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Long-term Agricultural Baseline Projections, 1995-2005

Interagency Agricultural Projections Committee

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Abstract

This report provides long-run agricultural projections through 2005. These "baseline" projections represent one plausible long-run scenario for the agricultural sector, and reflect a composite of model results and judgmental analysis. The projections are a conditional, current law scenario with no shocks and are based on specific assumptions regarding the macroeconomy, the weather, and international developments. Baseline projections are provided for selected program and nonprogram commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. Long-run baseline projections are used in USDA to support ongoing Departmental activities such as budget reviews and farm program administration and management. Additionally, baseline projections provide a point of departure for discussion of alternative scenarios, particularly for agricultural policy analyses, such as farm bill alternatives and U.S. export-related scenarios. These baseline projections provide a starting point for policy discussions for the 1995 farm bill.

Keywords: baseline, projections, commodity programs, crops, livestock, trade.

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Contents

OF SPECIAL INTEREST

A Note to Users of USDA Baseline Projections

Baseline projections presented in this report are a Departmental consensus on a representative long-run scenario for the agricultural sector. This report is the second release of Departmental long-term projections, following the initial release in October 1993 (WAOB-93-1). Compared to the first report, this baseline provides more discussion of macroeconomic assumptions used in the projections and international developments underlying the U.S. agricultural trade projections.

This report was prepared in conjunction with USDA's analysis for the President's budget for fiscal 1996, using December 1994 supply and use data. Future baseline projections reports are planned to be released annually following the President's budget. The next baseline projections report is planned for the winter of 1996.

The baseline 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 current agricultural law and specific assumptions about external conditions that are discussed throughout the document. Critical assumptions include:

- U.S. agricultural and trade policies;
- funding for U.S. agricultural export programs;
- foreign economic, agricultural, and trade policies;
- U.S. and international macroeconomic conditions;
- growth rates of U.S. and foreign agricultural productivity, and
- normal (average) weather.

Changes in any of the assumptions can significantly alter the projections, and actual conditions that emerge will alter the outcomes.

The baseline analysis was conducted by interagency committees in USDA and reflects a composite of model results and judgmental analysis. 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 analysis and review include the World Agricultural Outlook Board, the Economic Research Service, the Consolidated Farm Service Agency, the Foreign Agricultural Service, the Economic Analysis Staff, the Office of Budget and Program Analysis, the Agricultural Marketing Service, the Federal Crop Insurance Corporation, and the Natural Resources Conservation Service.

Questions regarding these projections may be directed to Paul Westcott, Economic Research Service, U.S. Department of Agriculture, Room 1012, 1301 New York Avenue, N.W., Washington, D.C. 20005-4788, phone: (202) 501-8547; or David Stallings, World Agricultural Outlook Board, U.S. Department of Agriculture, Room 5143 South Building, Washington, D.C. 20250-3800, phone: (202) 720-5715.

LONG-TERM AGRICULTURAL BASELINE PROJECTIONS, 1995-2005

Interagency Agricultural Projections Committee

Introduction

This report provides long-run projections for the U.S. agricultural sector through the year 2005 covering agricultural commodities, agricultural trade, and aggregate indicators of the sector, such as farm income and food prices. These "baseline" projections represent one plausible long-run scenario for the next 10 years, and reflect a composite of model results and judgmental analysis. The projections are a conditional, current law scenario with no shocks and are based on specific assumptions regarding the macroeconomy, the weather, and international developments. Thus, the baseline projections are not intended to be a forecast of what the future will be, but instead a description of what would be expected to happen with current agricultural law and with very specific external circumstances.

Long-run baseline projections are used in the U.S. Department of Agriculture (USDA) to support ongoing departmental activities such as budget reviews and farm program administration and management. Additionally, baseline projections provide a point of departure for discussion of alternative scenarios, particularly for agricultural policy analyses, such as farm bill alternatives and U.S. export-related scenarios. As such, these baseline projections provide a starting point for policy discussions for the 1995 farm bill.

The baseline projections in this report were prepared in December 1994, based on policy decisions and other information available at that time. Normal weather is assumed. The short-term outlook would now differ from that used in these baseline projections to reflect new information since December 1994. Nonetheless, the baseline remains representative of expected long-term trends in the agricultural sector.

Summary of Projections

The move toward greater market orientation in agriculture that began with the Food Security Act of 1985 is assumed to extend through the next decade, gradually reducing the Government's influence in the sector through traditional commodity programs. This results in an economically more efficient agricultural sector that responds more to signals from the marketplace and less to Government commodity programs.

For crops, productive capacity is projected to rise because of increases in resource and input use and in productivity. For most crops, yields are projected to rise at or near their long-term trends. These gains reflect in part the acquisition of some agricultural land by larger, generally more efficient farms, continuing a long-term trend. However, with the baseline assumption of an extended Conservation Reserve Program (CRP), excess capacity in the sector declines and the balance between productive capacity and projected demands tightens significantly as the land base is pressured. With an extended CRP, only limited increases in land used for crop production occur, drawing mainly on lower annual Acreage Reduction Program (ARP) levels and reduced use of the 0/85-92 program.

Domestic demand for crops is projected to grow slightly faster than population. For exports, the implementation of the recently completed Uruguay Round of the General Agreement on Tariffs and Trade (GATT) will reduce trade barriers and raise global trade. Developing countries are a major source of export demand growth as their economic conditions and effective demand are expected to improve.

Developments in China, the former Soviet Union, and Eastern Europe also have important implications for determining world trade and U.S. exports. Funding for export promotion, credit assistance, and food aid programs continues to have a significant role in determining export gains, although with the new GATT agreement, the funding for and the volume of subsidized exports are lower. High value products gain a larger share of total agricultural exports. Tightening market conditions for most crops imply strenthening nominal prices for crops in the baseline. Real prices for crops are projected to continue their long-term decline.

Record meat supplies are projected to continue in the baseline, reflecting moderate gains in nominal feed prices, small increases in other production costs, and ample forage supplies. Consumers purchase more meat, but a larger proportion is poultry. The long-term decline in the real price of meats continues. Declining real prices along with increases in real disposable income allow consumers to buy more total meat with a smaller proportion of disposable income. Dairy productivity gains allow milk production to grow despite declining cow numbers. Real milk prices fall.

Net farm income falls to $37 billion in 1996 and then rises gradually in nominal terms for the rest of the baseline. Real net farm income declines. With Government payments falling, the agriculture sector increasingly relies on the marketplace for its income. Both crop and livestock receipts are up in nominal terms, because of larger production and higher prices, but both fall in real terms. Production expenses also increase in nominal terms, but fall in real terms. Expenses for non-farm origin inputs rise faster than expenses for farm origin inputs.

Gradually increasing nominal farm income and rising farm equity mean relative stability in the financial condition of the farm sector. The farm credit system has largely recovered from the problems of the 1980s, so the availability of credit will not be a major concern. Farm assets increase more than farm debt in the baseline, thereby building farm equity. However, farm debt grows at a somewhat faster rate than farm assets, resulting in slight increases in debt to asset and debt to equity ratios. Nonetheless, each ratio remains well below levels of the mid-1980s.

Off farm income will continue to be the primary source of average farm operator household incomes. The trend toward fewer but larger farms is expected to continue.

Retail food prices are projected to rise less than the general inflation rate, continuing a long-term trend. Expenditures for meals eaten away from home account for a growing share of food spending.

Macroeconomic Baseline Projections

This section presents the macroeconomic assumptions behind the USDA baseline. Domestic macroeconomic projections are presented first, followed by selected country projections. The focus in the country macroeconomic projections is on the other industrialized G-7 countries of Germany, France, Italy, the United Kingdom, Canada, and Japan, and on Mexico. This focus reflects an increasingly open U.S. economy with strong macroeconomic linkages to the economies of those countries (see box, page 4).

Domestic Macroeconomic Projections

The farm sector is influenced by the general economy. Economic business cycles cannot be accurately forecast in long-term scenarios, nor can future shocks like large oil price rises or major policy changes. To avoid distorting the long-term agricultural baseline by introducing swings in macroeconomic variables, trend assumptions for some indicators are combined with standard macroeconomic theory to arrive at the long-term baseline projections for the macroeconomy.

The projections through 1997 are a likely short-term outlook for economic growth, inflation, and financial market behavior, with 1997 the last year of the current business cycle. Projections for 1998 to 2005 reflect long-term broad trends in the economy without arbitrarily introducing business cycles.

Near-term U.S. Macroeconomic Outlook

The near-term macroeconomic forecast is for 3 percent GDP growth in 1995 and 2 percent in 1996. Strong growth in 1994 put only modest pressure on industrial capacity and labor markets until the end of 1994. As a result, growth in 1995 should be associated with only a modest rise in inflation. The recent rapid growth in capital stock and productivity will continue to be key factors for employment growth with only mild increases in inflation.

Growth projections for 1995 reflect little or no growth in the trade deficit. With recovery of our major trading partners, exports are expected to be strong. Those countries with investment-led recoveries will purchase some of their capital equipment from the United States in 1995, mitigating the trade deficit. An important secondary factor will be some increase in U.S. productivity in 1995, brought about by the double-digit investment growth of 1993 and 1994, and near-double-digit business investment growth in 1995. Long-term interest rates will rise,

Opening of the U.S. Economy

The U.S. economy has become increasingly open to international influences especially in the financial, commodity (including mining and agriculture), and manufacturing sectors. Financial and trade interdependence has grown especially strong between the United States and the other G7 countries (Canada, Italy, the United Kingdom, France, Germany, and Japan). The increasingly global nature of commodity and financial markets has complicated the Federal Reserve System's influence on the U.S. economy. Sudden shifts in international capital flows can, for example, generate movements in exchange rates and interest rates independent of the influence of the Federal Reserve Board.

Increasing international competitiveness strongly influences domestic productivity and employment patterns. International competition has spawned increased productivity growth in most of our major trading partners by causing increased investment and widespread labor and management restructuring. Competition-driven investment growth and middle management-restructuring are also apparent in the United States.

An important aspect of increasing productivity growth is the allocation of productivity gains to worker compensation and profits. When labor receives higher wages, lower profits reduce the ability to invest in plant and equipment needed to compete effectively in a globally open economy. Alternatively, when labor accepts smaller wage gains, higher profits permit investment which enhances competitiveness and improves job security. The baseline assumes the latter for long-term domestic macroeconomic projections because of the increasingly open macroeconomic environment. This results in higher investment, lower wage gains, and smaller unemployment rates than otherwise.

largely a result of three factors: (1) demand for investment funds by faster-growing developed countries, (2) growth in U.S. loan demand, and (3) a slight increase in U.S. inflation. The GDP deflator is projected up 2.7 percent in 1995.

In 1996, slower consumer spending growth, inventory declines, and a widening trade deficit combine to slow GDP growth to 2 percent. T-bill rates rise in 1995 and 1996, largely reflecting restrictive monetary policies followed by the Federal Reserve Board since February 1994. The GDP deflator is up 3.4 percent in 1996. This continued rise in inflation and interest rates will slow the growth of wealth of American consumers, also dulling growth in consumer spending. Although many U.S. trading partners are expected to have slower growth in 1996 compared to 1995, some increase in global credit demand is expected. A rising real trade deficit also will contribute to lower GDP growth in 1996. Even with some appreciation in 1995 and 1996, the dollar's value remains low. This, coupled with slower growth in consumption, will slow import growth. However, export growth will slow even more as U.S. manufacturers are constrained by skilled labor and plant capacity shortages. Rising U.S. interest rates will curtail some potential growth in capital-intensive service exports. The net result is a modest increase in the real trade deficit.

The 1997 macroeconomic projections largely reflect a transition from the short-term projections through 1996 to the long-term projections for 1998 to 2005. GDP growth is projected at 3 percent, with stronger consumer spending and investment. The GDP deflator is projected up 3.8 percent in 1997.

Long-term U.S. Macroeconomic Outlook

The following assumptions underlie the long-term U.S. macroeconomic projections:

- Labor productivity growth will be in the 1.5 to 1.6 percent range from 1998 to 2005. This represents a moderate improvement in productivity over the previous 15 years, and is consistent with an increasing share of GDP devoted to investment to allow the United States to compete internationally. Further, it is consistent with the demographic trend of an aging work force and a savings rate that is modestly higher than in recent history.

- The labor force is assumed to grow about 1.2 percent a year, which follows Bureau of Labor Statistics projections.

- Fiscal policy is assumed to be relatively tight in order to conform to the broad outlines of the Omnibus Budget Reconciliation Act of 1993. Federal tax receipts are assumed to increase, particularly in the next several years. Real government purchases of goods and services are assumed to grow slightly through 1999, and to average 1.1 percent growth in real terms from 1999 through 2005.

- State and local governments will modestly increase spending after 2000 to offset the slowdown in Federal spending. State tax revenues increase to service these debts and pay for the services cut by the Federal government that are picked up by the states. Higher Federal and State tax revenues mean lower after-tax personal income.

- The Federal Reserve Board is assumed to continue its commitment to containing inflation. Money Supply (M2) growth averages 4.2 percent annually from 1996 through 2005, reflecting tight monetary policy and GDP growth at its post-World War II trend.

- The real GDP of the European Union is projected to grow about 3 percent annually from 1995 to 2000, and 2.4 percent annually for 2000 to 2005.

- The trade-weighted exchange value of the dollar is assumed to be essentially constant in real terms after 1996; there will be no large imbalance in the terms of trade that might drive the dollar either up or down. Inflation in the United States is somewhat above the rates expected in Canada and Japan, but very similar to the combined largest EU countries (Germany, France, Italy, and the United Kingdom). Interest rate differentials are seen as moving towards a more favorable stance for U.S. dollar assets. These mixed influences,

neither of which exhibit marked strength, combine to keep the dollar's overall real value constant after 1996.

- Crude oil prices follow a path consistent with Department of Energy projections, combining aspects their short- and long-term projections. Real crude oil prices are projected to rise at about a 3.9-percent rate from 1997 to 2005.

The baseline macroeconomic projections show a long-term recovery from the below-trend growth of the late 1980s and early 1990s. From 1998 to 2005, when the effects of the cyclical recovery are essentially eliminated, the economy is expected to settle down to real GDP growth of about 2.7 to 2.8 percent, roughly the sum of productivity increases and labor force growth. Growth in real compensation and disposable income falls somewhat below recent history as real wages rise less rapidly than productivity. Higher Federal and State tax revenues mean lower after-tax personal income.

Without commodity price shocks or abrupt changes in macroeconomic policy, relatively stable real growth produces relatively stable inflation in the longer term. Consumer price inflation is projected to average around 4 percent between 1995 and 2005. The outlook for moderate inflation is due, at least in part, to the assumption that monetary policy continues to be aimed at containing inflation. Real T-bill rates average 3.1 percent, also reflecting tight monetary policy. Unemployment drops to about 5 percent by 2005.

Interest rates

In the baseline, the Federal Reserve Board's Open Market Committee (FOMC) targets short-term interest rates to prevent an acceleration of inflation while GDP grows at its long-term trend. The FOMC is assumed to maintain its concern over tight conditions in labor and capital markets and to strive for real economic growth around 2.5 percent. With projected real GDP growth rates slightly above 2.5 percent, mildly restrictive monetary policy is assumed through the baseline period. Given modest growth in inflation, the real T-bill rate averages 3.1 percent for 1998 through 2005, ending at 3.3 percent in 2005. The nominal T-bill yield is projected to average 7.2 percent, starting at 6.4 percent in 1998 and ending at 7.6 percent in 2005.

Long-term bond yields reflect current and expected short-term rates plus a spread, assumed in the baseline to mostly be a risk premium. This assumption is consistent with an economy operating in the expansion phase of the business cycle with GDP growth near its long-term trend and no sectoral imbalances such as excessive inventory buildups. Typically, the premium reflects expectations about future expected inflation, and future demands for credit, both domestic and foreign. Despite Fed vigilance, it would be unrealistic to expect an abatement of inflationary expectations, particularly given projected real crude oil price increases and baseline projections of a gradual increase in the rate of inflation.

Further, projected strong industrial country investment growth implies strong growth in the demand for credit. Improving economic growth in the Former Soviet Union and Central Europe

and continued rapid growth in the East Asian newly industrialized economies also suggest higher world credit demand. Taking inflation and credit demand expectations into account, the spread between 10-year T-bonds and 3-month T-bills is projected to average 2.1 percentage points over 1998 to 2005. Thus, nominal 10-year T-bond yields rise from 8.7 percent in 1998 to 9.6 percent in 2005.

Net exports

A central feature of the U.S. macroeconomic projections is the eventual turnaround of the real trade balance, resulting in a trade surplus by the end of the baseline. Baseline projections of the value of the dollar, interest rates, increased competitiveness by American business and labor, and the liberalization of trade reflected in GATT and the North American Free Trade Agreement (NAFTA) also contribute to the U.S. reaching a trade surplus. A low value of the dollar reduces the price of domestic goods and raises the price of foreign goods, raising U.S. export growth and lowering U.S. import growth. The projected higher interest rates help increase savings, by reducing consumption, with savings gradually rising to 7 percent of disposable personal income. Savings are invested in plant and equipment, thereby increasing labor productivity. The United States becomes more competitive internationally for an increasing array of goods. This increase in competitiveness leads to increased sales as trade barriers are reduced under GATT.

Consumption

A slowing of consumer wealth appreciation and limited new consumer lending innovations reduce consumption growth and lead to a lower consumption share of GDP during the baseline. The long-term pressure to increase the savings and investment share of GDP, while reducing the consumption share, is needed to improve international competitiveness and the trade balance. As the trade deficit improves, less capital will flow into the United States, requiring greater consumer savings to finance higher investment needs. With smaller capital inflows and tight fiscal policy, the improvement in competitiveness and productivity depends on higher business investment. Higher investment will require higher domestic savings out of personal disposable income, and lower consumption.

Investment

In an increasingly competitive global economy, firms must strive to produce efficiently. Greater competition necessitates increased efforts to be low cost producers. Furthermore, international competition will intensify efforts of foreign multinational firms with large export markets in the United States to shift productive capacity to the United States.

The baseline macroeconomic projections assume that corporate profits as a share of GDP will increase as the share of personal income falls. Higher corporate profits in the long-term will be generated from continued job restructuring and efforts to control non-wage compensation to employees, as well as from returns from successful prior investments. Higher corporate profits translate into greater internal funds for business investment through higher retained earnings.

With growth in the population and the labor force expected to be relatively slow over the baseline, firms will have very limited opportunities to substitute labor for capital. Therefore, the capital-to-labor ratio can be expected to rise over the forecast period. The share of investment spending as a percentage of GDP rises largely because of the baseline assumption that no recession will occur to force a contraction in business spending.

International Macroeconomic Projections

The international macroeconomic projections focus first on the non-U.S. G-7 countries (Germany, France, Italy, the United Kingdom, Japan, and Canada) and Mexico, followed by highlights for other selected countries or regions. These projections reflect long-term underlying tendencies in these economies, influenced by factors that affect production capacity such as productivity growth, population growth, and labor force composition; and factors that affect the general economic environment, such as long-term fiscal and monetary policy stances and economic reforms.

Germany, France, Italy, United Kingdom (EU-4)

Germany, France, and Italy begin recovering in 1995 and 1996 from cyclical downturns, while the United Kingdom (U.K.) consolidates gains made in previous years. Modest economic growth in these countries, in combination with labor market conditions that should slow wage growth, will contain inflation in the next two years, with prices not rising much above 4 percent.

The movements to a single goods market in the European Union and, eventually, to monetary union, are among the most significant factors governing fiscal and monetary policy in Europe. For the EU-4 as a whole, growth in real government consumption is expected to hover near 1 percent as the Maastricht agreement (the treaty governing monetary union) requires government deficits to be no higher than 3 percent of GDP by 1999. Monetary policy outside Germany focuses on stabilizing currency values against the Deutsche mark. German monetary authorities do not alter policy significantly in the baseline, given a low inflation environment.

Real economic growth in the EU-4 averages near 2.7 percent for the 1997 to 2005 period. Short-term nominal interest rates are projected to average just under 6 percent for the baseline, led by a decline in German rates. Lower interest rates spur investment spending, which in turn boosts productivity and productive potential. In Germany, investment grows by an average annual rate of 5.6 percent through 1999. The EU-4 collectively exhibits similar behavior, with investment growth of 5.0 percent for the same period. Higher rates of savings, given the aging of the labor force in the EU-4, also contribute to the rise in investment.

Consumption growth will average around 2.5 percent for Germany and the U.K., while for France and Italy the average will be closer to 2.0 percent. In part, this reflects somewhat slower population growth and an older labor force that saves more. However, the most significant factor limiting consumption growth will be the problems and new pressures in Europe's labor markets.

Unemployment in Europe remains a problem, suggesting modest wage and income growth. An additional factor dampening European wage and income growth will be the large pool of generally low-wage, skilled labor available in Eastern Europe. Labor productivity in the countries of the former Soviet Union will be greatly boosted through investment. However, it is expected that wages will only gradually follow expected productivity gains. These formerly centrally-planned countries will compete for Europe's investment funds and jobs. This is particularly true of Germany where high unemployment in the East provides a ready source of labor.

Europe's labor market problems stem from generous social welfare and unemployment benefits, and in the case of continental Europe, powerful unions that have kept real wage costs among the highest in the world. As a result, French and Italian unemployment will remain in the 9 to 10 percent range over the baseline period. Unemployment in the U.K. and Germany shows gradual improvement to about 7 percent. Overall, EU-4 unemployment is expected to average near 9 percent. With high unemployment, it will be difficult for labor to gain significant wage increases, and thus personal income growth will be dampeneded.

Japan

Japan is expected to continue its recovery from a cyclical downturn over the next few years, with modest inflation.

For the long-term projection period, fiscal policy will be restrictive, as the government works off the recession-era deficit. Growth of government spending will expand by around 1 percent annually through 2005. Given low inflationary expectations, the high value of the yen, and weaknesses in the corporate and investment sectors, the Bank of Japan is seen as allowing some easing of monetary policy. The expectation is that nominal short-term interest rates will average around 3 percent through the end of the decade, and rise somewhat thereafter, with real rates in the 1- to 2-percent range.

Japanese trend growth will be lower than during the 1980's. Toward the end of the decade, real growth averages 3 percent, and then falls to just above 2 percent. A significant factor in this deceleration is the slowing of population growth. The implication is for a rapidly aging labor force that leads to decreased hours worked.

Investment growth will not be nearly as strong as in the past, increasing by 2.5 to 3.0 percent during the baseline years. Demand for new capacity will be limited as long as capacity utilization rates remain low, reflecting large investments of the late 1980s and early 1990s. Investment will also be limited because of the collapse in the speculative Japanese equity markets which effectively raised the costs of investment to Japanese companies. Another important factor was corporate Japan's reliance on retained earnings for some of its investment funds. The fall of domestic and international demand, combined with Japan's life-time employment tradition, has meant a sharp reduction in corporate profits and retained earnings. This suggests that Japanese firms will need to access more costly world capital markets for at least some of their investment funds.

High unit labor costs and a high value of the yen will push investment offshore, further dampening domestic investment. High unit labor costs reflect, in part, life-time employment. The yen is also expected to remain strong because of an inflation outlook that remains low relative to the other major economies. As a result, real export growth is projected to average just under 4 percent for the baseline.

Canada

Canada's overall economic performance mostly follows that of the United States. Expectations for the United States, combined with domestic factors indicate that Canada's economy will show growth averaging near 3 percent through 2005. The NAFTA and declining interest rates lead to strong investment growth, averaging near 5 percent. The NAFTA and a currency that remains undervalued also contribute to strong export growth of around 5 percent and an improving current account. Inflation is seen below 2 percent throughout the forecast, influenced by unemployment that remains a stubborn problem.

Monetary policy will allow a gentle easing of interest rates in real terms, but will be restrained somewhat by lingering weakness in the Canadian dollar and high government debt. The high level of debt, along with burdensome interest payments, will force fiscal restraint, with growth in government spending averaging just over 1 percent during the baseline period.

Short-term nominal interest rates decline to an average of around 5.5 percent for 1995 to 2005. Real short-term rates decline, averaging about 3.2 percent for 2000 to 2005.

Mexico

The macroeconomic projections used for the baseline were prepared prior to the December 1994 devaluation of the Mexican peso.

Monetary and fiscal policy both will aid the Mexican economy, but fiscal policy in the form of privatization will by far be the dominant factor of the two. Equal in importance to the fiscal policy shifts are the reforms undertaken to open the economy to international competition and capital movements.

Monetary policies will focus on controlling inflation in a rapidly expanding economy. Real short-term interest rates will remain slightly below 4.0 percent through the end of the decade, and then decline. Prices are projected to rise in the 7.0 to 7.5 percent range, a moderate pace compared with Mexico's inflation of the 1980s.

On the fiscal side, the most important policy undertaking has been the privatization of many major industrial and financial entities. Also, Mexico has made unilateral efforts to open its economy to trade and international competition, particularly in capital and commodity markets, as a preamble to its membership in the Organization for Economic Cooperation and

Development (OECD) and the GATT. The NAFTA also has opened the Mexican economy to international markets.

Economic benefits from these reforms will accumulate over the baseline period. Real GDP growth averages near 6 percent for 1995 to 2005. While growth is expected to be balanced, particular strength is projected for investment spending, which grows by over 9 percent on average. The importance of the NAFTA is reflected in export growth averaging over 7 percent for the baseline. Given the strength of investment spending, import growth will also be strong. These factors, in combination with a surge in foreign investment, suggest that the current account deficit will increase through the baseline.

Other International Macroeconomic Highlights

Macroeconomic projections are discussed in this section for selected countries or regions that are important for global agricultural trade and U.S. exports, but do not significantly influence U.S. financial markets.

Former Soviet Union

The economies of the countries that make up the Former Soviet Union (FSU) are forecast to stabilize gradually over the next 10 years. Political constraints on the ability of leaders to pursue moderate fiscal and monetary policies in all FSU countries will keep inflation relatively high and growth moderate. The average inflation rate in the FSU is projected to drop below 100 percent per year by 1998. The region will experience a moderate rate of real GDP growth of 2 to 4 percent during 1997-2005. Inflation is expected to decline gradually during the late 1990s, slowing to about 25 percent by 2002. Russia and the Baltic countries are expected to reduce inflation and experience positive growth beginning in 1997, while the other countries of the FSU lag behind.

China

China's economy is expected to remain strong, with 8.5 percent growth in 1995 slowing gradually to a still-healthy 5.2 percent in 2005. With population growth projected at 0.8 percent annually, real per capita income gains will remain among the strongest in the world. Agricultural output will increase as higher domestic prices drive productivity gains. Income-driven increases in demand for meats and edible oils are the most important factors in China's future agricultural trade. The real exchange rate is projected to depreciate slowly until it stabilizes around the year 2001. China's accession to the GATT could lead to somewhat stronger growth in incomes and trade.

Newly Industrialized Economies of East Asia

The newly industrialized economies of East Asia--South Korea, Taiwan, and Hong Kong--are assumed to continue rapid growth, although not as fast as in the previous two decades. The GATT agreement adds to the GDP of each of the economies, which are well-positioned to

benefit from greater trade opportunities. Inflation is projected to moderate somewhat from recent levels. Nominal exchange rates are projected to appreciate gradually. Although labor costs have risen sharply relative to other parts of the world, each of the three economies is expected to be successful in shifting its economy and trade toward activities using higher levels of technology and capital. Hong Kong's economy is assumed to continue to prosper after its reunification with China in 1997.

South and Southeast Asia

Most South and Southeast Asian countries are expected to maintain high rates of economic growth relative to other developing regions. Growth is projected to remain strongest in Southeast Asia, where the GATT agreement is likely to provide a substantial boost to trade and investment. Indonesia, Malaysia, Thailand, and Vietnam are all expected to maintain annual real GDP growth rates of 6 to 8 percent. In South Asia, India and Pakistan are projected to sustain annual real growth rates of 5 to 6 percent, near those achieved in the 1980s and early 1990s. Implementation of market-oriented domestic and trade reforms will be the key to South Asian growth, but trade and investment gains fostered by GATT will also be a factor.

Africa and the Middle East

For most African and Middle Eastern countries, economic growth is projected to be stronger in 1995 to 2005 than during the 1980s and early 1990s. For the region's oil exporters, the outlook is shaped largely by somewhat stronger demand prospects among developed oil importers and a slow rise in real oil prices. In several countries, including Egypt, Morocco, and Turkey, improved economic performance results from further economic reforms. However, the outlook for reform and growth in Algeria remains poor. In Iraq, the economic impact of the Gulf war and embargo is assumed to ease gradually, leading to a period of recovery during 1995-97 and modest growth through 2005. In Sub-Saharan Africa, although growth is projected to strengthen slightly, per capita real GDP is projected to continue to decline because of high rates of population growth.

South America

In Brazil and Argentina, real GDP is projected to exhibit strong growth in the baseline, averaging 4.9 percent for Brazil and 6.6 percent for Argentina. These projections assume that there will be steady progress implementing market-oriented economic reforms, and there will be substantial trade and growth benefits arising from the GATT agreement. Inflation rates in Brazil are projected to continue declining after the success of the anti-inflationary Real Plan. It is also assumed that Brazil's exchange rate continues to be devalued in efforts to keep exports competitive, leading to a roughly constant real exchange rate through 2005. In Argentina, the inflation rate is expected to stabilize near 6 percent. However, it is expected that the real exchange rate will be permitted to appreciate, controlling inflationary expectations, but also moderating agricultural producer incentives unless efficiency gains are achieved.

