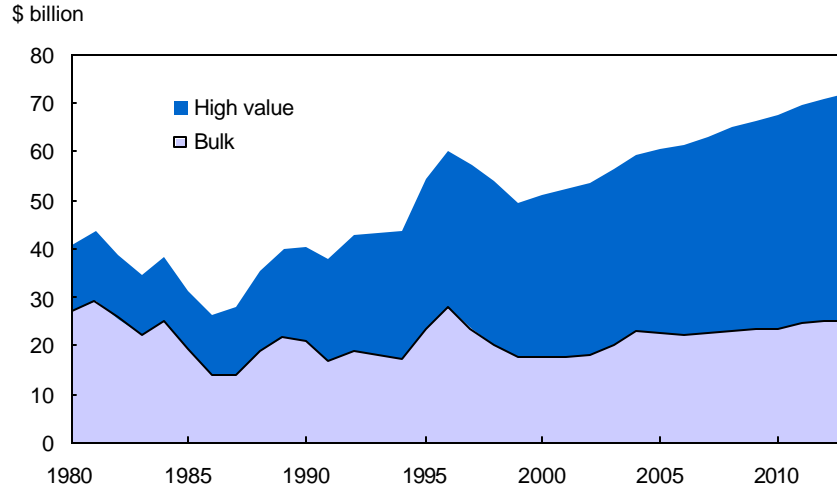
\$ billion



Expenditures for meals prepared away from home account for a growing share of food spending, reaching about 48 percent of total food expenditures by 2013.

- Increases in away-from-home food spending, which contains a large service component, are held down by competition in the fast-food and food-service industries.

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



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 products, horticultural products, and sugar and tropical products.

U.S. agricultural export value is projected to grow an average of 2.6 percent annually from \$56 billion in fiscal year 2003 to \$72 billion in 2013. High-value product (HVP) exports continue to grow, accounting for almost two-thirds of total U.S. exports.

- Strengthening world economic growth, particularly in developing countries, provides a foundation for gains in trade and U.S. agricultural exports. However, competition in global markets remains strong.
- Much of the growth in HVP exports is for horticultural products and animal products.³
- Growth in the value of bulk commodity exports (grains, oilseeds, cotton, and tobacco) reflects expected price increases and gains in volume.
- U.S. agricultural imports rise by about the same amount as exports, reaching \$61 billion in 2013. The agricultural trade surplus is relatively stable in a \$10 to \$12 billion range.

³ The baseline projections in this report were completed prior to the diagnosis of a case of BSE in an adult Holstein cow in the Washington State in December 2003.

Table 29. Farm receipts, expenses, and incomes in nominal dollars

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Billion dollars</i>												
Cash receipts:												
Crops	99.5	108.1	111.4	110.1	112.2	114.6	117.3	119.7	122.3	125.0	127.0	129.1
Livestock and products	93.5	105.9	107.0	108.4	109.9	111.5	111.8	112.6	114.1	116.3	118.4	120.9
All commodities	192.9	214.0	218.4	218.5	222.0	226.0	229.1	232.3	236.5	241.3	245.4	249.9
Farm-related income	15.4	15.2	15.6	15.9	16.3	16.7	17.2	17.6	18.1	18.5	19.0	19.4
Government payments	11.0	18.5	12.9	14.6	13.9	13.1	13.3	13.1	12.8	12.1	11.9	12.0
Gross cash income	219.4	247.7	246.9	249.0	252.2	255.9	259.5	263.0	267.4	271.9	276.2	281.4
Cash expenses	170.2	182.1	184.3	185.8	190.1	195.3	200.4	204.7	209.2	213.9	217.0	220.6
Net cash income	49.1	65.6	62.5	63.1	62.1	60.5	59.1	58.3	58.2	58.1	59.2	60.7
Value of inventory change	-3.1	1.2	1.3	0.6	1.1	1.2	1.3	1.0	1.0	1.0	1.0	1.0
Non-money income	11.9	12.3	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.3	14.6	14.8
Gross farm income	228.2	261.1	260.4	262.2	266.2	270.3	274.4	277.8	282.4	287.3	291.8	297.2
Noncash expenses	16.0	15.5	15.7	16.1	16.2	16.4	16.5	16.7	16.9	17.0	17.2	17.4
Operator dwelling expenses	6.5	6.7	6.9	6.9	7.0	7.1	7.2	7.3	7.3	7.4	7.5	7.6
Total production expenses	192.8	204.2	206.9	208.8	213.3	218.8	224.1	228.7	233.4	238.3	241.8	245.7
Net farm income	35.3	56.9	53.5	53.5	52.9	51.5	50.2	49.1	49.0	48.9	50.1	51.5
Farm assets	1,304.0	1,363.5	1,406.9	1,435.7	1,471.5	1,510.2	1,543.9	1,580.5	1,618.4	1,658.3	1,697.2	1,736.0
Farm debt	193.3	200.3	205.4	208.5	211.6	214.9	218.2	221.6	225.1	228.7	232.4	236.1
Farm equity	1,110.6	1,163.2	1,201.5	1,227.2	1,259.8	1,295.4	1,325.7	1,359.0	1,393.3	1,429.6	1,464.8	1,499.9
<i>Percent</i>												
Debt/equity ratio	17.4	17.2	17.1	17.0	16.8	16.6	16.5	16.3	16.2	16.0	15.9	15.7
Debt/assets ratio	14.8	14.7	14.6	14.5	14.4	14.2	14.1	14.0	13.9	13.8	13.7	13.6

Projections were completed prior to the diagnosis of a case of BSE in an adult Holstein cow in Washington State in December 2003.

Table 30. Farm receipts, expenses, and incomes in 1996 dollars

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Billion 1996 dollars¹</i>												
Cash receipts:												
Crops	89.9	96.3	97.8	95.1	94.7	94.7	94.9	94.7	94.8	94.7	94.1	93.6
Livestock and products	84.4	94.3	93.9	93.6	92.8	92.1	90.5	89.1	88.4	88.1	87.8	87.7
All commodities	174.3	190.6	191.7	188.7	187.5	186.8	185.4	183.8	183.2	182.8	181.9	181.3
Farm-related income	13.9	13.5	13.7	13.7	13.8	13.8	13.9	13.9	14.0	14.0	14.1	14.1
Government payments	9.9	16.5	11.3	12.6	11.7	10.8	10.7	10.4	9.9	9.2	8.8	8.7
Gross cash income	198.1	220.6	216.7	215.0	213.0	211.5	210.0	208.1	207.1	206.0	204.8	204.0
Cash expenses	153.8	162.2	161.8	160.5	160.6	161.4	162.1	162.0	162.0	162.0	160.9	160.0
Net cash income	44.4	58.4	54.9	54.5	52.5	50.0	47.9	46.1	45.1	44.0	43.9	44.0
Value of inventory change	-2.8	1.0	1.1	0.6	0.9	1.0	1.1	0.8	0.8	0.8	0.7	0.7
Non-money income	10.7	10.9	10.8	10.9	10.9	10.9	10.9	10.9	10.9	10.8	10.8	10.7
Gross farm income	206.1	232.5	228.6	226.5	224.8	223.4	222.0	219.8	218.8	217.6	216.3	215.5
Noncash expenses	14.5	13.8	13.8	13.9	13.7	13.5	13.4	13.2	13.1	12.9	12.8	12.6
Operator dwelling expenses	5.9	5.9	6.0	6.0	5.9	5.9	5.8	5.7	5.7	5.6	5.6	5.5
Total production expenses	174.2	181.8	181.7	180.3	180.2	180.8	181.3	180.9	180.8	180.6	179.2	178.1
Net farm income	31.9	50.7	46.9	46.2	44.7	42.6	40.7	38.9	38.0	37.1	37.1	37.4
Farm assets	1,177.9	1,214.1	1,235.2	1,239.8	1,242.8	1,248.1	1,249.1	1,250.4	1,253.6	1,256.3	1,258.1	1,258.9
Farm debt	174.6	178.3	180.3	180.0	178.7	177.6	176.5	175.3	174.4	173.3	172.2	171.2
Farm equity	1,003.3	1,035.8	1,054.9	1,059.8	1,064.1	1,070.6	1,072.6	1,075.1	1,079.2	1,083.1	1,085.8	1,087.7

^{1/} Nominal dollar values divided by the GDP chain-type price index.

Table 31. Consumer food price indexes and food expenditures baseline

CPI category	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Consumer price indexes: 1982-84=100													
All food	173.1	176.2	180.3	183.6	187.2	190.9	194.7	198.8	202.8	207.1	211.3	215.7	220.3
Food away from home	173.9	178.3	182.0	184.5	187.9	191.7	195.5	199.4	203.4	207.5	211.6	215.8	220.1
Food at home	173.4	175.6	180.0	183.7	187.5	191.1	194.9	199.1	203.2	207.6	212.0	216.5	221.3
Meats	159.3	160.3	169.9	171.5	173.9	175.8	176.9	178.8	180.6	182.9	185.6	188.3	191.2
Beef and veal	160.5	160.6	175.0	178.0	182.0	183.5	183.7	185.4	186.9	189.0	191.7	194.4	197.4
Pork	162.4	161.8	164.8	166.2	166.1	168.2	170.0	171.7	173.7	176.0	178.5	181.1	183.7
Other meats	156.4	161.9	165.5	166.0	167.9	170.5	173.0	175.5	178.1	180.8	183.7	186.6	189.5
Poultry	164.9	167.0	168.7	174.0	175.3	177.6	180.1	181.4	182.6	183.6	185.4	186.6	187.7
Fish and seafood	191.1	188.1	189.8	194.5	199.4	204.4	209.5	214.7	220.1	225.6	231.2	237.0	242.9
Eggs	136.4	138.2	155.1	155.0	149.6	141.2	140.6	147.3	152.1	156.9	161.8	166.5	171.4
Dairy products	167.1	168.1	168.1	174.7	179.9	183.8	188.8	193.6	198.1	202.8	207.6	212.4	217.9
Fats and oils	155.7	155.4	157.5	161.3	165.3	169.3	173.6	177.9	182.3	186.8	191.4	196.0	201.0
Fruits and vegetables	212.2	220.9	225.0	231.0	238.0	244.0	250.0	257.0	263.0	270.0	276.0	283.0	290.0
Sugar and sweets	155.7	159.0	162.0	162.2	164.2	167.5	171.5	173.8	177.3	180.7	184.2	187.5	190.9
Cereals and bakery products	193.8	198.0	202.7	205.0	208.2	212.6	217.4	222.6	228.1	233.7	239.4	245.2	251.2
Nonalcoholic beverages	139.2	139.2	139.7	142.6	145.6	148.7	151.8	155.0	158.3	161.6	165.0	168.5	172.0
Other foods	176.0	177.1	179.1	181.9	185.9	190.4	195.0	199.7	204.5	209.4	214.4	219.5	224.8
Food expenditures: Billion dollars													
All food	861.7	900.2	930.0	959.4	990.1	1,027.1	1,063.7	1,102.4	1,142.4	1,183.9	1,227.1	1,271.4	1,322.5
Food at home	463.6	485.2	498.1	513.0	526.5	544.9	562.3	580.9	600.0	619.8	640.5	661.4	688.2
Food away from home	398.1	415.0	431.9	446.4	463.6	482.2	501.4	521.5	542.4	564.1	586.6	610.0	634.3

Table 32. Changes in consumer food prices, baseline

CPI category	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Percent</i>													
All food	3.2	1.8	2.3	1.8	2.0	2.0	2.0	2.1	2.0	2.1	2.0	2.1	2.1
Food away from home	2.9	2.5	2.1	1.4	1.8	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Food at home	3.2	1.3	2.5	2.1	2.1	1.9	2.0	2.2	2.1	2.2	2.1	2.1	2.2
Meats	5.6	0.6	6.0	0.9	1.4	1.1	0.6	1.1	1.0	1.3	1.5	1.5	1.5
Beef and veal	8.4	0.1	9.0	1.7	2.2	0.8	0.1	0.9	0.8	1.1	1.4	1.4	1.5
Pork	3.4	-0.4	1.9	0.8	-0.1	1.3	1.1	1.0	1.2	1.3	1.4	1.5	1.4
Other meats	2.9	3.5	2.2	0.3	1.1	1.5	1.5	1.4	1.5	1.5	1.6	1.6	1.6
Poultry	3.2	1.3	1.0	3.1	0.7	1.3	1.4	0.7	0.7	0.5	1.0	0.6	0.6
Fish and seafood	0.4	-1.6	0.9	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Eggs	3.4	1.3	12.2	-0.1	-3.5	-5.6	-0.4	4.8	3.3	3.2	3.1	2.9	2.9
Dairy products	4.0	0.6	0.0	3.9	3.0	2.2	2.7	2.5	2.3	2.4	2.4	2.3	2.6
Fats and oils	5.6	-0.2	1.4	2.4	2.5	2.4	2.5	2.5	2.5	2.5	2.5	2.4	2.6
Fruits and vegetables	3.7	4.1	1.9	2.7	3.0	2.5	2.5	2.8	2.3	2.7	2.2	2.5	2.5
Sugar and sweets	1.1	2.1	1.9	0.1	1.2	2.0	2.4	1.3	2.0	1.9	1.9	1.8	1.8
Cereals and bakery products	2.9	2.2	2.4	1.1	1.6	2.1	2.3	2.4	2.5	2.5	2.4	2.4	2.4
Nonalcoholic beverages	1.0	0.0	0.4	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Other foods	2.2	0.6	1.1	1.6	2.2	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4

Table 33. Summary of U.S. agricultural trade projections, fiscal years

	2001	2002	2003	2004 1/	2005	2006	2007	2008	2009	2010	2011	2012	2013	2003-2013 growth rate
	<i>Billion dollars</i>													<i>Percent</i>
Agricultural exports:														
Animals and products	12.4	11.9	12.2	12.7	13.4	13.7	14.0	14.3	14.6	15.0	15.3	15.7	16.0	2.8
Grains, feeds, and products	13.9	14.2	14.9	15.3	15.6	15.6	16.5	17.2	17.9	18.5	19.2	19.7	20.1	3.0
Oilseeds and products	8.8	9.8	10.2	10.6	10.6	10.5	10.5	10.6	10.8	10.8	11.1	11.2	11.1	0.9
Horticultural products	11.1	11.1	11.9	12.3	12.6	13.0	13.3	13.7	14.0	14.4	14.8	15.1	15.5	2.7
Tobacco, unmanufactured	1.2	1.1	1.0	1.1	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	-3.7
Cotton and linters	2.1	2.1	2.7	4.3	4.2	4.0	4.1	4.2	4.2	4.2	4.2	4.2	4.3	4.6
Other exports	3.3	3.2	3.3	3.2	3.7	3.8	3.9	4.0	4.1	4.3	4.4	4.5	4.6	3.5
Total agricultural exports	52.7	53.3	56.2	59.5	60.9	61.4	63.2	64.8	66.4	67.9	69.7	71.2	72.4	2.6
Bulk commodities exports	17.6	18.2	20.3	23.0	22.4	22.2	22.6	23.1	23.7	24.0	24.6	25.1	25.2	2.2
High-value product exports	35.1	35.1	35.9	36.5	38.5	39.2	40.6	41.7	42.7	43.9	45.0	46.1	47.2	2.8
High-value product share	66.6%	65.8%	63.9%	61.3%	63.2%	63.9%	64.3%	64.3%	64.3%	64.7%	64.6%	64.8%	65.2%	
Agricultural imports:														
Animals and products	9.0	9.1	8.6	8.5	8.7	8.9	8.9	8.8	8.9	9.0	9.1	9.3	9.4	0.9
Grains, feeds, and products	3.2	3.6	3.9	4.3	4.4	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.9	4.2
Oilseeds and products	1.7	1.7	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.6	2.6	2.7	2.8	3.4
Horticultural products	16.4	17.5	20.2	21.8	22.5	23.1	23.8	24.5	25.3	26.0	26.8	27.6	28.4	3.5
Tobacco, unmanufactured	0.6	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.0
Sugar and related products	1.6	1.7	2.1	2.3	2.5	2.5	2.5	3.0	3.0	3.0	3.1	3.2	3.3	4.6
Coffee, cocoa, and rubber	3.8	4.0	5.2	5.6	5.8	5.9	6.0	6.1	6.3	6.4	6.5	6.7	6.8	2.6
Other imports	2.6	2.6	2.9	3.1	3.2	3.3	3.4	3.5	3.5	3.6	3.7	3.8	3.9	2.9
Total agricultural imports	39.0	41.0	45.7	48.5	50.0	51.2	52.3	54.0	55.2	56.7	58.1	59.7	61.2	3.0
Net agricultural trade balance	13.7	12.3	10.5	11.0	11.0	10.2	10.9	10.9	11.2	11.2	11.6	11.5	11.2	0.6
	<i>Million metric tons</i>													
Agricultural exports (volume):														
Bulk commodity exports	111.9	113.9	106.4	111.6	120.9	123.1	125.1	127.7	131.3	133.5	136.0	138.6	140.9	2.8

1/ The projections were completed in November 2003 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 December.

