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Wheat Backgrounder

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Abstract

U.S. wheat plantings are about 30 percent lower than in the early 1980s. Wheat demand fell with changing consumer preferences and strong competition in export markets. Low returns led to the substitution of competing crops for wheat, particularly on the Plains. Farms depending on wheat sales for over half of their receipts have much lower farm incomes and financial assets compared with other farms producing wheat. These wheat-dependent farms, which produce about 40 percent of the Nation's wheat output, rely heavily on Government payments and off-farm income. In the future, attractive returns for competing crops and modest wheat demand are expected to limit wheat plantings. But low wheat stocks and prices above \$3 per bushel will prevent a large decline in acreage.

Keywords: United States, wheat, demand, supply, trade, policy, income, expenses, government payments, ERS, USDA.

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Approved by the World Agricultural Outlook Board

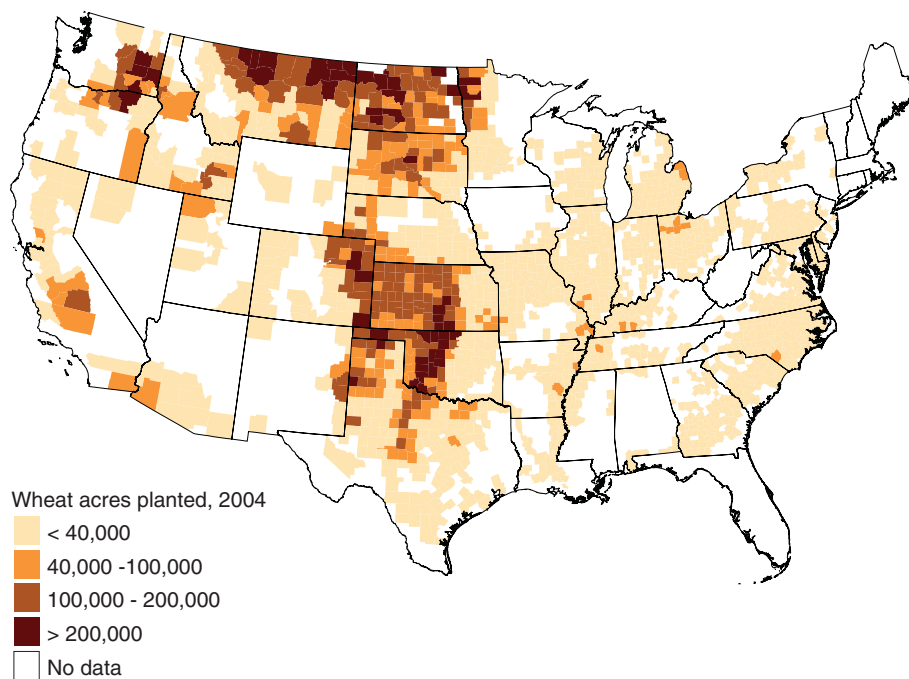
Introduction

The U.S. wheat sector is facing several challenges. Domestic food-use demand has fallen over the past decade as consumer preferences have changed. The sector faces strong competition in export markets. Low returns relative to other crops have led to the substitution of competing crops for wheat in many areas, particularly in the Plains States. U.S. wheat planted area in recent years is off about 30 percent from the early 1980s (see fig. 1 for 2004 planted area). In the future, attractive total returns (market plus government) for other crops and modest export and domestic demand are expected to limit wheat plantings. However, low stocks and wheat prices above \$3 per bushel will prevent a large decline in acreage.

U.S. farms that depend on wheat sales for over half of their receipts have on average much lower gross and net farm incomes and substantially fewer financial assets compared with other farms producing wheat. These wheat-dependent farms, which produce about 40 percent of the Nation's wheat output, depend heavily on government payments and off-farm sources of income.

Figure 1

Wheat acres planted in 2004



Source: Compiled by the U.S. Department of Agriculture's Economic Research Service from the Farm Service Agency and the National Agricultural Statistics Service.

U.S. Market Background: Stagnant Demand and Declining Area

The U.S. wheat sector has shrunk in area since the early 1980s as Government policies and programs have changed. Stagnant domestic and international demand in recent years has limited price increases, while wheat's genetic improvements have lagged behind other crops, particularly corn and soybeans on the Great Plains. Current Government policies allow wheat farmers to respond to market signals in making planting decisions. The lower profitability of growing wheat compared with competing crops has contributed to a downward trend in wheat area.

Wheat Prices Steady, Wheat Production on the Decline

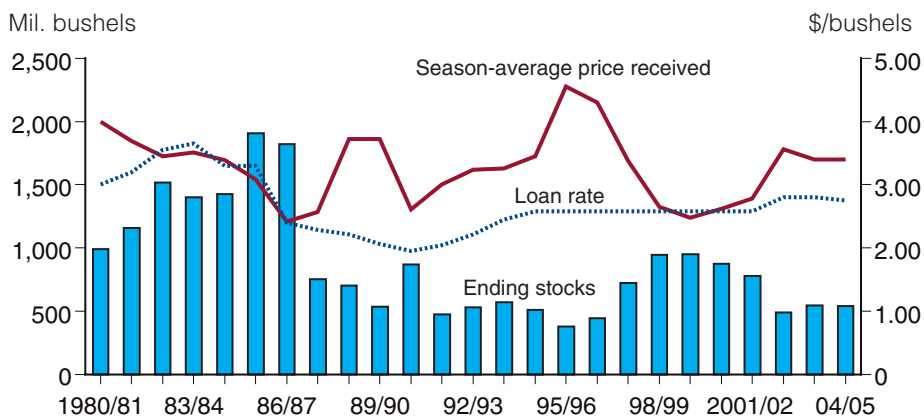
Season-average wheat prices received by farmers have averaged \$3.45 per bushel from 2002-03 through 2004-05, substantially above the \$2.58 in 1999-2000, but below the record high of \$4.55 in 1995-96 (fig. 2). Tight world and U.S. wheat supplies were the driving force in setting high wheat prices in the mid-1990s. A subsequent rise in world and U.S. production and stocks resulted in lower U.S. farm prices by the late 1990s. Reduced U.S. production and a good export pace since 2000 have led to a recovery in wheat prices for farmers as U.S. stocks dropped (fig. 3 and fig. 4).

The United States Remains a Large Wheat Producer but Acreage Has Been Falling

The United States is a major wheat-producing country, with output exceeded only by China, the European Union (EU-25), and India.¹ In the United States, wheat ranks third among field crops in both planted acreage and value of production, behind corn and soybeans.

¹The EU-25 includes Belgium, Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Ireland, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Slovenia, Slovakia, Finland, Sweden, and the United Kingdom.