Table 1. Domestic macroeconomic baseline assumptions

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP												
Nominal	6,730	7,117	7,503	8,023	8,579	9,172	9,818	10,508	11,260	12,058	12,917	13,851
Real	5,329	5,488	5,596	5,766	5,934	6,099	6,269	6,438	6,619	6,798	6,980	7,176
Percent change	3.8	3.0	2.0	3.0	2.9	2.8	2.8	2.7	2.8	2.7	2.7	2.8
Disposable personal income												
Nominal	4,954	5,294	5,598	5,985	6,395	6,841	7,306	7,787	8,307	8,871	9,503	10,194
Percent change	5.7	6.9	5.7	6.9	6.8	7.0	6.8	6.6	6.7	6.8	7.1	7.3
Nominal per capita, dol	18,989	20,092	21,043	22,290	23,605	25,031	26,509	28,022	29,645	31,401	33,369	35,508
Percent change	4.6	5.8	4.7	5.9	5.9	6.0	5.9	5.7	5.8	5.9	6.3	6.4
Real	3,826	3,957	4,025	4,136	4,248	4,362	4,466	4,565	4,665	4,776	4,897	5,029
Percent change	3.3	3.4	1.7	2.8	2.7	2.7	2.4	2.2	2.2	2.4	2.5	2.7
Real per capita, 87 dol	14,663	15,017	15,131	15,404	15,679	15,959	16,206	16,427	16,650	16,905	17,194	17,516
Percent change	2.2	2.4	0.8	1.8	1.8	1.8	1.5	1.4	1.4	1.5	1.7	1.9
Inflation Measures												
GDP deflator, 87=100	126.3	129.7	134.1	139.1	144.6	150.4	156.6	163.2	170.1	177.4	185.1	193.0
Percent change	2.3	2.7	3.4	3.8	3.9	4.0	4.1	4.2	4.2	4.3	4.3	4.3
CPI-U, 82-84=100	148.3	153.4	159.4	165.9	172.6	179.8	187.5	195.6	204.1	213.0	222.5	232.4
Percent change	2.6	3.4	3.9	4.0	4.0	4.2	4.3	4.3	4.4	4.3	4.5	4.5
PPI, finished goods 82=100	126.1	129.9	133.9	138.8	143.9	149.2	154.8	160.6	166.7	173.0	179.7	186.5
Percent change	1.2	2.6	3.1	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8
PPI, crude goods 82=100	102.8	105.8	110.6	114.5	118.7	122.9	127.4	131.9	136.7	141.6	146.7	152.0
Percent change	0.4	2.9	4.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Crude oil price, $/bbl												
Imports 1/	16.5	17.8	18.5	19.9	21.5	23.2	25.1	27.2	29.4	31.9	34.5	37.4
Percent change	2.0	7.6	4.2	7.4	8.0	8.1	8.2	8.3	8.3	8.3	8.4	8.4
Real cost, 87 dol	13.1	13.7	13.8	14.3	14.8	15.4	16.0	16.6	17.3	18.0	18.7	19.4
Percent change	3.3	4.8	0.8	3.5	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Labor compensation per hour												
nonfarm businesses, 82=100	164.4	170.3	177.3	185.2	193.8	203.0	212.8	223.4	234.4	246.2	258.6	271.6
Percent change	3.6	3.6	4.1	4.5	4.6	4.7	4.9	5.0	5.0	5.0	5.1	5.0
Interest rates, percent												
3 month T-bills	4.1	5.4	5.7	6.0	6.4	6.7	7.0	7.2	7.6	7.6	7.6	7.6
6 month commercial paper	4.9	5.7	6.2	6.5	6.9	7.2	7.5	7.7	8.1	8.2	8.1	8.1
Bank prime rate	7.1	8.5	8.8	9.0	9.3	9.6	9.9	10.2	10.5	10.6	10.6	10.6
Treasury bonds	7.0	7.8	8.2	8.4	8.7	9.0	9.2	9.4	9.6	9.6	9.6	9.6
Moody's Aaa bonds	7.9	8.5	9.4	9.4	9.7	10.0	10.1	10.4	10.5	10.5	10.5	10.6
Civilian unemployment												
rate, percent	6.2	5.8	6.1	5.9	5.6	5.5	5.3	5.2	5.0	4.9	4.9	4.9
Nonfarm payroll emp., mil	113.2	115.9	117.7	119.9	122.5	125.0	127.6	130.3	133.1	135.8	138.5	141.4
percent change	2.5	2.5	1.6	1.8	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.1
Money supply, M2, $ bil	3,636	3,774	3,933	4,094	4,262	4,436	4,618	4,815	5,019	5,232	5,455	5,687
percent change	3.0	3.8	4.2	4.1	4.1	4.1	4.1	4.3	4.3	4.3	4.3	4.3
Exchange rates, Federal Reserve Board												
Nominal (Mar 73=100)	93.2	99.2	99.6	101.2	101.5	100.7	100.0	99.6	99.3	98.9	98.4	97.7
Real (Mar 73=100)	90.4	91.4	93.9	96.7	96.8	96.7	96.8	96.8	96.8	96.8	96.8	96.8
Total population, mil	260.9	263.5	266.0	268.5	270.9	273.3	275.6	277.9	280.2	282.5	284.8	287.1

Note: All real variables measured in billions of 1987 dollars; nominal variables in billions of dollars.

– continued

The baseline macroeconomic projections were prepared in November 1994.

1/ Refiner acquisition cost.

Table 1. Domestic macroeconomic baseline assumptions, continued

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Final sales												
Real	5,295	5,466	5,572	5,740	5,901	6,064	6,235	6,417	6,598	6,778	6,963	7,159
Percent change	3.4	3.2	1.9	3.0	2.8	2.8	2.8	2.9	2.8	2.7	2.7	2.8
Consumer spending												
Nominal	4,644	4,964	5,280	5,645	6,042	6,455	6,889	7,365	7,858	8,361	8,906	9,480
Real	3,586	3,710	3,796	3,901	4,013	4,116	4,211	4,317	4,413	4,502	4,589	4,677
Percent change	3.7	3.5	2.3	2.8	2.9	2.6	2.3	2.5	2.2	2.0	1.9	1.9
Real per capita, 87 dol	13,745	14,079	14,272	14,529	14,815	15,059	15,280	15,536	15,751	15,935	16,112	16,289
Percent change	2.6	2.4	1.4	1.8	2.0	1.7	1.5	1.7	1.4	1.2	1.1	1.1
Investment, real	933	979	1,011	1,074	1,125	1,170	1,217	1,253	1,306	1,360	1,415	1,477
Fixed	899	958	987	1,048	1,091	1,136	1,183	1,231	1,285	1,340	1,398	1,460
Percent change	5.2	6.6	3.0	6.2	4.1	4.1	4.2	4.1	4.3	4.3	4.3	4.4
Business inventory change	34.0	21.1	24.0	26.3	33.7	34.7	34.2	21.4	21.0	19.8	16.6	16.7
Exports												
Nominal	695	761	833	921	1,022	1,135	1,262	1,400	1,550	1,713	1,894	2,090
Real	627	673	711	759	810	864	923	983	1,044	1,106	1,172	1,240
Percent change	4.0	7.3	5.8	6.6	6.8	6.7	6.8	6.5	6.2	6.0	6.0	5.8
Imports												
Nominal	819	891	974	1,073	1,180	1,278	1,374	1,478	1,584	1,696	1,807	1,901
Real	737	790	842	890	940	986	1,027	1,070	1,109	1,146	1,182	1,214
Percent change	9.0	7.2	6.5	5.8	5.6	4.9	4.1	4.1	3.7	3.3	3.1	2.8
Net exports												
Nominal	-124	-130	-142	-151	-157	-144	-112	-78	-34	17	87	188
Real	-110	-118	-130	-132	-130	-122	-104	-87	-65	-40	-9	26
Government spending, real	920	916	919	922	927	935	945	955	965	976	986	997
Percent change	-1.1	-0.4	0.3	0.3	0.5	0.9	1.1	1.1	1.1	1.1	1.1	1.1
Federal	335	325	321	318	312	311	312	314	315	317	319	320
State and local	585	591	598	604	615	624	633	641	650	659	668	676

Note: All real variables measured in billions of 1987 dollars; nominal variables in billions of dollars.
The baseline macroeconomic projections were prepared in November 1994.

Table 2. Foreign real GDP baseline growth assumptions

Region/country	1994	1995	1996	1997	Average 1990-1995	Average 1995-2000	Average 2000-2005
				Percent change			
Africa	1.2	2.6	2.6	2.7	1.4	2.9	3.1
Sub-Saharan Africa	2.9	3.0	3.1	3.3	3.2	3.3	3.2
Nigeria	1.9	2.7	1.5	2.1	3.6	2.8	3.2
Republic of South Africa	2.5	2.7	3.1	3.0	0.6	3.1	3.3
Sudan	-6.0	2.1	2.2	2.0	0.7	2.0	2.0
China	10.0	8.5	8.2	8.0	10.7	7.8	6.8
East Asia (excluding Japan)	6.1	6.5	6.4	6.4	6.1	6.2	5.9
Hong Kong	5.3	4.7	4.9	4.9	4.9	4.5	4.2
South Korea	6.5	7.1	6.8	6.8	6.2	6.6	6.2
Taiwan	5.9	6.2	6.3	6.4	6.4	6.3	6.0
Southeast Asia	7.1	7.3	6.7	6.7	6.6	6.6	6.5
Burma	2.0	2.0	2.0	2.1	1.9	2.1	2.3
Indonesia	6.8	7.0	6.7	6.7	6.7	6.7	6.8
Malaysia	8.8	8.4	7.7	7.6	8.4	7.6	7.5
Phillipines	3.0	4.4	4.2	4.1	1.6	4.2	4.3
Thailand	8.4	8.2	7.2	7.1	8.0	6.9	6.3
Vietnam	9.0	8.0	6.5	6.5	7.9	6.5	6.5
South Asia	5.5	5.7	5.7	5.7	4.5	5.6	5.5
Bangladesh	4.1	4.2	4.2	4.3	4.0	4.3	4.3
India	5.6	5.7	5.8	5.8	4.4	5.7	5.5
Pakistan	5.6	6.5	5.8	5.8	5.8	5.8	5.8
Latin America	3.0	3.9	4.4	4.6	3.0	4.8	5.2
Argentina	5.1	4.2	5.7	5.3	6.6	6.0	7.0
Brazil	2.8	3.7	4.2	4.6	2.1	4.7	4.9
Central America and Caribbean	1.1	2.0	2.1	2.1	1.2	2.2	2.3
Mexico	2.6	5.1	5.2	5.6	3.1	5.9	5.9
Other South America	2.5	2.6	2.7	2.8	2.7	2.9	3.4
North Africa and Middle East	4.0	5.6	5.0	4.2	3.4	4.2	4.0
Algeria	1.8	1.4	2.1	2.8	1.7	2.7	2.8
Egypt	2.0	2.5	3.8	3.6	1.7	3.7	4.0
Iran	3.8	4.3	4.0	4.0	5.6	4.0	4.0
Iraq	14.9	54.9	20.0	7.7	4.7	8.5	4.0
Morocco	4.7	4.7	4.4	4.4	2.1	4.4	4.4
Saudi Arabia	3.7	2.0	3.7	3.6	4.4	3.6	4.1
Tunisia	5.1	5.1	5.2	5.6	4.8	5.5	5.6
Turkey	3.8	3.5	4.4	4.4	4.1	4.4	4.2
Former Soviet Union	-9.3	-3.0	0.0	2.0	-11.2	2.8	3.5
Central and East Europe	5.0	5.6	5.1	4.5	-0.3	4.4	4.2
Developed Countries							
Australia	3.6	2.6	3.1	2.7	2.4	2.9	2.8
Canada	3.3	3.9	3.6	3.2	1.4	3.1	2.8
EU-12	1.3	2.6	3.0	3.0	1.6	3.0	2.4
Japan	1.2	3.4	3.5	2.5	2.5	3.0	2.4
New Zealand	2.7	2.9	4.6	2.5	1.9	3.1	2.3

Source: Project Link; DRI Inc.; Economic Research Service, U.S. Department of Agriculture.
The baseline foreign macroeconomic projections were prepared in the Fall of 1994.

Agricultural Policy Assumptions

Baseline projections assume a continuation of agricultural legislation and policy decisions as of December 1994. Policy assumptions reflect provisions of the Agricultural Act of 1949, as amended by the Food, Agriculture, Conservation, and Trade Act of 1990 (FACT), the Omnibus Budget Reconciliation Act of 1990, the FACT Act Amendments of 1991, the Omnibus Budget Reconciliation Act of 1993, and the National Wool Act Amendments of 1993. Notably, this baseline incorporates the policy provisions of both the NAFTA and the recently completed Uruguay Round of the GATT. Also assumed in this baseline are Conservation Reserve Program provisions based on former Secretary Espy's December 14, 1994 announcement to modify, extend, and target CRP contracts (see discussion, page 17).

Baseline estimates were developed using December 1994 supply and use data, with the upland cotton estimates revised to reflect the 1995 ARP for upland cotton of 0 percent. Individual program provisions shown in the baseline--for example, for annual acreage reduction programs--do not indicate future USDA policy decisions. Where legislation authorizes discretion, program provisions are based on the judgement of commodity analysts, guided by farm legislation where appropriate.

Some important U.S. agricultural policy assumptions include:

- Annual commodity program provisions are set so that carryover stocks or stocks-to-use ratios are maintained at levels determined or guided by current legislation.
- Target prices are assumed to continue at current levels, the minimum levels permitted by farm legislation.
- Payment yields for program crops remain fixed in the baseline.
- Payment acreage is reduced by 15 percent of base acreage. Farmers have planting options on 25 percent of their base through flexibility provisions, and on more of their base through provisions such as zero certification and minor oilseeds plantings on 0/85-92 acreage.
- Deficiency payments for wheat and feed grains are based on the lower of the 12-month season-average price or the 5-month price plus 10 cents for wheat and 7 cents for feed grains. Deficiency payments for rice are based on the lower of the 12-month calendar year average price or the 5-month price plus 27 cents. Deficiency payments for upland cotton are based on a calendar-year average price.
- Basic loan rates for wheat and corn are based on a percentage of moving averages of past farm prices. Effective loan rates for wheat and corn are reduced from the basic loan rate by the amount allowed by the supply/use adjustment, but without the discretionary adjustment to "maintain competitiveness". Loan rates for sorghum, barley, and oats are

set at feed value in relation to corn. Loan rates for cotton and rice are based on a percentage of moving averages of past farm prices, limited by statutory minimums. Loan rates for soybeans and minor oilseeds remain at their statutory minimums.

- Marketing loans are in effect for wheat and feed grains, under the first GATT trigger provisions of the Omnibus Budget Reconciliation Act of 1990. Marketing loan programs are also in effect for rice, upland cotton, and oilseeds.

- The baseline assumes the pending court action regarding the EPA's renewable oxygenate requirement is decided to allow implementaion of the rule. The rule requires that 30 percent of oxygenates used in the reformulated gas program (15 percent for 1995) come from renewable resources, such as corn-based ethanol.

- The minimum price support for milk is $10.10 per hundredweight with changes in the support price based on projected Government purchases. There is an assessment on marketings of $0.10 per hundredweight with larger assessments if projected removals exceed a trigger level. The levels of net Government removals that trigger adjustments in the dairy support price and in dairy assessments increase in the baseline to reflect changes in dairy imports under the GATT.

- Domestic marketing allotments for sugar are implemented when projected sugar imports are less than 1.25 million short tons.

- Annual quantity and expenditure levels for the Export Enhancement Program (EEP) are assumed to be in compliance with GATT reductions, which require that by 2000 subsidized exports be reduced by 21 percent in volume and 36 percent in budget outlays from 1986-1990 levels. Credit assistance funding provided by the GSM program is assumed to continue at current levels.

- Policy provisions of both the NAFTA and the Uruguay Round GATT agreement are included in the baseline.

Conservation Reserve Program Assumptions

Baseline assumptions for the CRP include provisions in current agricultural law as well as the Secretarial announcements of August and December of 1994. Major CRP assumptions include:

- A CRP enrollment will occur in 1995 to add approximately 1.6 million acres.

- As announced in August 1994, farmers with current CRP contracts that expire in 1995 have the option to extend those contracts for 1 year.

- As announced in December 1994, farmers with current CRP contracts have the option in 1995 to terminate those contracts or modify them to reduce the acreage covered.

- Farmers with current CRP contracts have the option to modify and extend those contracts at maturity. Extensions are for 10 years for CRP contracts entered into before November 28, 1990; 5 years for later contracts. Contracts expiring in 1995 that have already been extended 1 year may be extended another 9 years.

- An additional CRP enrollment will be held in 1995 to replace acreage taking the early-termination option.

- Necessary appropriated funds to support these CRP provisions will be available.

The analysis assumes that all CRP tree acreage would take the option to extend contracts at maturity. The portions of non-tree CRP acres that would accept an extension option when current contracts expire (except for rice) are based on a comparison of net returns from cropping, haying, or grazing to the new productivity-based bid cap for CRP rental rates. Extension rates for non-tree CRP land range from 56 percent for upland cotton to 91 percent for oats, with an overall average of about 70 percent. All rice land in the CRP was assumed to be extended.

Acreage assumed to take the early termination option is based on a comparison of net returns to existing CRP rental rates. About 4.5 million acres are assumed to take the early-out option.

New CRP enrollments are targeted to more environmentally sensitive acres by basing new enrollment on the Environmental Benefits Index. In addition to the 1.6 million acres to be enrolled in 1995, another 4.5 million replacement acres are assumed to replace the early-out land.

The table below shows the commodity allocation of the CRP that results from the combination of these assumptions for new enrollments in 1995, early termination of contracts, and contract extensions and modifications. The CRP increases from its current level of 36.4 million acres to 37.4 million acres in 1996/97, then falls to 32.1 million acres by 2005.

Table 3. Conservation Reserve Program acreage, baseline assumptions

	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
					Million acres						
Corn	4.3	4.7	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0
Sorghum	2.5	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Barley	2.8	2.9	2.9	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
Oats	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Wheat	10.8	10.5	10.0	9.5	9.2	8.9	8.9	8.8	8.7	8.7	8.7
Rice	—	—	—	—	—	—	—	—	—	—	—
Upland cotton	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Soybeans	4.2	4.6	4.3	4.2	4.1	4.0	4.0	3.9	3.9	3.9	3.9
Total	27.4	28.0	26.7	25.9	25.2	24.6	24.5	24.3	24.0	24.0	24.0
Other	9.0	9.4	8.9	8.6	8.3	8.2	8.1	8.1	8.0	8.0	8.0
TOTAL	36.4	37.4	35.6	34.4	33.5	32.8	32.7	32.4	32.1	32.1	32.1

— For rice, 13 thousand acres remain enrolled in the Conservation Reserve Program.

Table 4. Summary baseline policy variables

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
ARP						*Percent*						
Corn	0	7.5	0	0	0	0	0	0	0	0	0	0
Sorghum	0	0	0	0	0	0	0	0	0	0	0	0
Barley	0	0	0	0	0	0	0	0	0	0	0	0
Oats	0	0	0	0	0	0	0	0	0	0	0	0
Wheat	0	0	0	0	0	0	0	0	0	0	0	0
Rice	0	5	0	0	0	0	0	0	0	0	0	0
Upland cotton	11	0	12.5	10	7.5	7.5	7.5	12.5	10	10	10	12.5
Participation rate						*Percent*						
Corn	81.6	77	78	77	75	73	72	71	70	69	68	66
Sorghum	81.1	78	77	75	73	71	70	68	66	63	60	57
Barley	83.8	79	77	78	77	77	76	75	74	73	72	71
Oats	39.8	44	43	43	42	41	40	38	35	32	30	28
Wheat	87.0	86	87	87	86	86	85	85	84	82	80	78
Rice	95.3	96	96	96	96	96	96	96	96	96	96	96
Upland cotton	89.0	93	87	87	87	86	85	82	82	81	80	78
Target prices						*Dollars*						
Corn	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Sorghum	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
Barley	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36
Oats	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Wheat	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Rice	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71
Upland cotton	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729
Loan rates						*Dollars*						
Corn	1.89	1.83	1.83	1.81	1.87	1.87	2.01	2.06	2.10	2.13	2.17	2.21
Sorghum	1.80	1.74	1.74	1.72	1.78	1.78	1.91	1.96	2.00	2.02	2.06	2.10
Barley	1.54	1.49	1.49	1.47	1.52	1.52	1.64	1.68	1.71	1.73	1.77	1.80
Oats	0.97	0.94	0.94	0.93	0.96	0.96	1.03	1.06	1.08	1.10	1.12	1.14
Wheat	2.58	2.56	2.61	2.61	2.57	2.56	2.56	2.58	2.67	2.75	2.83	2.91
Rice	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.65	6.90	7.12
Upland cotton	0.500	0.519	0.530	0.517	0.543	0.545	0.547	0.544	0.544	0.555	0.567	0.578
Soybeans	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
Milk support	10.10	10.10	10.10	10.35	10.35	10.35	10.60	10.60	10.85	10.85	11.10	11.35

Note: Baseline projections assume a continuation of agricultural law as of December 1994. Individual program provisions shown do not indicate future USDA policy decisions where discretion is authorized.

Agricultural Trade

Rising demand is expected to generate increased global trade for the major agricultural commodities over the next 10 years. Trade growth for coarse grains, rice, and wheat is expected to be relatively strong, while trade growth for soybeans, soybean meal, and cotton is more moderate. The rate of growth of world trade of wheat, rice, coarse grains, and soybeans is expected to be faster in the 1990s than in the 1980s and accelerate after 2000, in part due to strengthening incomes from GATT. However, trade growth for these crops will remain below the substantially higher rates of the 1970s. Global trade growth for soybean meal and cotton is forecast to rise after 2000.

Moderate growth for U.S. exports of wheat, coarse grains, and soybeans is projected for the 1990s, recovering from the declines in the 1980s but still falling short of the very rapid export growth of the 1970s. Export growth rates for these commodities are projected to continue rising between 2000 and 2005. U.S. soybean meal exports will show little growth through 2000, but then accelerate. The growth rate for U.S. cotton exports is projected to rise moderately in the 1990s and strengthen significantly between 2000 and 2005. U.S. rice exports fall through 2005, limited by minimal domestic production gains and strong domestic use.

Table 5. International trade summary, by decade or indicated period 1/

Years	Wheat	Rice	Coarse grains	Soybeans	Soybean meal	Cotton
			World trade growth 2/			
1960 to 1970 3	1.1	2.1	4.9	11.4	14.4	0.8
1970 to 1980	4.7	4.7	8.7	8.2	11.7	1.6
1980 to 1990	-0.3	0.7	-1.0	-0.4	2.9	0.5
1990 to 2000	0.5	2.4	0.9	2.1	1.8	0.5
2000 to 2005	2.4	3.0	2.9	2.4	2.3	1.3
			U.S. export growth			
1960 to 1970 3	-0.8	6.5	3.8	12.6	13.0	-5.4
1970 to 1980	6.4	6.5	12.7	7.2	5.8	6.1
1980 to 1990	-3.3	-0.5	-0.7	-3.7	-1.8	2.3
1990 to 2000	0.9	0.7	2.4	2.1	-0.3	0.8
2000 to 2005	1.8	-1.0	2.8	2.3	2.6	3.0
			U.S. share of World trade, average 2/			
1960 to 1970 3	37.6	19.0	50.0	90.6	65.6	18.3
1970 to 1980	43.0	21.9	59.4	82.6	43.5	17.4
1980 to 1990	37.3	20.5	59.4	72.6	23.7	20.1
1990 to 2000	32.3	16.6	58.1	65.0	17.9	25.1
2000 to 2005	31.7	12.8	62.4	63.4	16.3	26.1

1/ Years refer to the first year of the commodity marketing year.
2/ Trade and trade shares include intra FSU trade for the 1990 to 2000 and the 2000 to 2005 periods; intra FSU trade for cotton also is included in the 1980 to 1990 and the 1970 to 1980 periods.
3/ Data for soybeans and meal begin in 1964.

The U.S. share of world coarse grain trade grows during the baseline years, reaching about 62 percent by 2005. The U.S. cotton market share also expands, rising to 27 percent by 2005. The U.S. portion of global wheat trade declines marginally by 2005 from its current one-third share. The U.S. share of soybean trade is projected to fall to 63 percent beyond 2000. For soybean meal, the share drops marginally to 17 percent as South American production and exports expand. The U.S. share of world rice trade declines through 2005 as relatively constant domestic production and rapid growth in domestic use limit U.S. ability to take advantage of rising world demand.

The trade projections assume that export subsidies and volumes agreed to under the GATT agreement will be used to the maximum extent by both the United States and the European Union (EU), although it is unlikely that the EU will be able to reach the maximums allowed for coarse grains. Credit assistance funding provided by the GSM program is assumed to continue at current levels.

The FSU and China, where projections are particularly dependent on the assumptions, present the greatest projection uncertainties. Since future developments in the FSU and China are key to this analysis, prospects for world production and trade depend critically upon some highly uncertain outcomes. Assumptions about EU yield growth, grain surpluses, and policy response will have an important impact on projected prices, trade levels, and rates of growth.

U.S. Agricultural Trade Value

The value of total U.S. agricultural exports is projected to rise from $43.5 billion in fiscal 1994 to $55 billion (current dollars) in fiscal year 2000, and surpass $68 billion by 2005. With U.S. agricultural imports rising from $28 billion in 1995 to $42 billion in 2005, net agricultural

Table 6. U.S. agricultural trade values, baseline estimates, fiscal years

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	Billion dollars											
Animals and products	8.7	9.0	9.2	9.4	9.9	10.7	11.5	12.4	13.1	13.8	14.6	15.4
Grains, feeds, and products	13.1	13.9	13.8	14.0	14.6	15.6	16.1	16.8	17.6	18.3	19.1	19.8
Oilseeds and products	6.9	7.4	7.8	7.8	8.0	8.3	8.5	8.7	8.9	9.2	9.6	9.9
Horticultural products	8.5	8.8	9.1	9.5	10.1	10.6	11.1	11.7	12.2	12.8	13.4	14.1
Tobacco, unmanufactured	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0
Cotton	2.3	3.2	2.5	2.2	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2
Miscellaneous	2.8	2.8	3.0	3.1	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.6
Total agricultural exports	43.5	46.3	46.5	47.3	49.5	52.3	54.5	57.2	59.8	62.5	65.3	68.1
Bulk commodities	17.2	19.1	18.4	18.2	19.0	20.2	20.7	21.6	22.5	23.4	24.5	25.4
High-value products	26.3	27.1	28.1	29.0	30.5	32.2	33.8	35.6	37.3	39.1	40.8	42.7
Total agricultural imports	26.4	28.0	27.9	29.4	31.3	32.4	34.2	35.5	36.8	38.6	40.1	42.3
Net agricultural trade balance	17.1	18.3	18.6	17.8	18.1	19.9	20.4	21.7	23.0	23.9	25.2	25.8

Note: The miscellaneous category consists of essential oils, seeds, sugar and tropical products, and beverages, primarily beer and soft drink preparations. Bulk commodities include wheat, rice, feed grains, soybeans, cotton, and tobacco. The high-value products category is total exports less the bulk commodities. It includes semi-processed and processed grains and oilseeds, animals and products, horticultural commodities, and sugar and tropical products. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

exports rise $7.5 billion, from $18 billion to almost $26 billion in 2005.

Export values increase an average of 3.3 percent annually from 1995 to 2000 and an average of 4.5 percent from 2000 to 2005. The high-value product (HVP) share of total agricultural exports rises from 59 percent in 1995 to 63 percent in 2005.

Bulk export value averages only 1.6-percent annual growth through 2000 because of weak demand. Bulk export value declines from 1995 to 1997, but starts to rise again in 1998. Bulk export value accelerates to 4.2-percent annual growth between 2000 and 2005 because of expected higher commodity prices.

HVP exports are expected to increase at a 4.6 percent annual rate between 1995 and 2005. Animal and horticultural products are the strongest growing components of HVP exports at 5.5- and 4.8-percent annual growth, respectively. The continued expansion of HVP exports account for most of the year-to-year gain in exports in the baseline.

Major Country Assumptions

In the baseline, the EU covers the former EC-12. It does not include the recent enlargement to add Finland, Sweden, and Austria. The baseline also assumes no further EU enlargement. The EU will remain a major grain exporter and protein meal importer. Reform of the EU's Common Agricultural Policy (CAP) reduced grain support prices, but continued yield growth pushes EU grain production up despite area set-aside requirements. Thus, after 2000, the EU will find it necessary to sharply increase grain set-aside requirements to prevent excessive stock accumulation. Even so, supplies will be large enough that the EU will be able to export some wheat without subsidies by 2001, when global wheat prices will be relatively high. Oilseed area will be limited by provisions of the U.S.-EU Oilseed Agreement, reducing production from the high levels of the early 1990s. Strengthening edible oil demand combined with meal demand shift EU imports from soybean meal to soybeans. The livestock sector's input cost savings from lower prices for feed components are passed on to consumers, resulting in higher meat consumption and higher derived demand for feeds. But lower cereal prices relative to protein meals lead to some cereal substitution for oilseed meals in feed rations. Industrial restructuring continues, accommodating the single EU market and the pressures of the global market. Reflecting this, cotton import demand continues to weaken, despite moderate GDP growth.