Notes: Other exports consists of seeds, sugar and tropical products, and beverages and preparations. Essential oils, fruit juices, wine, and beer are included in horticultural products. Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. High-value product (HVP) values are calculated as total exports less the bulk commodities. HVP's includes semi-processed and processed grains and oilseeds, animals and products, horticultural products, and sugar and tropical products. Other imports include seeds, beverages except beer and wine, and miscellaneous commodities.

Agricultural Trade

With strengthening world economic growth, global agricultural trade is projected to rise throughout the baseline. Agricultural trade will remain very competitive, reflecting expanding production in a number of foreign countries.

The economies of developing countries provide a foundation for gains in demand for agricultural products and increases in trade. Broad-based economic growth and increasing urbanization lead to diet diversification in most developing regions, generating increased demand for livestock products and feeds, as well as for fruits, vegetables, and processed products. Developing-country import demand is further reinforced by population growth rates that remain nearly double the growth rates of developed countries.

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

Strong agricultural trade competition is expected in international commodity markets, not only from traditional exporters such as Argentina, Australia, and Canada, but also from countries that are in the process of investing in previously underdeveloped resources including Brazil, Hungary, Romania, Russia, Ukraine, and Kazakhstan.

Baseline trade projections to 2013/14 are founded on long-term assumptions concerning trends in foreign area, yields, and use and on the assumption that all countries fully comply with all existing bilateral and multilateral agreements affecting agriculture and agricultural trade.

The baseline does not incorporate any effects of agreements not formally ratified by November 2003. However, the baseline does incorporate the effects of trade agreements and domestic policy reforms already in place in November 2003. For example, the expansion of the European Union (EU) from 15 to 25 countries in 2004 and scheduled reforms of the EU's Common Agricultural Policy (CAP) affect the baseline projections for many commodities (see boxes, pages 75-77).

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 reform underway in many developing countries is assumed to continue. Similarly, the development and use of agricultural technology and changes in consumer preferences are assumed to continue to evolve based on past performance and analysts' judgment regarding future developments.

EU CAP Reform, 2003

The EU-15 legislated a reform of its Common Agricultural Policy (CAP) in the summer of 2003 that will affect crops, livestock, dairy, and the CAP budget beginning in 2005. This reform will also apply to the incoming 10 new member states which will join the EU on May 1, 2004.

The main feature of the CAP Reform of 2003 is the decoupling of direct payments from production decisions. The EU previously provided compensatory payments to make up for significant cuts in price support for grain, oilseeds, and beef and veal. However, to receive the payments, farmers had to produce, so the payments were coupled to production. The direct payments in the new CAP reform do not require a farmer to produce. If a farmer decides to simply collect the farm's historical payment and not produce, the land must still be kept in "good agricultural condition." Acceptance of the new single farm payments (SFP) also means that a farm must be in compliance with environmental, food quality, food safety, and animal welfare standards set by the EU. The new payments are the historical average of payments made to the farmer in the 2000-2002 period. However, EU member states have been given the option of coupling up to 25 percent of the payment for arable crops, 40 percent of the sheep payment, and from 40 to 100 percent of beef and veal payments. In addition, member states can choose from 2005 to 2007 to implement the new direct payments.

Intervention prices were lowered for 3 commodities, rice (50 percent), butter (25 percent), and skim milk powder (SMP) (15 percent), but direct payments to compensate for lower prices will be incorporated into the SFP. A cap on rice intervention was set at 75,000 tons. A declining cap on butter was set at 70,000 tons in 2004 with scheduled reductions to 30,000 in 2008. The milk quota was increased by 1.2 percent. Intervention for rye was abolished. Financial discipline was installed by allowing the CAP budget to increase by 1 percent per year until 2008 and if violated, the SFP would be reduced by the same proportion. The CAP reform of 2003 also included a "carbon credit" of 45 euros per hectare for the production of biofuels, which will result in more rapeseed production.

Likely Effects of CAP Reform

Cereals and oilseeds

One of the most likely influences on cereal production will result from the abolition of rye from intervention. Most of feed rye area will go into barley production with some rapeseed in rotation where agroclimatically possible. Some marginal land will go out of cereal production, particularly wheat, because wheat is frequently the default crop in marginal southern and northern areas of Europe. A reduction in EU storage payments of 50 percent will also encourage marginal cereal land to go out of production. Some durum wheat will also go out of production because of CAP reform. Overall, somewhat less than 2 percent of cereal area will move to fallow and pasture where extensification of beef production will be enhanced. The decoupling of direct payments will not cause oilseed area to change much because oilseeds are not grown in marginal areas, with the

--continued

EU CAP Reform, 2003—continued

exception of sunflowers. However, more oilseeds will be grown in the form of rapeseed because of the carbon credit offered for biofuel production, with as much as 500,000 hectares added to oilseed area.

The 50 percent cut in the rice intervention price will reduce rice production, with yields down significantly and area falling slightly. EU rice imports are expected to increase somewhat to make up for the decline in production.

Beef and veal

Beef and veal production will likely decline marginally over the next 10 years as decoupled payments will allow some farmers to forgo production. Pasture land is not allowed to go into crop production, so with lower cattle numbers, farmers will graze fewer animals on the same area, which is part of the EU's environmental program. While the milk quota is increasing marginally, it is not likely to result in more beef production as more productive dairy animals will be introduced into the herd, replacing dual-purpose breeds. Pork and poultry production will rise marginally in response to the reduced production of beef. Protein feed should increase slightly to account for the presence of more pure dairy cows and more poultry feeding.

Dairy products

The intervention price for butter is to decline by 25 percent between 2004 and 2006 and the SMP intervention price is set to decline by 15 percent over the same time period. The decrease in production resulting from the price decline will be reflected in lower exports and less storage of both butter and SMP.

First indications of response to CAP Reform

EU farmers are generally in favor of 100-percent decoupling. A survey released by the EU Commission in the fall of 2003 indicated that the difficulty in maintaining two administrative programs to keep track of coupled and decoupled payments will discourage most EU members from opting for coupled programs. The survey showed that most EU members will opt for 100-percent decoupling for arable crops. Additionally, Ireland and England will both opt for 100-percent decoupling for beef and veal payments.

Effects of Enlargement of the European Union

On May 1, 2004, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia will become members of the European Union, increasing membership from 15 to 25 countries. The most important agricultural countries of the new entrants are Poland, Hungary, and the Czech Republic, which account for nearly 80 percent of the population and 85 percent of grain production of the acceding countries. The acceding countries have already adopted EU policies and are largely integrated with the EU economically, although a few prices for important agricultural commodities are sufficiently different to cause additional production and trade effects once accession is complete. The commodity likely to be affected the most is beef, where cattle prices are significantly lower in Poland, Hungary, and the Czech Republic. The EU-15 will likely see significant imports (both beef and live cattle) as a result of increased cattle production in each of those three acceding countries. The other commodity most likely to be affected is barley, where the EU intervention price is significantly higher than prices in the three countries. An increase in barley prices in acceding countries, in combination with the abolition of EU intervention for rye under CAP reform, will likely result in more barley production throughout the EU and significantly higher stocks and exports. Increasing yields in combination with larger area will both contribute to production increases.

Production and trade effects are uncertain for other principal commodities (such as corn, wheat, pork, and poultry), since prices, quality, and marketing and production capacity for those commodities vary from the EU and among the three countries. Cheap land and labor relative to EU-15 countries should increase net profitability overall. Pork production is likely to increase because of cheap labor and higher prices in Poland and Hungary. Higher corn prices in Hungary should boost production and exports to other EU countries. On the other hand, wheat production is likely to decline in Poland and Hungary because of lower EU intervention prices, leading to imports from the EU-15. Polish poultry imports from other EU members are likely to increase because of lower EU prices. Adoption of EU regulations will eliminate Poland's imports of U.S. poultry because of EU sanitary regulations.

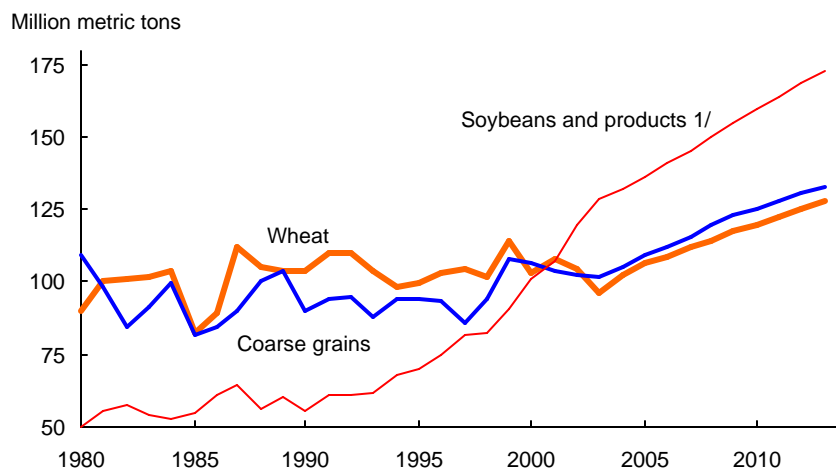
Although EU enlargement is assumed in the baseline, the trade projections show EU-15 and selected CEE country results rather than an aggregate for the EU-25 since historical data with intra-trade within the EU-25 netted out were not available.

Selected statistics comparing the EU-15 and acceding countries*

	Year	EU-15	Acceding countries
Population (mil.)	1998	377	74
Agriculture's share of employment (percent)	1999	4.7	13.7
Arable land (mil. hectare)	1998	75	31
Grain production (mil. mt)	2000	206	46
Grain yield (mt/hectare)	2000	5.7	2.8

*Malta and Cyprus not included.

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



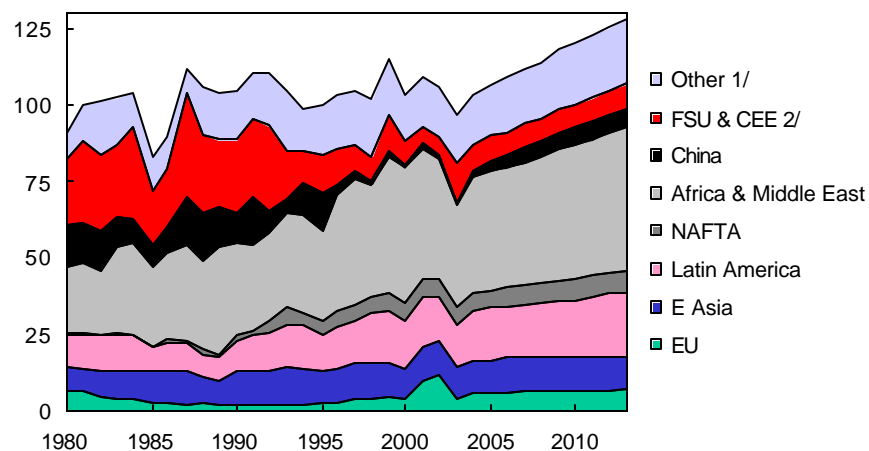
1/ Soybeans and soybean meal in soybean equivalent units.

Rising unabated since the early 1990s, global trade in soybeans and soybean products has surpassed wheat--the traditional leader in agricultural commodity trade--and total coarse grains. Continued strong growth in global demand for vegetable oil and protein meal is expected to maintain soybean and soybean product trade well above wheat and coarse grains trade throughout the next decade.

- These three major commodity groupings--wheat, coarse grains, and oilseeds (including soybeans)--compete with each other and with other crops for increasingly limited temperate cropland. Of the major crops, only oilseeds--notably soybeans in central Brazil and palm oil in Indonesia's Kalimantan province--are successfully tapping into reserves of virgin tropical soils. As a result, oilseed production and trade can be expected to expand with growth in demand for vegetable oils and protein meals.
- Virtually no growth in overall global wheat and coarse grain trade occurred in the 1990s, largely reflecting reductions in imports by the transition economies of the former Soviet Union (FSU) and Central and Eastern Europe (CEE). With those demand adjustments largely complete, the continuing growth in import demand from other countries leads to overall gains in global grain trade.
- In the projections, total area planted to all crops changes little in most countries. Growth in production is derived mostly 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.
- Slower growth in aggregate crop production is offset by slower 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 livestock and horticultural products.

Global wheat imports

Million metric tons



1/ Predominantly South and Southeast Asia.

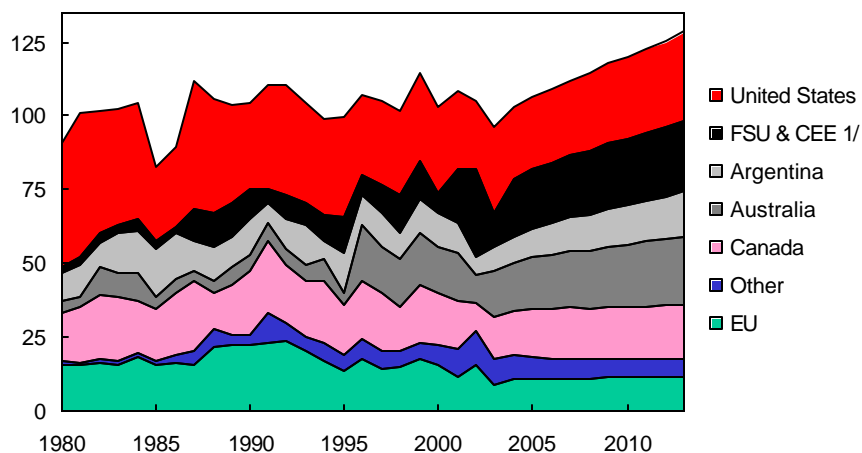
2/ Former Soviet Union and Central and Eastern Europe.

Growth in wheat imports is concentrated in developing countries, primarily Africa, the Middle East, and Asia, where robust growth in income and population underpins increases in demand. Important growth markets include China, Brazil, Indonesia, Egypt, Mexico, Pakistan, and Sub-Saharan Africa. World wheat trade (including flour) expands by 25 million tons (25 percent) between 2004 and 2013 to nearly 128 million tons.