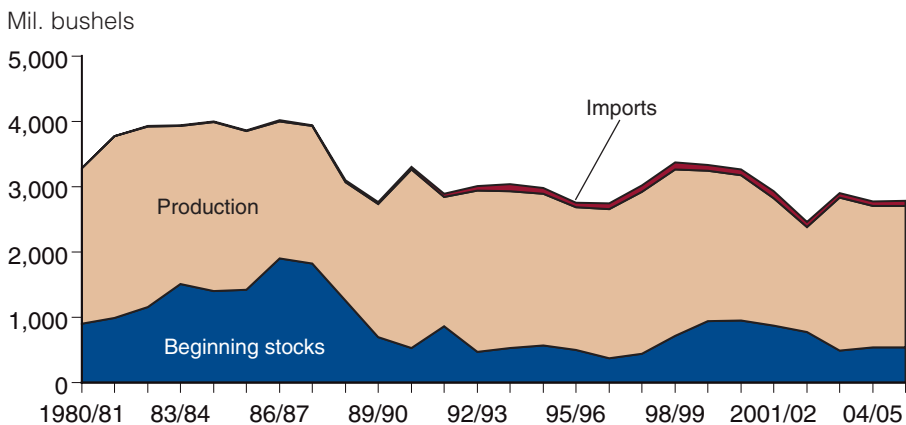
Figure 2
Ending stocks, farm prices, and loan rates



Source: U.S. Department of Agriculture, Economic Research Service, 2005 *Wheat Yearbook*. Available at <http://usda.mannlib.cornell.edu/data-sets/crops/88008>.

Figure 3

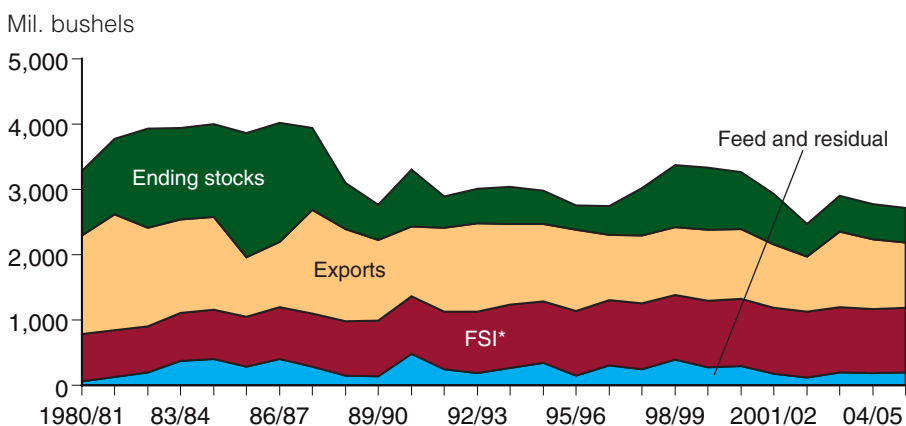
U.S. wheat supply



Source: U.S. Department of Agriculture, Economic Research Service, *2005 Wheat Yearbook*. Available at <http://usda.mannlib.cornell.edu/data-sets/crops/88008>.

Figure 4

U.S. wheat utilization



*Food, seed, and industrial use.

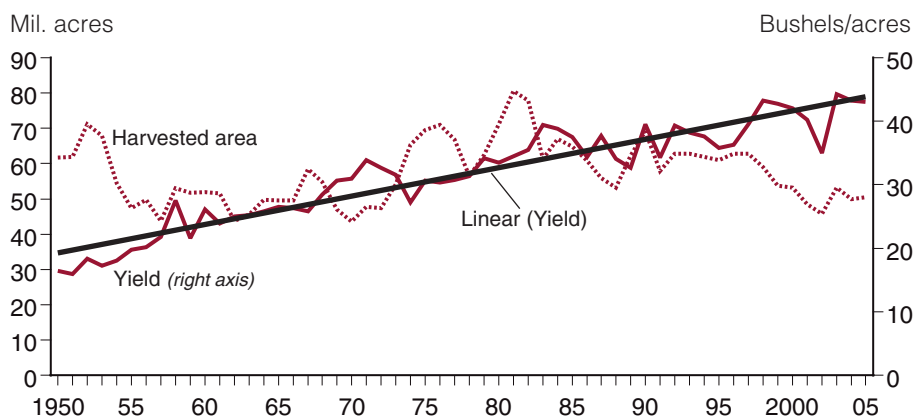
Source: U.S. Department of Agriculture, Economic Research Service, *2005 Wheat Yearbook*. Available at <http://usda.mannlib.cornell.edu/data-sets/crops/88008>.

U.S. wheat-harvested area has varied widely during the past half century, peaking in the early 1980s (fig. 5). Since the peak, wheat area dropped off sharply in the late 1980s, particularly due to relatively large acreage retirement program (ARP) levels when Government-owned stocks were very large. By 1987-88, nearly 30 percent of the national wheat base acreage had been idled by farmers choosing to participate in this voluntary program so as to be eligible for commodity loans and deficiency payments. Wheat area recovered in the mid-1990s as stocks were reduced and prices rose, thus lessening the need for ARPs.

Then, with the enhanced planting flexibility in the 1996 and 2002 Farm Acts, wheat acreage has again been trending down. Planted area in the United States is down by about 30 percent from an average of 85 million acres in the early 1980s to an average of 60 million acres in recent years.

Figure 5

U.S. wheat acres and yields



Source: U.S. Department of Agriculture, Economic Research Service, *2005 Wheat Yearbook*. Available at <http://usda.mannlib.cornell.edu/data-sets/crops/88008>.

Wheat's share of U.S. field-crop receipts has fallen from about 20 percent in the early 1980s to about 11 percent in recent years.

Wheat area has dropped off in the United States as farmers have taken their land out of production or switched to alternative crops offering higher returns. Enrollment in the Conservation Reserve Program (CRP) is concentrated in those regions where wheat production predominates. Over 85 percent of the land enrolled in the CRP is located in the Plains States, stretching from Texas to North Dakota and Montana. USDA estimates that about 9 million acres of CRP land had been planted to wheat or in a wheat-fallow rotation prior to enrollment. In addition, the introduction of full planting flexibility in the 1996 Farm Act has enabled farmers to switch to alternative crops or to idle their land.

In the traditional wheat-growing areas of the Western Plains, there is a more than 20-year trend to reduce the area followed by planting alternative crops and lengthening crop rotations. For example, in western Kansas, a typical wheat-fallow rotation is most commonly replaced by a rotation of wheat-grain sorghum-fallow, so that wheat is planted one year out of three instead of one out of two years. Thus, though the intensity of cropping increases, wheat is not favored.