Mexico, affected by PROCAMPO and NAFTA policies, remains an important importer. Imports of wheat, corn, sorghum, soybeans, and soybean meal rise by 2005. NAFTA immediately eliminates Mexico's nontariff agricultural trade barriers, opening it to foreign investment, accelerating consumer expenditures, and boosting economic growth. PROCAMPO moves Mexico's agricultural support prices down toward world market prices; corn production drops, but output of other commodities expands. Larger corn imports reflect the lower output. Imports of sorghum, soybeans, and soybean meal rise over the longer run because income growth stimulates meat demand at a rate faster than output gains for these crops. Industrial growth raises cotton demand, but larger cotton output meets those needs.

Present FSU policies focusing on market reform are assumed to continue, but the transition to a market economy will occur slowly. Through 1995, GDP growth continues negative and per-capita incomes fall; thereafter, economic growth occurs slowly. Food, feed, and industrial use stay relatively depressed. Decreased livestock inventories limit feed and oilseed meal demand. However, meal demand slips less than feed grain demand as farms increase the protein content of mixed feed. Reflecting poor income growth, FSU food and fiber imports continue declining for several years, then slowly begin to recover. However, imports remain well below those of previous years. Grain imports from non-FSU countries decline sharply as import demand slows and intra-FSU grain exports expand. While the FSU continues to be a major cotton exporter, intra-FSU trade will also expand as the region's textile industry begins to recover.

China's political situation is assumed to remain relatively stable over the period. Market reforms continue, but provinces gain only a little more autonomy than before as the central government remains strong. Real GDP growth slows from its current high levels, but remains robust compared to growth in the rest of the world. Savings and investment expand in the stable environment. Income growth promotes demand for all commodities and China continues to be an important grain importer. More wheat and rice are imported as dietary patterns and consumer preferences bolster consumption of higher-quality foods. Agricultural exports decline as domestic feed use rises rapidly. Increased protein content in feed rations raises domestic use of soybeans and soybean meal more rapidly than of coarse grains. China's corn exports drop sharply and China becomes a net importer of corn, soybean, and soybean meal. China's net imports of cotton are also expected to grow as its textile industry expands to meet growing domestic and export demand. China and Hong Kong are treated separately in the baseline.

The baseline assumes that U.S. grain imports from Canada will not be restricted. Also, a reduction in transportation subsidies in Canada offered through the Western Grains Transportation Act is assumed to be offset by government support that is GATT-legal.

Wheat Trade

World wheat trade (including the wheat equivalent of wheat flour) is projected to grow 28 percent between 1995 and 2005. The 2.5-percent average annual growth rate is well above that of the 1980s, but less than that of the 1970s. Most world import growth will occur in developing countries and China.

In the past, the least developed countries have benefitted from exporter subsidies, credit, and food aid. Under GATT, subsidized exports are expected to fall from about 40 percent of world trade in 1994 to about 25 percent by 2000. Many of the least developed countries will face significantly higher wheat prices when subsidies are reduced. Their imports will be further constrained because the value of credit and food aid is not assumed to increase in the baseline. Thus, wheat imports by the least developed countries will grow somewhat slower than in the higher-income developing countries.

U.S. wheat exports in the baseline grow at a slower rate than world trade for several reasons. Higher global prices stimulate foreign production. Unlike corn, for which there are few

competitors to the United States, U.S. wheat exports will face strong competition in markets which are growing the fastest (high-income developing countries and China). Increasing prices will bring more U.S. area into production but yield growth will be slow. And, the large amount of wheat acreage in the CRP limits the area response to rising wheat prices.

The U.S. share of world trade in 2000 will about equal the 1990-94 average of 32 percent, but begins to decline after 2000, falling to 31 percent by 2005. GATT restrictions are expected to limit EU exports and market share through 2000. After 2000, EU market share begins to expand as world prices rise high enough for the EU to export wheat into the world market without subsidies. Strong gains are expected in other exporting countries.

Compared to the 1980s, the country forecasts generally show wheat production gains slowing during the next decade as yield growth slows. However, acreage is expected to expand at a slow rate, reversing the trend of the early 1990s, when foreign area dropped sharply, particularly in the FSU.

Foreign consumption growth for wheat is smaller than in previous decades, expanding 1.5 percent annually. Both population and per-capita consumption grow more slowly than in the 1980s. Per-capita feed use falls, particularly in the FSU and Eastern Europe. Per-capita food use of wheat rises as growing consumption in the high income developing countries and China offsets declines in the poorest nations, particularly in Africa.

Importer Developments for Wheat

Developing countries and China provide most of the gains in world wheat imports projected for next decade. China, however, is the largest source of uncertainty about import prospects. FSU imports decline by nearly 13 percent between 1995 and 2005, with most FSU import demand being met by other FSU countries. But China's imports nearly double by 2005.

- With production growing more slowly than during the 1980s, China's imports trend upward during the projection period to 17.5 million tons by 2005. However, uncertainties about yield improvements, foreign exchange earnings, market liberalization, and self-sufficiency policies mean a wide range of possible trade outcomes are possible.

- For the FSU, political and economic transformations will lead to reduced imports. Although market reforms begin to lead to small economic gains and recovery in the livestock sector, continued low livestock inventories will keep feed use of wheat low. Higher prices, more high-quality wheat, lower post-harvest losses, and policy changes that increase the quantity of domestically available milling-quality wheat are expected to lead to reduced wheat imports and stronger exports by several FSU countries, particularly Kazakhstan. Imports will continue to be constrained by limited access to exporter credit. After 2000, imports remain low in the baseline as slow economic growth and improved domestic distribution of wheat combine to limit import needs. By 2005, imports are expected to decline to 10.5 million tons, compared to an average of 21 million tons in the

1980s. In addition, the FSU is likely to export up to 8 million tons, mostly to other FSU countries, leaving net imports at only 2.5 million tons in 2005.

- Eastern Europe, currently a small net importer, will shift to a significant net exporter by 2000. Production will expand in response to higher world prices, but consumption will remain relatively low. As a result, exports will increase from 1.1 million tons in 1994 to over 5 million tons by 2005.

- Among the newly industrializing countries (the Republic of Korea, Taiwan, Brazil, and Mexico), Brazil shows substantial import growth over the decade, where limited production prospects, strong population growth, and economic recovery during the decade add to import demand. Mexico's imports also increase moderately because of income growth and reduced tariffs resulting from NAFTA. South Korea's imports drop because feed wheat will no longer be a competitively priced alternative to corn. Taiwan's imports remain relatively flat.

- Developing economies account for over three-quarters of the gain in world wheat imports through 2005. The developing economies share of imports increases from the 1990-94 average of 60 percent to more than 65 percent by 2005. Much of this increase is driven by population growth, although per-capita incomes also rise. Larger imports are projected in all developing regions--Latin America, North Africa and the Middle East, Sub-Saharan Africa, and Asia.

Exporter Developments for Wheat

The EU dominates competitor developments. Exports from Canada, Australia, Argentina, and Eastern Europe show strong growth.

- EU wheat production growth slows in the baseline because of CAP reform. Area drops and declining real prices in the EU mean input cutbacks and slower yield growth. EU feed use of wheat grows, absorbing some of the increase in production. But, the Uruguay Round GATT agreement will constrain EU exports after 2000. Under this agreement, the EU's subsidized wheat and flour exports (excluding food aid) fall from 19.1 million tons in 1995 to 13.4 million tons in 2000. To avoid building stocks, it is assumed that after 2000, the EU increases set-aside requirements to restrain production growth. It is also assumed that the EU exports the maximum allowed under the GATT agreement, so in the first two years of the agreement EU exports are expected to exceed 20 million tons, representing about 20 percent of global trade. By 2000, however, EU exports are expected to drop back to 16.3 million tons, with market share falling to less than 15 percent. As world demand continues to rise and U.S. production and export growth slows, world prices rise. Beginning in 2001, the EU is able to export some wheat without subsidies. By 2005, the EU exports 19.2 million tons, maintaining a 15 percent market share.

- Area in Australia rises because wheat prices are expected to be more favorable than those for livestock and coarse grains. As production and exports increase, Australia's market share will rise to 13 percent by 2000, and then be maintained near that level.

- Wheat plantings and exports increase in both Canada and Argentina as prices favor wheat over alternative crops. Canada maintains 20 percent of the world export market, the same as its 1990-94 average. Argentina's share rises from its 1990-94 average of 5 percent to 8 percent by 2005, as it takes advantage of growing markets in Brazil and other Latin American countries.

- East European countries also respond to higher world prices and reduced competition from the EU by expanding area and greatly increasing exports. However, much uncertainty remains about how quickly Eastern Europe can respond to rising prices and market opportunities.

Issues and Uncertainties for Wheat

- The assumptions about the impact of the EU set-aside requirements on area under CAP reform and the slowing growth of EU wheat yields and production are critical to the baseline. It is expected that the EU will require large set-asides after 2000 because production growth will greatly exceed that of total use due to GATT restraints on exports. If domestic use fails to increase as projected, EU stocks will become burdensome even sooner than projected and the EU will require larger set-asides to keep production down. If yields do not increase as rapidly as projected, EU exports would not reach GATT maximums, allowing other exporters to increase exports and market share.

- The ability of developing countries to finance imports may not support the robust import growth projected here. This would mean that larger U.S. and other exporter credit and assistance programs would be needed to achieve the projected imports.

- The dramatic political and economic changes under way in the FSU and China suggests a wide range of possible outcomes for global trade.

Rice Trade

Less than 5 percent of world rice production is traded. Rice trade is projected to grow 2.4 percent per year in the 1990s and 3.0 percent for 2000 through 2005. World trade is forecast at 16.8 million tons by 2000, reaching 19.5 million tons by 2005. While this growth rate does not match the rapid growth of the 1970s, it does constitute an improvement from the 1980s. Nominal prices are expected to rise throughout the projection period.

Significant and rapid growth in medium-grain rice trade is expected under the recently completed GATT, especially for japonica, the medium-grain variety preferred by consumers in Japan, South Korea, and Taiwan. However, long-grain rice is expected to remain the predominant variety in

world rice trade. Global medium-grain prices are expected to rise substantially relative to long-grain prices due to limited potential japonica production capacity.

Foreign production is projected to rise 1.5 percent per year to 404 million tons (milled basis), slowing from the strong growth achieved in the 1970s and 1980s, when large irrigation systems came on line in Asia and Green Revolution technology was widely adopted. The decline in the growth rate reflects a slowdown in both forecast yield and acreage increases.

At the same time, projected foreign consumption rises 1.5 percent per year, maintaining pressure on the world's rice-producing countries to continue steady increases in yields. The projected growth in consumption has slowed from the 1980s, reflecting population increases but also a decline in per-capita consumption. Increases in per-capita consumption in India and the Middle East do not offset declines in China, Japan, and the rapidly developing Asian countries.

The U.S. rice export market share declines from 20 percent in 1990 to 12 percent by 2005 as minimal domestic production gains and strong domestic use limit the volume of U.S. rice exports. Total exports decline to 2.3 million tons, while total imports rise to 0.7 million tons, leaving net exports of 1.5 million tons in 2005. As a major exporter of medium-grain rice, the United States benefits significantly from the Uruguay Round GATT agreement as U.S. prices and export values rise, but the full extent of the gain depends on U.S. capacity to expand production and exports on a sustainable basis. California, the most efficient producer of japonica rice in the United States, faces environmental restrictions on expanding acreage and yields. Despite significant export gains made in East Asian markets under GATT, particularly in Japan, total U.S. rice exports do not expand in the baseline. A widening export price premium implies that the United States will lose some of its long-grain exports in the more "price-sensitive" markets. Further, under fixed budget levels, higher domestic prices imply lower program-assisted exports.

Importer Developments for Rice

Minimum access levels for the high-valued japonica markets of Japan and South Korea grow from an initial 429,000 tons in 1995 to 963,000 tons by 2005, challenging the world's ability to supply large volumes of high-quality japonica on a sustained basis. Japan and South Korea have very strict preferences for japonica rice. Japan's experiences with imports in 1994 revealed the near-total lack of acceptance of long-grain rice by Japanese consumers.

Traditional long-grain import growth is fueled by the needs of the Middle East, Africa, and Brazil. Industrialized countries' imports continue growing at a slow, but steady, pace.

- The import demand for rice in Canada, the EU, Other Western Europe, and Eastern Europe is projected to grow at a steady combined annual rate of 1.4 percent. The import demand of the FSU is projected to remain significantly below historic import levels, despite growing at a fast 3.2 percent annual rate.

- Middle Eastern import demand for rice is projected to grow steadily on the strength of population growth and high per-capita consumption levels. Many oil rich Middle Eastern countries have projected population growth in excess of 3 percent per year.

- Brazil's import demand is projected to remain steady at about 1 million tons through 2005. Growth in domestic production is expected to offset a rapid increase in consumption driven by high population growth and an improving economy.

- In Other South America countries, strong consumption increases in Bolivia, Chile, Colombia, Ecuador, Peru, and Venezuela are projected to more than offset production increases in Argentina, Uruguay, and Paraguay. Surinam and Guyana also have important production potential, should sufficient price signals reach producers. Net imports for this group of countries are seen expanding slightly between 1995 and 2005.

- Central American and Caribbean consumption is projected to outpace production of rice, resulting in strong growth in import demand over the projection period.

- Sub-Saharan Africa shows weak import demand until after 2000, when strong population growth and improving economies raise consumption.

- Higher world prices for rice are expected to dampen growth in commercial sales to "soft" markets where limited resources prevent converting all of their growing potential demand into effective demand. The largest absolute declines in effective demand from potential demand occur for the Sub-Saharan Africa and the FSU as higher prices combine with low U.S. stocks-to-use levels to prevent any major expansion of U.S. program exports.

- In Bangladesh, increases in production fall short of demand created by a growing population and a stable per-capita consumption rate, resulting in minor imports throughout the projection period.

- Indonesia is mandated under the Uruguay Round agreement to import 70,000 tons of rice annually starting in 1995. Since Indonesia historically has been an importer of low-quality long grain, this increase in world import demand is not expected to have an important price effect.

Exporter Developments for Rice

Most japonica producers have limitations on their ability to respond to the GATT minimum access market openings in the japonica consuming countries of Japan and South Korea. Only three viable long-run sources of high-quality japonica currently exist--Australia, China, and the United States, in particular, California.

- In both Australia and California, serious constraints on expanding area are expected to limit increases in exportable supplies to growth in yields. As a result, both sources will be

forced to shift exports away from existing markets in order to respond to the high prices offered by Japan and South Korea.

- China is the world's leading producer of japonica rice. However, China's poor performance with japonica exports to Japan in 1994 revealed that significant infrastructural deficiencies remain to be overcome before China can successfully compete for the sophisticated and exacting rice markets of Japan and South Korea. As a result, Australia and California supply most of East Asia's GATT minimum access criteria for rice.

In light of rapidly growing Middle Eastern demand, nominal world long-grain prices rise throughout the projection period, but significantly less than medium-grain prices. An increasing share of world long-grain trade will be supplied by Argentina, Burma, India, and Pakistan. Despite projected larger export volumes for Australia, the EU, Other South America, and Thailand, their export shares remain steady or decline over the projection period.

- In Thailand, falling per-capita consumption and trend growth in yields offset declining area and maintain abundant exportable supplies. Thailand's exports just keep up with gains in world trade, keeping Thailand's share of world trade steady at about 30 percent.

- Improved production in Other South America countries generates increasing exports. However, most of these exports are intra-Latin America, going to Brazil, Peru, and Mexico from Uruguay, Argentina, Paraguay, and other producers. Guyana is the principal exception, exporting rice to Central America, the Caribbean, and the EU.

- India's rice exports double from 0.8 million tons in 1994 to over 1.6 million by 2005. The export share for superior quality, aromatic basmati rice (comprising nearly 50 percent of exports in 1994) declines relative to non-basmati throughout the projection period.

- In Vietnam, growing consumption generated by rapid population growth and rising incomes overtakes slowing production and erodes exportable supplies. Limited increases in arable land combined with already high levels of input use prevent rice production from maintaining the same pace achieved from 1989 to 1992. Vietnam is expected to improve the quality of its rice exports through improvements in milling facilities.

- The revival of Burma's second-crop rice, principally destined for export markets, is projected to generate rapidly expanding exports. Burma's exports rise from only 0.2 million tons in 1993 to over 2 million by 2005.

- Trend increases in area and yield in Pakistan, particularly for non-basmati rice, are expected to produce gains in exportable rice supplies to over 1.7 million tons by 2005, up from 1.3 million in 1994.

- Market reforms in China are expected to continue the shift away from high-yielding, low-quality varieties of long-grain rice and towards lower-yielding, but higher-quality

varieties of both long-grain and japonica rice in response to market forces. Exportable supplies of low-quality long-grain rice remain stagnant because of the shifts in production until 2000, when rising world prices and improved price transmission evoke some production response for the export market.

- Despite the poor acceptance of China's japonica rice in Japan in 1994, China is still expected to be an important supplier of japonica rice to Japan and South Korea, since Australia and the United States are projected to supply only part of the minimum access requirements.

- China is expected to increase imports of high-quality and aromatic long-grain rice for high-income urban consumers.

- In the EU, strong domestic demand and limited expansion from current production suggest nearly stagnant exportable rice supplies of medium-grain, while imports of long-grain are projected to grow slightly over the projection period.

Issues and Uncertainties for Rice

Many Asian rice producers, particularly Burma, India, and Thailand, still depend heavily on the Asian monsoons (occurring during June-September). Given the low share of world rice production that enters international trade and the weather dependence for much of Asian production, the potential exists for dramatic swings in prices and trade. Historically, rice trade and prices have exhibited greater volatility than the other cereals.

- Indonesia, the world's leading rice importer during the 1970s, has a history of significant volatility in its trading patterns. This baseline assumes that Indonesia adheres closely to its policy of rice self-sufficiency.

- Growth in consumption for the FSU and Sub-Saharan African countries depends on their ability to import rice, often with the aid of credit or food aid, particularly from the United States. If credit or food aid is not maintained or expanded moderately, then per-capita consumption in the FSU and African countries may not expand as much as forecast. In addition, since U.S. rice will command an increasing premium in the world market, U.S. market share could decline further if U.S. customers which depend on U.S. credit and food aid turn to lower-quality, lower-priced rice from Asia.

- The baseline shows much export growth coming from Burma. Burma's agricultural policy is not market oriented and remains an enigma. The baseline assumes that policies for Burma will continue to promote both expanded production of the irrigated second-crop and rice exports throughout the projection period.

- Reforms underway in China are producing significant changes in grain production, marketing, and trade; however, the aggregate effect of these changes is only beginning to

be felt. Projecting trade policy remains highly speculative since the Government of China has yet to demonstrate any particular trade policy under the new market reforms. Current projections are based on China's expressed desire to eventually join GATT.

Coarse Grains Trade

Reversing a downward trend in the 1980s, world import demand for coarse grains is projected to strengthen through 2005, with annual growth rates exceeding 2.7 percent through the baseline. Global coarse grain trade is projected to grow to nearly 114 million metric tons by the year 2005, 5 percent above the record trade of 107.9 million metric tons reached in 1980/81.

A key assumption underpinning the export outlook for coarse grains, particularly corn, is that strong income growth in China will strengthen meat demand and corn consumption, resulting in China becoming a net corn importer after 2000. Higher coarse grain imports by China and developing countries in Asia and Latin America are expected to offset the import stagnation envisioned for the FSU, which was one of the world's largest importers during the 1980s. Import demand for coarse grains is expected to strengthen, in part because of limited availabilities of competitively priced feed wheat over the projection period.

Buoyed by robust import demand for corn, U.S. exports of coarse grains are projected to grow 3.3 percent annually over the projection period. By 2000, U.S. exports are likely reach 61.6 million tons, with corn exports accounting for 52.4 million tons. By 2005, U.S. coarse grain exports are projected to increase to 70.5 million tons, slightly below the record 71 million tons of 1979/80. U.S. corn exports will total 61 million tons by 2005, expanding to a 74-percent market share compared to the 1990-1993 average of 66 percent.

Aggregate competitor exports remain basically flat throughout the mid-and late 1990s, then accelerate after the year 2000 as higher grain prices, specifically for corn and barley, stimulate production and exports. The U.S. share of the world coarse grain market is projected to grow steadily, reaching 62 percent by the end of the period.

Foreign coarse grain production is projected to increase through 2005, with stabilization in area reversing the severe downward trend over the 1980s. However, the rate of growth in yields, projected at 1.3 percent, is lower than in the previous decade. The rate of production growth is projected to be higher than in the 1980s, but less than during the 1970s.

Foreign growth in consumption is expected to strengthen from the relatively stagnant rate experienced in the 1980s. However, the projected annual rate of 1.6 percent through 2005 is still less than one-half the consumption gains of the 1970s. While consumption in developed countries is expected to increase slightly, most of the growth in consumption is expected to be in China and in developing countries, particularly those in Latin America and Asia.

Importer Developments for Coarse Grains

Fueled by income and population growth, imports for coarse grains strengthen dramatically in the baseline years, despite stagnant demand from the FSU. Strong demand from Latin America and developing countries in Asia, North Africa, and the Middle East are complemented by increased imports by South Korea and Taiwan. Imports by Japan are likely to wane as increasing meat imports reduce domestic demand for feed grains.

- Imports by the FSU are projected to remain flat in the baseline, constrained by lack of foreign exchange and credit availabilities, as well as lower than historical livestock inventories. Retreating from its position as a major importer during the 1980s, the FSU is projected to increase corn imports to only 5 million tons by 2005, half the import levels of the early 1990s. Economic recovery and macroeconomic stabilization is assumed to begin in 1997, with much of the growth concentrated in Russia. While livestock rebuilding is projected to occur, meat production is not projected to reach pre-reform levels.

- Japan's coarse grain imports are expected to decline, mirroring a contraction in feed consumption as meat imports increase. The projected drop in feed demand is expected to be only partially offset by stronger imports of industrial-use corn in response to minimum access requirements under GATT. However, with imports projected at 20.1 million tons in 2005, Japan will easily remain the world's largest coarse grain importer.

- South Korea is projected to continue strong growth in imports, reflecting a buoyant economy and strong feed demand generated by a growing livestock sector. Corn imports by South Korea by 2005 are expected to more than double from 1993's level as limited availability of competitively priced feed wheat strengthen coarse grain demand. South Korea is also expected to increase market access slightly for feed barley. South Korea's imports could be slightly lower if meat imports are higher than projected.

- Barley imports by Saudi Arabia, the world's largest barley importer, are projected to grow in response to a growing livestock sector. Domestic production of barley is constrained as the policy of shifting irrigated wheat area to barley has been modified by placing quotas on barley output.

- Mexico's corn imports are projected to grow strongly through 1999 and then slow as domestic price declines moderate and a continued decline in per-capita food use constrain import growth. Initially, higher corn imports are partly offset by lower sorghum imports. While the PROCAMPO policy that reduces high support prices to corn farmers is expected to strengthen import demand, a very gradual price decline for corn will constrain expansion in sorghum area. Sorghum imports expand in the baseline, reaching over 5 million tons by 2005, slightly higher than the record imports of 1991.

- Strong increases are projected in China's coarse grain imports, reflecting increasing demand for corn as well as growth in malting barley imports. While corn imports are

expected to grow steadily, a continuation of corn exports from the northern part of China keeps China a net exporter until after 2000. Strong economic growth is anticipated to fuel strong demand for malting barley for beer production.

Exporter Developments for Coarse Grains

The EU increases coarse grain exports, mainly barley, over the medium term and then reduces exports gradually. Exports from Australia are expected to slow as strong domestic feed demand reduces export availability, while Canadian exports increase.

- The EU is projected to increase coarse grain exports early in the projection period because export limits specified for EU coarse grains under the GATT are higher than recent export levels. It is expected, however, that these limits will not be met in the next few years. Relative prices that favor wheat feeding over coarse grains, as well as less constraining limits to coarse grain exports, are expected to pressure EU policymakers to increase coarse grain restitutions and exports. The higher prices should induce some expansion of coarse grain area and production in the medium term. Subsidized export limits are expected to be only constraining in the long term, with subsidized coarse grain exports leveling off after 2000. The EU is likely to favor exports of higher value processed products such as barley malt. The subsidized limits for these products are included in the coarse grain targets. Imports remain relatively stable as tariffs keep prices of imported grains above world levels and non-grain feeds remain competitive.

- China's coarse grain exports are projected to progressively decline over the projection period as strong internal corn demand limits export availabilities. The rate of the export decline depends on many factors, including the pace of market reforms, the growth in meat and poultry demand, supplies of alternative feeds, and the status of the marketing and distribution infrastructure.

- Argentina's corn exports are projected to increase steadily with Argentina expected to surpass China as the largest foreign corn exporter. Current policy reforms are expected to result in increased marketing efficiencies, higher production, and exports. Although coarse grain area is projected to increase slightly, much of the gain in production will come from increasing yields through input use and increased planting of higher yielding corn varieties. Competition with oilseeds for land will largely hinge on relative prices.

- Australia and Canada are projected to experience moderate growth in barley production. However, while Canada's exports are likely to increase, strong feed demand in Australia is projected to constrain exports to mainly malting barley. Expansion in Canadian barley area is likely to be limited by relatively strong prices for competing crops--wheat and canola.

- Strong export gains by Eastern Europe are projected in response to higher world prices for corn and barley. Growth in domestic feed demand is slow as market reforms increase

prices for meat products, turning the region into a net exporter of coarse grains by 1995. Export growth will, however, depend on the region's ability to ship to markets other than the FSU, traditionally their major market.

- Exports by South Africa and Thailand are projected to decline. For Thailand, this is a result of rapidly rising domestic use of corn for feed. South Africa is not expected to increase corn area and consumption will eventually overtake production as present policies discourage subsidized exports. Thailand is projected to immediately become a net importer, while South Africa emerges as a net importer midway through the projection period.

Issues and Uncertainties for Coarse Grains

The ability of the EU to meet its export limits (or targets) for coarse grains under the GATT agreement is questionable in the near term. Additional uncertainty lies in the progress of market reforms in the FSU, Eastern Europe, and China. Import growth in developing countries depends on economic growth assumptions and relative commodity prices.

- The effect of limits imposed on EU subsidized grain exports by the Uruguay Round agreement raises questions about the sustainability of current EU support programs. GATT commitments to reduce export subsidies for coarse grains become limiting after 2000 and could have a significant impact on EU domestic grain markets, causing the EU to modify existing programs. Modification of existing policy could range from increasing the set-aside, reducing support prices, or reducing the quantity of production eligible to receive support. Any of these policy revisions would change the EU coarse grain outlook. Many factors including productivity growth, set-aside adherence, and growth in domestic feed demand will determine the extent to which grain surpluses are generated on the domestic market. The growth in domestic livestock production and consumption is uncertain given the limits on subsidized livestock exports and the increased market access for livestock products.

- The role of China in the coarse grain market depends on the pace of internal market reforms, economic growth, and future growth in domestic meat production and internal demand for grains. Corn imports into deficit regions are projected to increase, but China is not projected to become a net corn importer after 2000. China's role in the world corn market will be determined by policy decisions, availability of alternative feeds, income growth, the ability to sustain yield increases, and improvements to internal distribution channels.

- The process and the nature of economic reforms in the FSU and the resulting economic growth prospects are highly uncertain. Overall grain consumption is projected to be constrained by projections of stable or declining consumption of meat and livestock products, as well as improvements in infrastructure and distribution which reduce waste.

The potential for increased imports largely depends on the availability of financial assistance from exporters.

- East European reforms are considerably more advanced than in the FSU. The region has exported large amounts of coarse grains in the past and will be able to increase exports in the future, given expected slow growth in livestock production and consumption. This expected growth in exports could be undermined if international prices are lower than projected.

- World import growth is highly dependent on developing countries. Macroeconomic projections are relatively strong for most regions, but slower economic growth could reduce coarse grain consumption and imports. In addition, coarse grain demand in many of these countries will hinge on the price and availability of meat, poultry, and livestock products in the world market, competing with domestic production.

Soybean Trade

World soybean trade is forecast to increase faster through 2005 than in the 1980s. Combined exports of soybeans and soybean meal, on a soybean equivalent basis, are forecast to increase 8 percent from 1995 to 2000, and 12 percent for 2000 through 2005. World trade in soybean equivalents is projected at 73.7 million metric tons by 2000 and 82.7 million tons in 2005. Increases in soybean meal trade drive these gains until the end of the decade, while soybeans account for most of the growth after 2000.

Global soybean exports are expected to rise 1.8 percent per year from 1995 to 2005. This increase will lead to world exports of 36.8 million tons in 2005. This is complemented by an annual average 2.2-percent rise in world soybean meal exports to 36.7 million tons by 2005.

U.S. exports of soybeans and soybean meal by 2005 are projected to rise to 23.3 and 6.2 million tons, respectively. This represents 38 percent of global soybean and soybean meal exports in 2005, on a soybean equivalent basis.

The U.S. market share for soybean exports drops from 67 percent in 1995 to about 63 percent by 2005, while U.S. soybean meal trade share drops marginally to 17 percent. These trade shares compare with average U.S. market shares of soybeans and soybean meal of nearly 75 and 25 percent during the 1980s. Small domestic production gains and rising livestock numbers, especially poultry, constrain U.S. exports of soybeans and soybean meal.