- Brazil is projected to remain the world's largest importer. The climate in Brazil does not favor wheat, and in some key wheat-producing states, winter corn is expected to have better returns than wheat.
- China is expected to gradually increase wheat imports to over 5 million tons as higher returns for other crops and increasingly expensive irrigation in the North China Plain limit wheat production (see box, page 81). As a result, China turns to the international market to supplement internal supplies.
- Changing consumption patterns affect the projections for some major importing countries. In Indonesia, diversification of diets and strong economic growth are projected to increase per capita wheat consumption. Mexican consumers are projected to continue substituting some wheat for corn in their diets.
- Population growth boosts imports by some other importers. Egypt remains one of the world's largest wheat importers with growth driven by increases in population. Even though Pakistan's per capita consumption is projected to decline somewhat, wheat imports rise because of population growth.
- Developing countries in Sub-Saharan Africa, North Africa, and the Middle East account for over 40 percent of world wheat imports. 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.

Global wheat exports

Million metric tons



1/ Former Soviet Union and Central and Eastern Europe.

The top five wheat exporting nations (the United States, the EU, Canada, Argentina, and Australia) account for about 75 percent of world trade through 2013. This is down from an average of 80 percent during 1996-2002. The U.S. market share of global wheat trade holds steady at about 23 percent under strong competition from the other traditional wheat exporters and from an emerging set of competitors including Ukraine, Kazakhstan, Russia, and India.

- Wheat export shares for Australia and Canada remain fairly stable from 2004 to 2013.
- In Canada, increased demand for barley and oilseeds is expected to keep wheat area from expanding. Only modest yield improvements curtail production growth, while expanding domestic demand limits export growth.
- Exports by the EU and Eastern Europe will be constrained by several factors. Some marginal EU land will go out of wheat and rice production as a result of CAP reform. As the EU expands, more production will likely remain in the EU rather than being exported outside the EU-25. In the near term, the set-aside rate has been lowered from 10 to 5 percent in response to the drought-reduced 2002 crop and low stock levels. These projections assume that the set-aside rate will remain at 5 percent in 2005 before being raised back to 10 percent (see boxes on EU CAP reform and EU enlargement, pages 75-77).
- The Black Sea is an important outlet for wheat exports from the FSU and CEE. Ukraine, Kazakhstan, and Russia emerge as steady suppliers of wheat to international markets. Low costs of production and on-going investment in their agricultural sectors are expected to support FSU and CEE wheat export market share at about 9 percent through the period.
- India's exports of low-quality wheat from government-held stocks are expected to continue at about 2 million tons per year.

Will Water Scarcity Affect China's Agricultural Production and Trade?

Water shortages in important grain-producing regions of China may affect China's future agricultural production and trade. Rapidly increasing industrial and domestic water consumption and expanding irrigation over the last 40 years have drawn down ground-water tables and disrupted surface-water deliveries. The problem is most severe in the North China Plain (NCP) region of north-central China, primarily the provinces of Hebei, Shandong, and to some extent, Henan.⁴ Over 50 percent of China's wheat and nearly 40 percent of China's cotton has been produced in these three provinces in recent years, and both these crops rely on irrigation.

Wheat is the most likely crop to experience production declines due to irrigation water shortages. China is the world's largest wheat producing country and a decrease in wheat production could have a significant effect on international markets. Most of the wheat in the areas affected by irrigation water shortages is winter wheat that grows in the spring and is harvested in June. After harvesting wheat, farmers plant a second crop, usually corn or, increasingly, cotton. Over 70 percent of the annual rainfall on the NCP, however, falls in the period July-September, so the second crop does not rely on supplemental irrigation as much as winter wheat. Indeed, the expansion of irrigated area in this region over the last 40 years has allowed farmers to double-crop with winter wheat. Wheat is also threatened by reduced water availability for agriculture because irrigated wheat brings a low return to water and is less suitable to water-saving irrigation technologies (such as greenhouses, drip irrigation, or even plastic mulching) than horticultural crops.

Despite indications that water shortages have not seriously affected agricultural production thus far,⁵ China continues to draw down water resources and many observers anticipate the situation worsening unless effective water conservation policies can be rapidly put into place. China has recently established a variety of policies to encourage more effective water conservation in both agricultural and nonagricultural uses. The success of these policies will depend on several factors. Policy reforms will depend critically on the enforcement of withdrawal limits both from surface water systems and from ground water. Also important is the extent to which policies and local management practices provide water users and water managers an incentive to conserve water resources.

Cropping patterns in China will likely change as farmers address water conservation issues. Effective conservation policies will induce farmers to use water in ways that are more in accordance with its economic value in production. Uses that bring a low return to water, such as wheat irrigation, will be replaced by uses that bring about higher returns, such as cotton production with lower irrigation needs. The introduction of Bt cotton in the NCP has made cotton much more profitable in this area. Because of the profitability of Bt cotton, and low wheat prices, an

⁴ Liaoning Province also suffers from water shortage problems, and many areas suffer from water quality problems in China.

⁵ Policies and prices have likely contributed more to recent reductions in wheat production than have irrigation shortages.

–continued

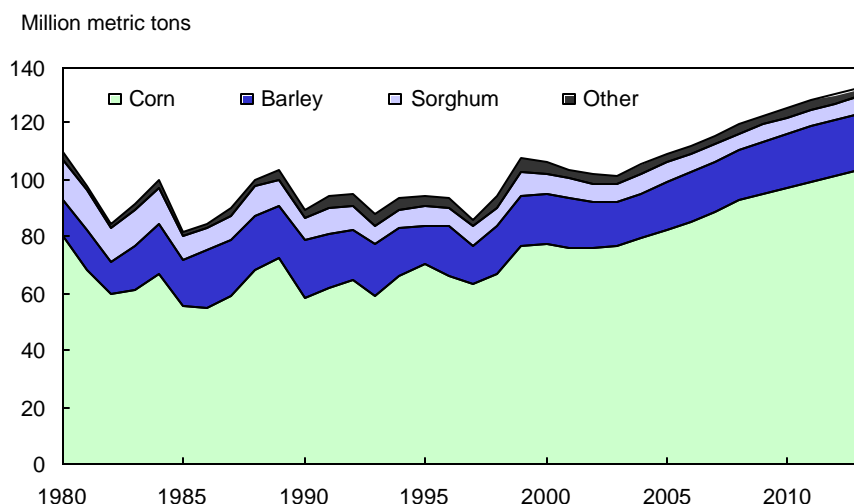
Will Water Scarcity Affect China's Agricultural Production and Trade?—continued

increasing number of farmers are forgoing winter wheat and planting full-season (spring-sown) cotton instead, which they irrigate one to three times before the rainy season begins. In addition, cotton tends to be more salt tolerant than wheat, and much of the NCP's shallow water table has salinity problems.

Additionally, some irrigated wheat land could move to vegetable production using modern water-saving irrigation practices. A shift to vegetables would also be in accordance with China's underlying resource endowment, which is labor abundant and land scarce. If China further opens its agricultural markets, this too will hasten the shift into more labor-intensive crops that could bring higher returns to China's limited water resources.

For more information on this topic, see *China's Agricultural Water Policy Reforms: Increasing Investment, Resolving Conflicts and Revising Incentives*, by Bryan Lohmar, Jinxia Wang, Scott Rozelle, Jikun Huang, and David Dawe, USDA, ERS, AIB No. 782, March 2003, available at: <http://www.ers.usda.gov/publications/AIB782>

Global coarse grain trade by type

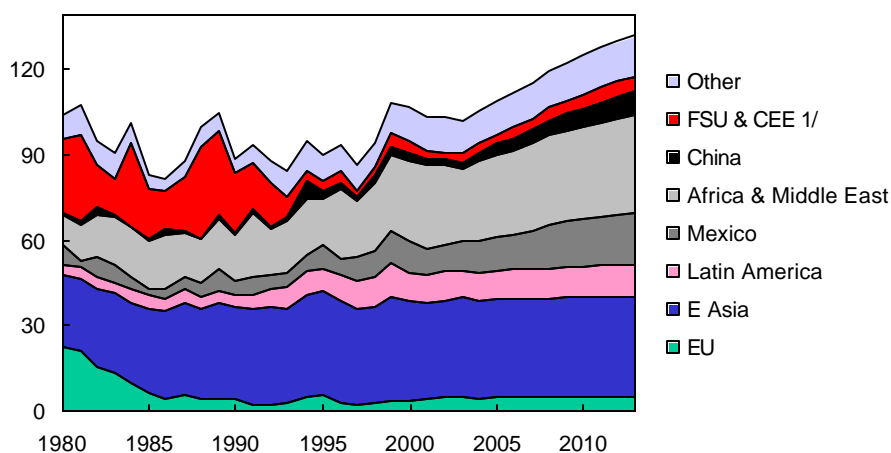


Growth in trade of coarse grains is strongly linked to expansion of livestock activities in regions unable to meet their own forage and feed needs, particularly North Africa, the Middle East, and East and South East Asia.

- Corn is the dominant feed grain traded in international markets. Corn accounts for an average of 77 percent of all coarse grain trade through the projection period, followed by barley (15 percent), and sorghum (5 percent).
- 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, they also demand a higher minimum quality of feedstuffs, particularly related to energy and protein content. This commercialization of livestock activities has been a driving force behind the gains in global protein meal markets and the growing dominance of corn in international feed grain markets.
- Trade in barley and oats is becoming increasingly specialized and driven by specific end-use demands. Trade in sorghum and rye will be affected by changing government policies in Mexico and the EU-25.

Global coarse grain imports

Million metric tons



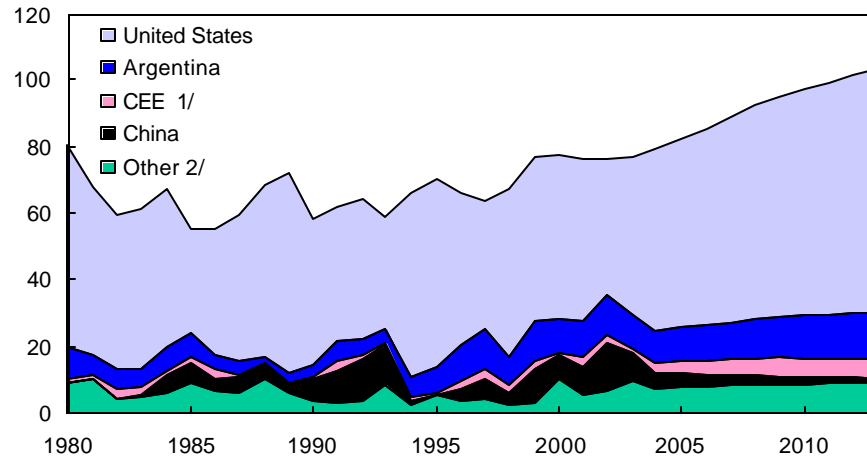
1/ Former Soviet Union and Central and Eastern Europe.

Rising incomes and associated gains in per capita meat consumption, particularly in developing countries, are important drivers of projected gains in coarse grain use and trade. Key growth markets include China, North Africa, the Middle East, and Mexico.

- World coarse grain trade expands about 27 million tons (26 percent) from 2004 to 2013. About two-thirds of global coarse grain supplies are used as animal feed. Industrial uses, such as starch production, ethanol, and malting, are relatively small but growing. Food use of coarse grains, concentrated in parts of Latin America, Africa, and Asia, has generally declined over time as consumers tend to shift consumption toward wheat, rice, and other foods, as their incomes rise.
- A key factor that weakened global coarse grain demand during the 1990s was the drop in livestock numbers and feeding that occurred in the FSU and CEE as these economies underwent structural reform. These adjustments are largely completed. In the projections, steady long-run growth in the livestock sectors of developing countries in Asia, Latin America, North Africa, and the Middle East is expected to more than make up for the lost feed demand of the FSU and CEE.
- North Africa and the Middle East experience continued growth in import demand for grain and protein meals through 2013 as rising populations and an increasing income sustain strong demand growth for domestically produced animal products. Feed requirements have grown in step with livestock and poultry sectors in North African and Middle East countries.
- Mexico's imports of corn are projected to jump nearly 7 million tons between 2004 and 2013. Under the North America Free Trade Agreement (NAFTA), Mexico's over-quota tariff on corn imports from the United States is gradually reduced to zero by January 1, 2008. Before then, the tariff will reach levels that are low enough to facilitate over-quota corn imports. As a result, Mexico's corn imports are projected to rise sharply. The increase in corn imports will substitute for imports of sorghum, which already has tariff-free status.

Global corn exports

Million metric tons



1/ Central and Eastern Europe.

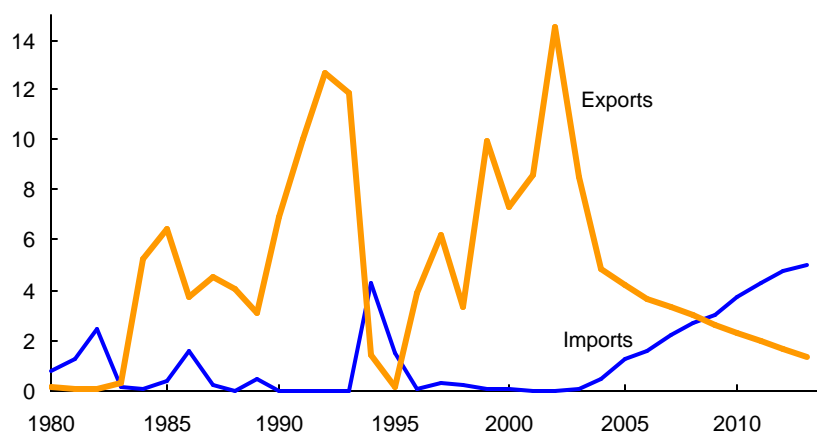
2/ Republic of South Africa, Brazil, EU, former Soviet Union, and others.

The United States dominates world trade in coarse grains, particularly corn. The U.S. share of world corn trade is expected to grow from about 60 percent in recent years to over 70 percent by 2013 as few countries have similar capabilities to respond to rising international demand for corn. China's trade share drops, but the U.S. corn sector faces increased competition from Argentina and Eastern Europe, which also increase their shares of the global corn market.

- Argentina, with a small domestic market, remains the world's second largest corn exporter. As Argentina's economy continues to recover, investments and planted area gradually return to corn production over the baseline, with exports projected to rise from 10 to nearly 14 million tons.
- China's corn exports decline in the baseline reflecting strengthening domestic demand driven by rapidly expanding livestock sectors.
- The Republic of South Africa continues exporting some corn to neighboring countries in southern Africa, but amounts remain small (about 1 million tons).
- Corn exports from Eastern Europe double to about 6 million tons by 2013. Favorable resource endowments, increasing economic openness, and greater investment in their agricultural sectors are behind projected gains in production and trade.
- Brazil continues to export about 5 million tons of corn in response to niche market demand for non-genetically modified grain, but strong growth in domestic demand prevents corn exports from increasing.

China: corn imports and exports

Million metric tons

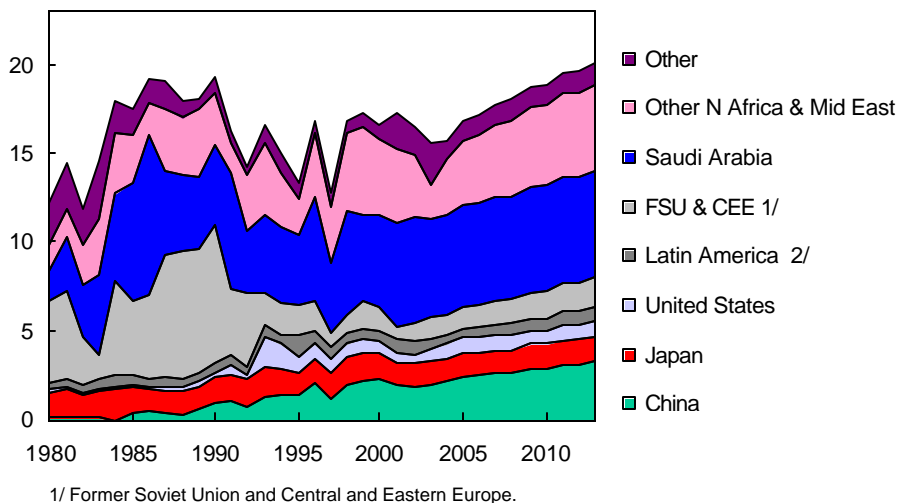


China remains a net corn exporter through 2008/09, reflecting abundant domestic supplies and strong producer preferences for growing corn. Later in the period, domestic livestock production increases in response to income growth and rising meat demand. The resulting increase in demand for feed overtakes China's internal supplies, with total corn imports exceeding exports. However, China continues to export corn throughout the projection period, although in declining amounts, due to regional supply and demand differences. Northern China runs a corn surplus, while Southern China is corn deficit.