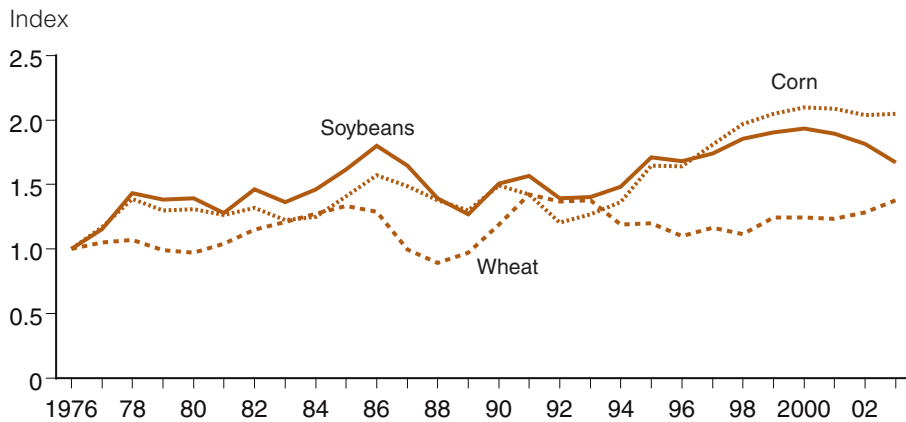
Loss of wheat acreage to row crops on the Plains also reflects strong genetic improvements, including biotechnology gains, in corn and soybeans (fig. 6). New varieties of corn and soybeans can be planted farther West and North in areas with drier conditions or shorter growing seasons and easier, better weed control. While increased row-crop production began well before the increased flexibility provided in the 1990 and 1996 Farm Acts, the planting of corn and soybeans accelerated since 1996 partially at the expense of wheat acreage.

The pace of genetic improvement has been slower for wheat than for some other field crops, lowering the profitability of producing wheat relative to other crops, such as corn and soybeans. Research incentives for the genetic improvement of wheat have been weaker due to the lower potential returns

to commercial seed companies. For instance, farmers generally buy hybrid seed corn every year, creating a large annual market for seed companies. In contrast, many wheat farmers, particularly in the Plains States, use saved seed from the previous year's crop instead of buying from dealers every year. This practice sharply reduces the size of the market for the purchase of seed wheat relative to hybrid corn.

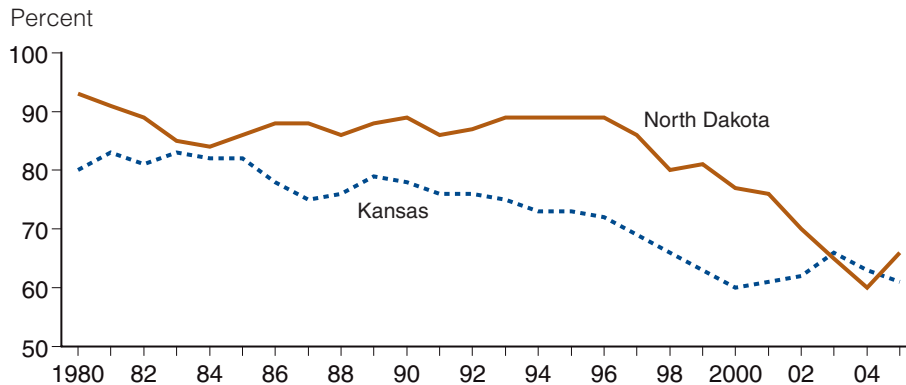
The trend to increased plantings of corn and soybeans on acreage traditionally planted to wheat is shown by data for Kansas and North Dakota, two of the country's largest wheat-producing States. In the early 1980s, wheat accounted for 80 percent to 90 percent of the total wheat, corn, and soybeans planted in Kansas and North Dakota, while in recent years wheat is only 60 percent to 65 percent of the total (fig. 7).

Figure 6
Indices of North Dakota crop yields (3-year average)



Source: U.S. Department of Agriculture, National Agricultural Statistics Service.
 Available at http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp.

Figure 7
Wheat planted area as share of the planted area of wheat, corn, and soybeans in Kansas and North Dakota



Source: U.S. Department of Agriculture, National Agricultural Statistics Service.
 Available at http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp.

Domestic Use Declines as Per Capita Food Use Falls

Until recently, U.S. wheat producers could count on rising per capita food use of wheat flour to expand domestic demand for their crop. The strength of this domestic market developed out of the turnaround in U.S. per capita wheat consumption in the 1970s. Historically, U.S. per capita wheat consumption declined for nearly 100 years as caloric requirements decreased, because hard physical labor became less common and diets more diversified (Working). Wheat consumption dropped from over 225 pounds per person in 1879 to a low of 110 pounds in 1972 (fig. 8).

Between 1973 and 1997, the growth in per capita wheat consumption reflected the boom in away-from-home eating, the desire of consumers for greater variety and more convenience in food products, promotion of wheat flour and pasta products by industry organizations, and wider recognition of the health benefits stemming from eating grain-based foods. By 1997, consumption had rebounded to 147 pounds per capita.

In the late 1990s, growth in per capita food use ended, and since then has dropped sharply to 134 pounds in 2004. These changes may reflect, in part, the increasing numbers of health- and weight-conscious people following diets that include fewer carbohydrates.

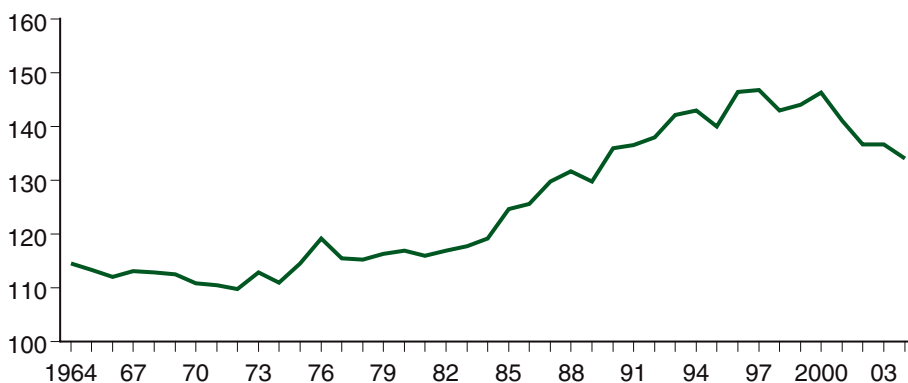
Another force that reduced flour usage is the expanded production of extended shelf life (ESL) bread. ESL technologies can double or even triple the shelf life of a fresh loaf, from several days to 10 or more (Sosland). The outcome for U.S. bakers is a reduction in “stales” (meaning bread that does not sell and is taken back by the baker) from as high as 15 percent of sales to less than 8 percent. Reducing stales directly reduces the quantity of flour required to produce enough bread to meet the same level of consumer demand.