Foreign soybean production is projected to climb 2.7 percent per year to 85.3 million tons in 2005, slowing from the strong growth found in the 1970s and 1980s when Brazil and Argentina incorporated large amounts of land to the production of soybeans.

Gains in world soybean meal consumption will be smaller until the end of the century because of weak demand from the FSU, Japan, and the EU. However, strong economic growth by

developing economies raises consumption growth to 2.7 percent in 2000 through 2005, matching levels attained in the 1980s.

Importer Developments for Soybeans

Developing economies account for more than 60 percent of soybean meal import growth. Soybean meal demand expands rapidly in the South East Asian countries of the Philippines, Indonesia, Malaysia, and Thailand, Latin America, the Middle East, and North Africa. Strong income and population growth is expected to support substantial increases in the livestock sectors in these regions. EU imports continue to grow, but have a declining role in the world market.

- Under CAP reform, the GATT Uruguay Round Accord, and the U.S.-EU Oilseed Agreement, EU imports for soybeans and soybean meal on a soybean-equivalent basis are projected to decline marginally through 1999, but resume growth during 2000 to 2005, especially for soybeans (2-percent annual rate). This compares with a small decline in imports during the 1980s. CAP reform promotes usage of feed grains rather than protein meals. The U.S.-EU Oilseed Agreement limits the expansion of oilseed area, thus reducing domestic production. As edible oil consumption rises in the EU and domestic production constraints limit availability of vegetable oil, soybean import growth resumes. The growth in soybean imports results in higher EU soybean meal and soybean oil consumption. Soybean imports are forecast to grow to 15.2 million tons by 2005, while soybean meal imports are projected at about 14.6 million tons. In addition, growth in soybean meal use will likely accelerate beyond 2000 as the grain substitution effect subsides.

- PROCAMPO reforms in Mexico will switch farm support from target prices to area payments. The new policy will provide incentives for farmers to shift plantings toward crops that can be competitive in world markets. Soybean production in Mexico is expected to grow at the expense of other crops. Increased investment in irrigation also strengthens yield growth potential. However, brisk soybean meal consumption, triggered by income growth and lower soybean meal prices because of reduced import tariffs, under NAFTA, maintains high levels of soybean import demand over the projection period. Total imports of soybeans and soybean meal (in soybean equivalents) are projected to grow at a 4.3-percent annual growth rate. Mexican soybean imports increase to 4 million tons by 2005.

- FSU soybean meal imports are projected to resume growth after 1996, as market reforms in the FSU begin to yield small economic gains, leading to a recovery in the livestock sector and growing demand for soybean meal. However, the projected 6-percent growth rate is still slower than the 14-percent gains of the 1980s. Soybean imports gradually increase through 1999. However, as domestic production of soybeans rises and capital constraints inhibit investment in new crushing facilities, soybean meal imports become a priority and soybean imports fall slightly between 2000 and 2005. Weak GDP growth means import

volume depends significantly on credit availability, at least in the near term. Imports of soybeans and soybean meal in 2005 are forecast at 0.5 million tons and 2.2 million tons, respectively, considerably less than imports in the 1980s.

- Imports of soybean meal into Eastern Europe, one of the top three soybean meal import markets in the late 1980s, are projected to climb throughout the period. Economic reforms stimulate income growth and food consumption, allowing livestock inventories to rebuild. Nonetheless, soybean meal consumption remains well below the levels attained in the 1970s and 1980s, as governments end consumer meat subsidies in most countries.

- China is projected to become a net importer of soybeans and soybean meal by the year 2000. Market reforms are expected to continue the expansion of incomes and meat consumption. Poultry production in China will also rise in response to strong domestic demand and increasing exports to other countries in Asia, especially Japan. It is expected that China will maintain policies restricting soybean meal imports in favor of soybean imports.

- Japan is expected to reduce its imports of soybean meal substantially, with soybean imports dropping slightly. Increased market liberalization for livestock product imports and reduced competitiveness of the domestic livestock industry are anticipated to depress domestic livestock production and demand for protein meal. In addition, rapeseed imports are expected to rise as vegetable oil prices remain strong.

- Soybean imports by South Korea are projected to show modest increases in the baseline, but soybean meal imports are projected to show strong growth. Tariff reductions for soybean oil and soybean meal in South Korea somewhat shift the mix of imports from soybeans to soybean meal and soybean oil.

Exporter Developments for Soybeans

Strong export growth for soybeans and soybean meal is expected from both Brazil and Argentina, the major South American competitors. China's soybean and soybean meal exports are projected to decline as strong domestic feed demand reduces export availabilities. India's exports likely will rise as soybean meal production increases faster than domestic consumption.

- South American production growth drops from a 6-percent annual rate in the 1980s to around 3 percent for 1995 to 2005. Export growth rates for both soybeans and soybean meal remain strong at 3.4 and 2.4 percent, but are somewhat below the relatively high rates of the 1980s. Domestic policies in Argentina and Brazil will continue to favor soybean meal exports over soybean exports. However, greater domestic consumption, especially in Brazil, reduces the growth of soybean meal availability for exports. Soybean production and exports in both Paraguay and Bolivia expand steadily throughout 2005, reflecting increased agricultural irrigation and more efficient infrastructure projects. South

America's combined market share for soybeans rises from 28 percent in 1995 to 33 percent by 2005, and soybean meal increases slightly to 59 percent.

- Although major reductions in the volume of soybean and soybean meal exports have already occurred in China, exports are assumed to continue to decrease as a larger share of soybean production will be used to meet the growing demands of the livestock sector.

- Despite a projected slowing of government support for oilseeds, India continues to increase soybean and soybean meal production, although at a moderate 4-percent growth rate. Increasing production of soybean meal combined with small domestic demand results in exports rising to 3.9 million tons in 2005.

Issues and Uncertainties for Soybeans

Because of policy changes incorporated in new agreements, particularly CAP reform and the U.S.-EU Oilseed Agreement, a prolonged tighter situation in the vegetable oil market would result in higher prices for higher oil-content seeds and lower prices for protein meals. The competitiveness of soybeans with other oilseeds would be reduced slightly as crush margins fall relative to high oil-content seeds. Other uncertainties for soybean trade include the effects of EU internal policies (set-aside, grain prices) on shifts of oilseed and product demand and prices; the extent of economic reform success in the former Soviet Union and Eastern Europe; the degree to which higher incomes offset higher prices in developing economies; and developments in China.

- Policy reforms are expected to significantly alter the outlook for EU import demand for soybeans and soybean meal. Under CAP reform, EU prices are being realigned as grain prices drop relative to protein meal prices. This will probably reduce protein meal consumption relative to grains. However, the impact to soybean meal may be mitigated by increasing poultry production, and limited supplies of other sources of protein (peas, rapemeal).

- The U.S.-EU Oilseed Agreement altered EU oilseed support mechanisms and established area bases for payment purposes that are expected to limit the expansion of EU oilseed area. This will partially offset the potential decline in import demand for soybeans and products that could have occurred under CAP reform. While it is clear that the traditional import mix will be changed as domestic oil demand leads to imports of oilseeds as opposed to protein meal, the magnitude of the change in demand and the timing is uncertain.

- Further uncertainty resides in the potential response of farmers and traders in Brazil and Argentina to economic reforms (exchange rates) and the privatization of ports, highways, and grain handling facilities. An improved infrastructure in either country would lower costs to producers and enhance competitiveness in the export market.

- Continued economic and political turmoil in the FSU could aggravate the already severe economic difficulties. Confusion about distribution of imported commodities and problems resulting from limited availability of credit could severely restrict Russia's soybean and soybean meal imports. Difficulties in qualifying for credit likely will limit imports by some other Republics. It is also uncertain how soon recovery in the livestock sector will begin increasing demand for soybean meal.

- Economic conditions in Central and Eastern Europe will dictate future import growth for both soybeans and soybean meal. Should Eastern Europe expand exports and demand for livestock products, it would stimulate import demand for both soybeans and soybean meal. Projections for Eastern Europe could also be altered significantly if individual countries in Eastern Europe join the EU. Stronger commercial linkages between Eastern Europe and the EU would stimulate regional trade and livestock production in Eastern Europe.

- Uncertainty about the scope of market reforms in China affect projected growth in production and consumption of various grain and livestock products. Consequently, soybean, soybean meal, and soybean oil projections are uncertain.

Cotton Trade

World cotton trade is expected to average 0.5-percent annual growth during the 1990s. Declining Russian imports during the first half of the 1990s are expected to largely offset trade growth later in the decade. World trade growth is expected to climb to a 1.3 percent rate in the first half of the next decade. Exports in 2005 are projected at about 31 million bales.

Foreign cotton exports are expected to show a similar pattern of slow growth during the 1990s, followed by acceleration during the first half of the next decade. Rebounding intra-FSU trade accounts for only some of the acceleration in foreign export growth during 2000 to 2005.

U.S. exports are expected to trend up during the 1990s, and grow to 8.5 million bales by 2005. The U.S. share of world trade is likely to average over 25 percent as many foreign producing countries reduce raw cotton exports by channeling production toward consumption and value-added textile products. U.S. exports are expected to rise a marginal 0.8 percent per year in the 1990s, then 3.0 percent yearly during 2000 to 2005.

Both foreign consumption and production growth rates slow during the 1990s, particularly production. Both are expected to fall from the historical rate of about 2.3 percent per year, to 1.3 percent for consumption and to 0.8 percent for production. A major factor restraining foreign production growth is continued competition from food and feed crops for arable land, particularly among large Asian and Euro-Asian producers.

The rapid consumption growth of the 1980s, spurred by prolonged economic expansion and sharp share gains versus other fibers in some countries, is not expected to be maintained. Consumption growth of traditional cotton importers is likely to be constrained in the short term

by the global economic slowdown and by economic and political restructuring in Eastern Europe and the FSU. In the long term, the liberalization of textile trade under the GATT will also constrain cotton imports by the most developed traditional importers, such as the EU and Japan. In contrast, rapid consumption growth is expected in many developing countries and steady growth is expected to continue in major cotton producing countries.

Importer Developments for Cotton

Global cotton trade to 2005 will depend largely upon consumption patterns in importing countries. Trade has contracted for two reasons during the 1990s--the virtual collapse of Russia as a consumer and importer of cotton, and the shift of spinning from traditional importers to cotton producing countries. Russia's cotton consumption fell about 70 percent between 1989 and 1994, to 1.8 million bales, reflecting the restructuring of Russia's political, economic, and foreign trade system. Other traditional cotton importing countries are finding it less expensive to purchase cotton yarn and fabric for their textile industries as inexpensive textile imports flood their markets. These imports have taken the place of imported raw cotton. Strong consumption gains among emerging cotton-importing countries have failed to offset losses among traditional importers since 1988/89, and the overall trend is for textile production to shift toward countries with lower costs, largely cotton producers. Traditional textile manufacturers will encounter increasingly intense competition from cost-efficient producers. This will be an issue particularly in the EU and Japan as the Multifiber Arrangement and other textile trade barriers are dismantled.

By 2005, further consumption pattern shifts among major cotton importing countries are expected. Imports are expected to pick up during the middle to latter part of the decade. Russia's restructuring is expected to reverse the current downturn in textile production, cotton consumption, and cotton imports. Declining consumption in traditional importing countries likely will stabilize or begin to decline more slowly. And the rapid consumption growth continuing in the emerging cotton importers will begin to offset the declines elsewhere.

- In the traditional cotton importers (Japan, South Korea, Taiwan, and the EU) consumption is expected to decline steadily after a short pause during the mid-1990s. Strong competition from emerging Asian textile suppliers and comparative production disadvantages again accelerate declines in raw cotton consumption after 2000.

- Indonesia and Thailand continue rapid consumption and import expansion to 2005 as they benefit from comparatively cheap labor, favorable exchange rates, and foreign investment in their textile industries. Other Southeast Asian countries also emerge as significant cotton importers.

- After 4 years of significantly lower cotton consumption, some Eastern European countries are beginning to increase consumption again. Gains in consumption and imports begin slowly and from a much lower level than historically. In some countries, cotton

consumption and imports remain well below historical levels because of higher industrial priorities.

- The noncotton-producing countries of the FSU have significantly reduced their consumption of cotton since 1989. Traditional cotton suppliers in Central Asian countries have increasingly demanded payment in convertible currencies rather than barter. In addition, rapid increases in prices for consumer goods have sharply curtailed textile demand. Consumption in Russian, Ukrainian, and Baltic mills is unlikely to rebound to earlier highs by 2005. New barter or financial assistance arrangements are needed to ensure adequate cotton supplies for mills. After current food, price, and financial crises begin to stabilize, it will again be possible to increase cotton consumption and imports.

Exporter Developments for Cotton

Foreign export growth is expected to recover during the period, but still remain below its 1960-1993 growth rate. By 2005, foreign exports are expected to total 22.8 million bales. While foreign export growth is supported by some resumption of trade relations between cotton-producing and noncotton-producing countries of the FSU, other factors moderate these gains. These include slower growth in import demand by other traditional importers and increased consumption by several major producing countries.

- Australia, the French-speaking countries of West Africa, and Paraguay continue to channel the vast majority of their output into the export market throughout the period.

- Pakistan is expected to limit raw cotton exports because of its rapidly expanding domestic consumption. Nevertheless, Pakistan continues to be a large cotton exporter and export growth is expected for much of the forecast period.

- India, with much potential for yield improvement, is expected to raise exports moderately. However, as with Pakistan, India's export growth is limited by strong growth in domestic consumption.

- The Central Asian countries of the FSU continue exporting cotton to non-FSU markets at higher levels than during the 1980s. These countries are also expected to increase their exports within the FSU. The mix between FSU and non-FSU sales depends on the willingness and ability of importers elsewhere in the FSU to either offer hard currency or other compensation sufficient to offset lost hard currency earnings. Long-standing transportation and other links among the FSU countries may help facilitate trade. Central Asia's ability to export, however, is heavily dependent on yield gains, as area is not expected to grow because of environmental concerns and the need to diversify production.

- China is expected to raise both production and consumption, but in the long-run consumption is expected to grow more rapidly. China's imports have risen in the last few years and are expected to again overtake exports late in the 1990s. After 2000, cotton

faces even stronger competition from other crops, while income growth and textile trade opportunities stemming from the GATT Uruguay Round agreement will accelerate consumption. Imports are expected to far outpace exports by 2005.

- Some traditional cotton exporters, such as Brazil, Central America, Turkey, and Egypt, have substantially reduced cotton exports while increasing imports to meet more rapidly expanding consumption needs. These trends continue, and with the exception of Turkey, these countries remain net importers of cotton.

Issues and Uncertainties for Cotton

Consumption and import growth present the biggest uncertainties in the future for cotton. The impact of reforms in Eastern Europe and the FSU is uncertain. In addition to the uncertainty surrounding the magnitude and timing of changes for the overall economies in these regions, there is uncertainty about their textile industries specifically. China also presents considerable uncertainty because of large-scale changes in its economy. In addition, the demise of the Multifiber Arrangement will presumably alter world textile trade patterns.

- The conclusion that world cotton consumption advances at a long-term annual growth rate of approximately 1.5 percent during the 1990s--slowing considerably from the 1980s--dictates the relatively slow rate of import growth. Faster consumption growth would likely raise world trade prospects.

- The uncertainty regarding the non-producing Republics of the FSU and Eastern Europe is great. Even if their economies recover at the expected rate, it is not altogether clear if their textile industries will grow at the same rate. In some cases, textile production might be emphasized for export earnings, and in others largely abandoned due to import competition.

- Prospects in Central Asia also are uncertain. Competing crops and environmental concerns reduced cotton area significantly in that region between 1989 and 1994. The ability of this region to export cotton depends on sustaining area or expanding yields, and perhaps both.

- China's overall economy is increasingly market-oriented. However, 2 years of falling cotton output has led to the reversal or postponement of some recent reforms affecting cotton production. The textile industry's importance both to the domestic economy and export earnings is probably behind this reluctance to decentralize decision-making. On the other hand, China is striving for imminent GATT membership, which requires an increasingly open economy.

- Pakistan's production potential now seems weaker after 3 consecutive years of pest-reduced crops. Pakistan's rapidly growing yarn exports during the second half of the 1980s and early 1990s had a significant impact on world textile trade patterns and cotton imports by traditional importers. Pakistan's yarn exports depended in large part on the

successful introduction of new high-yielding varieties of cotton. Persistent pest problems in recent years suggest a significant hiatus in Pakistan's production gains.

- Finally, this analysis assumes that the Multifiber Arrangement and textile import quotas in the United States and elsewhere will be progressively dismantled. GATT reforms will progressively phase out the current Multifiber Arrangement bilateral textile quotas, and increase the size of most quotas remaining during the 10-year transition. But, the most significant changes can be delayed until the end of the implementation period. Large uncertainties remain about the timing of liberalization and shifts in garment production both to and among developing countries. Since the Multifiber Arrangement restrained garment trade far more than trade in intermediate goods like yarn and fabric, the impact of liberalization on trade and production of these intermediate goods will be largely indirect. In turn, the impact on fibers will be still more indirect, and even more uncertain.

Table 7. Coarse Grains Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Importers					*Million metric tons*					
FSU	5.3	4.9	5.2	5.5	5.5	5.5	5.5	5.8	5.9	5.9
Eastern Europe	1.0	0.9	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.5
Japan	20.8	20.7	20.7	20.7	20.7	20.6	20.5	20.4	20.2	20.1
South Korea	8.6	9.1	9.6	10.1	10.6	11.2	11.4	11.7	11.9	12.3
Taiwan	6.0	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.9	7.0
China	1.8	2.1	2.7	2.9	3.6	4.0	5.6	7.1	8.5	9.6
Mexico	7.1	8.2	9.0	9.5	9.8	10.3	10.7	11.2	11.5	11.6
EU	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.6
Latin America 1/	7.2	7.4	7.4	7.3	7.2	7.3	7.4	7.4	7.5	7.5
Other Asia	4.4	4.6	4.8	4.9	5.4	5.5	5.7	5.9	6.2	6.4
N. Africa/M.E.	19.0	19.7	20.3	20.4	20.6	20.9	21.3	21.8	22.3	22.7
Sub-Saharan Africa 2/	1.5	1.4	1.5	1.7	2.0	2.1	2.2	2.6	3.1	3.4
Other	3.8	3.9	4.1	3.9	4.0	4.0	4.0	4.1	4.0	4.0
Total Trade	89.0	91.8	94.7	96.4	98.9	101.1	104.1	107.7	111.1	113.7
Exporters										
EU	8.2	8.5	8.6	8.3	7.8	7.8	7.8	7.8	7.8	7.7
China	8.0	7.9	6.9	7.2	6.0	5.2	5.1	5.0	4.5	4.2
Argentina	6.6	7.0	7.5	8.1	8.7	9.4	9.8	10.4	11.0	11.9
Australia	2.7	2.4	2.2	1.8	1.7	1.6	1.6	1.7	1.8	1.8
Canada	5.3	5.4	5.4	6.0	6.1	6.2	6.3	6.8	7.1	7.3
South Africa	0.9	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eastern Europe	1.5	1.5	1.9	2.3	3.5	3.9	4.4	4.8	5.6	6.2
FSU	1.1	1.2	1.2	1.4	1.5	1.6	1.7	1.7	1.8	1.8
Other	2.2	2.0	1.9	1.9	1.8	1.8	1.8	1.9	1.9	2.0
United States	52.7	55.3	58.6	59.2	61.6	63.2	65.3	67.3	69.2	70.5
					Percent					
U.S. trade share	59.2	60.3	61.8	61.4	62.2	62.5	62.8	62.5	62.3	62.0

1/ Excludes Mexico.

2/ Includes South Africa.

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 8. Corn Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
					Million metric tons					
Importers										
FSU	3.6	3.4	3.8	4.0	4.2	4.4	4.5	4.7	4.8	5.0
Japan	15.9	15.9	15.9	15.8	15.9	15.8	15.7	15.6	15.5	15.4
South Korea	8.5	9.0	9.5	10.0	10.5	11.0	11.3	11.5	11.8	12.2
Taiwan	5.7	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.6
China	0.4	0.7	1.2	1.4	2.1	2.5	3.8	5.2	6.4	7.3
Mexico	3.8	4.5	4.7	5.0	5.0	5.3	5.5	5.7	5.9	6.1
EU	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Latin America 1/	5.1	5.2	5.3	5.4	5.4	5.5	5.6	5.7	5.8	5.8
N. Africa/M.E.	8.7	8.9	9.1	9.3	9.5	9.8	10.0	10.3	10.5	10.7
Other Asia	1.6	1.8	1.8	1.9	2.1	2.0	2.0	2.1	2.1	2.2
Sub-Saharan Africa 2/	1.3	1.3	1.3	1.5	1.6	1.7	1.8	2.0	2.2	2.3
Other	5.5	5.5	5.5	5.4	5.5	5.7	5.8	5.9	6.2	6.3
Total Trade	62.3	64.2	66.1	67.8	70.1	72.0	74.5	77.2	79.8	82.1
Exporters										
EU	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
China	7.8	7.7	6.7	7.0	5.8	5.0	4.9	4.8	4.3	4.0
Argentina	5.7	6.2	6.6	7.2	7.8	8.5	8.9	9.4	10.0	10.9
South Africa	0.9	0.6	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Eastern Europe	1.0	1.0	1.3	1.5	2.3	2.6	2.8	3.1	3.6	4.0
Other	1.3	1.1	1.0	1.1	1.1	1.1	1.2	1.3	1.4	1.4
United States	45.1	47.1	49.5	50.2	52.4	54.0	55.9	57.8	59.7	61.0
					Percent					
U.S. trade share	72.4	73.4	74.9	74.0	74.7	75.0	75.0	74.8	74.8	74.3

1/ Excludes Mexico.

2/ Includes South Africa.

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 9. Wheat Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Importers					*Million metric tons*					
FSU	11.8	11.5	11.4	11.3	11.3	11.2	11.2	10.9	10.7	10.5
China	10.7	12.3	13.1	13.9	14.6	15.2	15.8	16.5	17.0	17.5
North Africa 1/	13.3	13.7	14.0	14.2	14.4	14.8	15.2	15.6	16.0	16.4
Sub-Saharan Africa 2/	5.7	5.9	6.3	6.4	6.7	6.9	7.1	7.4	7.7	7.9
Japan	6.3	6.3	6.3	6.3	6.3	6.3	6.4	6.4	6.4	6.4
South Korea	2.8	2.7	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5
Iran	3.2	3.4	3.7	3.8	4.2	4.8	5.3	5.7	6.0	6.4
Brazil	6.1	6.2	6.3	6.4	6.4	6.5	6.5	6.7	6.9	7.0
Indonesia	3.3	3.5	3.7	3.8	4.0	4.2	4.4	4.6	4.8	5.0
Pakistan	3.3	3.4	3.4	3.4	3.5	3.7	3.9	4.1	4.2	4.4
Other	35.6	36.4	37.1	37.7	38.4	39.3	40.0	40.8	41.5	42.1
Total trade	102.2	105.3	107.9	109.8	112.3	115.3	118.1	121.0	123.6	126.2
Exporters										
United States	32.6	33.4	34.6	35.3	36.2	36.8	37.5	38.2	38.8	39.6
EU	20.3	19.3	18.2	17.3	16.3	16.8	17.5	18.0	18.7	19.2
Canada	20.5	21.8	22.1	22.7	23.4	23.7	24.0	24.6	24.8	25.3
Australia	11.5	12.6	13.6	13.9	14.2	14.4	14.8	15.3	15.6	15.7
Argentina	5.9	6.1	6.6	7.0	7.4	8.4	9.0	9.4	9.9	10.1
Other	11.4	12.1	12.8	13.6	14.7	15.1	15.4	15.6	15.8	16.3
					Percent					
U.S. trade share	31.9	31.8	32.1	32.2	32.2	32.0	31.7	31.5	31.4	31.3

1/ Excludes Libya.

2/ Includes South Africa.

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 10. Rice Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
					Million metric tons					
Importers										
Canada	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Mexico	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
C America/Caribbean	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.2
Brazil	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1
Other South America	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7
EU	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
FSU	0.4	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5
Other Europe 1/	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
China	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8
Japan	0.6	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
South Korea	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Other Asia	1.6	1.9	1.4	1.4	1.5	1.6	1.5	1.4	1.5	1.5
Iraq	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8
Iran	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.2	1.3	1.4
Saudi Arabia	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	1.0	1.0
Turkey	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Other N Afr & M East	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.6
Sub-Saharan Africa	2.4	2.4	2.5	2.6	2.7	2.8	3.0	2.8	3.0	3.0
Rep. of South Africa	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5
Rest of world 2/	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Total foreign	14.8	15.3	15.3	15.7	16.3	16.8	17.3	17.6	18.3	18.8
United States	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.7
Total trade	15.1	15.6	15.7	16.1	16.8	17.3	17.9	18.2	18.9	19.5
Exporters										
Australia	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Argentina	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5
Other South America	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
EU	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
China	0.8	1.0	0.8	0.8	1.1	1.3	1.4	1.4	1.6	1.7
India	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
Pakistan	1.4	1.4	1.4	1.4	1.5	1.5	1.6	1.7	1.7	1.7
Burma	0.9	1.0	1.0	1.1	1.2	1.4	1.5	1.6	1.8	2.1
Thailand	4.5	4.7	4.8	5.0	5.2	5.4	5.6	5.6	5.8	5.9
Vietnam	1.9	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7
Egypt	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Rest of world	0.3	0.1	0.3	0.2	0.1	0.1	0.0	0.1	0.1	0.0
Total foreign	12.5	13.1	13.2	13.7	14.4	15.0	15.6	15.9	16.7	17.3
United States	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.3
Total trade	15.1	15.6	15.7	16.1	16.8	17.3	17.9	18.2	18.9	19.5
					Percent					
U.S. trade share	17.3	16.3	16.0	15.2	14.2	13.6	13.0	12.8	12.1	11.5

1/ Other Western Europe and Eastern Europe.

2/ Includes unaccounted.

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 11. All Cotton Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
					Million bales					
Importers										
EU	4.6	4.3	4.2	4.2	4.0	4.0	3.9	3.6	3.5	3.4
FSU	3.5	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.9	4.0
Indonesia	2.4	2.4	2.5	2.6	2.8	2.9	3.1	3.2	3.3	3.5
Thailand	1.9	1.9	2.0	2.1	2.2	2.4	2.5	2.7	2.8	3.0
Brazil	1.6	2.3	2.2	1.9	1.8	1.8	1.8	1.9	1.9	1.9
East Europe	1.5	1.7	1.6	1.7	1.7	1.8	1.9	2.0	2.1	2.2
Other Southeast Asia	1.6	1.8	1.7	1.8	1.8	1.9	1.9	2.0	2.2	2.3
Japan	1.9	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.3
South Korea	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
China	0.5	0.3	0.8	1.5	1.9	2.0	2.1	2.2	2.3	2.4
Mexico	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Others	6.3	6.2	6.0	5.8	5.8	5.6	5.6	5.8	5.6	5.4
Total imports	28.0	28.4	28.8	29.2	29.6	30.0	30.4	30.8	31.2	31.6
Exporters										
FSU	8.6	8.8	9.2	9.1	9.0	8.9	8.9	8.7	8.5	8.4
West Africa-10	2.6	2.6	2.7	2.7	2.7	2.9	2.9	2.9	2.9	3.0
Australia	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.2
Argentina	0.9	0.8	0.9	0.9	1.0	1.0	1.1	1.2	1.3	1.4
Pakistan	0.8	0.8	0.9	0.9	1.0	1.1	1.2	1.1	1.1	1.1
India	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6
China	0.8	0.9	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Turkey	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.8
Egypt	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other Latin America	1.4	1.3	1.1	1.2	1.2	1.1	1.3	1.3	1.3	1.4
Other Sub-Saharan Africa	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1
Others	2.1	2.0	1.9	2.0	2.1	2.2	1.8	1.9	2.0	2.1
Total foreign	21.0	21.1	21.3	21.6	21.9	22.2	22.4	22.5	22.6	22.8
United States	6.8	7.0	7.2	7.3	7.4	7.5	7.7	8.0	8.3	8.5
Total exports	27.7	28.1	28.5	28.9	29.3	29.7	30.1	30.5	30.9	31.3
					Percent					
U.S. trade share	24.4	24.8	25.1	25.1	25.2	25.3	25.7	26.2	26.7	27.2

Note: Imports exceed exports by 300,000 bales each year due to differences in countries' reported statistics.
The projections were prepared in December 1994 based on policy decisions and other information known at that time..