- Corn is the favored crop in Northeast China. The proximity to South Korea and other Asian markets provides a nearby source of demand, while various government measures--including subsidies for corn sales from state grain reserves, waiver of certain transportation construction taxes, and a rebate of the value-added tax on exported corn--keep corn exports competitively priced in international markets.
- China experienced a large buildup of corn stocks in the mid- to late-1990s due to a combination of favorable weather and local self-sufficiency policies that boosted grain production to record levels. In the last half decade, China's consumption exceeded production, and stocks have declined sharply. Because a continued drop in stocks is unsustainable, China is projected to increase imports and reduce exports, and to become a net corn importer by the middle of the baseline period.

Global barley imports

Million metric tons

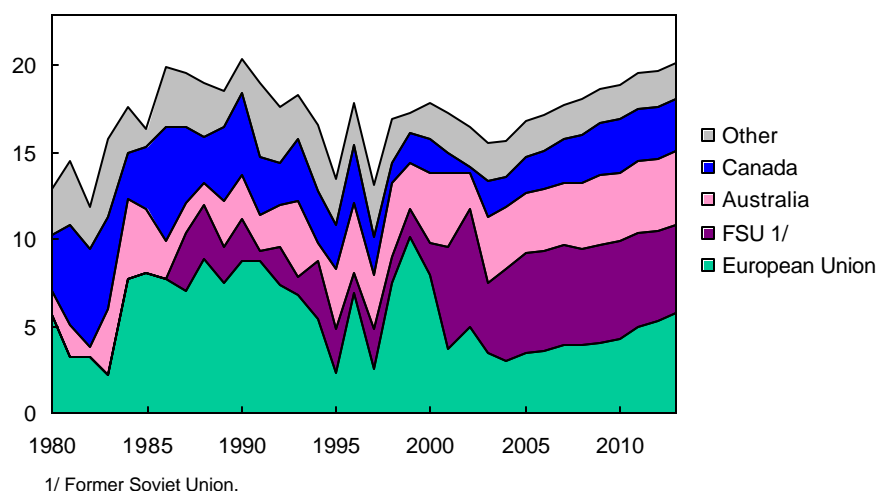


Global barley trade expands throughout the baseline, driven by rising demand for both malting and feed barley.

- Feed barley imports by North African and Middle Eastern countries--where barley is preferred as a feed for large populations of camels, goats, and sheep--grow steadily through the period. 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 African and Middle East region is expected to remain the world's largest barley importing block.
- Saudi Arabia--the world's foremost barley importer--accounts for over 30 percent of world barley trade through the baseline. Saudi Arabia's barley imports are used primarily as a ruminant feed.
- 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 since the mid-1990s. Malting barley is the leading ingredient used by brewers to produce beer, and China's beer demand is rising steadily due to growth in incomes and population.

Global barley exports

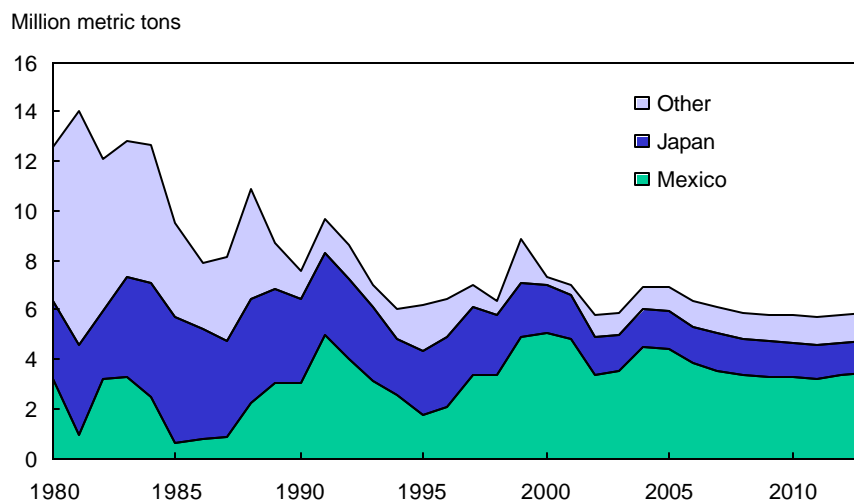
Million metric tons



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 baseline period.

- The EU, with abundant barley supplies, increases its barley exports over the projection period to 5.8 million tons and its share of world trade rises to nearly 30 percent. Barley production is expected to increase throughout the EU as a result of CAP reform and EU enlargement. The abolition of EU intervention for rye, combined with higher barley prices in the acceding countries, will stimulate more area allocated to barley production.
- The FSU remains a major barley exporter throughout the baseline as exports exceed 5 million tons. Together, the FSU and EU account for 50 to 55 percent of world barley trade throughout the baseline.
- Malting barley is a different variety and quality than feed barley and commands a substantial price premium over feed barley. In the long run, malting barley's price premium is expected to strongly influence planting decisions in Canada and Australia, and malting barley's share of total barley area rises in the latter half of the period.

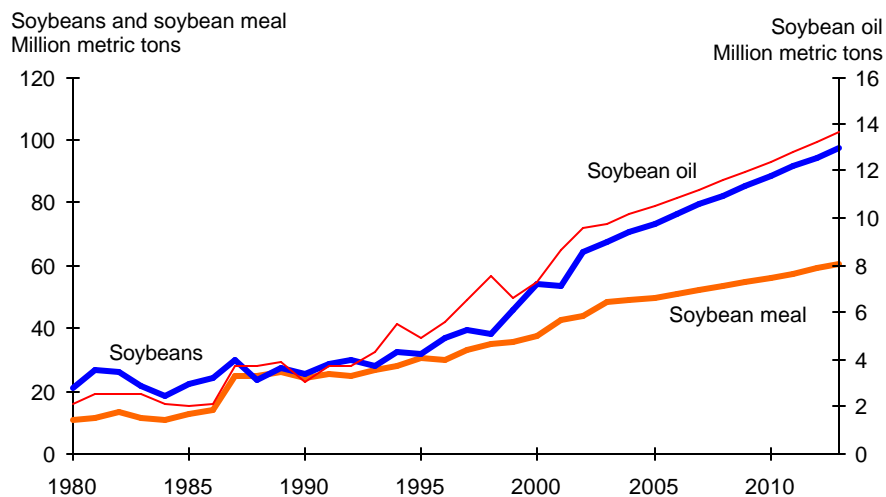
Global sorghum imports



World sorghum trade, which has averaged nearly 7 millions tons during the last decade, declines to about 6 million tons by the middle of the projection period. The decline is driven almost entirely by Mexico.

- Mexico is the world's leading sorghum importer although its sorghum imports were reduced in 2002 and 2003 due to reduced U.S. production. During this two-year period of reduced U.S. exportable supplies of sorghum, U.S. exports to Mexico of kibbled corn (processed corn that also has tariff-free status) rose sharply, reaching a record 2.5 million tons (whole corn equivalent) in 2002/03. Under NAFTA, Mexico's over-quota tariff on corn imports from the United States is gradually reduced to zero by 2008. The projections assume that the tariff will be low enough before 2008 to facilitate over-quota corn imports. As a result, Mexico's corn imports are projected to increase sharply. As corn substitutes for sorghum in the import mix, Mexico's sorghum imports decline by about 1 million tons to less than 3.5 million tons by 2008/09. Even at the reduced sorghum import level, Mexico still accounts for almost 60 percent of world import demand for sorghum.
- Japan imports a fairly stable volume of sorghum 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. During the projection period, the U.S. share declines to 76 percent by 2013, as Argentina, the world's second largest exporter, raises its share of world exports to 16 percent as U.S. sorghum exports to Mexico decline.

Global exports: Soybeans, soybean meal, and soybean oil

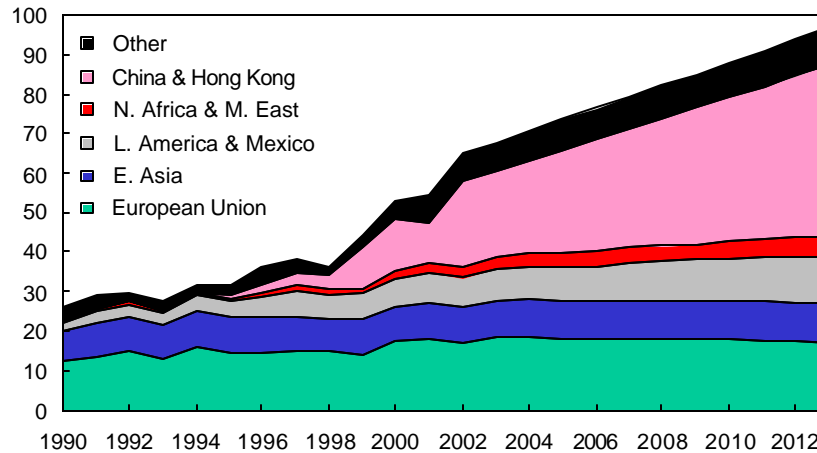


Strong income and population growth in developing countries generates increasing demand for vegetable oils for food consumption and for protein meals used in livestock production. World soybean trade grows at an average annual rate of 3.6 percent through the projection period compared with rates of 3.3 and 2.4 percent for soybean oil and soybean meal.

- 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, oilseed import demand is maintained above protein meal import demand throughout the baseline. However, strong competition in international protein meal markets is expected to pressure crushing margins and shift some of the import demand for oilseeds to cheaper meals. The steady competitive pressure of new oilseed crushing capacity forces many inefficient crushers out of business.
- Growth in import demand for total vegetable oils exceeds growth in import demand for either oilseeds or protein meals. Consequently, economic incentives to produce high-oil content oilseeds, such as rapeseed and sunflower seed, and palm oil strengthen through the baseline period.
- Because of its effect on world commodity markets, China's policy of expanding domestic crushing capacity instead of importing protein meal and vegetable oil significantly influences the composition of world trade, causing international import demand for soybeans and other oilseeds to be greater than would otherwise be the case.

Global soybean imports

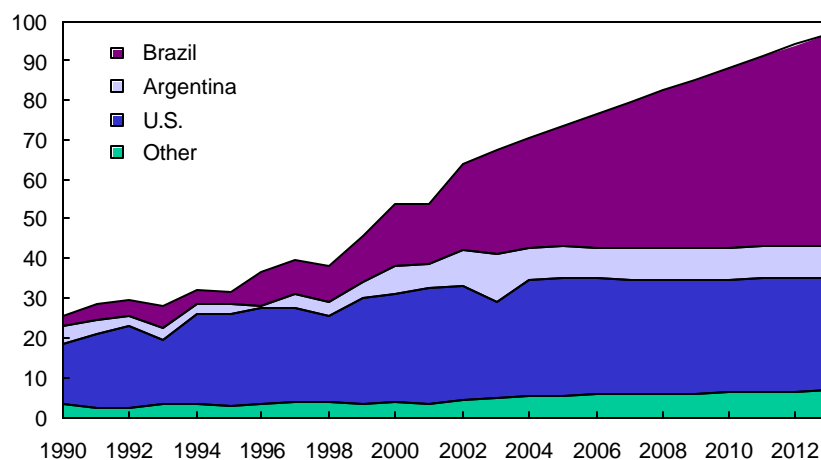
Million metric tons



- The EU has been the world's leading importer of soybeans and soybean meal. Despite an increase in the dairy quota that would increase the feeding of soybean meal, the net growth of soybean meal feeding will decline. Abundant EU grain stocks, lower internal EU grain prices due to Agenda 2000 price cuts, increased barley production due to CAP 2003 reforms, more imports of coarse grains from acceding countries, and more rapeseed meal available as a result of the biofuels initiative, combine to slow the growth of soybean meal consumption. As a result, increases in grain and rapeseed meal feeding are expected to continue to slow the growth in EU soybean meal and soybean imports.
- China accounts for over 70 percent of the world's growth in soybean imports over the next 10 years. Significant investment in oilseed crushing infrastructure by China, seeking to capture the value added from processing oilseeds into protein meal and vegetable oil, drive strong gains in soybean imports.
- 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 slows over the baseline. This process occurs most noticeably in Japan.

Global soybean exports

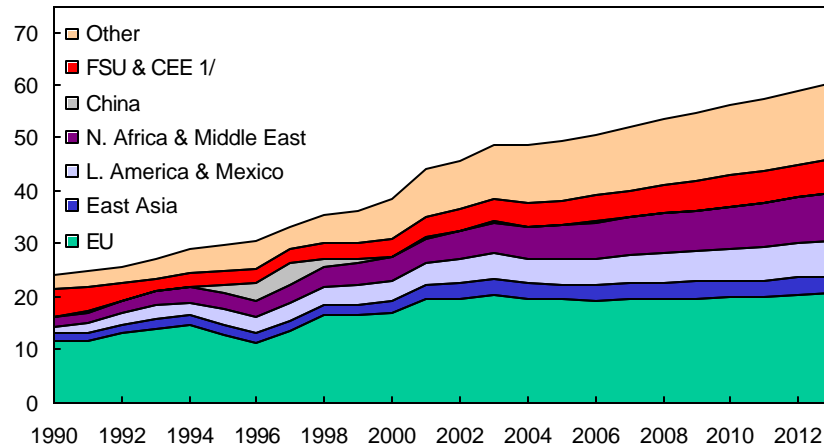
Million metric tons



- The three leading soybean exporters--the United States, Brazil, and Argentina--account for more than 90 percent of world trade throughout the baseline.
- Driven by continuous area gains, Brazil extends its lead over the United States as the world's leading exporter of soybeans.
- Limited expansion of acreage and increasing domestic use eventually constrict exportable U.S. supplies.
- Argentina's soybean exports hold steady at 8 million tons, reflecting the country's substantial crush capacity and an export tax structure that favors domestic crushing of whole seeds and exporting of the products.

Global soybean meal imports

Million metric tons

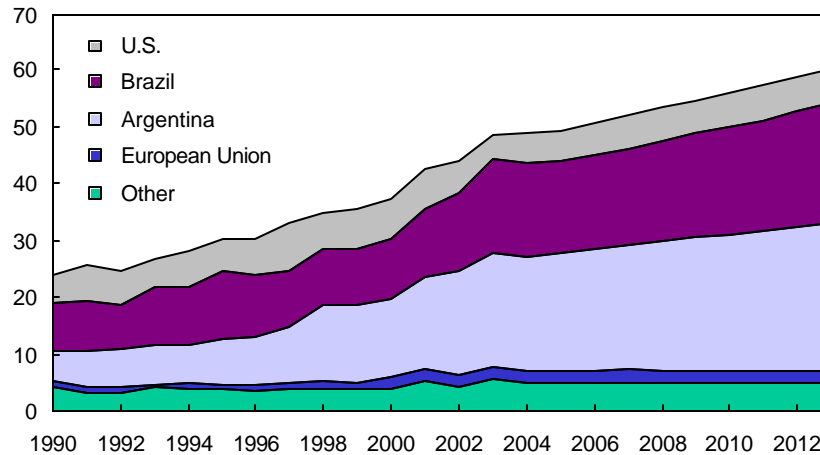


1/ Former Soviet Union and Central and Eastern Europe.