Feed use of wheat varies with price and crop quality. Wheat feed use increases when the price gap between wheat and corn is narrow, which typically occurs in the summer after winter wheat is harvested, but before corn is harvested.

Figure 8

U.S. per capita wheat flour use

Pounds/person



Source: U.S. Department of Agriculture, Economic Research Service, *2005 Wheat Yearbook*. Available at <http://usda.mannlib.cornell.edu/data-sets/crops/88008>.

Wheat feeding is also higher when wheat quality is impaired in some way. For example, when there is excessive rainfall at harvest time, some varieties of wheat are susceptible to pre-harvest sprouting. When sprouting occurs, biochemical changes in the wheat kernel diminish baking qualities for making food products. There is no survey data on the extent of wheat feeding each year; in recent years, nearly one-fifth of domestic wheat use has been allocated to feed use and residual in the USDA supply/disappearance balance sheets.²

U.S. Wheat Exports Trending Down Over the Last Two Decades

Exports are crucial for the U.S. wheat industry, with exports averaging nearly half (49 percent) of total use in recent years. During the 1990s, wheat and wheat flour accounted for over 9 percent of all U.S. agricultural exports by value (Economic Research Service/FATUS).

Since 1975-76, U.S. wheat exports have fluctuated sharply, reaching a high of over 48 million tons in 1981-82 and dropping to less than 23 million tons in 2002-03. In 1981, the U.S. share of global exports peaked at about 45 percent. Over the last 10 years (1995-96 to 2004-05), U.S. wheat exports have exceeded 30 million tons twice, and the U.S. share of global exports has fluctuated between 25 percent and 30 percent. Increased planting flexibility in U.S. farm legislation and low returns relative to some competing crops has led to a decline in U.S. wheat area and production, which, combined with other factors such as increased foreign production, has limited export potential.

The basic structure of world wheat trade has changed significantly over the last two decades. In the latter part of the 1980s and early 1990s, world wheat trade was affected by a wheat export subsidy competition between the United States and the European Common Market. The United States used the Export Enhancement Program (EEP) to pay bonuses that were specific for each transaction and varied from day to day. Currently, the European Union (EU-25) subsidizes exports through weekly open market tenders that make exporters compete for a restitution (subsidy) level, and through the sale of government intervention stocks for export at prices below acquisition costs.

Although the EU-25 continues to subsidize exports, the subsidies in recent years have been relatively small and often nothing. Moreover, several important importing countries, including Egypt, have liberalized import purchasing regimes, allowing private importers, not just a central, official importing entity. As a result, large grain companies have expanded their role in many different countries. These changes have made the international wheat trade more “market oriented,” resulting in more care being paid to quality considerations.

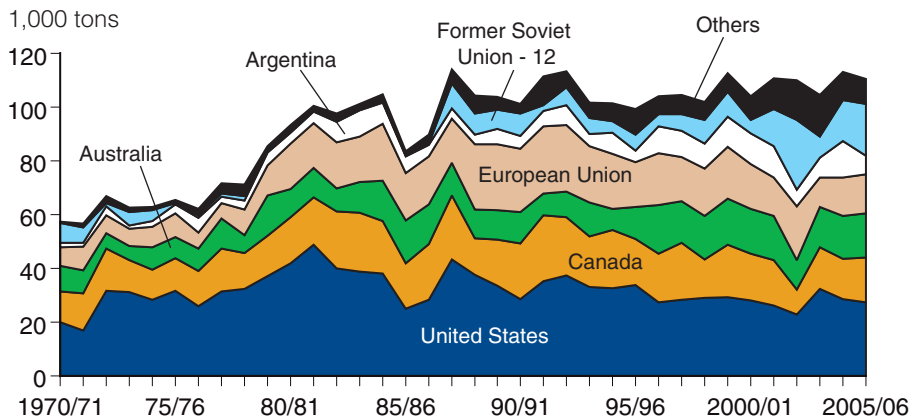
The United States is the world’s leading wheat exporter (fig. 9). In most years, the United States, Canada, Australia, the European Union (EU-25), and Argentina account for about 80 percent of world wheat exports, but in 2002-03 the major exporters’ share dropped to 63 percent due to large exports by Russia, Ukraine, and India.

The diversity of exporting countries provides significant stability to world wheat trade and prices. Most of the world’s wheat production is grown as winter wheat in the Northern Hemisphere, but parts of Canada, Kazakhstan,

²Feed and residual use is calculated to ensure that ending stocks are consistent with total supply and known uses of wheat for export, seed, and food. The estimate includes both feed use and a residual that accounts for errors made in estimating the other variables.

Figure 9

World wheat exports



Source: U.S. Department of Agriculture, Foreign Agricultural Service, "FASOnline: U.S. Trade Internet System." Available at <http://fas.usda.gov/ustrade/USTImFAS.asp?QI=/>

Russia, and the United States have large spring wheat production, planted much later in the crop year.³ Moreover, Australia and Argentina, in the Southern Hemisphere, plant winter wheat after the Northern Hemisphere's spring wheat. With wheat being planted and harvested at different times, when a production shortfall occurs in one region of the world, other countries can respond quickly to increased prices.

World wheat trade peaked in 1987-88 at 114 million tons, when both China and the Soviet Union were importing very large amounts (fig. 10). Imports by Eastern Europe, the former Soviet Union, and China have been much lower since then and world wheat trade has not matched record levels despite significant growth in imports over that period by developing countries. The EU in 2003 established effective barriers to lower quality wheat imports, also limiting world wheat trade. In the future, China is expected to join many of developing countries in boosting wheat imports and increasing world wheat trade, but the countries of Eastern Europe and the former Soviet Union are not expected to contribute significantly to import growth, but rather to be significant exporters, especially when yields are good.