Table 12. Soybean Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Importers					*Million metric tons*					
EU	13.8	13.6	13.5	13.6	13.8	13.9	14.1	14.4	14.8	15.2
Japan	4.8	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
South Korea	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3
Taiwan	2.4	2.4	2.4	2.5	2.5	2.5	2.5	2.5	2.5	2.6
Mexico	2.7	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.9	4.0
FSU	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Eastern Europe	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6
China	0.3	0.3	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.3
Other	4.9	4.9	5.0	5.3	5.6	5.8	6.1	6.3	6.4	6.6
Total trade	31.0	31.0	31.2	31.9	32.7	33.3	34.2	35.0	35.9	36.8
Exporters										
United States	20.7	20.3	20.3	20.5	20.8	21.1	21.6	22.2	22.7	23.3
Argentina	3.1	3.2	3.3	3.5	3.6	3.8	3.9	4.0	4.1	4.2
Brazil	4.2	4.4	4.6	4.8	5.0	5.2	5.3	5.4	5.6	5.8
China	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Other	2.4	2.5	2.5	2.6	2.8	2.9	2.9	3.0	3.1	3.2
Total trade	31.0	31.0	31.2	31.9	32.7	33.3	34.2	35.0	35.9	36.8
					Percent					
U.S. trade share	66.7	65.5	65.0	64.3	63.7	63.3	63.3	63.3	63.3	63.2

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 13. Soybean Meal Trade Baseline Projections

	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Importers					*Million metric tons*					
EU	13.9	14.0	14.0	14.0	14.0	14.1	14.2	14.3	14.4	14.6
FSU	1.3	1.3	1.4	1.6	1.7	1.8	1.9	2.0	2.1	2.2
Eastern Europe	1.9	2.0	2.0	2.1	2.1	2.2	2.3	2.3	2.4	2.5
Canada	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Japan	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5
China	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6
Southeast Asia	2.8	3.0	3.2	3.4	3.6	3.7	3.9	4.1	4.3	4.5
Latin America	2.8	2.9	3.0	3.1	3.1	3.2	3.3	3.4	3.5	3.6
N. Africa & M. East	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.3	4.5	4.7
Other	2.5	2.6	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.1
Total trade	30.2	30.9	31.5	32.1	32.8	33.6	34.4	35.2	36.0	36.7
Exporters										
United States	5.3	5.3	5.3	5.3	5.4	5.4	5.6	5.7	5.9	6.1
Argentina	7.2	7.4	7.6	7.8	8.0	8.3	8.5	8.6	8.7	8.8
Brazil	9.6	9.8	10.0	10.2	10.5	10.7	11.0	11.3	11.6	11.9
India	2.7	3.0	3.2	3.4	3.5	3.6	3.6	3.7	3.8	3.9
China	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
EU	3.9	3.8	3.8	3.8	3.9	4.0	4.0	4.1	4.2	4.3
Other	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4
Total trade	30.2	30.9	31.5	32.1	32.8	33.6	34.4	35.2	36.0	36.7
					Percent					
U.S. trade share	17.5	17.1	16.7	16.5	16.3	16.2	16.2	16.2	16.4	16.6

The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Crops

Current agricultural legislation, which is assumed to extend through the baseline continues the emphasis on greater market orientation for agriculture that began with the Food Security Act of 1985. Market returns are more important in determining what crops are planted because farmers receive Government payments on a smaller proportion of their program acres. Also, program participants have more planting flexibility, allowing them to respond to market signals in their planting decisions. Further, market prices for many program crops rise to or near their target prices, reducing incentives to enroll in annual farm commodity programs.

Land Use

Total acreage planted to the 8 major field crops (corn, sorghum, barley, oats, wheat, rice, cotton, and soybeans) rises from 250.9 million acres in 1995 to 262.7 million acres in 2005, with most of the change accounted for by corn, wheat, and soybeans. Harvested acreage for these 8 crops is up from 226.7 million to 240.1 million acres. This acreage increase reflects some CRP land returning to production, 0 percent ARP's for feed grains, wheat, and rice, and lower 0/85-92 enrollment. Harvested acreage of feed grains, wheat, and soybeans is up by 13.9 million acres. Upland cotton harvested acreage declines from 14 million acres in 1995 to 13.2 million acres in 2005. Rice harvested acreage varies between 2.9 million acres and 3.2 million acres.

Between 1995 and 2005, acreage idled under annual programs, the ARP and the 0/85-92 and 50/85-92 programs, declines as growing demand and higher prices attract land into production. ARP acreage falls from 4.9 million acres in 1995 to 1.7 million in 2005, with upland cotton the only crop with ARP acres after 1995. Enrollment in the 0/85-92 and 50/85-92 programs declines from 12.3 million acres in 1995 to 8.6 million acres by 2005 with most of the decline coming from feed grains.

Under the extended Conservation Reserve Program (CRP) assumed in the baseline, CRP acreage for the 8 major field crops declines only 3.4 million acres, from 27.4 million acres in 1995 to 24 million acres in 2005. Prices and producer returns to marginal acreage will determine how the land coming out of the CRP is used. However, with favorable returns in the baseline, most acreage returning from the CRP will contribute to production, especially for wheat, the crop from which the largest CRP acreage was retired.

Annual use of planting flexibility in the baseline ranges from 5 to 7 million acres being flexed out of target-price crops, on net, with much of the flexed acres going to soybeans. This level of net flex activity is small relative to the potential amount of flex land available in part because of the nature of a baseline where no supply or demand shocks are assumed. Planting flexibility has the potential to serve a larger role in the event of a market shock, as flex acreage shifts would allow supplies to re-equilibrate more quickly than under a system of more rigid policy constraints on acreage.

Crop Supply and Demand Overview

Growth in demand for major field crops exceeds yield growth in the baseline, leading to additional land being brought into production. Tighter stocks-to-use ratios push market prices higher. Farm program participation rates decline for many of the crops as deficiency payments fall.

Moderate yield growth and higher harvested acreage contribute to increased production for the major field crops, except for oats. Despite a 5 percent gain in yields, oats production declines because of lower harvested acreage.

Domestic demand for crops grows slightly faster than population. The new GATT agreement reduces trade barriers and raises global trade.

Domestic demand for corn is up 12 percent from 1995 to 2005, while domestic use of soybeans increases 10 percent. Domestic feed use of corn grows only 6 percent reflecting relatively slow growth in livestock inventories, while feed, seed, and industrial (FSI) use of corn increases 29 percent, led by continued gains in ethanol production. Rising world incomes, spurred by GATT reforms, stimulate global demand for livestock products, raising exports of feed grains and soybeans. Corn exports are up 41 percent in the baseline period, while soybean exports are up 11 percent.

Domestic food use of wheat continues to grow faster than population, in part reflecting dietary concerns. Domestic rice consumption is up 33 percent, while exports are down 14 percent over the 10-year horizon. Changing U.S. demographics and trends toward healthier eating habits contribute to the rise in domestic rice consumption, while rice exports decline because of an increasing differential between domestic and world rice prices.

Growth in domestic mill consumption of cotton is expected to slow. Export demand for U.S. cotton is expected to rise as the United States gains a larger share of the world cotton market.

Expiring CRP contracts, and land from the 0/85-92 program will provide additional production capacity needed to alleviate some of the demand-driven pressure on prices in the out years of the baseline horizon. Nonetheless, stocks-to-use ratios tighten for most field crops, pushing prices higher. Market prices equal or exceed target prices for corn, barley, and oats by 2005.

Despite higher market prices, declining deficiency payments and rising production costs hold down average net returns to program participants. Participants returns over variable production costs decline in the baseline except for corn and wheat. Returns for nonparticipants rise relative to participant returns (see box, page 52), for net returns definitions for different land categories). As a result, program participation rates decline except for rice, where participant returns remain over 75 percent greater than nonparticipant returns.

Domestic production of fruit and vegetables rises somewhat faster than population growth. Successful efforts to associate consumption of fruits and vegetables with better health strengthen

Net Returns Calculations

Net returns influence producers' decisions regarding the use of their land. Producer returns influence decisions whether or not to enroll in farm commodity programs. Returns affect cropping choices among competing crops, including the use of planting flexibility provisions. To reflect these different choices facing farmers, net returns for various categories of land are shown in each of the field crop tables in the baseline. Net returns measures are shown for program participants and nonparticipants. To reflect planting flexibility decisions, net returns measures are also shown for normal flex acres and optional flex acres.

Below are general formulas used to calculate producer returns net of variable expenses for each of these 4 categories. All calculations shown in the field crop tables are evaluated at national averages of relevant variables. Also, calculations for participant returns assume all flex acreage remains in the original program crop.

Participant returns per acre:

(1 - ARP) [(price x yield) - variable production costs]
\+ (1 - ARP - 0.15) (deficiency payment rate x payment yield)
\- ARP x variable costs of idled land

Nonparticipant returns per acre:

price x yield - variable production costs

Normal flex returns per acre:

price x yield - variable production costs

Optional flex returns per acre:

price x yield
\+ deficiency payment rate x payment yield
\- variable production costs

Additional terms are included in returns for cotton to reflect the value of cottonseed. Also, rice returns for participants, normal flex acres, and optional flex acres include loan deficiency payments.

consumer demand for these foods. Strong gains in orange production reflect a large number of nonbearing and young bearing trees moving toward full bearing potential in the mid-1990s.

Sugar production rises in the baseline, led by gains in beet sugar production. Beet sugar rises from 57 percent of domestic sugar production in 1995 to 61 percent in 2005. Per-capita sugar use rises about 4 pounds per person over the baseline horizon, but growth slows from recent years because of continuing substitution of other sweeteners. Domestic marketing allotments for sugar are in effect for 1995, are projected for 1996, and could again be triggered to keep

estimated imports from falling below 1.25 million tons. Grower prices for sugarbeets and sugarcane show little change in the baseline.

Tobacco production falls after 1996. Declines in leaf exports reflect increasing competition in global tobacco markets. Lower domestic use reflects declining cigarette consumption because of higher excise taxes, health concerns, and restrictions on where people can smoke.

Feed Grains

Steady increases in feed grain demand are projected to outpace gains in supplies, leading to shrinking stocks and higher prices. Ending stocks for corn fall below 1 billion bushels by 2005, with the stocks-to-use ratio declining to less than 10 percent.

With the exception of corn's acreage decline in 1995 because of the 7.5 percent ARP, planted acreage trends upward for all the feed grains except oats. Acreage gains reflect gradual reductions in 0/85-92 and flexed acreage, and more acres planted by nonparticipants. The CRP keeps considerable area out of feed grains, contributing to the tightening supply/demand balance. By 2005, total feed grain acreage is still below levels of the mid-1980s.

Contracts for land enrolled in the CRP program begin to expire in 1995, but options for extension and new enrollments mean almost no change in total CRP feed grain acres over the next decade. Feed grain acres enrolled in the CRP rise from 11 million acres currently to 11.5 million in 1996, and then gradually slip to 10.2 million by 2005.

Corn ARP's are 7.5 percent for 1995 and 0 percent for the rest of the baseline. Sorghum and barley ARP's are set at 0 percent for the full baseline. Oat ARP's are held at the legislated level of 0 percent.

Although there is a modest increase in total feed grain area, growth in yields also contributes to increasing production. Gains in production in the baseline are projected for all the feed grains except oats, which will decline slightly because of some loss of acreage.

Corn exports rise 41 percent by 2005, equalling the previous high reached in 1979. Trade gains largely reflect reduced competition from China as well as growth in import demand by developing countries, including Mexico. Domestic corn use rises 12 percent from 1995 to 2005. Domestic feed use of corn grows only 6 percent, reflecting relatively slow growth in livestock inventories. FSI use of corn increases 29 percent, led by continued robust gains in ethanol production.

Total use of sorghum expands 19 percent. Virtually all of this increase is from exports as export demand bids sorghum away from the domestic market. Total barley use rises 17 percent, driven mostly by higher feed use. Barley exports initially rise to 85 million bushels, and then decline to 70 million bushels by 2000 and stabilize, assuming EEP is used to the maximum levels allowed by the Uruguay Round GATT agreement. The domestic market uses most of the small gain in barley production. Barley imports decline somewhat and flatten out at 45 million bushels, still

large by historical standards. Imports of oats remain substantial, going up slightly and then stabilizing at 100 million bushels per year.

Larger domestic use and export demand combined with tightening land availability push nominal prices for feed grains up. Corn prices rise from $2.30 to $2.75 per bushel between 1995 and 2005, thus equaling the corn target price by the end of the baseline. Sorghum prices rise from $2.15 to $2.55 per bushel.

Corn ending stocks decline over the decade and the stocks-to-use ratio falls steadily from 17 percent in 1995 to just 8 percent in 2005. Sorghum stocks remain very tight throughout, increasing very slightly from beginning levels, but then declining in the out years. The stocks-to-use ratio falls from 11 percent in 1995 to 10 percent in 2005.

Average net returns for corn program participants increase from $165 to $198 per base acre over the baseline horizon. Nonparticipant returns rise from $141 to $198 per acre. Net returns for program participants are well above returns for nonparticipants early in the baseline, but the gap narrows with nonparticipant returns equaling participant returns in 2005. This encourages some producers to leave the program, with the participation rate for corn falling from 77 percent to 66 percent by 2005. Average net returns to sorghum program participants are fairly stable over the baseline period. Thus, gains in nonparticipant returns result in declining program participation.

Wheat

For most of the baseline, demand growth for wheat outstrips yield growth and additional land is brought into production. Beginning in 1998, increasing prices draw more land into wheat. However, the large amount of wheat base enrolled in the CRP limits the response of planted acreage to rising wheat prices. From 1998 through 2000, wheat base enrolled in the CRP drops from 10.5 million acres to 8.7 million acres as some producers choose not to extend expiring CRP contracts. There is a small increase in acres idled in the 0/85-92 program as wheat base acres leave the CRP, but as prices rise further beyond 2000, 0/85-92 wheat acreage falls back to the 1995 level.

The first years of the baseline (1995/96 and 1996/97) are an adjustment period for wheat. High wheat prices and unusually strong demand in 1994/95 are expected to result in increased wheat plantings in 1995, leading to increased production and lower U.S. and world prices. The EU is a strong competitor in these years because permitted levels of subsidized exports under the latest GATT agreement are well above current levels. Australia's exports rebound in the second half of 1995/96 from the 1994 drought. However, wheat price declines are modest, and the wheat ARP is kept at 0 percent throughout the baseline.

Flex acres gradually shift back to wheat after 1998, as wheat prices increase relative to coarse grains and oilseeds. Nonparticipant acres and acres flexed to soybeans are often in soft red winter wheat producing regions with above-average yields. Increases of higher yielding soft red wheat acres offset the addition of lower yielding marginal acres elsewhere, and yield trends are not dampened as they would be if the area increase had resulted from a reduced ARP.

One reason wheat prices increase at a faster rate than other crops is slower yield growth for wheat than for most other crops. If wheat farm prices remain high for an extended period, increased investment in yield enhancing technology could result.

Domestic use of wheat grows throughout the baseline years. Increases in food use of 15 million bushels a year imply increasing per capita food use of wheat, but at a slowing rate. Feed and residual use declines gradually after 1999 as wheat prices rise compared with other feeds, but an increasing wheat crop size slows the decline.

U.S. wheat exports are initially flat as competitor supplies rebound from 1994/95. U.S. exports increase in 1997 and accelerate in 1998 as reduced competition from the EU raises market opportunities. However, the U.S. also reduces export subsidies, slowing export growth. By 2003, world wheat prices rise to levels where the EU can export wheat without subsidies.

As prices increase and deficiency payments decline, there is a modest decline in program participation. However, 0-percent ARP's keep most wheat producers in the program, with participation rates falling to 78 percent by 2005. Returns over variable production costs per acre for program participants remain stable at near $90 per acre, while returns for nonparticipants rise from $67 in 1995 to over $85 in 2005.

Rice

The rice ARP is 5 percent in 1995 before returning to 0 percent through 2005. Total rice acreage removed under the 50/85 program is constant at 0.5 million acres throughout the baseline projection, and rice CRP acreage holds at 13,000 acres.

Harvested acreage for rice increases from 3.0 million acres in 1995 to 3.2 million in 1996 because of the ARP reduction, and then gradually rises through 2005. A very moderate rise in yields, from 5,720 to 5,796 pounds per acre, contributes to a gradual rise in rice production, from 168 million hundredweight in 1995 to 184 million hundredweight in 2005.

Domestic use of rice is up 33 percent, from 95.6 million hundredweight in 1995 to 127.0 million hundredweight in 2005. Changing demographics and trends toward healthier eating habits contribute to the rise in domestic rice consumption. Exports fall from 83 million hundredweight in 1995 to 71 million hundredweight in 2005, squeezed by higher domestic use that pushes prices up and results in an increasing differential between domestic and world rice prices. The GATT agreement implies that potential shifts in the composition of U.S. domestic use and exports as both processors and traders adjust their usage rates to reflect a rising price premium for medium-grain over long-grain rice.

Strong demand results in the average farm price for rice increasing from $6.10 per hundredweight in 1995 to $9.10 per hundredweight in 2005. A higher premium over world prices pushes exports lower, holding the ratio of ending stocks to a 3-year moving average of use between 16.5 percent and 20.0 percent, as mandated by legislation.

Substantially higher U.S. farm prices are projected to significantly reduce U.S. program costs as domestic prices rise well above the loan rate, thus lowering deficiency payments. Also, higher international prices, which exceed the U.S. loan rate after 2000, imply lower marketing loan payments.

Returns to program participants fall from $253 per acre in 1995 to $168 per acre in 2005. The rise in market returns from higher prices does not keep pace with rising production costs and the decline in total government payments. The gap between participant and nonparticipant returns narrows, although net returns to participants remain over 75 percent greater than returns to nonparticipants. Program participation remains strong at 96 percent.

Upland Cotton

Between 1995 and 2000, upland cotton base is projected to expand about 900,000 acres to 16.5 million, with expired contracts for CRP acreage accounting for over 20 percent of the increase. During the following 5-year period, CRP acreage is expected to stabilize near 1.2 million acres, but the upland cotton acreage base will continue to grow at 100,000 acres annually. ARP's for upland cotton start at 0 percent in 1995, but range between 7.5 and 12.5 percent between 1996 and 2005. Upland cotton ARP's are used to maintain the stocks-to-use ratio at 29.5 percent in 1995 and 1996, and at 29 percent thereafter, as mandated by legislation. Area idled between 1996 and 2005 ranges from 1 to 1.7 million acres. Acreage idled under the 50/85 program rises from 0.3 million acres in 1995 to 0.5 million in 1999 and 2000 and drops to 0.4 million through 2005.

The national average yield rises 10 pounds per year, reaching 770 pounds per harvested acre in 2005. Harvested area expands to 14 million acres in 1995 to rebuild stocks, then stabilizes near 13 million acres thereafter. Production declines in 1996 after stocks are rebuilt, then increases thereafter, reaching over 21 million bales by 2005 to meet increases in domestic use and exports.

Growth in domestic mill use and exports will be affected by the recently completed GATT accord, which is expected to lower trade barriers and increase world cotton trade. Mill use is expected to increase 2 to 3 percent per year, reaching 12.5 million bales by 2000. However, as textile import quota restrictions are eased, mill use growth is expected to slow after 2000, increasing about 1 percent per year through 2005. Despite significant increases in textile imports, primarily apparel, U.S. textile exports of yarn, fabric and semi-finished apparel continue to support growing mill use.

Stronger growth in export demand for U.S. cotton is expected to more than offset slowing mill consumption growth. Rising world incomes are driving demand growth for cotton textile products. As trade barriers are reduced, the United States is expected to capture a larger share of world cotton trade. Between 1995 and 2005, U.S. cotton exports expand 21 percent, reaching 8.1 million bales by 2005.

Net returns to cotton program participants vary only slightly over the baseline horizon. Increasing prices are offset by larger ARP's required to keep stocks from growing. Rising market prices result in a decline in program participation beyond 2000.

Soybeans

Harvested soybean acreage rises from 58.4 million acres in 1995 to 61.4 million acres in 2005, only slightly above 1994's 60.8 million acres. Soybean yields are up nearly 4 bushels per acre, from 36.5 in 1995 to 40.3 bushels in 2005. With trend yields, soybean production does not reach the 1994 record until 2005.

Responding to rising incomes and population growth, growth in meat production results in a 10-percent increase in domestic crush between 1995 and 2005. Rising foreign incomes under GATT reforms increase exports of soybeans and soybean meal, particularly beyond 2000. Between 1995 and 2005, soybean exports rise 11 percent and soybean meal exports rise 14 percent.

Domestic soybean oil disappearance increases 17 percent between 1995 and 2005. U.S. soybean oil exports decline between 1995 and 1999 and then are flat. This weak trade outlook stems from higher expected soybean exports, rebuilding global supplies of competing oils, and the GATT agreement which requires subsidized exports of U.S. vegetable oils to drop progressively from 1,285 million pounds in 1993 to 312 million pounds by 2000. Supply growth exceeds demand growth until 2000, when growth in soybean oil production slows compared with steady percentage increases in total use. Carryout stocks of soybean oil will increase through 2000 and decline thereafter. This places downward pressure on the soybean oil price through the end of the decade, with an upturn beginning in 2001.

The stocks-to-use ratio for soybeans gradually drops after 1996 because of greater domestic and foreign demand for soybeans, soybean oil, and soybean meal. The U.S. soybean price rises from $5.65 per bushel in 1995 to $6.95 in 2005. The U.S. soybean meal price steadily rises from $165 per ton in 1995 to $212.50 per ton in 2005. U.S. soybean oil prices drop from $0.265 per pound in 1995 to $0.245 per pound in 2000, but rise to $0.273 per pound in 2005.

Average net returns over variable costs for soybeans rise from $129 per acre in 1995 to $180 in 2005. The soybean-to-corn price ratio remains between 2.46 and 2.59 over the baseline period, maintaining a relative equilibrium of producer market returns between these two commodities, thus providing little incentive for major acreage shifts.

Fruit and Vegetables

Fruit and vegetable production rises at a rate somewhat faster than population growth in the baseline. Total production is projected to reach 98 million metric tons in 2005, compared to 85 million in 1995. Producer prices rise at a slower pace than increases in inflation, reflecting near-term large supplies of citrus fruit and technical efficiency gains in vegetable production. Retail prices rise at slightly less than the rate of inflation, primarily reflecting the importance of

marketing costs in the retail price. Marketing costs are assumed to continue rising at close to the inflation rate. Projected exports of fruits and vegetables rise at a higher rate than imports. Imports of fresh fruits from the Southern Hemisphere and of winter fresh vegetables from Mexico continue to increase, as do imports of frozen vegetables. Potato exports rise, boosted by growth in demand for convenience foods worldwide.

Fruit supply is projected to expand, primarily reflecting rapid increases in citrus production through 2000. Gains in orange production reflect a large number of nonbearing and young bearing trees moving toward full bearing potential. Increases in production of oranges and grapefruit will depress grower prices through 1997 and could slow the rate of growth of fruit production early in the next decade. Nominal prices are expected to recover, but real prices continue to decline throughout the baseline projections.

Vegetable production is projected to rise 1.4 percent per year between 1995 and 2005, faster than the growth in population. Trends in income and demographic changes, as well as an increased acceptance of advice that eating fruit and vegetables promotes good health, cause domestic per capita demand to rise.

Potatc and dry bean production rise about 1.2 and 2.2 percent per year between 1995 and 2005. The growth in dry bean production reflects expectations of substantial increases in exports in addition to population growth and higher per-capita consumption.

The value of U.S. fruit and vegetable imports (including bananas) rises about 3.9-percent annually over the baseline period, totaling $10.6 billion in 2005. Fruit and vegetable exports are projected to rise 4.8 percent annually to $11.4 billion in 2005. Declining trade barriers under NAFTA and in Pacific Rim countries will stimulate growth in the value of U.S. exports of fruit and vegetables. A higher rate of growth in U.S. exports compared with imports results in a positive fruit and vegetable trade balance beginning in 1998.

Sugar

Harvested acreage of sugarbeets rises from 1.46 million acres in 1995 to 1.58 million in 2000, and continues to rise about 20,000 acres a year through 2005. Sugarbeets are more profitable than alternative crops in most areas where they are grown, and under the current sugar program are expected to remain more profitable. Sugarbeet yield is flat, as area expands mostly in the nonirrigated areas which have below-average yields. The beet sugar recovery rate rises on trend. Beet sugar production rises about 80,000 tons a year, to 5 million tons in 2000 and 5.5 million tons in 2005. Beet sugar expansion is somewhat risky given the possibility of marketing allotments in any year, but growing demand reduces that risk by expanding the market. The beet sugar share of total domestic sugar production grows from 57 percent in 1995 to 60 percent in 2000 and 61 percent in 2005. Sugar production from the desugaring of beet molasses (net of sugar which would have been produced from discontinued desugaring facilities) rises from 200,000 tons in 1994 to 350,000 tons in 1997, after which it remains at 7 percent of total beet sugar production.

Sugarcane acreage (including Puerto Rico) falls from 927,000 acres in 1994 to 899,000 acres in 1997, and then holds at 888,000 acres after 1999. As acreage has declined in Hawaii, national average cane sugar yields have fallen, since Hawaii's yield was much higher than other states. After Hawaii's acreage stabilizes in 1997, national average yields rise slowly as research and development of better varieties proceed. The cane sugar recovery rate rises on trend. Cane sugar production grows slowly in Texas, Florida, and Louisiana. Hawaiian sugar production declines through 1997, after which it grows slowly. Puerto Rican production falls from the current level of 50,000 tons to 30,000 tons after 1999. Cane sugar production is less likely than beet to be constrained by marketing allotments, since even if allotments were triggered, the allocation formula would most likely give cane sugar an allotment higher than production.

Domestic disappearance, including Puerto Rico, rises about 150,000 tons a year from 1995 to 2005 because of population and per capita use growth. Per capita sugar disappearance rises from 66.2 pounds, refined basis, in 1995 to 68.3 pounds in 2000 and 70 pounds in 2005. The rapid substitution of corn sweeteners for sugar ended about 1986, after which sugar consumption increased. Total sugar deliveries have grown at 2.1 percent a year for the last 5 years, compared to 3.6 percent for high fructose corn syrup (HFCS). The projected growth rate of sugar consumption is 1.5 percent a year, lower than the recent trend because of higher projected continuing substitution of other sweeteners, including low-calorie sweeteners.

Legislation provides for domestic marketing allotments to be imposed if estimated imports fall below 1.25 million short tons, raw value. Domestic marketing allotments were in effect for 1993, are in effect in 1995, and are projected for 1996. Normal variations of production and consumption would likely result in import needs dropping below the 1.25-million-ton trigger level for some additional years of the baseline.

The raw cane sugar loan rate remains at 18 cents a pound, raw value, in the baseline. The beet sugar loan rate is 23.43 cents a pound, refined basis, in 1995, and is projected at 23.42 cents a pound in subsequent years.

The raw sugar price (New York No. 14 contract) averaged 22.05 cents a pound in fiscal 1994. The projected ending stocks-to-use ratio for 1995 is 16.5 percent, but only 13.3 percent excluding the stocks blocked from being sold domestically because of marketing allotments. For the rest of the baseline, the stocks-to-use ratio is projected at about 13.5 percent, and the raw sugar price at 22.10 cents a pound, a price consistent with the implementation of the sugar program in recent years. Grower prices for sugarbeets and sugarcane are also flat in the baseline.

The NAFTA does not affect the baseline during the forecast period to the year 2005, but could affect the U.S. market after the year 2008 when barriers to sugar trade between the U.S. and Mexico are ended. The GATT agreement has only minor impacts on the U.S. sugar market, but the world sugar price is about 8 percent higher in 2005 than it would otherwise have been.

Tobacco

Projected U.S. tobacco production rises in 1995 reflecting improved foreign cigarette and semiprocessed sales and substitution of discount priced domestic leaf for foreign grown leaf. Production rises in 1996 but declines steadily afterwards. The drop in production results primarily from declining leaf exports. Domestic cigarette consumption will continue to decline because of higher excise taxes, increasing restrictions on where people can smoke, and the growing concern over health effects of tobacco use.

Cigarette exports are projected to increase and shipments of semiprocessed leaf to Eastern European countries are projected to rise. Cigarette manufacturers agreed to purchase about 300 million pounds of flue-cured loan stocks and 400 million pounds of burley loan stocks during the next 7 years and this will result in substitution of domestic grown for foreign grown leaf in the production of cigarettes. World supplies of leaf remain ample but reduced production in several countries in 1994 has brought world supplies in much better balance with demand.

After rising in 1995, projected flue-cured production declines steadily over the rest of the baseline horizon. Production declines at about 2.5 percent a year from 1995 to 2005.

Projected domestic use of flue-cured tobacco rises from 1994 to 1996 because of increased cigarette exports, increased shipments of semiprocessed leaf, and relatively small declines in U.S. cigarette consumption. Also, discount-priced U.S. grown leaf is substituted for foreign grown leaf. After 1996, domestic leaf use gradually declines because of increased U.S. taxes and restrictions on where people can smoke.

Projected flue-cured leaf exports decline steadily through 2005. Competition from countries such as Zimbabwe and Brazil and declining cigarette consumption in some key markets will reduce leaf exports.

Projected burley production will likely rise in 1995, and stabilize in 1996 and 1997. Production will then decline steadily through 2005. Domestic burley use will rise from 1994 to 1996 because of improved cigarette export and semiprocessed leaf exports, and substitution of U.S. grown for foreign grown leaf. Burley leaf exports will decline because of increased competition from countries such as Malawi, Zimbabwe, Argentina, and Brazil.

Prices for U.S. grown tobacco rise through 2005/06 in correspondence with increases in the support price.

Tobacco yields remain constant in the baseline because poundage quotas diminish incentives to raise production per acre.