- Despite increased domestic grain feeding, the EU remains the world's principal destination for soybean meal through the projection period, as favorable import prices for meal relative to soybeans pressure crush margins and curtail soybean imports in favor of soybean products.
- Latin America, North Africa, the Middle East, Southeast Asia, the former Soviet Union, and Central and Eastern Europe remain important growth markets for soybean meal.
- Significant expansion in domestic crushing in China and large imports of oilseeds in the baseline replace the temporary period of soybean meal imports seen in the late-1990s. By the end of the projection period, China becomes a net exporter of 1 million tons of soybean meal.

Global soybean meal exports

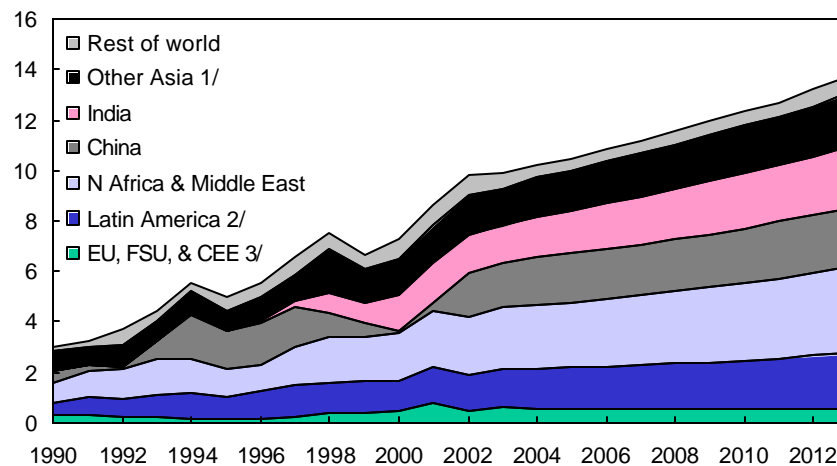
Million metric tons



- Argentina, Brazil, and the United States are the three major exporters in international protein meal markets. These countries increase their share of global soybean meal trade from about 85 percent in recent years to more than 88 percent at the end of the projection period.
- Small but steady soybean meal exports from the EU are joined by increasing exports from other South American countries (mostly Paraguay) and China to keep international protein meal markets very competitive. India remains an exporter, although export volume declines.
- Argentina and Brazil, the world's two largest exporters, increase their share of soybean meal exports slightly, while the export shares of the United States and other exporters fall slightly.
- Strong growth in domestic meal consumption due to rapid expansion of the poultry and pork sectors constrains growth in Brazil's soybean meal exports.

Global soybean oil imports

Million metric tons

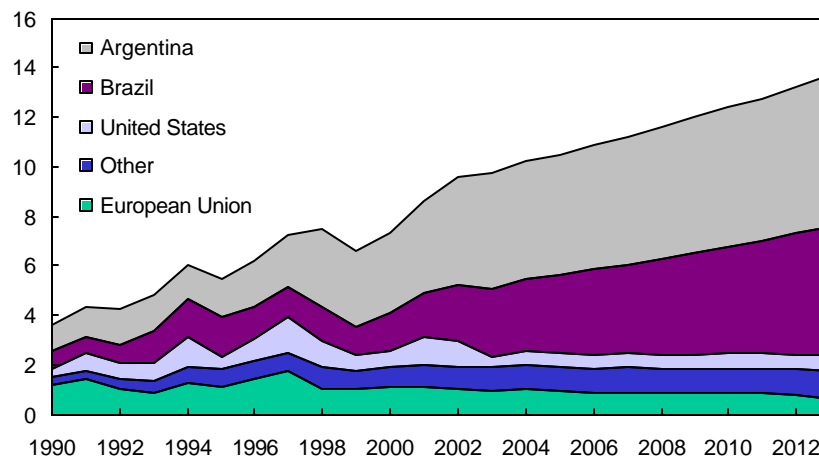


1/ Asia less India and China. 2/ Includes Mexico. 3/ European Union, former Soviet Union, and Central and Eastern Europe.

- Import demand for soybean oil rises in nearly all countries and regions except for the FSU, CEE, and the EU. The largest gains are projected for India, North Africa, the Middle East, and Latin America (particularly Mexico, the Caribbean, and Central America), where income and population growth drive strong gains in soybean oil imports. Slower growth is projected for the mature markets of Europe and Japan.
- In India, relatively lower tariffs on soybean oil (held in check by World Trade Organization tariff binding commitments) than on other vegetable oils favor continued strong imports of soybean oil. India accounts for an increasing share of world soybean oil imports, due to burgeoning domestic demand for vegetable oils and limitations on domestic production of oilseeds. Land-use competition also limits oilseed area in India.
- In China, growing demand for high-quality vegetable oils outpaces domestic oil production and fuels expanding soybean oil imports. Land-use competition from other crops constrains area planted to vegetable oil crops in China.

Global soybean oil exports

Million metric tons



A strong emphasis on exporting soybean products pushes Argentina's and Brazil's combined share of world soybean oil exports from 75 to 82 percent by the end of the baseline.

- Argentina has a small domestic demand for soybean oil. Argentine soybean production is projected to rise due to extensive double-cropping, further adjustments to crop-pasture rotations, and the addition of marginal lands in the Salta-Tucuman region in the northwest part of the country. Nearly all additional soybean oil production will be exported.
- Argentina exports more soybean oil than Brazil, reflecting the country's large crush capacity and its small domestic market.

South America's Increasing Presence in the Global Soybean Market

The global soybean sector has been undergoing a period of tremendous structural change, which is projected to continue in the baseline. The United States has traditionally been the world's dominant soybean producer, but in the 1990s South America emerged as a major competitor. This change took place very quickly. Soybean production in Brazil and Argentina increased sharply between 1990 and 2002. Production has also increased in the United States but not at nearly the same rate as in South America. As a result, in 2002/03 South America surpassed the United States in soybean production.

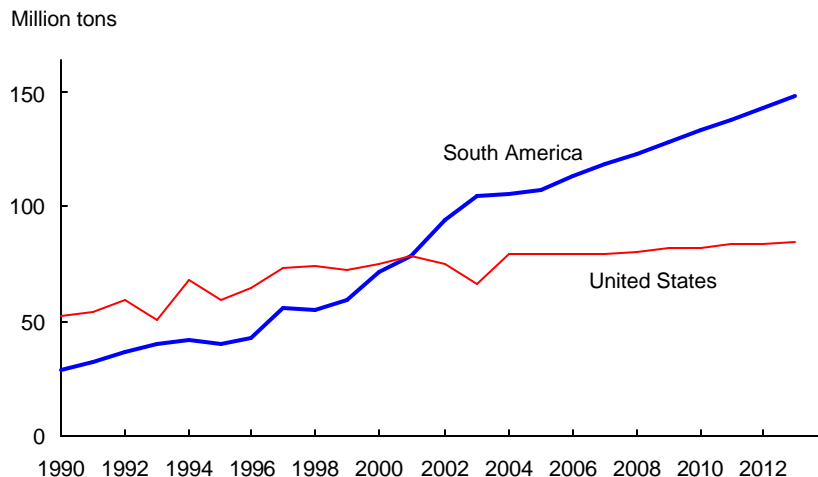
Significant expansion in South American soybean production is expected to continue in the baseline, particularly in Brazil. Crop production in Argentina and Brazil has traditionally been concentrated in the northern third of Argentina and the bordering southern portion of Brazil (this region also shares borders with Paraguay and Uruguay). However, production has expanded significantly in Brazil's "center west" (including the states of Mato Grosso, Goias, Mato Grosso do Sul, Bahia, and Maranhao). There remain large tracts of untapped land resources in Brazil that could easily and inexpensively be converted for more crop production.

Seasonal cropping patterns in Brazil and Argentina are roughly six months different from those in the United States. Consequently there is a major harvest of soybeans in the global market every six months rather than every 12 months. This production pattern makes global soybean supplies much steadier throughout the marketing year and has additional implications for use, stockholding, and price patterns.

Superior transportation and marketing infrastructure have long been a major advantage for the U.S. soybean industry, but South American countries have invested in infrastructure and are significantly narrowing the gap. Much of the recent investment has been in Brazil's interior making this region's production increasingly competitive in the global soybean market.

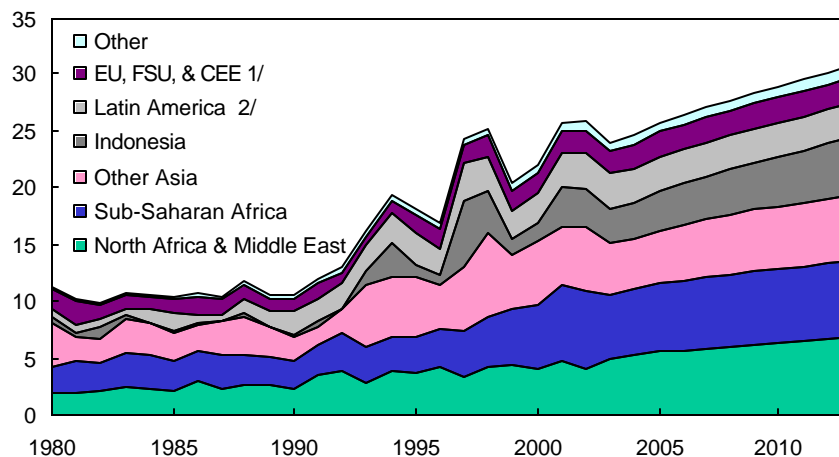
The growing presence of South America in the global market has implications for annual soybean prices. Analysis indicates that a 1-percent increase in South American soybean production would decrease the U.S. season-average farm price by about one-fourth of one percent.

Soybean production, major exporters



Global rice imports

Million metric tons



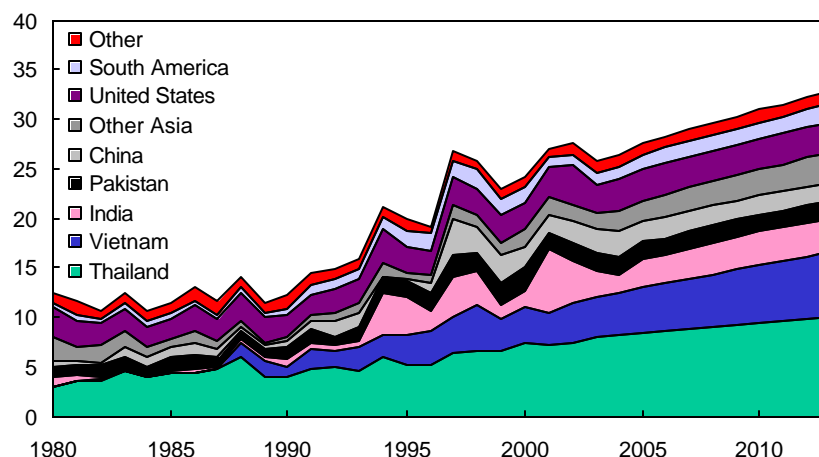
1/ European Union, former Soviet Union, and Central and Eastern Europe. 2/ Includes Mexico.

Global rice trade is projected to average 2.4-percent annual growth from 2004 through 2013. By 2013, global rice trade is projected to reach nearly 33 million tons, about 18 percent above the current record set in 2002. Despite the growth, rice trade as a share of total use remains very small relative to other cereals, at only 6 to 7 percent.

- International rice trade consists predominantly of long-grain varieties, which also account for the bulk of expected trade growth over the next decade. Long-grain rice is imported by a broad spectrum of countries in South and Southeast Asia, the Middle East, Sub-Saharan Africa, and Latin America. Indonesia, Nigeria, Iran, Iraq, the Philippines, and Saudi Arabia are typically the top long-grain markets.
- In contrast, medium- and short-grain rice is primarily imported by the high-income countries of Northeast Asia (Japan, South Korea, and Taiwan) and by two middle-income countries (Turkey and Jordan). Expansion in medium-grain rice trade is projected to be much slower than for long grain, despite the partial opening of domestic markets to imported rice by Japan and South Korea in 1995 and Taiwan in 2002 as part of World Trade Organization (WTO) commitments.
- Aromatic rice, primarily basmati and jasmine, make up most of the rest of global rice trade. Aromatics typically sell at a substantial price premium to long- and medium-grain varieties in global markets. Aromatics are imported mostly for high-income consumers.
- Rising food demand from Indonesia's burgeoning population is responsible for escalating rice imports. Already the world's leading rice importer, Indonesia's share of global rice imports grows from 12 to 15 percent in the baseline. Land constraints and already high crop intensity indexes suggest little opportunity for Indonesia to significantly expand production.
- Sub-Saharan Africa and the Middle East are also major destinations for internationally traded rice. In both regions, strong demand growth driven by rapidly expanding populations and rising incomes confronts limited production opportunities to expand production, due to agro-climatic reasons in the Middle East and to political and infrastructure deficiencies in Sub-Saharan Africa.
- EU rice imports are expected to rise as the 50-percent cut in the rice intervention price imposed by CAP reform causes yields and planted area to decline.

Global rice exports

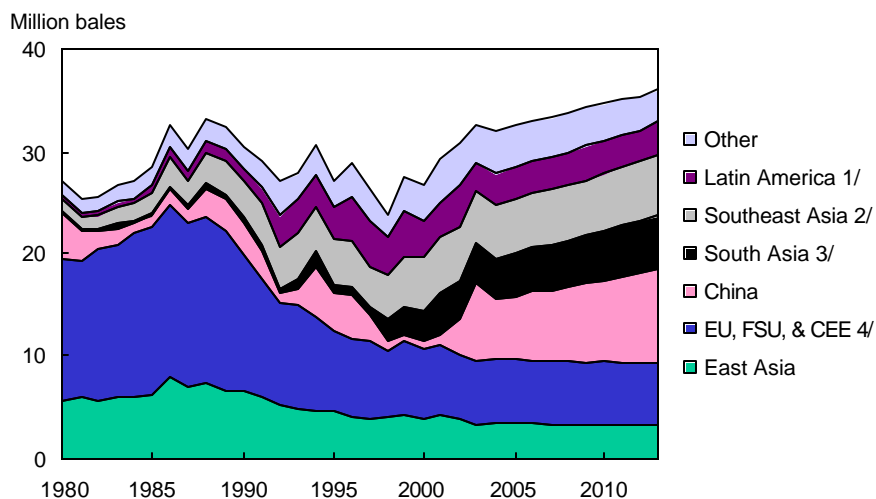
Million metric tons



Asian producing countries dominate rice trade throughout the projection period.

- Thailand and Vietnam, the world's largest rice-exporting countries, account for nearly half of all rice exports in the baseline. Both countries produce and export primarily long-grain rice. Rising production, mostly due to higher yields, and declining per capita consumption account for the expansion in exports for both countries.
- The United States is projected to be the third largest rice-exporting country during most of the baseline. U.S. exports decline slightly after 2006 as rising domestic demand offsets production growth. Record yields are responsible for the larger crops.
- India emerged as an important rice exporter in the mid-1990s. Most of India's rice exports are low-quality, long-grain rice, often purchased from burdensome government stocks. High internal price supports in India encourage over-production, stock accumulation, and a steady supply of exports throughout the period. India also exports smaller quantities of high-quality basmati rice.
- Rice exports from China, typically the world's fifth-leading exporter, decline modestly in the baseline as production shifts to higher quality, but lower yielding varieties in response to domestic prices and policy signals. China exports mostly high-quality, short-grain rice to Northeast Asian markets and low-quality, long-grain rice to Indonesia and other low-income markets in Asia and Sub-Saharan Africa.
- Pakistan exports both high-quality basmati rice and low-quality long grain. Although rice is an important foreign exchange earner, Pakistan has little ability to expand rice area, and production is confronting a growing water shortage. As a result, its exports are relatively stable over the baseline and remain well below the 2.4-million metric ton record of 2000.