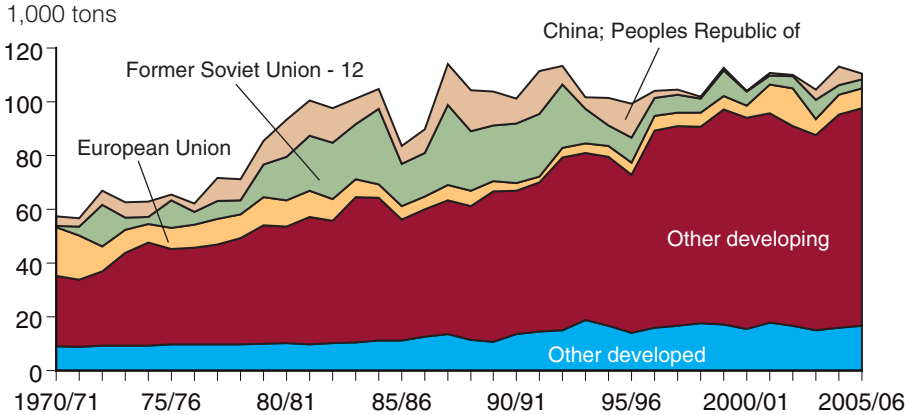
In the 2004-05 July-June international trade year, world wheat trade reached an estimated 113 million tons, the highest in 12 years and nearing record levels. Egypt was the largest importer at 8 million tons in 2004-05. Egypt is the world's largest importer in many years. Foreign exchange limitations can constrain Egypt's imports but population growth, combined with high per capita consumption, and limited production potential, keep the country's imports at a high level. Competition among exporters for Egypt's business is intense, with Black Sea countries, the EU-25, the United States, and Australia vying for market share.

The EU-25 imports large volumes of wheat each year, exceeding 7 million tons in 2003-04 and 2004-05. EU-25 imports tend to vary with the size and quality of their production, and low-quality imports are limited by quota. Although the EU-25 is a surplus producer of low- and medium-protein

³Winter wheat is planted in the fall and harvested the next year. Spring wheat is planted in the spring and harvested the same year it is planted.

Figure 10

World wheat imports



Source: U.S. Department of Agriculture, Foreign Agricultural Service, "FASOnline: U.S. Trade Internet System." Available at <http://fas.usda.gov/ustrade/USTImFAS.asp?QI=/>

wheat, it is deficit in production of high-protein wheat. However, the EU-25's mostly subsidized exports remain nearly double their import levels.

China's imports nearly doubled in 2004-05 to almost 7 million tons as the Chinese government decided to import to limit stock reductions. Over the last two decades, China's wheat imports have fluctuated wildly due to shifts in government policy.

Other countries are key importers as well. Japan's wheat imports are very stable, at nearly 6 million tons annually. Brazil's imports are large, staying at a level of over 5 million tons even with good harvests in 2003-04 and 2004-05. Brazilian imports can be expected to be larger in years when excessive rains during harvest reduce domestic quality. Other importers of note are Algeria (5.4 million tons in 2004-05), Indonesia (4.7 million tons), Mexico (3.7 million tons), South Korea (3.6 million tons), Nigeria (3.0 million tons), and Iraq (3.0 million tons). There are many countries importing smaller quantities, so global import demand is much less concentrated than export supplies.

U.S. imports of wheat grain, coming mostly from Canada, are small compared with exports and are only 3 to 5 percent of annual production. However, imports from Canada are politically sensitive because of the source of the imports, the Canadian Wheat Board. The Board is a state trading enterprise that many in the U.S. wheat industry claim has an unfair trading advantage. Currently, antidumping and countervailing duties are imposed on hard red spring wheat imported into the United States from Canada. Recently, the U.S. International Trade Commission, as a result of a North American Free Trade Agreement (NAFTA) panel ruling, determined that antidumping and countervailing duties imposed on hard red spring (HRS) wheat since 2003 had to be removed because imports were not materially injuring the U.S. industry. This determination is on appeal, but if upheld, U.S. imports of HRS will increase once duties are removed. Imports of wheat products consist mainly of pasta and noodles from the EU, Canada, and Asia.

Operating and Financial Characteristics of Farms Producing Wheat

Except for parts of the southeastern United States, the season average price of \$3.40 per bushel the past two years is high enough to cover, on average, the operating costs for producing wheat across the country. In the midwestern and northeastern United States, \$3.40 is enough to nearly cover all costs, including imputed costs for land, unpaid labor, and capital.⁴

Although average total production costs per acre are lowest in the western United States relative to the rest of the country, the higher-than-average yields obtained in midwestern and northeastern States allow for greater profitability. Not only are the returns per acre higher because of higher yields, the higher yields also reduce per-bushel production costs. Additionally, unlike western wheat producers, midwestern and northeastern producers also earn substantial revenues from wheat straw.

Characteristics of Specialized Wheat Farms

Farms that have at least half of their total value of production from wheat in 2003 are considered to be “specialized wheat” farms (Economic Research Service/ARMS). On average, wheat accounted for 70 percent of the total value of production on these farms. The 41,319 specialized wheat farms in 2003 accounted for 25 percent of all farms producing wheat and for slightly over 40 percent of total wheat production (appendix table 2). These farms are concentrated in the Great Plains and the Pacific Northwest. Wheat is grown in other regions of the country, but typically wheat makes up a smaller share of the total value of production on these farms.

On average, the number of acres operated on specialized wheat farms is about the same as on “other wheat” farms (farms where wheat accounted for less than half of the total value of farm production). Wheat accounted for nearly 40 percent of the total acreage on specialized wheat farms, compared to only 14 percent on other wheat farms.

Geographical location largely governs which crops compete with wheat. The principal competing crops on farms producing wheat are corn, soybeans, and hay. Other wheat farms are much more diversified than specialized wheat farms. The crop and livestock mix on specialized wheat farms involved, on average, 2.5 commodities, including wheat. The average crop and livestock mix on the other wheat farms involved just over 4 commodities. Other wheat farms also had more livestock, primarily beef cattle, than the specialized wheat farms.

Farms vary widely in size and other characteristics, ranging from very small retirement and residential farms to establishments with sales in the millions of dollars. ERS combines occupation of operators and sales class of farms to assign farms to one of three categories (appendix table 3):

⁴For more disaggregated details by ERS regions, see appendix table 1. For an explanation of the ERS regions see <http://www.ers.usda.gov/Emphases/Harmony/issues/resourceregions/resourceregions.htm#new>.

- **commercial** farms (any farms with annual sales of \$250,000 or more);
- **intermediate** farms (farms with sales less than \$250,000 and whose operators report farming as their primary occupation); or
- **rural-residence** farms (farms with annual sales less than \$250,000 and whose operators report their primary occupation as either retirement or off-farm).

About 50 percent of specialized wheat farms are classified as rural-residence farms. In contrast, only about one-fourth of the other wheat farms are classified as rural-residence farms. About 40 to 45 percent of both specialized and other wheat farms are classified as intermediate farms. Thus, less than 10 percent of the specialized wheat farms are commercial farms with over \$250,000 of sales, while nearly one-third of the other wheat farms are classified as commercial farms.