Table 14. Planted, harvested, and idled acreage for major field crops, baseline projections

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
						Million acres						
Planted acreage, 8 major crops												
Corn	79.1	76.0	80.0	79.5	80.0	80.3	80.5	81.0	81.3	81.5	82.0	82.3
Sorghum	9.7	9.9	10.0	10.1	10.2	10.3	10.3	10.4	10.5	10.6	10.7	10.8
Barley	7.2	7.6	7.7	7.9	8.1	8.3	8.4	8.5	8.6	8.7	8.7	8.7
Oats	6.6	7.9	5.9	5.7	5.4	5.4	5.3	5.3	5.3	5.4	5.5	5.5
Wheat	70.5	72.0	71.5	71.6	72.0	72.0	72.3	73.0	73.5	74.0	74.7	75.5
Rice	3.3	3.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
Upland cotton	13.9	15.0	13.4	13.8	14.0	14.0	14.1	13.8	14.1	14.1	14.2	14.2
Soybeans	61.9	59.5	59.3	60.3	60.3	60.5	60.8	60.8	61.0	61.5	62.0	62.5
Total	252.2	250.9	251.0	252.1	253.2	254.0	254.9	256.0	257.5	259.0	261.0	262.7
Harvested acreage, 8 major crops												
Corn	72.3	68.8	72.8	72.3	72.8	73.1	73.3	73.8	74.1	74.3	74.8	75.1
Sorghum	8.8	9.0	9.1	9.2	9.3	9.4	9.4	9.5	9.6	9.7	9.8	9.9
Barley	6.7	7.1	7.2	7.4	7.6	7.8	7.9	7.9	8.0	8.1	8.1	8.1
Oats	4.0	3.9	3.5	3.4	3.2	3.2	3.1	3.2	3.2	3.2	3.3	3.3
Wheat	61.7	62.6	62.2	62.3	62.6	62.6	62.9	63.5	64.0	64.5	65.2	65.9
Rice	3.3	2.9	3.1	3.1	3.1	3.1	3.1	3.2	3.2	3.2	3.2	3.2
Upland cotton	13.3	14.0	12.5	12.8	13.0	13.0	13.1	12.8	13.1	13.1	13.2	13.2
Soybeans	60.8	58.4	58.2	59.3	59.2	59.4	59.7	59.7	59.9	60.4	60.9	61.4
Total	230.9	226.7	228.6	229.8	230.8	231.6	232.5	233.5	235.1	236.5	238.5	240.1
						Percent						
Idled acreage, ARP, 8 major crops												
Corn	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sorghum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Barley	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wheat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rice	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland cotton	1.5	0.0	1.7	1.4	1.1	1.1	1.0	1.7	1.4	1.4	1.3	1.7
Soybeans	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.5	4.9	1.7	1.4	1.1	1.1	1.0	1.7	1.4	1.4	1.3	1.7
Idled acreage, 0/92,85 and 50/92,85 for 8 major crops												
Corn	2.2	2.1	2.3	2.1	1.6	1.6	1.4	1.2	1.1	1.0	0.9	0.9
Sorghum	1.6	1.7	1.6	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.0	0.9
Barley	2.7	2.0	1.9	1.5	1.3	1.0	0.9	0.8	0.8	0.7	0.7	0.7
Oats	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3
Wheat	5.2	5.2	5.4	5.4	5.4	5.5	5.6	5.6	5.5	5.4	5.2	4.9
Rice	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Upland cotton	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Soybeans	—	—	—	—	—	—	—	—	—	—	—	—
Total	12.8	12.3	12.5	12.1	11.3	11.0	10.8	10.2	9.9	9.5	9.0	8.6

— = not applicable.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 15. Conservation reserve, total acreage, and flexibility shifts for major field crops, baseline projections

	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
						Million acres						
Conservation Reserve Program acreage, 8 major crops												
Corn	4.3	4.3	4.7	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0
Sorghum	2.5	2.5	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Barley	2.8	2.8	2.9	2.9	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
Oats	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Wheat	10.8	10.8	10.5	10.0	9.5	9.2	8.9	8.9	8.8	8.7	8.7	8.7
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Upland cotton	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Soybeans	4.2	4.2	4.6	4.3	4.2	4.1	4.0	4.0	3.9	3.9	3.9	3.9
Total	27.4	27.4	28.0	26.7	25.9	25.2	24.6	24.5	24.3	24.0	24.0	24.0
Total acreage, with CRP, 8 major crops												
Corn	85.6	87.1	87.0	86.0	85.9	86.1	86.1	86.3	86.5	86.5	86.9	87.2
Sorghum	13.8	14.1	14.0	13.9	13.9	13.8	13.8	13.8	13.8	13.7	13.7	13.7
Barley	12.7	12.4	12.5	12.3	12.2	12.1	12.1	12.1	12.1	12.1	12.1	12.1
Oats	8.6	9.8	7.9	7.8	7.5	7.4	7.3	7.2	7.2	7.3	7.3	7.3
Wheat	86.5	88.0	87.4	87.0	86.9	86.7	86.8	87.5	87.8	88.1	88.6	89.1
Rice	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Upland cotton	17.0	16.7	16.7	16.9	16.8	16.9	16.8	17.1	17.1	17.1	17.1	17.5
Soybeans	66.1	63.7	63.8	64.5	64.4	64.6	64.7	64.7	64.9	65.4	65.9	66.4
Total	294.0	295.5	293.1	292.2	291.4	291.3	291.2	292.4	293.1	293.9	295.3	297.0
Total acreage, without CRP, 8 major crops												
Corn	81.3	82.8	82.3	81.6	81.6	81.9	81.9	82.2	82.4	82.5	82.9	83.2
Sorghum	11.4	11.6	11.6	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
Barley	9.9	9.6	9.6	9.4	9.4	9.3	9.3	9.3	9.4	9.4	9.4	9.4
Oats	7.2	8.4	6.4	6.3	6.0	5.9	5.8	5.7	5.7	5.8	5.8	5.8
Wheat	75.7	77.2	76.9	77.0	77.4	77.5	77.9	78.6	79.0	79.4	79.9	80.4
Rice	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Upland cotton	15.6	15.3	15.4	15.6	15.5	15.6	15.6	15.9	15.9	15.9	15.9	16.3
Soybeans	61.9	59.5	59.3	60.3	60.3	60.5	60.8	60.8	61.0	61.5	62.0	62.5
Total	266.5	268.1	265.1	265.5	265.6	266.1	266.6	267.9	268.8	269.9	271.3	273.0
Planting flexibility, net acreage shifts to other crops 1/												
Corn	4.4	3.3	3.3	3.3	3.3	3.2	3.1	3.0	3.0	2.9	2.8	2.6
Sorghum	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Barley	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Oats	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Wheat	2.3	2.2	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.2	2.1	2.0
Rice	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Upland cotton	-0.3	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Total	7.7	6.5	6.9	6.9	6.9	6.7	6.6	6.4	6.3	6.1	5.8	5.4

1/ Negative indicates net flex to cotton.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 16. Corn baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	7.5	0	0	0	0	0	0	0	0	0	0
Participation (percent)	81.6	77	78	77	75	73	72	71	70	69	68	66
Acreage (million acres):												
Idled ARP acres	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0/92,85 acres	2.2	2.1	2.3	2.1	1.6	1.6	1.4	1.2	1.1	1.0	0.9	0.9
CRP acres	4.3	4.3	4.7	4.4	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0
Flexed acres 1/	4.4	3.3	3.3	3.3	3.3	3.2	3.1	3.0	3.0	2.9	2.8	2.6
Total planted acres	79.1	76.0	80.0	79.5	80.0	80.3	80.5	81.0	81.3	81.5	82.0	82.3
Total harvested acres	72.3	68.8	72.8	72.3	72.8	73.1	73.3	73.8	74.1	74.3	74.8	75.1
Yields (bushels per acre):												
Yield/harvested acre	138.4	125.5	127.0	128.5	130.0	131.5	133.0	134.5	136.0	137.5	139.0	140.5
Program yield	105.5	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0
Supply and use (million bushels):												
Beginning stocks	850	1,930	1,550	1,550	1,445	1,315	1,270	1,215	1,165	1,100	1,005	945
Imports	5	5	5	5	5	5	5	5	5	5	5	5
Production	10,010	8,635	9,245	9,290	9,465	9,615	9,750	9,925	10,080	10,215	10,395	10,550
Supply	10,865	10,570	10,800	10,845	10,915	10,935	11,025	11,145	11,250	11,320	11,405	11,500
Feed and residual	5,500	5,500	5,575	5,575	5,600	5,600	5,625	5,675	5,725	5,775	5,800	5,850
Food, seed, and industrial	1,685	1,820	1,900	1,975	2,050	2,090	2,135	2,180	2,225	2,265	2,310	2,355
Domestic	7,185	7,320	7,475	7,550	7,650	7,690	7,760	7,855	7,950	8,040	8,110	8,205
Exports	1,750	1,700	1,775	1,850	1,950	1,975	2,050	2,125	2,200	2,275	2,350	2,400
Total use	8,935	9,020	9,250	9,400	9,600	9,665	9,810	9,980	10,150	10,315	10,460	10,605
Ending stocks	1,930	1,550	1,550	1,445	1,315	1,270	1,215	1,165	1,100	1,005	945	895
Prices (dollars per bushel):												
Target price	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
Loan rate	1.89	1.83	1.83	1.81	1.87	1.87	2.01	2.06	2.10	2.13	2.17	2.21
Farm price	2.15	2.30	2.30	2.35	2.45	2.45	2.50	2.55	2.60	2.65	2.70	2.75
Deficiency payment rate	0.60	0.45	0.45	0.40	0.30	0.30	0.25	0.20	0.15	0.10	0.05	0.00
Deficiency payments (million dollars)	3,347	2,189	2,422	2,136	1,563	1,524	1,252	995	735	485	239	0
Variable costs of production (dollars):												
Per acre	144.69	147.25	150.08	153.46	157.12	161.00	165.09	169.41	173.93	178.66	183.67	188.78
Per bushel	1.05	1.17	1.18	1.19	1.21	1.22	1.24	1.26	1.28	1.30	1.32	1.34
Returns over variable costs (dollars per acre):												
Participant	208.67	165.81	182.18	184.22	188.15	187.95	189.72	191.41	193.05	194.64	196.09	197.60
Nonparticipant	152.87	141.40	142.02	148.52	161.38	161.18	167.41	173.56	179.67	185.71	191.63	197.60
Normal flex acres	152.87	141.40	142.02	148.52	161.38	161.18	167.41	173.56	179.67	185.71	191.63	197.60
Optional flex acres	216.17	188.65	189.27	190.52	192.88	192.68	193.66	194.56	195.42	196.21	196.88	197.60

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 17. Sorghum baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Participation (percent)	81.1	78	77	75	73	71	70	68	66	63	60	57
Acreage (million acres):												
Idled ARP acres	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0/92,85 acres	1.6	1.7	1.6	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.0	0.9
CRP acres	2.5	2.5	2.4	2.2	2.2	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Flexed acres 1/	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Total planted acres	9.7	9.9	10.0	10.1	10.2	10.3	10.3	10.4	10.5	10.6	10.7	10.8
Total harvested acres	8.8	9.0	9.1	9.2	9.3	9.4	9.4	9.5	9.6	9.7	9.8	9.9
Yields (bushels per acre):												
Yield/harvested acre	70.5	67.2	67.7	68.2	68.7	69.2	69.7	70.2	70.7	71.2	71.7	72.2
Program yield	58.7	58.7	58.7	58.5	58.4	58.3	58.3	58.3	58.3	58.2	58.2	58.2
Supply and use (million bushels):												
Beginning stocks	48	66	68	75	82	74	71	68	70	72	74	76
Imports	0	0	0	0	0	0	0	0	0	0	0	0
Production	622	605	615	630	640	650	655	665	680	690	705	715
Supply	669	671	683	705	722	724	726	733	750	762	779	791
Feed and residual	375	370	370	365	365	360	355	350	355	360	370	380
Food, seed, and industrial	8	8	8	8	8	8	8	8	8	8	8	8
Domestic	383	378	378	373	373	368	363	358	363	368	378	388
Exports	220	225	230	250	275	285	295	305	315	320	325	330
Total use	603	603	608	623	648	653	658	663	678	688	703	718
Ending stocks	66	68	75	82	74	71	68	70	72	74	76	73
Prices (dollars per bushel):												
Target price	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61	2.61
Loan rate	1.80	1.74	1.74	1.72	1.78	1.78	1.91	1.96	2.00	2.02	2.06	2.10
Farm price	2.00	2.15	2.15	2.20	2.30	2.30	2.35	2.40	2.45	2.50	2.50	2.55
Deficiency payment rate	0.61	0.46	0.46	0.41	0.31	0.31	0.26	0.21	0.16	0.11	0.11	0.06
Deficiency payments (million dollars)	298	220	217	191	141	137	114	90	67	44	42	22
Variable costs of production (dollars):												
Per acre	79.76	81.12	82.68	84.54	86.56	88.69	90.94	93.31	95.76	98.31	100.99	103.72
Per bushel	1.13	1.21	1.22	1.24	1.26	1.28	1.30	1.33	1.35	1.38	1.41	1.44
Returns over variable costs (dollars per acre):												
Participant	91.68	86.31	85.83	85.89	86.84	85.83	85.74	85.58	85.38	85.13	83.70	83.36
Nonparticipant	61.24	63.36	62.88	65.50	71.45	70.47	72.85	75.17	77.45	79.69	78.26	80.39
Normal flex acres	61.24	63.36	62.88	65.50	71.45	70.47	72.85	75.17	77.45	79.69	78.26	80.39
Optional flex acres	97.05	90.36	89.88	89.49	89.55	88.54	88.01	87.42	86.78	86.09	84.66	83.88

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 18. Barley baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Participation (percent)	83.8	79	77	78	77	77	76	75	74	73	72	71
Acreage (million acres):												
Idled ARP acres	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0/92,85 acres	2.7	2.0	1.9	1.5	1.3	1.0	0.9	0.8	0.8	0.7	0.7	0.7
CRP acres	2.8	2.8	2.9	2.9	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.7
Flexed acres 1/	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Total planted acres	7.2	7.6	7.7	7.9	8.1	8.3	8.4	8.5	8.6	8.7	8.7	8.7
Total harvested acres	6.7	7.1	7.2	7.4	7.6	7.8	7.9	7.9	8.0	8.1	8.1	8.1
Yields (bushels per acre):												
Yield/harvested acre	56.2	58.0	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5	63.0
Program yield	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1	47.1
Supply and use (million bushels):												
Beginning stocks	139	129	129	129	124	119	119	119	114	114	119	124
Imports	65	65	70	60	55	50	45	45	45	45	45	45
Production	375	410	420	435	450	470	480	480	490	500	505	510
Supply	579	604	619	624	629	639	644	644	649	659	669	679
Feed and residual	215	215	230	245	260	270	280	285	290	295	300	310
Food, seed, and industrial	175	175	175	175	175	175	175	175	175	175	175	175
Domestic	390	390	405	420	435	445	455	460	465	470	475	485
Exports	60	85	85	80	75	75	70	70	70	70	70	70
Total use	450	475	490	500	510	520	525	530	535	540	545	555
Ending stocks	129	129	129	124	119	119	119	114	114	119	124	124
Prices (dollars per bushel):												
Target price	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36
Loan rate	1.54	1.49	1.49	1.47	1.52	1.52	1.64	1.68	1.71	1.73	1.77	1.80
Farm price	2.05	2.20	2.20	2.20	2.25	2.25	2.30	2.30	2.35	2.35	2.40	2.45
Deficiency payment rate	0.52	0.40	0.40	0.37	0.30	0.30	0.26	0.23	0.19	0.16	0.13	0.09
Deficiency payments (million dollars)	156	117	115	107	87	85	73	62	51	43	35	24
Variable costs of production (dollars):												
Per acre	67.01	68.22	69.56	71.15	72.89	74.69	76.59	78.60	80.69	82.86	85.15	87.48
Per bushel	1.19	1.18	1.19	1.21	1.22	1.24	1.27	1.29	1.31	1.34	1.36	1.39
Returns over variable costs (dollars per acre):												
Participant	69.02	75.39	75.15	73.46	73.01	72.32	72.98	70.91	71.44	69.25	70.08	70.48
Nonparticipant	48.20	59.38	59.14	58.65	61.00	60.31	62.56	61.70	63.84	62.84	64.85	65.67
Normal flex acres	48.20	59.38	59.14	58.65	61.00	60.31	62.56	61.70	63.84	62.84	64.85	66.67
Optional flex acres	72.69	78.22	77.98	76.07	75.13	74.44	74.80	72.53	72.79	70.38	70.99	71.11

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 19. Oats baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Participation (percent)	39.8	44	43	43	42	41	40	39	35	32	30	28
Acreage (million acres):												
Idled ARP acres	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0/92,85 acres	0.6	0.5	0.5	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3
CRP acres	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Flexed acres 1/	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total planted acres	6.6	7.9	5.9	5.7	5.4	5.4	5.3	5.3	5.3	5.4	5.5	5.5
Total harvested acres	4.0	3.9	3.5	3.4	3.2	3.2	3.1	3.2	3.2	3.2	3.3	3.3
Yields (bushels per acre):												
Yield/harvested acre	57.2	57.6	57.9	58.2	58.5	58.8	59.1	59.4	59.7	60.0	60.3	60.6
Program yield	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
Supply and use (million bushels):												
Beginning stocks	108	114	118	112	111	105	109	108	112	111	110	114
Imports	90	85	85	85	90	95	95	100	100	100	100	100
Production	230	220	205	200	185	190	185	190	190	190	200	200
Supply	425	419	408	397	386	390	389	398	402	401	410	414
Feed and residual	185	175	170	160	155	155	155	160	165	165	170	170
Food, seed, and industrial	125	125	125	125	125	125	125	125	125	125	125	125
Domestic	310	300	295	285	280	280	280	285	290	290	295	295
Exports	1	1	1	1	1	1	1	1	1	1	1	5
Total use	311	301	296	286	281	281	281	286	291	291	296	300
Ending stocks	114	118	112	111	105	109	108	112	111	110	114	114
Prices (dollars per bushel):												
Target price	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Loan rate	0.97	0.94	0.94	0.93	0.96	0.96	1.03	1.06	1.08	1.10	1.12	1.14
Farm price	1.25	1.35	1.35	1.35	1.40	1.40	1.45	1.45	1.50	1.55	1.55	1.60
Deficiency payment rate	0.20	0.10	0.10	0.10	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Deficiency payments (million dollars)	14	10	9	8	4	4	0	0	0	0	0	0
Variable costs of production (dollars):												
Per acre	49.34	50.32	51.39	52.63	53.98	55.39	56.87	58.43	60.07	61.78	63.58	65.43
Per bushel	0.86	0.87	0.89	0.90	0.92	0.94	0.96	0.98	1.01	1.03	1.05	1.08
Returns over variable costs (dollars per acre):												
Participant	30.43	31.57	30.91	30.07	29.99	29.00	28.83	27.70	29.48	31.22	29.88	31.53
Nonparticipant	22.16	27.44	26.78	25.94	27.92	28.93	28.83	27.70	29.48	31.22	29.88	31.53
Normal flex acres	22.16	27.44	26.78	25.94	27.92	28.93	28.83	27.70	29.48	31.22	29.88	31.53
Optional flex acres	31.88	32.30	31.64	30.80	30.35	29.36	28.83	27.70	29.48	31.22	29.88	31.53

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 20. Wheat baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	0	0	0	0	0	0	0	0	0	0	0
Participation (percent)	87.0	86	87	87	86	86	85	85	84	82	80	78
Acreage (million acres):												
Idled ARP acres	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0/92,85 acres	5.2	5.2	5.4	5.4	5.4	5.5	5.6	5.6	5.5	5.4	5.2	4.9
CRP acres	10.8	10.8	10.5	10.0	9.5	9.2	8.9	8.9	8.8	8.7	8.7	8.7
Flexed acres 1/	2.3	2.2	2.4	2.4	2.5	2.5	2.5	2.4	2.3	2.2	2.1	2.0
Planted acres	70.5	72.0	71.5	71.6	72.0	72.0	72.3	73.0	73.5	74.0	74.7	75.5
Harvested acres	61.7	62.6	62.2	62.3	62.6	62.6	62.9	63.5	64.0	64.5	65.2	65.9
Yields (bushels per acre):												
Yield/harvested acre	37.6	38.5	38.8	39.1	39.4	39.7	40.0	40.3	40.6	40.9	41.2	41.5
Program yield	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4	34.4
Supply and use (million bushels):												
Beginning stocks	570	518	592	643	661	644	605	567	542	522	506	495
Production	2,320	2,410	2,413	2,436	2,466	2,485	2,516	2,560	2,600	2,640	2,685	2,735
Imports	85	85	100	115	110	110	110	110	110	110	110	110
Supply	2,975	3,013	3,105	3,194	3,237	3,239	3,231	3,237	3,252	3,272	3,301	3,340
Food	885	900	915	930	945	960	975	990	1,005	1,020	1,035	1,050
Seed	97	98	97	98	98	99	99	100	100	101	101	102
Feed and residual	225	225	250	280	275	275	265	255	250	245	245	245
Domestic	1,207	1,221	1,262	1,308	1,318	1,334	1,339	1,345	1,355	1,366	1,381	1,397
Exports	1,250	1,200	1,200	1,225	1,275	1,300	1,325	1,350	1,375	1,400	1,425	1,450
Total use	2,457	2,421	2,462	2,533	2,593	2,634	2,664	2,695	2,730	2,766	2,806	2,847
Ending stocks	518	592	643	661	644	605	567	542	522	506	495	493
Prices (dollars per bushel):												
Target price	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Loan rate	2.58	2.56	2.61	2.61	2.57	2.56	2.56	2.58	2.67	2.75	2.83	2.91
Farm price	3.45	3.20	3.10	3.10	3.20	3.30	3.40	3.50	3.60	3.70	3.75	3.80
Deficiency payment rate	0.61	0.80	0.90	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.25	0.20
Deficiency payments (million dollars)	1,118	1,428	1,649	1,658	1,471	1,283	1,099	910	718	524	424	329
Variable costs of production (dollars):												
Per acre	55.12	56.12	57.23	58.56	59.98	61.49	63.08	64.76	66.50	68.33	70.25	72.21
Per bushel	1.47	1.46	1.47	1.50	1.52	1.55	1.58	1.61	1.64	1.67	1.71	1.74
Returns over variable costs (dollars per acre):												
Participant	92.43	90.47	89.37	88.98	89.49	89.99	90.47	90.91	91.35	91.77	91.56	91.33
Nonparticipant	74.60	67.08	63.05	62.66	63.10	69.52	72.92	76.29	79.66	83.00	84.25	85.49
Normal flex acres	74.60	67.08	63.05	62.66	63.10	69.52	72.92	76.29	79.66	83.00	84.25	85.49
Optional flex acres	95.58	94.60	94.01	93.62	93.62	93.60	93.88	93.49	93.42	93.32	92.85	92.37

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 21. Rice baseline, rough basis

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	0	5	0	0	0	0	0	0	0	0	0	0
Participation (percent)	95.3	95	95	95	95	95	95	95	95	95	95	95
Acreage (thousand acres):												
Idled ARP acres	0	200	0	0	0	0	0	0	0	0	0	0
50/92,85 acres	286	475	466	467	468	469	470	471	472	473	475	476
CRP acres	13	13	13	13	13	13	13	13	13	13	13	13
Flexed acres 1/	193	286	286	287	287	288	289	290	290	291	292	292
Planted	3,345	2,999	3,178	3,186	3,193	3,200	3,208	3,215	3,222	3,230	3,238	3,244
Harvested	3,300	2,939	3,115	3,122	3,129	3,136	3,144	3,151	3,158	3,165	3,173	3,180
Yields (lbs per acre):												
Yield/harvested acre	5,954	5,720	5,757	5,761	5,766	5,770	5,774	5,778	5,783	5,787	5,791	5,796
Program yield	4,862	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850	4,850
Supply and use (million cwt.):												
Beginning stocks	28.0	43.5	32.8	32.4	32.5	32.1	32.4	33.3	34.0	34.6	34.2	34.0
Production	196.5	168.1	179.3	179.9	180.4	181.0	181.5	182.1	182.6	183.2	183.7	184.3
Imports	8.0	8.8	9.7	10.6	11.7	12.9	14.2	15.6	17.2	18.9	20.8	22.9
Total supply	230.5	220.3	221.8	223.0	224.6	226.0	228.1	231.0	233.8	236.7	238.7	241.2
Domestic use	93.0	95.6	98.5	101.4	104.5	107.6	110.8	114.0	117.2	120.5	123.7	127.0
Exports	85.0	83.0	82.0	80.0	79.0	77.0	75.0	74.0	73.0	73.0	72.0	71.0
Residual	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Total use	187.0	187.6	189.5	190.4	192.5	193.6	194.8	197.0	199.2	202.5	204.7	207.0
Ending stocks (million cwt.)	43.5	32.8	32.4	32.5	32.1	32.4	33.3	34.0	34.6	34.2	34.0	34.2
Prices (dollars per cwt.):												
Target price	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71	10.71
Loan rate	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.65	6.90	7.12
Average market price	6.25	6.10	6.45	6.77	7.11	7.47	7.84	8.15	8.38	8.62	8.85	9.10
Deficiency payment rate	3.89	4.21	4.21	4.13	3.80	3.44	3.09	2.74	2.46	2.23	1.99	1.76
World price	5.50	5.20	5.41	5.62	5.85	6.08	6.33	6.52	6.72	6.92	7.12	7.34
Deficiency payments (million dollars)	582	598	666	655	604	560	494	440	398	359	322	284
Variable costs of production (dollars):												
Per acre	323.99	328.69	335.66	343.98	353.15	362.84	373.13	383.96	395.25	407.05	419.43	432.11
Per cwt.	5.44	5.75	5.83	5.97	6.13	6.29	6.46	6.64	6.84	7.03	7.24	7.46
Returns over variable costs (dollars per acre):												
Participant	278.56	252.97	271.99	286.90	250.87	234.25	216.63	200.00	190.94	183.74	175.32	167.69
Nonparticipant	48.13	20.24	35.68	46.06	56.79	68.18	79.57	86.99	89.34	91.79	93.09	95.29
Normal flex acres	117.79	94.60	98.43	98.76	94.26	92.41	89.39	86.99	89.34	91.79	93.09	95.29
Optional flex acres	308.93	298.79	302.61	296.93	278.51	259.28	239.08	219.94	208.87	199.98	189.83	180.47

1/ Net acres flexed to other crops.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 22. Upland cotton baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Program variables:												
ARP (percent)	11	0	12.5	10	7.5	7.5	7.5	12.5	10	10	10	12.5
Participation (percent)	89.0	93	87	87	87	86	85	82	82	81	80	78
Acreage (million acres):												
Idled ARP acres	1.5	0.0	1.7	1.4	1.1	1.1	1.0	1.7	1.4	1.4	1.3	1.7
50/92,85 acres	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4
CRP acres	1.4	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2
Flexed acres 1/	-0.3	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Total planted acres	13.9	15.0	13.4	13.8	14.0	14.0	14.1	13.8	14.1	14.1	14.2	14.2
Total harvested acres	13.3	14.0	12.5	12.8	13.0	13.0	13.1	12.8	13.1	13.1	13.2	13.2
Yields (pounds per acre):												
Yield/harvested acre	695	665	680	690	700	710	720	730	740	750	760	770
Program yield	606	604	604	604	604	604	604	604	604	604	604	604
Supply and use (thousand bales):												
Beginning stocks	3,303	3,858	5,360	5,300	5,300	5,500	5,600	5,900	5,700	5,850	5,950	6,100
Imports	5	5	5	5	5	5	5	5	5	5	5	5
Production	19,223	19,400	17,700	18,400	19,000	19,200	19,700	19,500	20,200	20,500	20,900	21,200
Supply	22,531	23,263	23,065	23,705	24,305	24,705	25,305	25,405	25,905	26,355	26,855	27,305
Domestic use	10,925	11,300	11,600	11,900	12,100	12,300	12,500	12,650	12,800	12,900	13,000	13,100
Exports	7,850	6,700	6,300	6,600	6,800	6,900	7,000	7,150	7,350	7,600	7,850	8,100
Total use	18,775	18,000	17,900	18,500	18,900	19,200	19,500	19,800	20,150	20,500	20,850	21,200
Ending stocks	3,858	5,360	5,300	5,300	5,500	5,600	5,900	5,700	5,850	5,950	6,100	6,200
Prices (dollars per pound): 2/												
Target price	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729	0.729
Loan rate	0.5000	0.5192	0.5299	0.5174	0.5425	0.5453	0.5468	0.5440	0.5440	0.5553	0.5667	0.5780
Deficiency payments (million dollars)	365	522	673	770	719	667	579	448	410	354	278	189
Variable costs of production (dollars):												
Per acre	281.85	283.83	290.82	298.56	306.98	315.92	325.43	335.45	345.92	356.88	368.38	380.20
Per pound	0.41	0.43	0.43	0.43	0.44	0.44	0.45	0.46	0.47	0.48	0.48	0.49
Returns over variable costs (dollars per acre):												
Participant	240.96	221.83	190.06	207.22	214.32	214.73	219.14	202.75	209.41	208.84	210.04	203.34
Nonparticipant	241.73	182.81	160.81	166.62	171.94	177.52	189.95	194.97	199.77	204.30	212.31	220.30
Normal flex acres	241.73	182.81	160.81	166.62	171.94	177.52	189.95	194.97	199.77	204.30	212.31	220.30
Optional flex acres	280.81	228.72	233.90	246.95	246.23	245.77	249.14	245.11	243.87	242.35	242.51	241.44