Global cotton imports

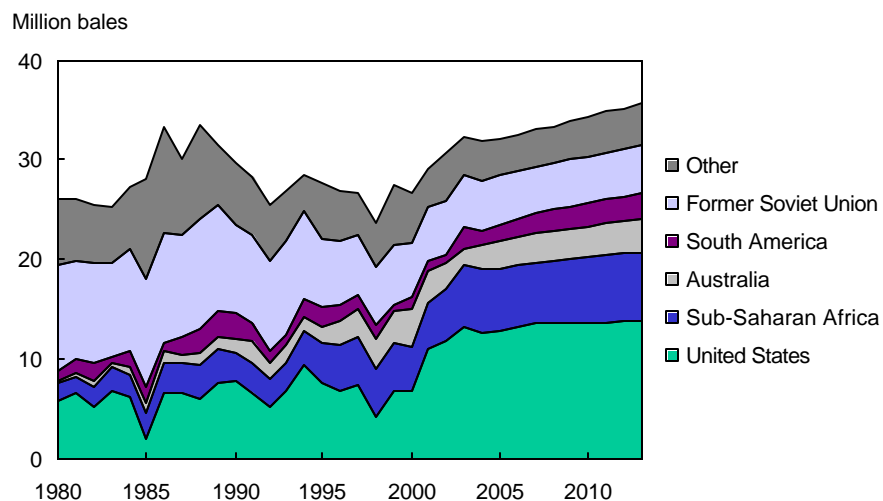


1/ Includes Mexico. 2/ Malaysia, Philippines, Thailand, and Vietnam.
3/ Bangladesh, India, and Pakistan. 4/ European Union, former Soviet

Completion of the Multi-Fiber Arrangement (MFA) phaseout on December 31, 2004 will eliminate quotas and other trade restrictions that have governed international trade in textiles and apparel for more than 30 years. These restrictions are being removed as part of WTO commitments and are having a major influence on world cotton trade patterns. For apparel production, labor is the decisive input factor. As a result, cloth and raw cotton consumption will increase in developing countries where labor costs are lowest. High-cost labor markets in Europe and East Asia continue to reduce their cotton imports through the baseline.

- The textile industries in China and South and Southeast Asia are the major beneficiaries of MFA phaseout. Much of the increase in world imports is attributable to China, whose textile industry begins to import record amounts of cotton in the latter half of the forecast period.
- India is expected to benefit from the MFA phaseout as well, but cotton imports are expected to remain below record levels. India's textile industry use of man-made fiber has been accelerating in recent years, and cotton use is not expected to grow as rapidly as in China, despite India's growing textile exports.
- Other countries with low labor costs that are most likely to gain from MFA phaseout include Bangladesh, Pakistan, Philippines, Thailand, and Vietnam.
- In contrast, Turkey relinquishes its place as one of the world's largest cotton importers. In recent years, Turkey's textile industry has benefited from favorable trade access to the EU, its major export market for textiles and apparel. However, the end of the MFA quotas will now give lower cost competitors the same favorable access to EU markets.
- Similarly, 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 lower wage countries.

Global cotton exports



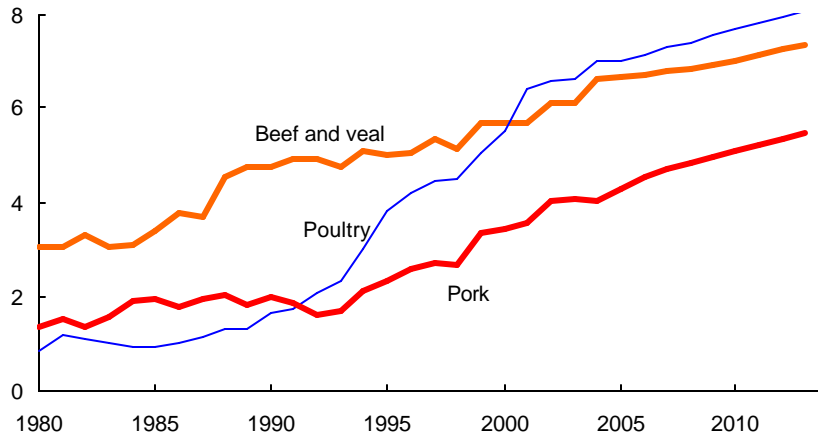
Source: *USDA Agricultural Baseline Projections to 2013*, February 2004. Economic Research Service, USDA.

The MFA phaseout is expected to speed the transfer of raw cotton production to countries where resource endowments and technology result in the lowest production costs. Land is a key input factor. Traditional producers with large land bases suitable for cotton production are expected to benefit from post-MFA phaseout trade patterns. Such producer/exporter regions include the United States, Sub-Saharan Africa, the former Soviet Union, Australia, and Brazil.

- The United States remains the world's leading cotton exporter throughout the baseline period with annual exports (upland and extra-long staple) of between 12.5 and 13.8 million bales.
- Central Asia, the principle competitor with the United States on world raw cotton markets for the last decade, has been overtaken by Sub-Saharan Africa which is expected to expand its lead. Government policies in Central Asia promoting investment in textiles have increasingly resulted in exports of textile products rather than exports of raw cotton. Central Asia's textile industries continue to grow faster than cotton production in the region, and exports decline slowly during much of the forecast period.
- Sub-Saharan Africa's exports have risen in large part due to economic reforms. A large correction in the foreign exchange value of the currency (the CFA Franc) of the major cotton exporting countries of West Africa in 1994 led to nearly a decade of growth in West Africa's cotton production. 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 ending marketing board monopolies. Continued increases in output are expected as producers take advantage of more export-oriented government policies.

Meat exports 1/

Million metric tons



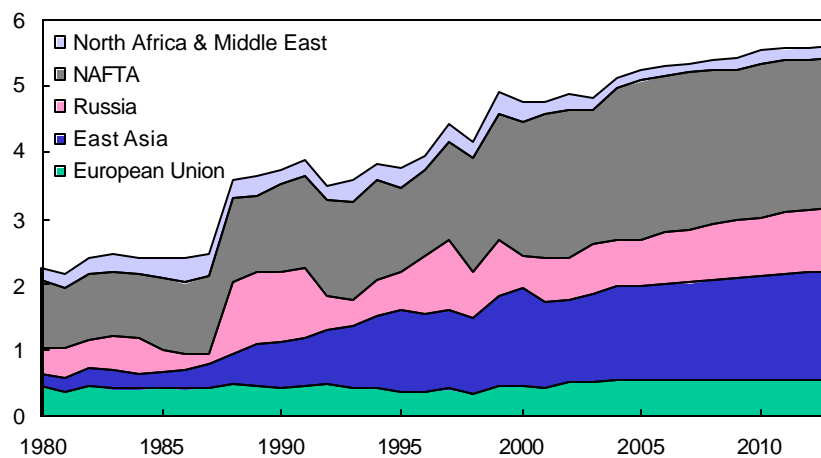
1/ Major exporters.

Increased market access achieved under existing global trade agreements was behind much of the gains in animal product trade over the past decade. During the baseline, per capita income growth in a broad number of importing countries is the driving force behind rising global meat demand.

- Bovine spongiform encephalopathy (BSE) in Canada has resulted in restrictions on live cattle imports into the United States and increased beef exports from Canada to the United States. The baseline projections are based on assumptions that were made prior to the report of a BSE case in the United States.
- The accession of 10 new countries into the EU results in more trade between the EU and the acceding countries and less shipments of meat outside the EU-25.
- Beef exports from Australia and New Zealand, mostly of grass fed beef destined for markets in the United States and Asia, increase slightly through the baseline.
- Argentine exports of fresh/chilled beef and processed products remain strong due to competitive pricing into Hong Kong and European markets.
- EU beef exports remain below the annual WTO export-subsidy limit of 817,000 metric tons as a stronger euro limits their competitiveness and policy changes lower beef production, reducing the supplies of beef that need to be removed from the domestic market.
- Pork exports from CEE countries, particularly Hungary and Poland exports to the EU, rise steadily in the baseline, aided by accession into the EU.
- Brazil's rapidly expanding pork production is expected to be very competitive and its pork exports rise strongly. Brazil does not gain nationwide FMD-free status and focuses its pork exports on Russia, Argentina, and Asian markets other than Japan and South Korea.
- The United States encounters increasing competition in international poultry markets from Brazil, the EU, and several CEE countries.
- A growing share of Brazil's rapidly increasing poultry production enters international markets at very competitive prices, and Brazil's poultry exports rise strongly.

Beef and veal imports 1/

Million metric tons



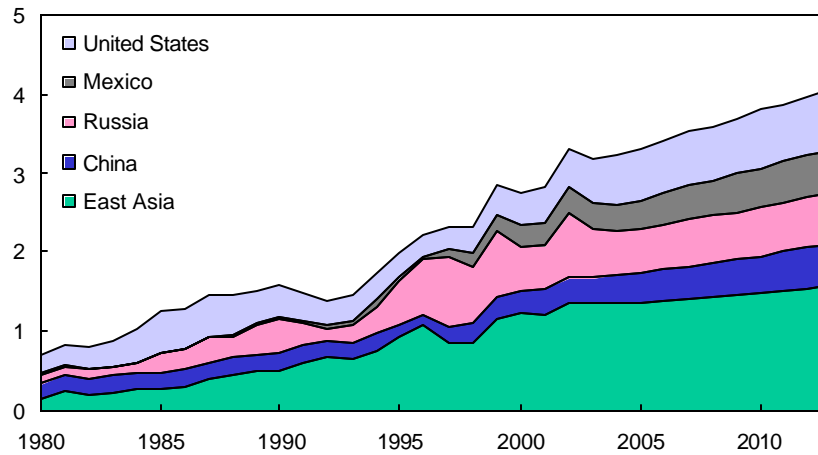
1/ Selected importers.

Most beef trade occurs between developed countries and is closely linked to market access gains already achieved under prior trade agreements. However, BSE in Canada forces restrictions on trade in the beef market.

- Higher income countries of East Asia, such as Japan and South Korea, increase imports of beef, reflecting domestic cattle sectors that are constrained by land availability as well as a resumption of growth in their consumption.
- U.S. beef imports, primarily from Australia and New Zealand for ground beef and other processed products, decline slightly through the period. This declining trend, combined with robust growth of U.S. higher quality beef exports to Mexico and East Asian markets, results in the United States becoming a net exporter of beef late in the projection period.
- The baseline assumes that the tariff-rate quota (TRQ) for beef that Russia imposed in 2003 remains in effect until 2006 (the period established by current Russian legislation). The TRQ slows but does not stop the growth in beef imports, as rising consumer demand continues to outpace gains in domestic production. Russia remains a large market for EU subsidized beef exports as well as Brazilian beef.

Pork imports 1/

Million metric tons

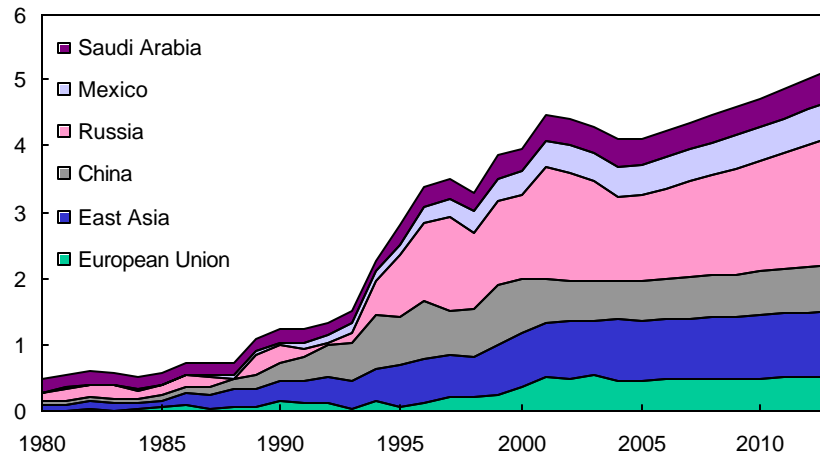


1/ Selected importers.

- Mexican pork imports increase about 200,000 tons over the projection period, 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 products.
- Higher income countries of East Asia, such as Japan, Hong Kong and South Korea, increase pork imports as their domestic hog sectors are constrained by imported feed costs and environmental issues.
- As with beef, the baseline assumes that the TRQ that Russia imposed for pork in 2003 remains in effect until 2006. Although the TRQ initially lowers pork imports, Russia remains a major destination for competitively priced pork exports from the EU and Brazil as demand growth continues to exceed Russian meat producers' ability to respond.

Poultry imports 1/

Million metric tons



1/ Selected importers.

- Russia remains the world's foremost poultry importer as rising consumer demand continues to outpace increases in domestic production.
- The quota on poultry imports that Russia imposed in 2003 is assumed to exist until 2006. The quota raises domestic prices, thereby spurring domestic poultry production and feed demand. As a result, wheat and barley feeding, as well as corn import, rise over the period. When the poultry quota is discontinued, imports begin to rise steadily, driven by growing consumer demand.
- Poultry imports into Saudi Arabia continue to rise through the baseline. However, consumer preference for freshly killed birds keeps domestic production strong.
- Poultry consumption growth in China is met largely by expanding domestic production, but imports are also projected to grow.
- Strong economic growth in Mexico, along with trade liberalization under NAFTA, will generate increases in poultry imports.
- Thailand's poultry exports are slowly squeezed out of the EU market as a result of increasing competition from acceding countries, but exports to other markets such as Japan increase.

Table 34. Coarse grains trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
Former Soviet Union ¹	0.9	1.2	1.6	1.9	2.2	2.4	2.6	2.7	2.9	3.0	3.0	3.1
Eastern Europe	1.4	2.0	1.5	1.4	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.3
European Union ²	4.6	4.7	4.3	4.6	4.8	4.7	4.8	4.8	4.8	4.8	4.8	4.7
North Africa & Middle East	25.5	22.6	25.4	26.4	26.9	27.8	28.3	29.1	29.4	30.1	30.4	30.9
Sub-Saharan Africa ³	2.1	2.1	2.1	2.2	2.3	2.3	2.3	2.4	2.4	2.5	2.6	2.6
Japan	19.8	19.7	19.7	19.6	19.6	19.5	19.4	19.3	19.2	19.1	19.0	18.9
South Korea	9.2	9.7	9.2	9.3	9.4	9.5	9.6	9.7	9.7	9.8	9.9	9.9
Taiwan	4.7	5.0	5.1	5.2	5.2	5.3	5.3	5.4	5.4	5.5	5.5	5.5
China	1.9	2.1	2.7	3.7	4.1	4.8	5.4	5.9	6.6	7.4	8.0	8.4
Other Asia & Oceania	5.0	4.8	5.2	5.6	6.0	6.2	6.3	6.5	6.7	6.9	7.2	7.4
Mexico	9.0	10.1	11.3	11.5	12.0	13.2	15.3	15.9	16.3	16.7	17.3	17.8
Central America & Caribbean	3.8	3.8	3.9	4.0	4.1	4.2	4.2	4.3	4.3	4.5	4.5	4.7
Brazil	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.1
Other South America	5.5	4.9	4.8	5.1	5.2	5.3	5.3	5.4	5.5	5.7	5.8	5.9
Other foreign ⁴	5.4	5.7	5.1	5.2	5.4	5.6	5.6	5.8	5.9	6.0	6.2	6.3
United States	2.8	2.8	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0
Total trade	102.2	101.7	105.4	109.2	112.1	115.8	119.7	122.7	125.1	127.9	130.3	132.5
<i>Exports, million metric tons</i>												
Exporters												
European Union ²	6.9	4.5	4.4	4.8	4.9	5.2	5.2	5.2	5.5	6.3	6.6	7.1
China	14.6	8.5	4.8	4.2	3.7	3.4	3.0	2.7	2.3	2.0	1.7	1.4
Argentina	12.8	10.7	10.8	10.9	11.3	11.8	13.1	13.2	13.9	14.4	14.8	15.2
Australia	2.3	4.4	4.1	4.1	4.0	4.0	4.3	4.5	4.5	4.6	4.7	4.8
Canada	1.7	3.9	3.4	3.7	3.7	4.2	4.4	4.8	4.6	4.8	4.6	4.7
Republic of South Africa	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0	1.0	1.1	1.1
Eastern Europe	3.4	1.7	3.5	4.2	4.8	5.2	5.5	5.9	6.0	6.1	6.3	6.6
Former Soviet Union ¹	8.2	6.1	6.2	6.6	6.9	6.9	6.7	6.8	6.8	6.6	6.5	6.3
Other foreign	5.6	7.9	5.9	6.6	6.7	6.8	6.9	7.2	7.0	7.1	7.2	7.2
United States	45.6	53.0	61.1	63.0	65.1	67.4	69.6	71.4	73.2	75.0	76.9	78.2
<i>Percent</i>												
U.S. trade share	44.7	52.1	58.0	57.7	58.1	58.2	58.2	58.2	58.5	58.6	59.0	59.0

1/ Includes intra-FSU trade.