Financial Characteristics of Specialized Wheat Farms

As indicated earlier, the total acreage on specialized wheat farms was similar to other wheat farms. However, when financial measures are used to compare specialized wheat farms with other wheat farms, the specialized wheat farms were much smaller (appendix table 4). The other wheat farms had gross sales for all farm production on the farm three times higher than the specialized wheat farms. The cash expenses of other wheat farms were also three times higher than the specialized wheat farms. Notably, wheat is a low-input crop compared to field crops such as corn, soybeans, and cotton.

The net farm income of other wheat farms was nearly two and a half times greater than that of specialized wheat farms. Partially offsetting this net farm-income gap, specialized wheat farms had more off-farm income. Specialized farms had nearly 15 percent higher off-farm incomes as their operators were more likely to report a nonfarm job.

Reflecting the lower incomes of specialized wheat farms, farm asset and equity positions of other wheat farms were nearly twice that of the specialized wheat farms.

Sustainability of Specialized Wheat Farms

The economic viability of specialized wheat farms can be viewed in several ways. To capture the shortrun and longrun dimensions of financial viability, three measures of farm production costs for the whole farm are important. Variable costs are the costs for purchased inputs that are consumed in one production period—e.g., seed, fertilizer, fuel, repairs, and wages paid to hired labor. Total cash costs include variable costs plus expenses for overhead items (such as rent, taxes, insurance, and interest payments). Economic costs are total cash costs plus an allowance for depreciation, along with imputed returns to management, land, and unpaid labor of the operator and family.

A farm can often survive for a year if revenue covers variable costs and even for several years if revenue covers total cash costs, particularly if the operator is able to draw on cash reserves, borrow against assets, and use

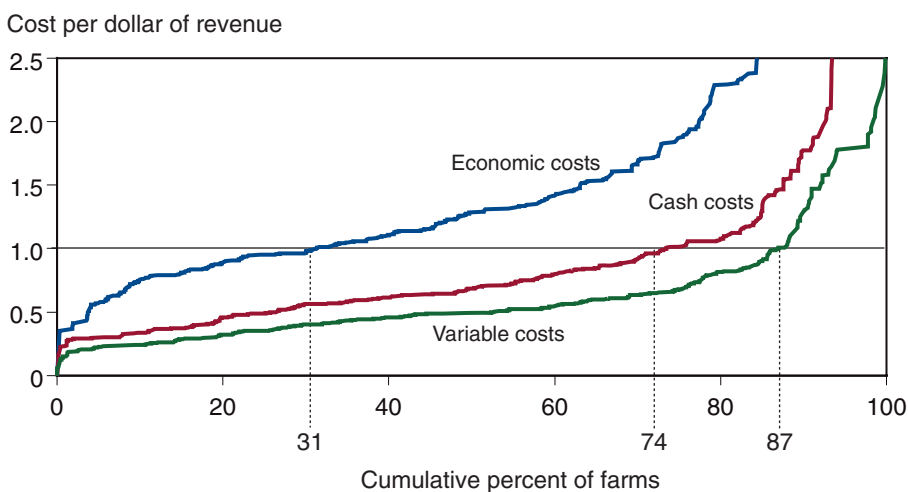
income from off-farm sources. However, such practices are typically used only temporarily. For long-term sustainability, revenue must cover economic costs. For example, in the short run, the allowance for depreciation may be deferred and aging equipment may be repaired. But in the long run, as machinery wears out, a shortage of funds for replacing machinery may affect the farm's ability to generate revenue.

The share of specialized wheat farms covering their costs varies greatly by cost measure and by year. Nearly 90 percent of specialized wheat farms had revenues sufficient to cover variable cash costs in 2003 (fig. 11). About three-fourths of these specialized farms had revenues sufficient to cover cash costs and only about one-third of these wheat farms had revenues sufficient to cover economic costs in 2003. These percentages vary by year. For example, depending upon the year (from 2000 through 2003), the percent of specialized wheat farms with sufficient revenues to cover their economic costs ranged from 17 percent to 31 percent (fig. 12).

Government payments contribute to the long-term financial viability of specialized wheat farms (fig. 13). Without Government payments, only 18 percent of the specialized wheat farms had farm revenue greater than economic costs in 2003. With Government payments, the percent of farms with revenue greater than economic costs rises to 31 percent. Government payments in 2003 averaged \$17,000 per specialized wheat farm or nearly 20 percent of average gross cash income of \$94,000. Government payments on the other wheat farms averaged about eight percent of average gross income. Most of the government payments received by specialized wheat farms are commodity-program payments. Conservation payments are relatively small.

Figure 11

Distribution of specialized wheat farms at different costs levels, 2003

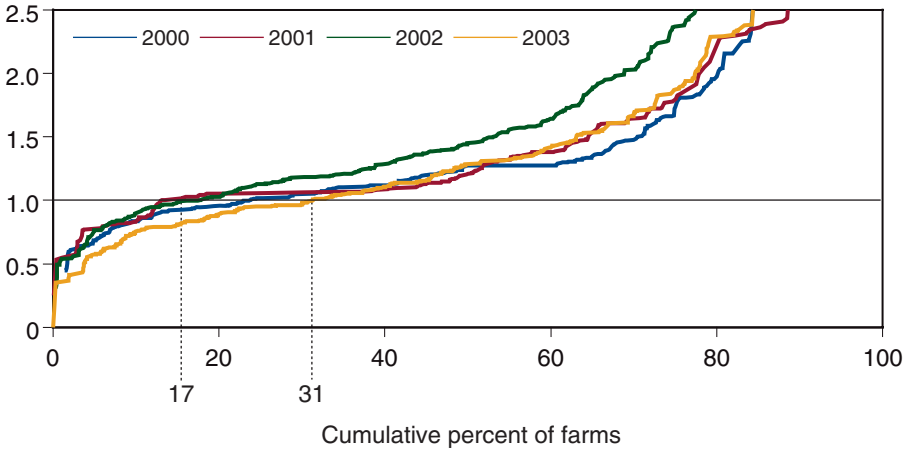


Source: USDA/ ERS, 2003 Agricultural Resource Management Survey (ARMS).