1/ Net acres flexed to other crops; negative indicates net flex to cotton.
2/ USDA is prohibited from publishing cotton price projections.
Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 23. Soybean and products baseline

Item	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
SOYBEANS												
Acreage (million acres)												
Planted	61.9	59.5	59.3	60.3	60.3	60.5	60.8	60.8	61.0	61.5	62.0	62.5
Harvested	60.8	58.4	58.2	59.3	59.2	59.4	59.7	59.7	59.9	60.4	60.9	61.4
Yield/harvested acre (bushels)	41.5	36.5	36.9	37.3	37.7	38.1	38.4	38.8	39.2	39.6	40.0	40.3
Supply (million bushels)												
Beginning stocks, Sept 1	209	480	375	280	255	240	235	235	235	230	230	235
Production	2,523	2,130	2,145	2,210	2,230	2,260	2,290	2,315	2,350	2,390	2,435	2,475
Imports	5	5	5	5	5	5	5	5	5	5	5	5
Total supply	2,737	2,615	2,525	2,495	2,490	2,505	2,530	2,555	2,590	2,625	2,670	2,715
Disposition (million bushels)												
Crush	1,355	1,360	1,370	1,380	1,390	1,400	1,415	1,430	1,445	1,460	1,480	1,500
Seed, feed, and residual	117	110	115	115	115	115	115	115	120	120	120	120
Exports	785	770	760	745	745	755	765	775	795	815	835	855
Total disposition	2,257	2,240	2,245	2,240	2,250	2,270	2,295	2,320	2,360	2,395	2,435	2,475
Carryover stocks, August 31												
Total ending stocks	480	375	280	255	240	235	235	235	230	230	235	240
Prices (dollars per bushel)												
Loan rate	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
Effective marketing loan	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
Soybean price, farm	5.30	5.65	5.70	6.00	6.25	6.35	6.45	6.55	6.65	6.80	6.90	6.95
Variable costs of production (dollars):												
Per acre	76.31	77.53	79.01	80.80	82.76	84.83	87.02	89.35	91.76	94.28	96.95	99.67
Per bushel	1.84	2.12	2.14	2.17	2.20	2.23	2.27	2.30	2.34	2.38	2.42	2.47
Returns over variable costs (dollars per acre):												
Net returns	143.64	128.69	131.32	143.00	152.87	157.10	160.66	164.79	168.92	175.00	179.05	180.42
SOYBEAN OIL (million pounds)												
Beginning stocks, Oct. 1	1,103	1,350	1,515	1,675	1,815	1,930	1,995	2,020	2,000	1,930	1,810	1,700
Production	15,232	15,300	15,445	15,575	15,700	15,825	16,010	16,190	16,365	16,540	16,775	17,010
Imports	15	15	15	15	15	15	15	15	15	15	15	15
Total supply	16,350	16,665	16,975	17,265	17,530	17,770	18,020	18,225	18,380	18,485	18,600	18,725
Domestic disappearance	13,275	13,200	13,425	13,650	13,900	14,150	14,400	14,650	14,900	15,125	15,350	15,575
Exports	1,850	1,800	1,750	1,700	1,625	1,575	1,575	1,575	1,575	1,575	1,575	1,575
Total demand	15,000	15,150	15,300	15,450	15,600	15,775	16,000	16,225	16,450	16,675	16,900	17,125
Ending stocks, Sept. 30	1,350	1,515	1,675	1,815	1,930	1,995	2,020	2,000	1,930	1,810	1,700	1,600
Soybean oil price (dollars/pound)	0.265	0.265	0.263	0.258	0.250	0.245	0.245	0.250	0.255	0.263	0.268	0.273
SOYBEAN MEAL (thousand short tons)												
Beginning stocks, Oct. 1	150	300	250	250	250	250	250	250	250	250	250	250
Production	32,190	32,260	32,480	32,725	32,975	33,275	33,575	33,925	34,325	34,700	35,150	35,600
Imports	60	65	70	75	75	75	75	75	75	100	100	100
Total supply	32,400	32,625	32,800	33,050	33,300	33,600	33,900	34,250	34,650	35,050	35,500	35,950
Domestic disappearance	26,200	26,500	26,750	27,000	27,250	27,500	27,750	28,000	28,250	28,500	28,750	29,000
Exports	5,900	5,875	5,800	5,800	5,800	5,850	5,900	6,000	6,150	6,300	6,500	6,700
Total demand	32,100	32,375	32,550	32,800	33,050	33,350	33,650	34,000	34,400	34,800	35,250	35,700
Ending stocks, Sept. 30	300	250	250	250	250	250	250	250	250	250	250	250
Soybean meal price (dollars/ton)	155.0	165.0	166.5	180.0	193.5	200.0	203.5	205.0	207.5	210.0	212.0	212.5
Crushing yields (pounds per bushel)												
Soybean oil	11.24	11.25	11.28	11.29	11.30	11.31	11.32	11.32	11.33	11.33	11.34	11.34
Soybean meal	47.50	47.42	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Crush margin (dollars/bushel)	1.36	1.24	1.21	1.18	1.17	1.17	1.16	1.15	1.17	1.16	1.17	1.19

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 24. Fruit baseline

Item	Unit	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Production:													
Citrus	1,000 MT	13,153	14,314	14,513	14,748	14,983	15,219	15,450	15,683	15,916	16,150	16,385	16,620
Noncitrus	1,000 MT	15,128	15,361	15,536	15,758	15,983	16,210	16,431	16,655	16,881	17,110	17,340	17,573
Nuts	1,000 MT	457	464	470	477	484	491	498	505	512	518	525	532
Total	1,000 MT	28,739	30,139	30,520	30,983	31,450	31,920	32,380	32,843	33,309	33,778	34,251	34,726
Imports:													
Fresh 1/	$ Million	1,939	2,037	2,122	2,209	2,298	2,389	2,483	2,579	2,677	2,778	2,881	2,987
Processed	$ Million	513	532	548	564	580	597	615	633	651	670	690	710
Other 2/	$ Million	2,210	2,381	2,310	2,385	2,462	2,542	2,624	2,709	2,795	2,885	2,977	3,071
Total	$ Million	4,661	4,950	4,980	5,158	5,341	5,529	5,722	5,920	6,124	6,333	6,547	6,767
Exports:													
Fresh	$ Million	1,854	1,971	1,968	2,088	2,211	2,338	2,470	2,606	2,746	2,891	3,041	3,195
Processed	$ Million	650	665	684	704	724	746	767	790	813	837	861	886
Other 2/	$ Million	1,864	1,824	1,900	1,978	2,059	2,142	2,228	2,316	2,407	2,500	2,597	2,696
Total	$ Million	4,369	4,460	4,552	4,770	4,994	5,226	5,465	5,711	5,966	6,228	6,498	6,777
Prices:													
Grower													
Fruits	1977=100	154	157	161	164	168	171	175	178	182	186	189	193
Retail													
Fresh	1982-84=100	192	201	211	220	230	239	249	258	268	277	287	296
Processed	1982-84=100	133	136	139	142	145	148	151	154	157	159	162	165

1/ Includes bananas, excludes melons. 2/ Includes juices, wine, nuts, and preparations.

Table 25. Vegetable baseline

Item	Unit	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Production:													
Vegetables													
Fresh	1,000 MT	16,556	17,554	17,826	18,141	18,459	18,778	19,093	19,411	19,730	20,052	20,376	20,702
Processing	1,000 MT	15,422	13,608	13,783	13,988	14,193	14,399	14,601	14,803	15,006	15,209	15,413	15,618
Potatoes 1/	1,000 MT	21,320	21,546	21,522	21,830	22,141	22,456	22,766	23,080	23,396	23,716	24,038	24,363
Dry beans 2/	1,000 MT	1,520	1,361	1,393	1,427	1,461	1,495	1,529	1,563	1,597	1,632	1,667	1,701
Mushrooms	1,000 MT	363	350	355	361	367	373	379	385	392	398	404	410
Total	1,000 MT	55,181	54,418	54,879	55,747	56,621	57,501	58,369	59,242	60,122	61,007	61,898	62,794
Imports:													
Vegetables													
Fresh 3/	$ Million	1,227	1,184	1,241	1,299	1,360	1,422	1,486	1,553	1,621	1,692	1,764	1,839
Processed	$ Million	577	607	646	687	729	773	817	864	912	961	1,012	1,065
Potatoes	$ Million	134	147	160	174	189	203	219	235	251	268	286	304
Dry beans 2/	$ Million	28	30	31	33	35	36	38	40	41	43	45	47
Other 4/	$ Million	297	406	420	435	451	468	486	504	524	545	567	590
Total	$ Million	2,263	2,374	2,499	2,629	2,763	2,902	3,046	3,195	3,349	3,509	3,674	3,844
Exports:													
Vegetables													
Fresh 3/	$ Million	916	966	1,030	1,097	1,165	1,236	1,310	1,385	1,464	1,545	1,628	1,714
Processed	$ Million	534	560	612	665	720	778	837	898	962	1,027	1,095	1,165
Potatoes	$ Million	462	500	539	580	622	665	710	756	804	853	904	957
Dry beans 2/	$ Million	235	238	252	267	282	297	313	330	347	365	383	402
Other 4/	$ Million	292	344	352	360	368	377	386	395	404	413	423	432
Total	$ Million	2,438	2,608	2,785	2,968	3,158	3,353	3,555	3,764	3,980	4,203	4,433	4,671
Prices:													
Grower:													
Vegetables	1977=100	145	162	165	167	170	172	175	177	180	183	185	188
Potatoes	Dollars/MT	126	128	130	131	133	135	137	138	140	142	144	146
Dry beans	Dollars/MT	483	487	490	494	497	501	504	508	511	515	519	522
Retail:													
Vegetables													
Fresh	1982-84=100	170	180	191	198	206	213	220	228	235	243	250	257
Processed	1982-84=100	137	135	147	151	153	155	157	159	165	170	173	177

1/ Includes sweetpotatoes. 2/ Includes dry peas and lentils. 3/ Includes melons.
4/ Includes mushrooms, seeds, dehydrated vegetables.

Table 26. U.S. sugar baseline, fiscal years 1/

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beets-planted	1,000 Acres	1,438	1,457	1,485	1,515	1,535	1,555	1,575	1,595	1,615	1,635	1,655	1,675
Harvested	1,000 Acres	1,409	1,447	1,460	1,490	1,510	1,530	1,550	1,570	1,590	1,610	1,630	1,650
Yield	Tons/Acre	18.6	21.9	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
Production	Mil. S. Tons	26.2	31.7	29.7	30.3	30.7	31.1	31.5	31.9	32.3	32.7	33.1	33.5
Cane-harvested	1,000 Acres	927	905	908	894	891	888	888	888	888	888	888	888
Yield	Tons/Acre	32.7	33.0	32.2	31.6	31.8	31.9	32.0	32.1	32.2	32.3	32.4	32.5
Production	Mil. S. Tons	30.3	29.9	29.2	28.3	28.3	28.3	28.4	28.5	28.6	28.7	28.8	28.9
Supply:													
Beginning stocks	1,000 S. Tons	1,691	1,333	1,634	1,344	1,378	1,397	1,418	1,438	1,457	1,477	1,497	1,517
Production	1,000 S. Tons	7,676	8,190	7,920	7,990	8,110	8,230	8,350	8,490	8,600	8,740	8,860	8,980
Beet sugar 2/	1,000 S. Tons	4,090	4,700	4,570	4,730	4,820	4,920	5,020	5,120	5,220	5,320	5,420	5,520
Cane sugar 3/	1,000 S. Tons	3,586	3,490	3,350	3,260	3,290	3,310	3,330	3,370	3,380	3,420	3,440	3,460
Total imports	1,000 S. Tons	1,769	2,026	1,850	2,255	2,259	2,290	2,320	2,319	2,360	2,370	2,400	2,430
For consumption 4/	1,000 S. Tons	1,235	1,411	1,250	1,655	1,659	1,690	1,720	1,719	1,760	1,770	1,800	1,830
Other imports 5/	1,000 S. Tons	534	615	600	600	600	600	600	600	600	600	600	600
Total supply	1,000 S. Tons	11,136	11,549	11,404	11,588	11,747	11,918	12,088	12,247	12,417	12,587	12,757	12,928
Use:													
Domestic disappearance	1,000 S. Tons	9,331	9,450	9,600	9,750	9,890	10,040	10,190	10,330	10,480	10,630	10,780	10,930
Exports	1,000 S. Tons	454	465	460	460	460	460	460	460	460	460	460	460
Surplus exports 6/	1,000 S. Tons	0	25	5	0	0	0	0	0	0	0	0	0
Miscellaneous 7/	1,000 S. Tons	18	0	0	0	0	0	0	0	0	0	0	0
Total use	1,000 S. Tons	9,803	9,915	10,060	10,210	10,350	10,500	10,650	10,790	10,940	11,090	11,240	11,390
Ending stocks	1,000 S. Tons	1,333	1,634	1,344	1,378	1,397	1,418	1,438	1,457	1,477	1,497	1,517	1,538
Available stocks 8/	1,000 S. Tons	1,333	1,314	1,339	1,378	1,397	1,418	1,438	1,457	1,477	1,497	1,517	1,538
Blocked stocks 9/	1,000 S. Tons	0	320	5	0	0	0	0	0	0	0	0	0
Excess domestic supply 10/	1,000 S. Tons	0	345	10	0	0	0	0	0	0	0	0	0
Stocks/use ratio 11/	Percent	13.6	16.5	13.4	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
Raw sugar prices:													
World (No. 11)	Cents/lb.	11.25	13.50	10.40	10.70	11.10	11.40	11.80	12.10	12.50	12.80	13.20	13.50
N. Y.(No. 14) 12/	Cents/lb.	22.05	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10	22.10
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.	23.62	23.43	23.42	23.42	23.42	23.42	23.42	23.42	23.42	23.42	23.42	23.42
Grower prices:													
Sugarbeets	Dol./ton	39.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00	42.00
Sugarcane	Dol./ton	28.30	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50	30.50

NA = Not applicable.

1/ Fiscal year is October 1 through September 30. The 1993 crop corresponds with fiscal 1994, for example. Historic data for area planted, harvested, yield, production, and prices of sugarbeets and sugarcane are on the NASS crop year basis; all other data are on a fiscal year basis. 2/ Beet sugar yield, raw value, per ton of beets (not including sugar from molasses) rises on trend, at 0.1 percentage points each year. Desugaring of molasses adds a net 235,000 tons in 1995, 350,000 tons in 1997, and stays at about 7 percent of beet sugar output through the projection period. 3/ Raw cane sugar yield per ton of cane rises 0.06 percentage points per year as new processing technology is adopted. 4/ Quota imports at the low rate of duty, sugar from Canada, and very small amounts of high duty imports. Projected imports do not necessarily reflect the determination by the Secretary which will be made pursuant to Additional U.S. Note 3 of Chap. 17 of the HTSUS. 5/ For re export and for polyhydric alcohol. 6/ Exports of domestic sugar which cannot be sold domestically due to allotments. In projections, assumed to be beet sugar. Receives world price. 7/ Includes CCC disposals, refining loss and miscellaneous non food use, and a statistical adjustment to account for invisible stock change. 8/ Stocks which are available to the market (within allotment levels). 9/ Sugar in excess of maximum allotment, assumed to be marketed in the next year. 10/ Domestic production in excess of allotments. 11/ Includes blocked stocks. 12/ Through 1994, fiscal year average of the nearest futures, No. 14 contract, New York Coffee Sugar and Cocoa Exchange; for 1995 forwards, projected.

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 27. Flue-cured tobacco baseline

Item	Unit	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Acreage, yield, and production:													
Planted area	1,000 acres	361	424	400	360	333	333	325	325	325	320	320	315
Harvested area	1,000 acres	361	424	400	360	333	333	325	325	325	320	320	315
Yield	lbs./ac.	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Production	Mil. lbs.	807	955	900	810	750	750	731	731	731	720	720	709
Supply:													
Beginning stocks	Mil. lbs.	1,298	1,285	1,385	1,415	1,375	1,290	1,220	1,146	1,087	1,043	1,003	978
Marketings	Mil. lbs.	807	955	895	810	750	750	731	731	731	720	720	709
Total 1/	Mil. lbs.	2,105	2,240	2,280	2,225	2,125	2,040	1,951	1,877	1,818	1,763	1,723	1,687
Use:													
Domestic	Mil. lbs.	485	530	550	545	540	535	530	525	520	515	510	505
Export	Mil. lbs.	335	325	315	305	295	285	275	265	255	245	235	225
Total 1/	Mil. lbs.	820	855	865	850	835	820	805	790	775	760	745	730
Ending stocks:													
Total	Mil. lbs.	1,285	1,385	1,415	1,375	1,290	1,220	1,146	1,087	1,043	1,003	978	957
Price:													
Average to growers	dol./Cwt	170.3	173.0	176.0	179.0	182.0	185.0	188.0	191.0	194.0	196.0	200.0	203.0
Support	dol./Cwt	158.0	160.0	163.0	167.0	170.0	173.0	176.0	179.0	182.4	184.0	186.0	188.0

1/ Domestic tobacco only.

Table 28. Burley tobacco baseline

Item	Unit	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Acreage, yield, and production:													
Planted area	1,000 acres	268	310	314	310	298	295	285	275	265	260	255	250
Harvested area	1,000 acres	268	310	314	310	298	295	285	275	265	260	255	250
Yield	lbs./ac.	2,371	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Production	Mil. lbs.	636	650	660	650	625	620	599	578	557	546	536	525
Supply:													
Beginning stocks	Mil. lbs.	1,014	999	1,004	1,009	1,014	1,009	1,009	1,003	986	963	939	920
Marketings	Mil. lbs.	580	650	660	650	625	620	599	578	557	546	536	525
Total 1/	Mil. lbs.	1,594	1,649	1,664	1,659	1,639	1,629	1,608	1,581	1,543	1,509	1,475	1,445
Use:													
Domestic	Mil. lbs.	450	500	515	505	495	485	475	465	455	445	435	425
Export	Mil. lbs.	145	145	140	140	135	135	130	130	125	125	120	120
Total 1/	Mil. lbs.	595	645	655	645	630	620	605	595	580	570	555	545
Ending stocks:													
Total	Mil. lbs.	999	1,004	1,009	1,014	1,009	1,009	1,003	986	963	939	920	900
Price:													
Average to growers	dol./Cwt	184.0	187.0	191.0	195.0	199.0	203.0	206.0	209.0	211.0	213.0	215.0	217.0
Support	dol./Cwt	171.0	173.0	176.0	180.0	184.0	188.0	192.0	196.0	198.0	201.0	203.0	206.0

1/ Domestic tobacco only.

Livestock

Moderate feed prices and inflation, demand strength reflected in slow but steady growth in real disposable income, and ample forage supplies result in sufficient producer returns to provide the impetus for increasing red meat and poultry supplies. Pork production continues to follow poultry's example of vertical integration.

Decreases in real prices of meats, combined with increases in real disposable income, allow consumers to purchase more total meat with a smaller proportion of disposable income, continuing a long-term trend. Consumption gains exceed population growth with per-capita meat consumption reaching 198 pounds (boneless weight) by the year 2005. The meats will vie for market share through product development, advertising, and promotion of meat's place in a healthful diet. Poultry gains a larger proportion of total meat consumption and total meat expenditures, reflecting its lower production costs and prices.

Total egg production expands slightly in the baseline in part to support larger broiler production. Per-capita consumption of shell eggs continues to decline, but total egg use per person rises later in the baseline with growing use in processed foods. Real egg prices continue to fall.

Dairy productivity gains continue into the next decade, pushing milk output per cow higher and real cost lower. Milk production grows despite slowly declining cow numbers throughout the period. Real milk prices fall.

Beef

Low returns to the cow-calf sector discourage herd expansion until the turn of the century. Profit incentives above cash costs per cow increase near 2000, but returns may not be sufficient to encourage large expansion. Cattle herds will likely remain steady for most of the baseline near 105 million head. Shifts toward a breeding herd of larger, mature-size cattle and heavier slaughter weights partially offset the need for expanding cattle inventories to previous levels.

Beef production increases over the baseline period but at a lower rate than population growth. Coupled with larger exports and declining imports, per-capita beef consumption drops about 3 pounds retail weight by 2005.

The beef production mix continues to shift toward a larger proportion of fed beef. Nonfed steer and heifer and calf slaughter remains at relatively low levels as a larger proportion of the herd is placed on feed.

Feeder cattle remain on grass longer and will be marketed at heavier weights. Cattle will remain in feedlots for 120 to 140 days to Select or Choice grade, with dressed slaughter weights growing slowly over the baseline period. Heavier placement weights coupled with less finish required to reach Choice grade will hold down feed grain use and feed fed per pound of fed beef produced.

Conservative use of forage in the cattle sector and a shift toward cow-calf-yearling operations will allow flexibility to market feeder cattle early and thus maintain the cow herd in the event of poor forage conditions.

Adequate land resources remain available to the cattle and crop sectors into the next century. In addition, agricultural legislation further expands the forage base by allowing partial-year grazing and haying on conserving use acreage which must be planted to soil conserving cover crops. Although over 30 million acres of land remains in the CRP, haying on CRP acreage was allowed under restricted conditions during the 1988 drought, and haying and grazing was allowed in affected areas in 1989 and again in flood-affected areas in 1993.

Veal production is expected to fall through 2005. A larger share of veal production comes from higher valued formula-fed calves marketed at heavier weights. Declining dairy cow numbers reduce the supply of dairy calves. High stocker and feeder cattle prices encourage movement of these dairy calves into feedlot channels rather than their slaughter as young calves.

Adjustments in world beef trade will continue as market access is opened under the recent GATT agreement. The United States is expected to remain the primary source of high quality fed beef for export. Exports of high quality steaks and roasts by the United States continue to increase, primarily to Pacific Rim nations. Australia and perhaps New Zealand will also increase exports to Pacific Rim nations, although their beef continues to be lower quality, grassfed beef with limited amounts of fed beef.

U.S. beef imports show little growth in the baseline. Most processing beef is used in higher valued hamburger as large supplies of low-priced processing quality poultry and pork are used in lower valued manufactured products.

Pork

The pork sector is expected to be transformed into a vertically integrated industry, following the example of the poultry industry. Larger, more efficient pork producers will market a greater percentage of the hogs over the next 10 years. This will result in lower costs and higher production.

Pork production grows slowly from 18.4 billion pounds in 1995 to 19.8 billion pounds by 2005, with a small cyclical downturn in 1998 and 1999 as some of the smaller producers are forced to leave the industry. Moderately increasing feed grain prices in the baseline remove large cyclical movements from hog inventories and production.

Per-capita pork consumption (retail basis) is expected to fall to 52 pounds a year from a cyclical peak of 55.4 pounds per person in 1996. Nominal hog prices show some cyclical declines over the next few years, but then rise through 2005.

Pork imports are expected to range from 500 to 650 million pounds (on a carcass-weight basis). Yearly variations will depend upon major foreign suppliers such as Canada and Denmark, as well as exchange-rate fluctuations. Pork exports are expected to rise, with the United States becoming a net exporter as competitors such as Taiwan limit their production growth.

Poultry and Eggs

Poultry production is expected to continue to expand with broiler meats gaining an increasing share of total meat consumption. Poultry meat is less expensive than other meats so consumers can purchase more poultry meat per dollar. Poultry firms continue aggressive market development and promotion of poultry's image of providing lean, convenient products. Production gains for turkeys reflect projected growth in the further-processed market and exports.

Poultry production increases are expected to slow from rates of recent years as broiler producers respond to more moderate net returns. Poultry meat prices are expected to decline in real terms for most baseline years. Lower real feed costs allow poultry producers to maintain profitability as they expand production.

The broiler and turkey industries have kept the cost of production from increasing at the full rate of inflation. These industries use technological advancement and improved production management practices, including taking advantage of economies of size through increasing vertical integration. While some amount of technological improvement and continued vertical integration is expected to occur during the baseline, it is not anticipated to affect production costs as significantly as in the past 10 years.

Continued sharp competition in the world poultry meat market is expected to hold U.S. poultry exports to moderate gains. Sizeable increases are expected in exports of broiler parts as U.S. real prices decline, especially for dark meat. Exports to the FSU are assumed to decline somewhat from the high levels of 1994.

Table egg producers are expected to expand production slowly through the baseline in response to low industry net returns. A larger expansion in total U.S. egg production over the forecast period reflects increased broiler hatching egg production to accommodate broiler sector expansion.

Shell egg consumption per person is expected to continue a long-term declining trend, falling 1 to 3 eggs a year. Changing demographics will contribute to this decline as people now under age 35 and who consume fewer eggs become older and a larger part of the population. Other factors affecting egg demand include concerns about dietary cholesterol and salmonella enteritidis.

Per-capita consumption of total eggs is expected to decline more slowly than shell egg consumption and start increasing late in the baseline. Processed egg products are an increasing part of the egg market as ingredients in many prepared foods. As consumers opt for more

convenience foods, consumption of egg products will continue to increase, as negative egg attributes are less noticeable in processed products.

Wholesale egg prices are expected to trend upward, with increases less than the inflation rate. A competitive market with little product differentiation will result in supplies that keep prices near the cost of production.

U.S. egg exports are expected to be fairly constant over the baseline as many countries will likely continue to experience surpluses of eggs. World import demand will remain relatively static as domestic production will generally meet increased domestic demands in most countries.

Dairy

Milk cow numbers are expected to decline slowly, continuing a long-term trend. Nonetheless, milk production is projected to grow throughout the baseline period. The productivity gains and structural changes that lowered costs and caused the supply shifts of the 1980s are expected to continue. Efficiency gains in milk production are accentuated by the adoption of bST. By 2005, bST is assumed to be used by about three-fifths of the dairy herd.

Use of bST accelerates increases in milk per cow through 2005. However, because milk-feed price ratios are projected to be less than favorable, growth in milk per cow does not achieve the very high rates that could be attained with bST adoption and more favorable ratios.

Declining real milk prices through the baseline projection place considerable pressure on farms unable to lower costs enough to remain competitive. Expansion of larger lower-cost producers will continue as well as the growth of western dairy areas.

Real price declines, income growth, and population increases will boost commercial use.

The dairy price support is adjusted based on projected levels of net Government removals. Support adjustment triggers have been at 3.5 and 5.0 billion pounds, milk-equivalent, total-solids basis, but rise to 4.5 and 6.0 billion pounds to reflect changes in imports under the Uruguay Round GATT agreement. Dairy support remains at $10.10 per hundredweight through 1996/97 in the baseline, but then increases to $11.35 by 2005, increasing by $0.25 per hundredweight in years when the level of projected removals would be below the adjusted lower trigger without the increase in support.