2/ Excludes intra-EU trade, covers EU-15.

3/ Includes Republic of South Africa.

4/ Includes unaccounted.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 35. Corn trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
European Union ¹	3.0	4.0	3.9	4.1	4.3	4.3	4.3	4.3	4.4	4.3	4.3	4.3
Former Soviet Union ²	0.3	0.4	0.9	1.0	1.2	1.4	1.6	1.7	1.9	2.0	2.0	2.0
Egypt	5.0	5.0	5.3	5.4	5.6	5.9	6.1	6.4	6.5	6.6	6.8	6.9
Algeria	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7	1.8	1.9	1.9	2.0
Morocco	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.4
Iran	1.9	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5
Saudi Arabia	1.4	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8
Turkey	1.5	0.6	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
Other N. Africa & Middle East	3.7	3.8	4.2	4.3	4.5	4.5	4.6	4.7	4.8	4.9	4.9	5.0
Japan	16.5	16.5	16.4	16.4	16.3	16.2	16.2	16.1	16.1	16.0	15.9	15.9
South Korea	9.0	9.5	9.1	9.2	9.3	9.3	9.4	9.5	9.6	9.6	9.7	9.8
Taiwan	4.5	4.8	4.9	4.9	5.0	5.0	5.1	5.1	5.2	5.2	5.2	5.3
China	0.0	0.1	0.5	1.2	1.6	2.2	2.7	3.0	3.7	4.3	4.8	5.0
Indonesia	1.6	1.1	1.4	1.6	1.8	1.9	2.0	2.1	2.2	2.3	2.5	2.6
Malaysia	2.4	2.5	2.5	2.6	2.6	2.7	2.7	2.8	2.8	2.9	2.9	3.0
Other Asia & Oceania	0.9	1.1	1.2	1.3	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.7
Canada	3.9	2.0	2.3	2.4	2.6	2.8	2.9	3.0	3.1	3.3	3.4	3.5
Mexico	5.5	6.5	6.7	6.9	8.0	9.4	11.7	12.4	12.8	13.2	13.7	14.0
Central America & Caribbean	3.8	3.8	3.8	4.0	4.1	4.1	4.1	4.3	4.3	4.4	4.5	4.6
Brazil	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8
Other South America	5.0	4.7	4.6	4.8	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5
Sub-Saharan Africa ³	1.8	1.7	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3
Other foreign ⁴	1.3	2.5	2.4	2.3	2.3	2.4	2.5	2.6	2.6	2.7	2.8	2.8
United States	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total trade	76.0	76.9	79.5	82.1	85.4	88.6	92.5	94.8	97.1	99.3	101.5	103.1
<i>Exports, million metric tons</i>												
Exporters												
European Union ¹	0.2	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
China	14.5	8.5	4.8	4.2	3.7	3.4	3.0	2.6	2.3	2.0	1.6	1.3
Argentina	12.0	10.0	10.0	10.1	10.5	10.9	12.2	12.2	12.8	13.2	13.5	13.8
Brazil	3.2	5.5	4.0	4.7	4.8	4.9	4.9	5.0	5.1	5.1	5.1	5.1
Republic of South Africa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1
Eastern Europe	2.5	1.2	3.0	3.5	4.2	4.6	4.9	5.5	5.4	5.5	5.7	5.9
Former Soviet Union ²	0.9	1.5	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7
Other foreign	1.3	1.6	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.8
United States	40.4	47.5	54.6	56.5	59.1	61.6	64.1	66.0	67.9	69.9	71.8	73.0
<i>Percent</i>												
U.S. trade share	53.2	61.7	68.7	68.8	69.2	69.5	69.3	69.6	70.0	70.4	70.7	70.8

1/ Excludes intra-EU trade, covers EU-15.

2/ Includes intra-FSU trade.

3/ Includes Republic of South Africa.

4/ Includes unaccounted.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 36. Sorghum trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
Japan	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.3	1.3
Mexico	3.4	3.5	4.5	4.4	3.8	3.6	3.4	3.3	3.3	3.3	3.3	3.5
North Africa & Middle East	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Sub-Saharan Africa ¹	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other ²	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Total trade	5.8	5.9	6.9	6.9	6.4	6.1	5.9	5.8	5.8	5.7	5.8	5.9
<i>Exports, million metric tons</i>												
Exporters												
Argentina	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.9	0.9
Australia	0.1	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other foreign	0.5	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
United States	4.7	4.8	5.8	5.8	5.3	5.1	4.8	4.7	4.6	4.4	4.4	4.4
<i>Percent</i>												
U.S. trade share	81.1	82.2	84.4	84.4	83.9	83.6	82.1	80.8	79.4	77.8	76.8	75.8

1/ Includes Republic of South Africa.

2/ Includes unaccounted.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 37. Barley trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
Former Soviet Union ¹	0.4	0.4	0.5	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Eastern Europe	0.6	0.9	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9
Japan	1.3	1.3	1.3	1.4	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3
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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China	1.9	2.0	2.2	2.5	2.5	2.6	2.7	2.9	2.9	3.1	3.2	3.3
European Union ²	0.8	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Latin America ³	0.7	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9
Algeria	0.3	0.0	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Saudi Arabia	6.0	5.5	5.7	5.8	5.7	5.8	5.8	5.9	5.9	5.9	5.9	6.0
Morocco	0.3	0.1	0.1	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.8
Tunisia	0.6	0.1	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Republic of South Africa	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Iran	0.0	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7
Turkey	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Other N. Africa & M. East	2.3	1.6	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5
Other foreign ⁴	0.5	1.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
United States	0.5	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9
Total trade	16.5	15.6	15.7	16.8	17.1	17.7	18.0	18.7	18.9	19.5	19.7	20.1
<i>Exports, million metric tons</i>												
Exporters												
European Union ²	5.0	3.5	3.0	3.5	3.6	3.9	3.9	4.0	4.3	5.0	5.3	5.8
Australia	2.1	3.8	3.5	3.5	3.5	3.5	3.8	4.0	4.0	4.1	4.2	4.3
Canada	0.4	2.0	1.8	2.0	2.2	2.5	2.8	3.0	3.0	3.0	3.0	3.0
Russia ¹	3.2	2.0	2.5	2.3	2.3	2.3	2.0	2.0	1.8	1.6	1.3	1.0
Ukraine ¹	2.9	1.5	2.3	2.8	2.8	2.9	2.9	3.0	3.0	3.0	3.0	3.0
Other Former Soviet Union ¹	0.6	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	1.0
Eastern Europe	0.9	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Turkey	0.7	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Other foreign	0.3	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
United States	0.4	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
<i>Percent</i>												
U.S. trade share	2.6	4.2	4.2	3.9	3.8	3.7	3.6	3.5	3.5	3.3	3.3	3.2

1/ Includes intra-FSU trade.

2/ Excludes intra-EU trade, covers EU-15.

3/ Includes Mexico.

4/ Includes unaccounted.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 38. Wheat trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	<i>Imports, million metric tons</i>											
Importers												
Algeria	5.5	3.3	4.9	4.9	4.9	4.9	5.0	5.1	5.2	5.3	5.4	5.5
Egypt	6.3	6.3	6.7	6.8	6.8	6.9	7.1	7.4	7.6	7.7	7.9	8.1
Morocco	2.7	1.0	3.1	3.2	3.3	3.4	3.4	3.6	3.6	3.8	3.8	4.0
Iran	2.1	1.5	1.7	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7
Iraq	1.7	1.8	2.2	2.4	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.0
Tunisia	2.2	1.1	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.7	1.7	1.7
Other N. Africa & Middle East	9.5	8.4	8.3	8.4	8.7	9.0	9.3	9.7	10.1	10.4	10.7	11.0
Sub-Saharan Africa ¹	9.0	8.9	8.8	8.8	9.0	9.1	9.2	9.4	9.5	9.6	9.7	9.8
Mexico	3.2	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.6	4.8	4.9
Central America & Caribbean	3.2	3.2	3.4	3.6	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3
Brazil	6.5	5.6	7.3	7.3	7.7	7.9	8.2	8.4	8.7	9.0	9.3	9.6
Other South America	5.0	5.1	5.4	5.5	5.5	5.5	5.6	5.7	5.8	5.9	5.9	6.0
European Union ²	12.0	4.0	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8
Eastern Europe	2.0	5.1	3.8	3.7	3.5	3.4	3.2	3.1	2.8	2.6	2.6	2.7
Former Soviet Union ³	3.9	7.3	4.6	4.2	4.3	4.4	4.5	4.6	4.8	4.9	5.0	5.2
Japan	5.6	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.5	5.5	5.4	5.4
South Korea	4.1	3.1	4.0	4.2	4.3	4.3	4.3	4.3	4.4	4.4	4.5	4.4
Philippines	3.0	2.8	3.0	3.1	3.2	3.3	3.4	3.5	3.5	3.7	3.8	3.9
Indonesia	4.0	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5	5.7	5.9	6.1
China	0.4	0.5	1.0	3.0	3.6	4.3	4.5	5.1	5.2	5.3	5.3	5.3
Bangladesh	1.1	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.7
Malaysia	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4
Thailand	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2
Vietnam	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.4
Pakistan	0.3	0.5	0.6	0.6	0.7	0.9	0.9	1.0	1.1	1.3	1.4	1.6
Other Asia & Oceania	5.6	4.3	4.6	4.6	4.6	4.7	4.8	4.8	4.9	5.0	5.1	5.2
Other foreign	1.2	2.6	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.6
United States	2.1	2.0	2.9	3.0	3.1	3.1	3.1	3.1	3.3	3.3	3.3	3.3
Total trade	105.2	96.1	102.5	106.2	108.4	111.7	114.0	117.4	119.7	122.2	124.8	127.9
	<i>Exports, million metric tons</i>											
Exporters												
European Union ²	15.5	8.5	10.5	10.5	10.8	11.0	11.0	11.3	11.3	11.2	11.3	11.3
Canada	9.4	14.5	14.8	15.8	16.5	17.0	17.0	17.4	17.4	17.8	18.0	18.3
Australia	9.0	15.0	16.6	17.8	18.5	19.1	19.6	20.4	21.1	21.7	22.3	22.9
Argentina	6.0	8.5	8.8	9.4	10.5	11.5	12.2	13.0	13.5	13.9	14.5	15.2
Russia ³	12.6	3.5	4.8	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.2
Ukraine ³	6.6	0.1	5.4	5.6	5.7	5.8	5.9	6.1	6.3	6.6	6.9	7.3
Other Former Soviet Union ³	5.9	6.7	6.4	6.8	7.0	7.2	7.4	7.8	8.0	8.2	8.5	8.7
Eastern Europe	4.7	1.2	2.5	3.0	3.0	2.9	2.9	2.9	2.8	2.8	2.8	2.8
India	4.5	2.5	3.5	3.2	2.5	2.4	2.0	2.0	2.0	2.0	2.0	2.1
China	1.7	1.3	0.7	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.3	0.3
Turkey	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other foreign	4.8	4.4	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
United States	23.2	29.0	24.5	24.5	24.5	25.2	26.5	27.2	27.9	28.6	29.3	29.9
	<i>Percent</i>											
U.S. trade share	22.1	30.2	23.9	23.1	22.6	22.5	23.3	23.2	23.3	23.4	23.4	23.4

1/ Includes Republic of South Africa.

2/ Excludes intra-EU trade, covers EU-15.

3/ Includes intra-FSU trade.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 39. Rice trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
Canada	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Mexico	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8
Central America/Caribbean	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8
Brazil	1.2	0.7	0.7	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.1	0.0
Other South America	0.2	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5
European Union ¹	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0
Former Soviet Union ²	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Central and Eastern Europe	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Bangladesh	0.9	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	0.9
China	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Japan	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
South Korea	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Indonesia	3.3	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0
Malaysia	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Philippines	1.0	0.5	0.3	0.5	0.6	0.7	0.8	0.8	0.8	0.9	1.0	1.0
Other Asia & Oceania	2.1	1.7	1.8	1.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1
Iraq	0.8	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.5	1.6	1.6	1.7
Iran	0.8	1.3	1.5	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8
Saudia Arabia	0.9	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3
Other N. Africa & M. East	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0
Sub-Saharan Africa ³	6.2	5.1	5.2	5.3	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.1
Republic of South Africa	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Unaccounted	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.1
United States	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Total imports	27.6	25.8	26.4	27.6	28.2	29.0	29.6	30.2	30.8	31.4	32.1	32.7
<i>Exports, million metric tons</i>												
Exporters												
Australia	0.2	0.3	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.9
Argentina	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
Other South America	0.9	0.9	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3
European Union ¹	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
China	2.3	2.5	2.7	2.1	2.2	2.1	2.0	1.9	1.9	1.9	1.9	1.9
India	4.3	2.8	1.9	2.9	2.8	3.0	3.2	3.3	3.3	3.3	3.4	3.3
Pakistan	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Thailand	7.5	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.0
Vietnam	4.0	4.0	4.2	4.6	4.8	5.1	5.4	5.6	5.9	6.1	6.4	6.6
Egypt	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other foreign	1.6	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.9	2.0	2.1	2.2
United States	3.9	3.0	3.2	3.2	3.2	3.1	3.1	3.1	3.0	3.0	3.0	3.0
Total exports	27.6	25.8	26.4	27.6	28.2	29.0	29.6	30.2	30.8	31.4	32.1	32.7
<i>Percent</i>												
U.S. trade share	14.1	11.5	12.1	11.7	11.2	10.8	10.5	10.1	9.8	9.7	9.4	9.2

1/ Excludes intra-EU trade, covers EU-15.

2/ Includes intra-FSU trade.