Figure 12

Distribution of specialized wheat farms by economic costs per dollar of farm revenue, 2000-2003

Economic costs per dollar of revenue

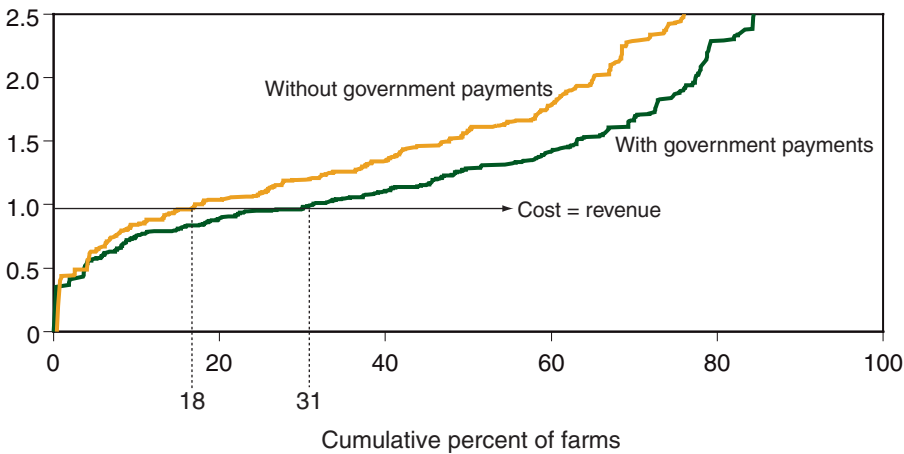


Source: USDA/ ERS, 2003 Agricultural Resource Management Survey (ARMS).

Figure 13

Distribution of specialized wheat farms by economic cost per dollar of farm revenue, 2003

Economic costs per dollar of revenue



Source: USDA/ ERS, 2003 Agricultural Resource Management Survey (ARMS).

Government Programs Allow Planting Flexibility While Supporting Income

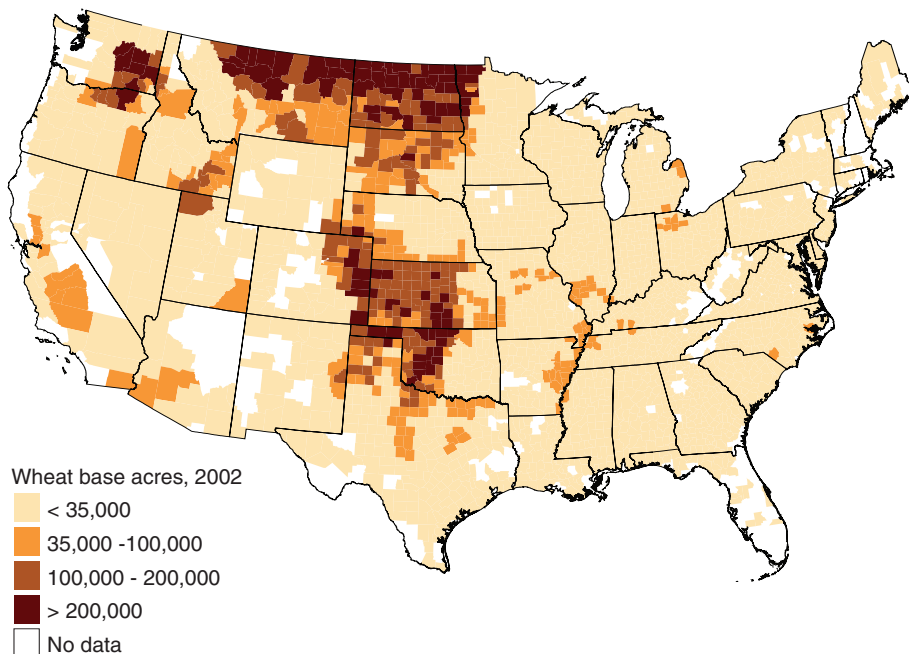
Wheat area has dropped from its high levels in the early 1980s due, in part, to changes in Government programs. Authorization of the Conservation Reserve Program (CRP) in the 1985 Farm Act, followed by planting flexibility provisions in the 1990 and subsequent Farm Acts, provided wheat farmers with more options for use of their acreage. Under the 1990 Act, farmers participating in commodity programs could plant up to 15 percent of their base wheat acreage to crops other than wheat without losing base acreage or government payments. For the first time, U.S. farmers were provided the opportunity to respond to incentives and grow crops promising higher returns on a portion of their base acres, or were allowed under the CRP to earn rental payments from idling land.

Planting flexibility, which was expanded to include 100 percent of base acreage in the 1996 and 2002 Acts, further facilitated expansion of soybeans, corn, and other crops in traditional wheat areas. The 2002 Farm Act introduced some new policies, but mostly the Act extended provisions of the 1996 Farm Act and institutionalized provisions of ad hoc emergency spending bills of 1998-2001.

The increased planting flexibility given to farmers has resulted in changes in the crops produced in the various regions of the country. These changes can be seen in a comparison of wheat plantings with historical wheat base acres (fig. 14 and fig. 15).

Figure 14

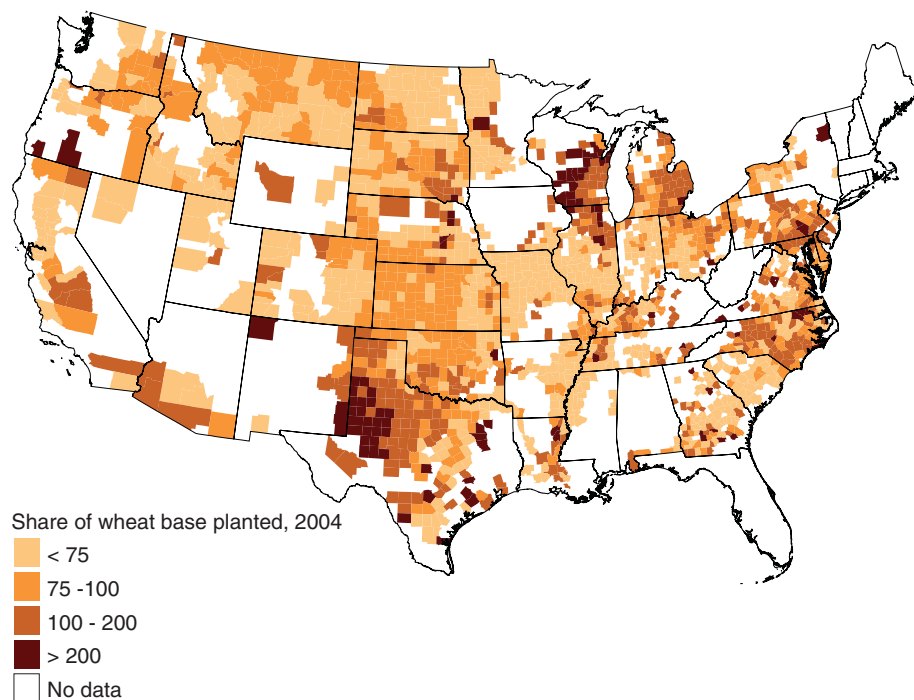
Wheat base acres, 2002



Source: Compiled by the U.S. Department of Agriculture's Economic Research Service from the Farm Service Agency and the National Agricultural Statistics Service.

Figure 15

Share of wheat base acres planted, 2004



Source: Compiled by the U.S. Department of Agriculture's Economic Research Service from the Farm Service Agency and the National Agricultural Statistics Service.