Table 29. Per-capita meat consumption, retail and boneless weight

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
						Pounds						
Retail weight												
Total beef	67.5	67.6	67.3	67.8	67.4	67.0	66.6	65.8	65.2	64.9	64.5	64.3
Total veal	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7
Total pork	53.2	55.2	55.4	55.2	54.4	53.6	53.0	52.5	52.4	52.4	52.3	52.1
Lamb & mutton	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Total red meat	122.9	124.9	124.7	125.0	123.7	122.5	121.5	120.1	119.4	119.0	118.6	118.2
Broilers	70.1	73.3	76.8	78.8	80.6	82.4	84.2	86.1	88.2	90.2	92.1	94.1
Other chicken	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Turkeys	18.1	18.7	18.0	18.1	18.1	18.2	18.2	18.3	18.5	18.7	18.9	19.1
Total poultry	89.9	93.6	96.4	98.4	100.3	102.1	104.0	106.1	108.3	110.4	112.6	114.7
Red meat and poultry	212.8	218.5	221.1	223.5	224.1	224.6	225.5	226.2	227.6	229.5	231.2	232.9
Boneless weight												
Total beef	64.6	64.7	64.4	64.9	64.5	64.1	63.8	63.0	62.4	62.1	61.8	61.6
Total veal	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
Total pork	46.0	47.6	47.8	47.7	46.9	46.3	45.7	45.3	45.2	45.2	45.2	45.0
Lamb & mutton	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.8
Total red meat	112.3	114.1	113.9	114.2	113.0	111.9	111.0	109.8	109.1	108.7	108.4	108.0
Broilers	55.1	57.5	60.3	61.8	63.3	64.7	66.1	67.6	69.2	70.8	72.3	73.8
Other chicken	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Turkeys	14.3	14.8	14.2	14.3	14.3	14.4	14.4	14.5	14.6	14.7	14.9	15.1
Total poultry	70.5	73.4	75.6	77.2	78.7	80.1	81.6	83.2	84.9	86.6	88.3	90.0
Red meat and poultry	182.8	187.5	189.5	191.4	191.8	192.0	192.6	193.0	194.0	195.4	196.7	198.0

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 30. Consumer expenditures for meats

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beef, dollars per person	190.97	190.01	193.18	197.80	203.23	211.75	218.99	227.86	234.30	240.68	246.94	253.39
Percent of income	1.01	0.95	0.92	0.89	0.86	0.85	0.83	0.81	0.79	0.77	0.74	0.71
Percent of meat expenditures	50.61	50.19	50.90	51.05	51.00	51.04	51.03	50.92	50.77	50.70	50.61	50.54
Pork, dollars per person	105.41	105.34	104.43	105.51	107.58	110.63	113.08	116.82	119.48	121.62	123.77	125.75
Percent of income	0.56	0.52	0.50	0.47	0.46	0.44	0.43	0.42	0.40	0.39	0.37	0.35
Percent of meat expenditures	27.93	27.82	27.52	27.23	27.00	26.67	26.35	26.10	25.89	25.62	25.36	25.08
Broilers, dollars per person	62.92	65.10	64.87	67.17	70.60	75.08	79.29	84.57	89.07	93.37	97.83	102.41
Percent of income	0.33	0.32	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.29	0.29
Percent of meat expenditures	16.67	17.19	17.09	17.34	17.72	18.10	18.48	18.90	19.30	19.67	20.05	20.43
Turkeys, dollars per person	18.05	18.17	17.03	16.98	17.05	17.43	17.78	18.27	18.66	19.01	19.43	19.83
Percent of income	0.10	0.09	0.08	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06
Percent of meat expenditures	4.78	4.80	4.49	4.38	4.28	4.20	4.14	4.08	4.04	4.01	3.98	3.95
Total meats, dollars per person	377.35	378.62	379.50	387.46	398.46	414.90	429.14	447.51	461.52	474.68	487.96	501.38
Percent of income	1.99	1.88	1.80	1.74	1.69	1.66	1.62	1.60	1.56	1.51	1.46	1.41

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 31. Beef baseline

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beginning stocks	mil. lbs.	529	550	450	400	400	400	400	400	400	400	400	400
Commercial production	mil. lbs.	24,251	24,475	24,807	25,342	25,465	25,524	25,709	25,709	25,755	25,922	26,072	26,289
Farm production	mil. lbs.	107	107	107	107	107	107	107	107	107	107	107	107
Total production	mil. lbs.	24,358	24,582	24,914	25,449	25,572	25,631	25,816	25,816	25,862	26,029	26,179	26,396
Imports	mil. lbs.	2,387	2,485	2,405	2,440	2,496	2,574	2,587	2,590	2,596	2,600	2,605	2,610
Total supply	mil. lbs.	27,274	27,617	27,769	28,289	28,468	28,605	28,803	28,806	28,858	29,029	29,184	29,406
Exports	mil. lbs.	1,576	1,715	1,816	1,899	1,978	2,060	2,176	2,290	2,374	2,451	2,532	2,613
Ending stocks	mil. lbs.	550	450	400	400	400	400	400	400	400	400	400	400
Total consumption	mil. lbs.	25,148	25,452	25,553	25,990	26,090	26,145	26,227	26,116	26,084	26,178	26,252	26,393
Per capita, carcass wgt	lbs.	96.4	96.6	96.1	96.8	96.3	95.7	95.2	94.0	93.1	92.7	92.2	91.9
Per capita, retail wgt	lbs.	67.5	67.6	67.3	67.8	67.4	67.0	66.6	65.8	65.2	64.9	64.5	64.3
Prices:													
Beef cattle, farm	dol./cwt	66.31	64.63	65.49	65.58	67.56	70.67	73.51	77.07	79.68	81.88	83.87	85.96
Calves, farm	dol./cwt	86.86	81.00	78.14	77.85	82.09	85.56	89.81	94.97	98.17	100.32	102.29	104.84
Choice steers, Nebraska	dol./cwt	68.81	67.00	67.90	67.98	70.04	73.26	76.20	79.89	82.60	84.88	86.94	89.11
Yearling steers, Okla City	dol./cwt	77.54	73.75	71.15	70.88	74.75	77.90	81.77	86.47	89.38	91.34	93.13	95.45
Retail: Beef and veal	1982-84=100	136.0	135.0	138.0	140.2	144.8	151.9	157.9	166.4	172.7	178.2	183.8	189.2
Costs and returns, cow-calf enterprise:													
Variable expenses	dol./cow	186.97	179.91	182.88	188.39	196.08	204.17	211.28	218.36	225.35	232.64	240.09	247.61
Fixed expenses	dol./cow	105.06	105.61	108.81	113.37	117.73	121.57	125.19	129.13	132.55	136.14	139.68	142.79
Total cash expenses	dol./cow	292.03	285.52	291.69	301.76	313.80	325.73	336.47	347.49	357.90	368.78	379.77	390.41
Returns above cash costs	dol./cow	40.92	41.10	20.17	9.80	14.15	16.43	22.27	32.13	34.81	32.89	30.41	30.18
Cattle inventory	1,000 head	101,749	103,222	104,798	104,225	104,178	104,149	104,252	104,107	104,186	104,501	104,827	105,026
Beef cow inventory	1,000 head	34,766	35,394	35,907	35,850	36,078	36,153	36,247	36,325	36,453	36,677	36,898	37,065

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 32. Pork baseline

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beginning stocks	mil. lbs.	359	410	375	385	385	385	385	385	385	385	385	385
Commercial production	mil. lbs.	17,648	18,425	18,852	19,019	18,970	18,936	18,938	19,012	19,193	19,415	19,620	19,797
Farm production	mil. lbs.	58	58	58	58	58	58	58	58	58	58	58	58
Total production	mil. lbs.	17,706	18,483	18,910	19,077	19,028	18,994	18,996	19,070	19,251	19,473	19,678	19,855
Imports	mil. lbs.	754	730	654	652	613	600	590	581	571	557	547	536
Total supply	mil. lbs.	18,819	19,623	19,939	20,114	20,026	19,979	19,971	20,036	20,207	20,415	20,610	20,776
Exports	mil. lbs.	510	520	576	624	662	716	774	848	907	970	1,030	1,107
Ending stocks	mil. lbs.	410	375	385	385	385	385	385	385	385	385	385	385
Total consumption	mil. lbs.	17,899	18,728	18,978	19,105	18,979	18,878	18,812	18,803	18,915	19,060	19,195	19,284
Per capita, carcass wgt	lbs.	68.6	71.1	71.3	71.2	70.1	69.1	68.3	67.7	67.5	67.5	67.4	67.2
Per capita, retail wgt	lbs.	53.2	55.2	55.4	55.2	54.4	53.6	53.0	52.5	52.4	52.4	52.3	52.1
Prices:													
Hogs, farm	dol./cwt	39.05	34.75	33.42	36.95	38.80	41.04	42.88	45.01	46.02	46.57	47.19	47.96
Iowa, So. Minn. market	dol./cwt	39.67	35.75	34.42	37.95	39.80	42.04	43.88	46.01	47.02	47.57	48.19	48.96
Retail: Pork	1982-84=100	133.9	128.0	126.4	128.1	132.6	138.3	143.1	149.1	152.9	155.7	158.6	161.7
Costs and returns, farrow to finish:													
Variable expenses	dol./cwt	36.04	31.43	33.18	33.47	34.89	36.59	37.27	37.98	38.63	39.28	40.01	40.67
Fixed expenses	dol./cwt	4.46	4.50	4.65	4.86	5.07	5.25	5.40	5.58	5.73	5.88	6.02	6.14
Total cash expenses	dol./cwt	40.50	35.93	37.83	38.34	39.96	41.84	42.67	43.56	44.37	45.17	46.03	46.81
Returns above cash costs	dol./cwt	-0.02	0.90	-2.04	1.12	1.42	1.87	2.95	4.27	4.52	4.29	4.08	4.09
Hog inventory, Dec. 1, previous year	1,000 head	57,938	60,310	61,613	62,123	61,974	61,871	61,877	62,101	62,655	63,333	63,958	64,498

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 33. Young chicken baseline

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beginning stocks	mil. lbs.	358	430	410	410	410	410	410	410	410	410	410	410
Fed. inspected slaughter	mil. lbs.	23,806	25,050	26,306	27,197	28,066	28,939	29,834	30,767	31,732	32,701	33,667	34,631
Production	mil. lbs.	23,627	24,861	26,114	26,998	27,861	28,728	29,616	30,543	31,500	32,462	33,421	34,378
Total supply	mil. lbs.	23,985	25,291	26,524	27,408	28,271	29,138	30,026	30,953	31,910	32,872	33,831	34,788
Exports	mil. lbs.	2,730	2,830	2,870	2,950	3,030	3,120	3,205	3,295	3,390	3,480	3,570	3,660
Ending stocks	mil. lbs.	430	480	410	410	410	410	410	410	410	410	410	410
Consumption	mil. lbs.	20,825	21,981	23,244	24,048	24,831	25,608	26,411	27,248	28,110	28,982	29,851	30,718
Per capita, carcass wgt	lbs.	79.8	83.4	87.4	89.6	91.7	93.7	95.8	98.0	100.3	102.6	104.8	107.0
Per capita, retail wgt	lbs.	70.1	73.3	76.8	78.8	80.6	82.4	84.2	86.1	88.2	90.2	92.1	94.1
Prices:													
Broilers, farm	Cents/lb.	34.8	32.7	29.5	29.7	30.6	32.0	33.2	34.7	35.8	36.7	37.7	38.7
12-city market price	Cents/lb.	55.60	52.30	49.24	49.57	50.99	53.35	55.25	57.86	59.63	61.15	62.81	64.51
Costs and returns:													
Total costs	Cents/lb.	50.14	48.84	44.48	45.73	47.70	49.92	51.62	53.41	55.24	57.13	59.18	61.25
Net returns	Cents/lb.	5.46	5.46	4.76	3.84	3.30	3.43	3.63	4.45	4.39	4.02	3.62	3.25

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 34. Turkey baseline

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beginning stocks	mil. lbs.	249	230	250	260	260	260	260	260	260	260	260	260
Fed. inspected slaughter	mil. lbs.	5,007	5,290	5,130	5,219	5,298	5,367	5,440	5,525	5,626	5,734	5,849	5,970
Production	mil. lbs.	4,955	5,235	5,073	5,162	5,241	5,310	5,383	5,468	5,569	5,677	5,792	5,913
Total supply	mil. lbs.	5,204	5,465	5,323	5,422	5,501	5,570	5,643	5,728	5,829	5,937	6,052	6,173
Exports	mil. lbs.	240	280	285	305	328	345	360	375	380	405	420	435
Ending stocks	mil. lbs.	230	265	260	260	260	260	260	260	260	260	260	260
Consumption	mil. lbs.	4,734	4,920	4,778	4,857	4,913	4,965	5,023	5,093	5,189	5,272	5,372	5,478
Per capita	lbs.	18.1	18.7	18.0	18.1	18.1	18.2	18.2	18.3	18.5	18.7	18.9	19.1
Prices:													
Turkey, farm	Cents/lb.	40.4	37.5	35.5	35.2	35.3	36.0	36.6	37.4	37.8	38.2	38.6	39.0
Hen turkey (whsle) East	Cents/lb.	65.40	60.80	59.25	58.66	58.76	59.95	60.97	62.27	62.96	63.56	64.36	64.94
Retail: Poultry	1982-84=100	141.5	139.0	132.8	133.6	136.6	141.6	145.8	151.4	155.2	158.6	162.3	165.8
Costs and returns:													
Total costs	Cents/lb.	69.04	58.21	57.91	57.23	57.28	58.47	59.32	59.97	59.83	60.27	61.66	61.75
Net returns	Cents/lb.	-3.64	2.59	1.33	1.43	1.48	1.48	1.65	2.31	3.13	3.38	2.70	3.19

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 35. Egg baseline

Item	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Beginning stocks	mil. doz.	11	15	12	12	13	14	15	15	15	15	15	15
Production	mil. doz.	6148	6240	6300	6360	6425	6490	6555	6620	6700	6800	6900	7010
Imports	mil. doz.	4	4	5	5	5	5	5	5	5	5	5	5
Total supply	mil. doz.	6163	6259	6317	6377	6443	6509	6575	6640	6720	6820	6920	7030
Hatching use	mil. doz.	802	835	877	907	936	965	994	1026	1058	1090	1122	1154
Exports	mil. doz.	185	180	165	150	160	165	165	165	165	165	165	165
Ending stocks	mil. doz.	15	12	12	13	14	15	15	15	15	15	15	15
Consumption	mil. doz.	5161	5232	5263	5307	5333	5364	5401	5434	5482	5550	5618	5698
Per capita	Number	237.4	238.3	237.4	237.2	236.3	235.5	235.1	234.7	234.8	235.8	236.7	238.1
Prices:													
Eggs, farm	Cents/doz.	60.2	58.8	58.8	61.0	63.1	65.4	67.8	70.4	73.0	75.7	78.5	81.3
New York, Grade A large	Cents/doz.	67.2	65.8	68.0	70.5	72.9	75.6	78.4	81.4	84.4	87.5	90.7	94.0
Retail: Eggs	1982-84=100	114.3	114.0	111.1	116.2	121.2	126.7	132.3	138.4	144.5	150.8	157.3	164.1
Costs and returns:													
Total costs	Cents/doz.	67.60	64.30	67.75	69.22	71.99	75.37	77.37	79.79	82.17	84.68	87.29	89.94
Net returns	Cents/doz.	-0.40	1.50	0.25	1.28	0.91	0.23	1.03	1.61	2.23	2.82	3.41	4.06

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Table 36. Dairy baseline

Item	Units	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
Milk production	Bil. lbs.	157.2	159.9	160.5	161.0	163.0	165.4	167.4	169.2	171.4	173.7	175.9	178.2
Commercial use	Bil. lbs.	152.7	154.9	156.5	158.5	160.0	162.4	164.4	166.2	168.4	170.7	172.9	175.2
Net removals:													
Milkfat basis	Bil. lbs.	5.4	6.6	5.7	4.3	5.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Skim solids	Bil. lbs.	6.1	6.6	5.7	4.3	5.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Production data:													
Number of cows	Thous.	9,625	9,520	9,410	9,290	9,245	9,180	9,088	9,043	8,998	8,953	8,908	8,863
Milk per cow	lbs.	16,330	16,800	17,050	17,335	17,630	18,015	18,418	18,714	19,053	19,397	19,748	20,105
bST use	% of Cows	17	27	30	32	34	38	43	49	55	58	60	61
Prices:													
Support	dol./cwt	10.10	10.10	10.10	10.35	10.35	10.35	10.60	10.60	10.85	10.85	11.10	11.35
All milk	dol./cwt	12.30	12.20	12.30	12.45	12.70	12.95	13.20	13.30	13.55	13.65	13.80	14.05
Assessments	dol./cwt	0.1579	0.1372	0.1275	0.1292	0.132	0.132	0.132	0.132	0.132	0.132	0.132	0.132
Effective price	dol./cwt	12.14	12.06	12.17	12.32	12.57	12.82	13.07	13.17	13.42	13.52	13.67	13.92
Costs and returns													
Concentrate costs	dol./cwt	3.82	4.08	4.09	4.26	4.49	4.54	4.63	4.70	4.78	4.86	4.94	5.00
Other cash costs	dol./cwt	7.40	7.47	7.55	7.62	7.70	7.78	7.86	7.93	8.01	8.09	8.17	8.26
Total cash costs	dol./cwt	11.22	11.56	11.64	11.88	12.19	12.32	12.48	12.63	12.79	12.95	13.11	13.26
Returns above cash costs	dol./cwt	0.92	0.51	0.53	0.44	0.38	0.50	0.59	0.53	0.63	0.57	0.56	0.66

Note: Baseline projections shown in this report present one plausible scenario, representative of the long term direction for the agricultural sector. The projections are a conditional, current-law scenario with no shocks, based on a special set of assumptions regarding the macroeconomy, the weather, and international developments. The projections were prepared in December 1994 based on policy decisions and other information known at that time.

Farm Income

Both net cash income and net farm income rise in nominal terms in the baseline but decline in real terms. Net cash income from farming increases 10 percent from 1995 to 2005, while net farm income increases 15 percent. Gains in cash receipts are nearly matched by rising production costs and declining direct Government payments.

Gross cash income increases $54.4 billion while cash expenses increase $49.4 billion, leaving a $5.1 billion increase in net cash income. In real terms net cash income declines 26 percent. Net farm income rises $5.8 billion over 10 years as gross farm income increases $58.6 billion and total production expenses increase $52.8 billion. Net farm income falls 23 percent in real dollars from 1995 to 2005.

Cash receipts from farm marketings rise $58.0 billion, with crop receipts up $27.2 billion and livestock receipts up $30.8 billion. Increases in receipts reflect higher output as well as increasing nominal prices.

Direct Government payments to farmers, including CRP payments, fall to $3.4 billion by 2005, down from $10.2 billion in 1995. Higher market prices for crops combined with fixed target prices reduce deficiency payments. Payments for feed grains, for example, decrease by $4.0 billion largely because of increases in corn prices caused by tightening in the supply and demand situation with lower ending stocks of corn each crop year.

Cash expenses for farming increase $49.4 billion over the ten years of the baseline while total production expenses increase $52.8 billion. Non-farm origin expenses rise more than farm-origin expenses. The largest expense increases are for hired labor, repair and maintenance, fertilizer, and interest. Higher energy prices and more crop acreage contribute to increases in expenses for manufactured inputs. Labor expenses rise, reflecting higher wage rates as well as increased labor requirements because of increases in crop and livestock production. Interest expenses rise, reflecting higher interest rates and increases in agricultural debt.

Farm equity increases 8.9 percent in nominal terms over the baseline, but declines in real terms, primarily reflecting changes in land values. Debt-to-assets and debt-to-equity ratios are projected to rise from 1996 to 2002, then stabilize through 2005.

The average farm operator household income is expected to rise 54 percent by 2005. Off-farm income is the dominant component of farm operator household income and its dominance is expected to increase during the baseline. Off-farm income increases $21,200 per farm operator household while farm income rises about $800 per farm operator household by 2005. In real terms, the average farm operator household income increases 4 percent during the baseline.

Table 37. Farm receipts, expenses, and incomes in nominal dollars

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
						Billion dollars					
Cash receipts:											
Crops	91.8	91.6	94.0	97.3	100.3	103.1	105.9	109.1	112.4	115.7	119.0
Livestock and products	85.1	86.0	88.3	91.2	95.0	99.0	103.3	106.4	109.7	112.6	115.9
All commodities	177.0	177.6	182.3	188.6	195.3	202.0	209.2	215.5	222.1	228.3	235.0
Farm-related income	8.2	8.5	8.7	9.0	9.3	9.6	10.0	10.3	10.7	11.1	11.4
Government payments	10.2	8.6	8.3	7.5	6.8	6.2	5.5	4.9	4.3	3.8	3.4
Gross cash income	195.3	194.7	199.3	205.1	211.4	217.9	224.7	230.7	237.1	243.2	249.8
Cash expenses	144.1	146.6	150.5	155.5	160.4	165.4	170.9	176.4	182.0	187.7	193.5
Net cash income	51.2	48.1	48.8	49.6	51.0	52.5	53.7	54.3	55.1	55.5	56.3
Value of inventory change	-1.5	0.4	0.3	0.4	0.5	0.3	0.5	0.8	0.7	0.7	0.7
Non-money income	8.1	8.3	8.5	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.0
Gross farm income	201.9	203.4	208.1	214.1	220.7	227.2	234.3	240.8	247.4	253.7	260.5
Noncash expenses	15.7	15.6	15.9	15.9	16.3	16.6	16.9	17.2	17.7	18.1	18.5
Operator dwelling expenses	4.2	4.3	4.3	4.4	4.4	4.5	4.6	4.6	4.7	4.8	4.9
Total production expenses	164.0	166.4	170.7	175.8	181.1	186.5	192.4	198.2	204.4	210.5	216.8
Net farm income	37.9	37.0	37.5	38.3	39.7	40.7	41.9	42.6	43.1	43.2	43.7
Farm assets	930.0	943.8	950.7	959.5	966.4	976.0	986.8	996.1	1005.0	1015.1	1023.4
Farm debt	152.0	155.3	157.7	160.7	163.4	166.7	169.9	172.6	174.3	175.2	176.5
Farm equity	778.0	788.5	793.0	798.8	803.0	809.2	817.0	823.5	830.7	839.9	847.0
						Percent					
Debt/equity ratio	19.5	19.7	19.9	20.1	20.4	20.6	20.8	21.0	21.0	20.9	20.8
Debt/assets ratio	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.3	17.3	17.3	17.2

Table 38. Farm receipts, expenses, and incomes in 1987 dollars

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
						Billion 1987 dollars					
Cash receipts:											
Crops	70.8	68.3	67.6	67.3	66.7	65.8	64.9	64.1	63.4	62.5	61.6
Livestock and products	65.6	64.1	63.5	63.1	63.2	63.2	63.3	62.6	61.8	60.8	60.0
All commodities	136.4	132.5	131.1	130.4	129.9	129.0	128.2	126.7	125.2	123.3	121.7
Farm-related income	6.3	6.3	6.3	6.2	6.2	6.1	6.1	6.1	6.0	6.0	5.9
Government payments	7.8	6.4	6.0	5.2	4.5	4.0	3.4	2.9	2.4	2.1	1.7
Gross cash income	150.6	145.2	143.3	141.8	140.6	139.1	137.7	135.6	133.6	131.4	129.3
Cash expenses	111.1	109.3	108.2	107.6	106.7	105.6	104.7	103.7	102.6	101.4	100.2
Net cash income	39.5	35.9	35.1	34.3	33.9	33.5	32.9	31.9	31.1	30.0	29.2
Value of inventory change	-1.2	0.3	0.2	0.3	0.4	0.2	0.3	0.5	0.4	0.4	0.4
Non-money income	6.2	6.2	6.1	6.0	5.9	5.8	5.6	5.5	5.4	5.3	5.2
Gross farm income	155.6	151.7	149.6	148.1	146.8	145.1	143.6	141.6	139.5	137.1	134.9
Noncash expenses	12.1	11.6	11.4	11.0	10.8	10.6	10.3	10.1	10.0	9.8	9.6
Operator dwelling expenses	3.3	3.2	3.1	3.0	2.9	2.9	2.8	2.7	2.7	2.6	2.5
Total expenses	126.4	124.1	122.7	121.6	120.4	119.1	117.9	116.5	115.2	113.7	112.3
Net farm income	29.2	27.6	26.9	26.5	26.4	26.0	25.7	25.0	24.3	23.3	22.6
Farm assets	717.0	703.8	683.5	663.5	642.5	623.2	604.7	585.6	566.5	548.4	530.0
Farm debt	117.2	115.8	113.4	111.1	108.6	106.5	104.1	101.5	98.2	94.6	91.4
Farm equity	599.8	588.0	570.1	552.4	533.9	516.8	500.6	484.1	468.3	453.8	438.6

Nominal dollar values divided by the GDP deflator.

Table 39. Average income of farm operator households in nominal and real 1987 dollars

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	$1,000 per operator household										
Nominal dollars:											
Farm operator household income	40.5	41.4	43.2	45.1	47.3	49.6	52.1	54.5	57.0	59.7	62.5
Farm income	4.9	4.3	4.4	4.6	4.9	5.1	5.4	5.5	5.6	5.6	5.7
Off-farm income	35.6	37.1	38.7	40.5	42.4	44.5	46.7	49.0	51.5	54.1	56.8
Real dollars (1987): 1/											
Farm operator household income	31.2	30.9	31.0	31.2	31.5	31.7	31.9	32.0	32.2	32.2	32.4
Farm income	3.8	3.2	3.2	3.2	3.2	3.3	3.3	3.2	3.1	3.0	2.9
Off-farm income	27.5	27.6	27.8	28.0	28.2	28.4	28.6	28.8	29.0	29.2	29.4

1/ Nominal dollar values divided by the GDP deflator.

Food Prices and Expenditures

The Consumer Price Index (CPI) for food is projected to rise moderately over the baseline period, increasing at an average rate of about 3.6 percent per year. This compares to a 4.2-percent average rise expected in the CPI for all items, continuing a long-term trend of food prices increasing at slightly less than the general inflation rate. Moderate but steady U.S. economic growth with sustained increases in disposable personal income will have a positive impact on consumer demand for food.

A large service component pushes prices for food away from home up at an average rate of 4.0 percent a year, close to the general rate of inflation. Prices for food at home increase about 3.3 percent per year. For foods purchased for consumption at home, the strongest price increases generally occur among the more highly processed foods such as cereals and bakery products. Prices for these foods are related more to the costs of processing and marketing than to the costs of farm commodities and, therefore, rise at a rate close to the general inflation rate.

Total food expenditures rise at a 5.3-percent average annual rate in the baseline. Expenditures for meals eaten away from home account for a growing share of food spending, reaching almost half of total food expenditures by 2005. Growth in expenditures for food eaten away from home averages 6.0 percent per year while expenditures for food at home rise 4.6 percent per year.

Table 40. Consumer food price indexes and food expenditures baseline

CPI category	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Consumer price indexes:						*1982-84 = 100*						
All food	144.3	147.6	151.7	156.6	162.1	168.3	174.6	181.5	188.4	195.2	202.5	209.7
Food away from home	145.7	150.5	156.1	162.1	168.3	175.0	182.1	189.5	197.4	205.5	214.3	223.4
Food at home	144.1	146.4	149.7	153.9	159.0	164.9	170.8	177.4	183.7	189.8	196.2	202.4
Meats	135.4	132.4	134.0	136.1	140.6	147.3	152.9	161.1	166.7	171.4	176.2	180.4
Beef and veal	136.0	135.0	138.0	140.2	144.8	151.9	157.9	166.4	172.7	178.2	183.8	189.2
Pork	133.9	128.0	126.4	128.1	132.6	138.3	143.1	149.1	152.9	155.7	158.6	161.7
Other meats	137.0	133.0	135.9	138.2	142.7	149.6	155.5	166.4	172.7	178.2	183.8	186.4
Poultry	141.5	139.0	132.8	133.6	136.6	141.6	145.8	151.4	155.2	158.6	162.3	165.8
Fish and seafood	163.7	165.1	169.5	174.0	178.6	183.4	188.3	193.3	198.4	203.7	209.1	214.7
Eggs	114.3	114.0	111.1	116.2	121.2	126.7	132.3	138.4	144.5	150.8	157.3	164.1
Dairy products	131.7	135.6	138.7	142.0	145.8	151.4	156.8	162.0	167.9	173.5	179.7	184.5
Fats and oils	133.5	136.4	140.6	144.7	148.6	152.5	156.9	162.1	168.4	174.8	182.0	189.1
Fruits and vegetables	165.0	167.6	176.6	182.7	189.1	194.9	201.0	207.1	213.9	220.2	226.5	232.6
Sugar and sweets	135.2	141.4	145.5	149.9	154.4	159.2	164.3	169.5	175.0	180.6	186.6	192.7
Cereals and bakery products	163.0	168.1	173.6	179.9	186.9	194.6	202.8	211.3	220.3	229.6	239.5	249.6
Nonalcoholic beverages	123.2	130.0	126.0	129.2	132.4	135.7	139.1	142.6	146.3	150.1	154.2	158.4
Other prepared foods	147.5	152.6	158.6	165.0	171.7	178.9	186.6	194.6	203.1	211.9	221.4	231.3
Food expenditures:						*Billion dollars*						
All food	643.7	672.6	704.1	739.0	776.8	819.1	863.2	910.1	959.8	1,010.8	1,065.7	1,122.3
Food away from home	350.2	363.5	377.3	393.1	410.8	431.2	451.8	473.8	496.5	519.3	543.3	567.3
Food at home	293.5	309.1	326.8	345.9	366.0	387.9	411.4	436.3	463.3	491.5	522.4	555.0

Table 41. Changes in consumer food prices, baseline

CPI category	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
						Percent						
All food	2.4	2.3	2.8	3.2	3.5	3.8	3.7	4.0	3.8	3.6	3.7	3.6
Food away from home	1.7	3.3	3.7	3.8	3.8	4.0	4.1	4.1	4.2	4.1	4.3	4.2
Food at home	2.9	1.6	2.3	2.8	3.3	3.7	3.6	3.9	3.6	3.3	3.4	3.2
Meats	0.6	-2.2	1.2	1.6	3.3	4.8	3.8	5.4	3.5	2.8	2.8	2.4
Beef and veal	-0.8	-0.7	2.2	1.6	3.3	4.9	3.9	5.4	3.8	3.2	3.1	2.9
Pork	1.7	-4.4	-1.3	1.3	3.5	4.3	3.5	4.2	2.5	1.8	1.9	2.0
Other meats	2.4	-2.9	2.2	1.7	3.3	4.8	3.9	7.0	3.8	3.2	3.1	1.4
Poultry	3.4	-1.8	-4.5	0.6	2.2	3.7	3.0	3.8	2.5	2.2	2.3	2.2
Fish and seafood	4.5	0.9	2.7	2.7	2.6	2.7	2.7	2.7	2.6	2.7	2.7	2.7
Eggs	-2.4	-0.3	-2.5	4.6	4.3	4.5	4.4	4.6	4.4	4.4	4.3	4.3
Dairy products	1.8	3.0	2.3	2.4	2.7	3.8	3.6	3.3	3.6	3.3	3.6	2.7
Fats and oils	2.7	2.2	3.1	2.9	2.7	2.6	2.9	3.3	3.9	3.8	4.1	3.9
Fruits and vegetables	3.8	1.6	5.4	3.5	3.5	3.1	3.1	3.0	3.3	2.9	2.9	2.7
Sugar and sweets	1.3	4.6	2.9	3.0	3.0	3.1	3.2	3.2	3.2	3.2	3.3	3.3
Cereals and bakery products	4.1	3.1	3.3	3.6	3.9	4.1	4.2	4.2	4.3	4.2	4.3	4.2
Nonalcoholic beverages	7.5	5.5	-3.1	2.5	2.5	2.5	2.5	2.5	2.6	2.6	2.7	2.7
Other prepared foods	2.6	3.5	3.9	4.0	4.1	4.2	4.3	4.3	4.4	4.3	4.5	4.5