3/ Excludes Republic of South Africa

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 40. All cotton trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million bales</i>												
Importers												
European Union ¹	3.3	3.2	3.2	3.1	3.0	3.0	3.0	2.9	3.0	2.8	2.9	2.8
Former Soviet Union ²	2.2	2.2	2.3	2.4	2.4	2.4	2.5	2.5	2.6	2.6	2.7	2.7
Indonesia	2.3	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4
Thailand	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.3
India	1.4	1.2	1.1	1.3	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4
Brazil	0.6	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Eastern Europe	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Other Asia & Oceania	3.9	4.4	4.4	4.6	4.6	4.8	4.9	5.0	5.2	5.3	5.5	5.7
Japan	1.0	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.5
South Korea	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4
China	3.1	7.0	5.3	5.6	6.3	6.4	6.7	7.2	7.4	7.9	8.3	8.8
Taiwan	1.2	1.0	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Turkey	2.3	1.9	2.4	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.4	1.3
Mexico	2.3	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8
Other	2.8	3.0	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.9	2.9	3.0
Total imports	30.6	32.7	32.0	32.4	32.8	33.2	33.6	34.1	34.5	35.0	35.4	35.9
<i>Exports, million bales</i>												
Exporters												
Former Soviet Union ²	5.5	5.2	5.1	4.9	4.7	4.6	4.6	4.7	4.7	4.7	4.7	4.8
Australia	2.7	1.7	2.5	3.0	2.9	2.9	3.0	3.1	3.2	3.2	3.3	3.4
Argentina	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Pakistan	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
China	0.8	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Egypt	0.7	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6
Other Latin America	0.8	2.2	1.2	1.4	1.7	2.0	2.0	2.0	2.1	2.1	2.2	2.3
Sub-Saharan Africa ³	5.0	6.2	6.4	6.1	6.1	6.1	6.3	6.4	6.5	6.6	6.7	6.9
Other foreign	3.0	2.8	3.1	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.1
United States	11.9	13.2	12.5	12.8	13.3	13.6	13.6	13.6	13.6	13.7	13.8	13.8
Total exports	30.6	32.3	31.7	32.1	32.5	32.9	33.3	33.8	34.2	34.7	35.1	35.6
<i>Percent</i>												
U.S. trade share	38.9	40.9	39.5	40.0	40.8	41.2	40.8	40.2	39.7	39.5	39.3	38.8

1/ Includes intra-EU trade, covers EU-15.

2/ Includes intra-FSU trade.

3/ Includes Republic of South Africa.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 41. Soybean trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
European Union ¹	17.2	18.6	18.7	18.3	18.1	18.1	18.0	17.9	17.9	17.8	17.4	17.0
Japan	5.2	5.2	5.1	5.2	5.2	5.2	5.2	5.3	5.3	5.3	5.3	5.3
South Korea	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0
Taiwan	2.2	2.3	2.4	2.5	2.5	2.5	2.5	2.6	2.6	2.6	2.6	2.6
Mexico	4.2	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.3
Former Soviet Union ²	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Eastern Europe	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
China	21.4	22.0	23.9	26.1	28.5	30.5	32.4	34.5	36.6	38.7	40.8	43.3
Malaysia	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4
Indonesia	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.1
Other	10.4	11.0	11.0	11.6	12.1	12.6	13.1	13.6	14.1	14.5	15.0	15.5
Total imports	64.8	67.6	70.2	73.2	76.4	79.4	82.2	85.2	88.2	91.1	93.9	96.9
<i>Exports, million metric tons</i>												
Exporters												
Argentina	9.3	12.0	8.0	8.0	7.9	8.0	8.0	8.0	8.0	8.1	7.9	7.9
Brazil	21.5	25.8	27.7	30.2	33.6	36.9	39.5	42.4	45.3	47.9	50.9	53.8
Other South America	3.5	3.8	3.9	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9
China	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other foreign	0.8	1.0	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5
United States	28.4	24.2	29.1	29.4	29.1	28.6	28.7	28.6	28.6	28.7	28.4	28.3
Total exports	63.8	67.2	70.2	73.2	76.4	79.4	82.2	85.2	88.2	91.1	93.9	96.9
<i>Percent</i>												
U.S. trade share	44.6	36.1	41.5	40.1	38.1	36.0	34.9	33.6	32.4	31.5	30.3	29.2

1/ Excludes intra-EU trade, covers EU-15.

2/ Includes intra-FSU trade.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 42. Soybean meal trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
European Union ¹	19.7	20.5	19.7	19.5	19.4	19.5	19.7	19.8	19.8	19.9	20.3	20.6
Former Soviet Union ²	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5
Eastern Europe	3.3	3.6	3.8	3.8	4.0	4.1	4.3	4.4	4.6	4.7	4.8	4.9
Canada	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
Japan	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1
Southeast Asia	6.3	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.3	9.6	9.9
Latin America	4.6	4.8	5.2	5.4	5.7	5.9	6.2	6.5	6.7	7.0	7.3	7.5
North Africa & Middle East	5.4	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.1	8.4	8.7	9.0
Other	3.5	4.0	3.8	3.8	3.9	4.1	4.2	4.4	4.5	4.7	4.8	5.0
Total imports	45.5	48.5	48.8	49.4	50.6	51.9	53.4	54.6	56.0	57.2	58.9	60.3
<i>Exports, million metric tons</i>												
Exporters												
Argentina	18.3	20.1	20.1	20.8	21.5	22.0	22.7	23.3	24.0	24.6	25.2	26.0
Brazil	13.8	16.5	16.5	16.1	16.4	17.0	17.7	18.3	18.9	19.5	20.5	21.1
Other South America	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0
China	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0
India	1.3	2.6	2.0	2.0	2.0	2.0	1.9	1.8	1.7	1.6	1.5	1.3
European Union ¹	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Other foreign	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
United States	5.5	4.1	5.2	5.4	5.6	5.7	5.8	5.9	6.0	6.1	6.1	6.2
Total exports	43.8	48.4	48.8	49.4	50.6	51.9	53.4	54.6	56.0	57.2	58.9	60.3
<i>Percent</i>												
U.S. trade share	12.5	8.4	10.6	11.0	11.0	11.0	10.9	10.8	10.7	10.6	10.4	10.3

1/ Excludes intra-EU trade, covers EU-15.

2/ Includes intra-FSU trade.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 43. Soybean oil trade baseline projections

	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
<i>Imports, million metric tons</i>												
Importers												
China	1.7	1.8	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.3
India	1.6	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5
Other Asia	1.5	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	2.0	2.0	2.1
Latin America	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9	2.0	2.0	2.1	2.2
North Africa & Middle East	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9	3.1	3.2	3.3	3.4
Former Soviet Union & Eastern Europe ¹	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other	0.9	0.7	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Total imports	9.8	9.9	10.2	10.5	10.9	11.2	11.6	11.9	12.4	12.7	13.2	13.6
<i>Exports, million metric tons</i>												
Exporters												
Argentina	4.3	4.6	4.7	4.8	5.0	5.1	5.3	5.4	5.6	5.7	5.9	6.1
Brazil	2.2	2.8	2.9	3.2	3.4	3.6	3.8	4.1	4.3	4.5	4.9	5.2
European Union ²	1.0	1.0	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
Other foreign	0.9	1.0	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
United States	1.0	0.4	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Total exports	9.5	9.7	10.2	10.5	10.9	11.2	11.6	11.9	12.4	12.7	13.2	13.6
<i>Percent</i>												
U.S. trade share	10.9	4.0	5.6	5.2	5.0	5.1	4.9	4.7	4.8	4.7	4.6	4.7

1/ Includes intra-FSU trade.

2/ Excludes intra-EU trade, covers EU-15.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 44. Beef trade baseline projections

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Imports, thousand metric tons, carcass weight</i>												
Importers												
Japan	707	825	885	893	908	925	943	962	982	1,000	1,019	1,039
South Korea	430	430	435	425	437	451	465	478	490	500	508	518
Taiwan	89	93	97	98	102	106	110	113	117	121	124	128
Philippines	126	120	125	142	150	156	166	175	187	198	208	218
European Union ¹	518	520	530	530	530	530	530	530	530	530	530	530
Russia	638	700	705	725	770	800	825	852	882	910	937	965
Eastern Europe	61	52	65	71	71	72	73	73	74	74	74	74
Egypt	162	100	100	93	89	99	106	112	119	120	121	121
Mexico	489	500	510	538	561	617	660	700	742	764	774	800
Canada	307	280	250	255	256	258	259	261	263	265	266	268
United States	1,460	1,293	1,556	1,588	1,588	1,497	1,406	1,361	1,315	1,270	1,225	1,179
Major importers	4,987	4,913	5,258	5,358	5,462	5,511	5,543	5,617	5,701	5,752	5,786	5,840
<i>Exports, thousand metric tons, carcass weight</i>												
Exporters												
Australia	1,365	1,250	1,300	1,319	1,333	1,345	1,351	1,356	1,358	1,361	1,378	1,395
New Zealand	503	535	535	537	544	538	531	534	537	540	544	548
Other Asia	460	505	558	553	575	580	586	597	602	618	640	656
European Union ¹	512	456	440	394	324	353	359	383	395	400	405	413
Eastern Europe	154	105	80	84	88	93	96	93	92	90	90	89
Ukraine	146	150	155	160	153	156	160	164	168	173	178	183
Argentina	348	330	350	345	353	362	370	378	386	393	401	409
Brazil	881	1,140	1,370	1,429	1,473	1,483	1,487	1,492	1,508	1,530	1,568	1,589
Canada	610	425	615	620	613	585	567	566	561	569	581	592
United States	1,110	1,192	1,207	1,213	1,236	1,270	1,304	1,349	1,395	1,417	1,440	1,474
Major exporters	6,089	6,088	6,610	6,654	6,692	6,765	6,811	6,912	7,002	7,091	7,225	7,348

1/ Excludes intra-EU trade, covers EU-15

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 45. Pork trade baseline projections

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Imports, thousand metric tons, carcass weight</i>												
Importers												
Japan	1,162	1,150	1,150	1,167	1,185	1,203	1,221	1,239	1,258	1,276	1,295	1,315
China	60	56	70	77	84	93	102	112	124	137	150	165
Hong Kong	275	280	283	292	301	309	319	328	338	348	358	370
South Korea	155	155	160	164	168	172	176	181	186	191	195	200
Russia	800	600	530	538	549	559	571	582	594	606	618	631
Mexico	325	335	345	376	402	443	462	484	498	517	528	539
Canada	91	77	84	87	90	93	96	100	103	107	111	115
United States	486	557	624	649	662	676	689	702	716	731	746	760
Major importers	3,354	3,210	3,246	3,350	3,441	3,548	3,636	3,728	3,817	3,913	4,001	4,095
<i>Exports, thousand metric tons, carcass weight</i>												
Exporters												
Brazil	590	620	650	676	703	731	760	791	823	856	890	925
Canada	863	975	980	997	1,018	1,037	1,058	1,080	1,101	1,123	1,146	1,169
Mexico	61	60	60	63	64	67	69	72	74	77	79	83
European Union ¹	1,194	1,000	960	1,132	1,269	1,294	1,307	1,333	1,346	1,360	1,374	1,387
Eastern Europe	263	260	183	210	242	279	320	336	352	370	389	408
Taiwan	0	0	0	0	0	0	10	15	20	25	25	25
China	225	300	300	306	312	318	325	331	338	344	352	359
United States	731	766	777	796	816	837	857	879	901	924	947	971
Major exporters	3,927	3,981	3,910	4,180	4,424	4,563	4,706	4,837	4,955	5,079	5,202	5,327

1/ Excludes intra-EU trade, covers EU-15.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

Table 46. Poultry trade baseline projections 1/

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>Imports, thousand metric tons, ready to cook</i>												
Importers												
Russia	1,373	1,260	1,050	1,055	1,124	1,181	1,240	1,301	1,366	1,435	1,507	1,583
European Union ²	485	528	460	464	471	477	482	488	494	500	506	512
Japan	744	700	745	750	755	761	766	771	777	782	788	793
Hong Kong	171	170	175	178	181	184	187	190	193	196	199	202
China	435	415	400	409	419	428	438	448	458	469	480	491
South Korea	103	98	105	111	118	123	129	135	141	147	153	159
Saudi Arabia	380	390	395	370	383	388	400	407	418	426	450	480
Mexico	412	435	458	467	477	486	496	506	516	526	537	547
Canada	84	93	98	104	110	116	122	128	134	140	146	152
Major importers	4,187	4,089	3,886	3,908	4,038	4,144	4,260	4,374	4,497	4,621	4,766	4,919
<i>Exports, thousand metric tons, ready to cook</i>												
Exporters												
Brazil	1,680	1,817	1,910	1,960	2,022	2,084	2,147	2,211	2,270	2,330	2,391	2,447
European Union ²	1,113	930	1,030	1,045	1,065	1,086	1,101	1,117	1,133	1,149	1,165	1,181
Hungary	54	62	64	66	68	70	72	74	76	78	80	82
China	438	420	440	420	410	400	390	375	360	350	335	330
Thailand	465	500	530	550	570	585	595	615	630	650	675	695
Saudi Arabia	20	20	21	22	23	24	25	26	26	27	28	29
United States	2,440	2,481	2,574	2,635	2,690	2,748	2,805	2,864	2,909	2,952	2,993	3,035
Major exporters	6,210	6,230	6,569	6,698	6,848	6,997	7,135	7,282	7,404	7,536	7,667	7,799

1/ Broilers and turkeys only.

2/ Excludes intra-EU trade, covers EU-15.

The projections were completed in November 2003 based on policy decisions and other information known at that time.

List of Tables

		Page
Table 1.	U.S. macroeconomic assumptions	20
Table 2.	Global real GDP growth assumptions	21
Table 3.	Population growth assumptions	22
Table 4.	Summary baseline policy variables	35
Table 5.	Conservation Reserve Program acreage assumptions	36
Table 6.	Planted and harvested acreage for major field crops, baseline projections	36
Table 7.	Selected supply, use, and price variables for major field crops, baseline projections	37
Table 8.	U.S. corn baseline	38
Table 9.	U.S. sorghum baseline	39
Table 10.	U.S. barley baseline	40
Table 11.	U.S. oats baseline	41
Table 12.	U.S. wheat baseline	42
Table 13.	U.S. rice baseline	43
Table 14.	U.S. upland cotton baseline	44
Table 15.	U.S. soybean and products baseline	45
Table 16.	U.S. sugar baseline	46
Table 17.	Flue-cured tobacco baseline	47
Table 18.	Burley tobacco baseline	47
Table 19.	Fruit, vegetable, and greenhouse/nursery baseline, production and prices	48
Table 20.	Fruit, vegetable, and greenhouse/nursery baseline, trade	49
Table 21.	Per capita meat consumption, retail and boneless weight	57
Table 22.	Consumer expenditures for meats	57
Table 23.	Beef baseline	58
Table 24.	Pork baseline	59
Table 25.	Young chicken baseline	59
Table 26.	Turkey baseline	60
Table 27.	Egg baseline	60
Table 28.	Dairy baseline	61
Table 29.	Farm receipts, expenses, and incomes in nominal dollars	71
Table 30.	Farm receipts, expenses, and incomes in 1996 dollars	71
Table 31.	Consumer food price indexes and food expenditures baseline	72
Table 32.	Changes in consumer food prices, baseline	72
Table 33.	U.S. agricultural trade values, baseline projections, fiscal years	73
Table 34.	Coarse grains trade baseline projections	106
Table 35.	Corn trade baseline projections	107
Table 36.	Sorghum trade baseline projections	107
Table 37.	Barley trade baseline projections	108
Table 38.	Wheat trade baseline projections	109
Table 39.	Rice trade baseline projections	110
Table 40.	All cotton trade baseline projections	111
Table 41.	Soybean trade baseline projections	112
Table 42.	Soybean meal trade baseline projections	112
Table 43.	Soybean oil trade baseline projections	113
Table 44.	Beef trade baseline projections	113
Table 45.	Pork trade baseline projections	114
Table 46.	Poultry trade baseline projections	114

Feature table

Selected statistics comparing the EU-15 and acceding countries	77
--	----