Government Programs Affecting the U.S. Wheat Sector

The U.S. wheat sector receives various forms of government assistance (fig. 16). The current four principal types of program assistance are: marketing assistance loan payments, direct and countercyclical payments, crop insurance, and export assistance.⁵

Direct and countercyclical payments use “base acres” in the payment calculation. Base acres are historical averages of acres dedicated to crops eligible for farm program payments. The 2002 Farm Act gave farmland owners two options for establishing base acres for the 2002-07 crops, including retaining their existing production flexibility contract (PFC) acreage as base acres, adding soybean acres to base acres, or updating base acres using actual plantings of eligible crops during 1998-2001. Producers need not grow any specific crop on their farm to be eligible for payments, but they must continue to use acreage equal to their base acres in agricultural or conserving uses.

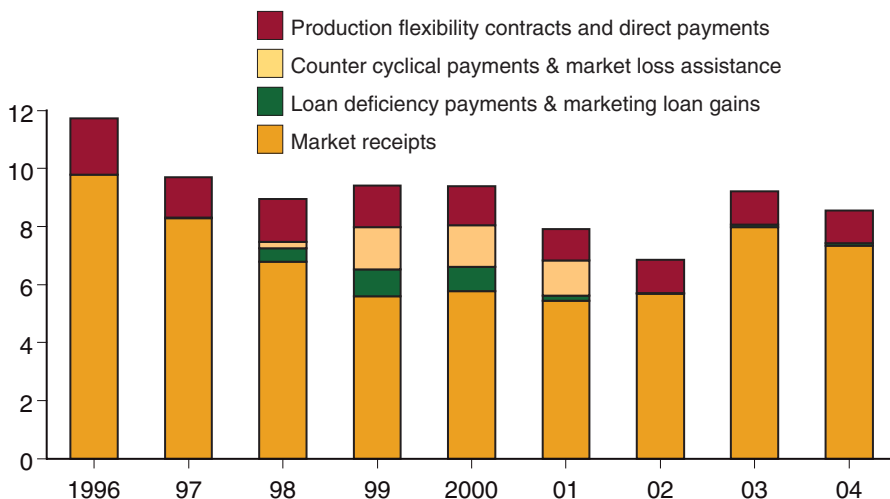
Direct payments (DP) and countercyclical payments (CCP) also are based on fixed payment yields rather than actual yields. The DP yield is the same as the PFC payment yield under the 1996 Farm Act and has been largely unchanged since 1985. In the interim, yields increased from an average of 36.9 bushels for 1984-86, to 40.8 bushels for 2002-04. The CCP yield was the DP yield for producers who did not elect to update base acres to 1998-2001 plantings. However, the 2002 Farm Act provided producers who

⁵For more information on these programs see <http://www.ers.usda.gov/publications/aib778/>.

Figure 16

Government payments and market receipts for wheat

Bil. dollars



Note: Combines both coupled and decoupled government payments with market receipts. The 2002 Farm Act replaced PFC payments with fixed direct payments. *Ad hoc* emergency assistance plays a prominent role in U.S. agricultural policy, especially in 1998-2001, when market loss assistance payments were made.

Source: U.S. Department of Agriculture, Farm Service Agency. Unpublished data, October 2005.

updated bases the opportunity to partially update their CCP yield with their 1998-2001 history, an opportunity not available for DP yields. For 2002, the national average wheat DP yield was 34.5 bushels and the CCP yield was 36.1 bushels.

Marketing loan provisions of the 2002 Farm Act extended those of the 1996 Farm Act. The 2002 Farm Act established a national loan rate at \$2.80 for 2002 and 2003, and at \$2.75 for 2004-07. USDA’s Farm Service Agency used existing discretionary authority provided by statute to establish county loan rates for the five classes of wheat starting in marketing year 2002-03. Marketing assistance loans provide producers with interim financing. In particular, loans taken at harvest time can be used by farmers to meet cash flow needs without having to sell their wheat when market prices are typically at harvest-time lows.

Additionally, marketing loans provide benefits to farmers through marketing loan gains and loan deficiency payments when market prices are low. Producers may repay a marketing assistance loan anytime before loan maturity at the alternative loan repayment rate announced by USDA. The alternative rates are announced daily and are called “posted county prices.” These rates rise and fall with market prices. The gain realized by the producer from repaying less than the loan principal and accrued interest to settle the loan is called a marketing loan gain (MLG). Farmers can also purchase commodity certificates at the posted county price to repay the loan.

Loan deficiency payments (LDPs) are similar to MLGs. However, production which receives LDPs is ineligible for loan placement. The LDP rate is

the amount by which the county loan rate exceeds the posted country price on the day the farmer requests payment.

The MLG/LDP expenditures during the first 3 years of the 2002 Farm Act averaged \$64 million annually. Because of lower prices, the MLG/LDP expenditures during the 3 years prior to the 2002 Farm Act averaged \$645 million annually.

Direct payments. DPs under the 2002 Act are similar to PFC payments under the 1996 Act. DPs are decoupled from current production and prices, providing farmers with a fixed predetermined payment that does not depend on market conditions. The DP equals 85 percent of the farm's base acreage times the farm's DP yield times the DP rate. The wheat DP rate is fixed at \$0.52 a bushel.

In the first 3 years of the 2002 Farm Act, wheat DP expenditures averaged \$1.1 billion annually, slightly above scheduled PFC expenditures for the final year of the 2002 Farm Act.

Countercyclical payments. CCPs are decoupled from current production, but linked inversely to market prices. CCP rates are higher for season average market prices below specified levels. CCPs are intended to replace *ad hoc* market loss assistance payments, which supplemented PFC payments in 1998-2001.

CCPs are made when the wheat target price minus the wheat DP rate is above the higher of the loan rate or the season average farm price. This calculated difference, when positive, is the CCP rate.

- The target price for wheat for 2005-07 crops is \$3.92. With the DP at \$0.52, CCPs are paid if the season average price is below \$3.40.
- The CCP quantity is equal to 85 percent of base acres times the CCP yield.
- The CCP is equal to the CCP payment rate times the CCP quantity.

There have not been any wheat CCP net expenditures during the first 3 years of the 2002 Farm Act because wheat prices have been above the CCP trigger. During the 3 years before the 2002 Farm Act, the market loss assistance payment expenditures associated with historic wheat production averaged \$1.4 billion annually.

Crop Insurance Subsidies. Since the 2001 crop year, roughly 75 percent of planted wheat acres have been insured annually under the Federal crop insurance program. In 2004, more than 46 million wheat acres were insured and total crop insurance premiums for wheat were about \$560 million, 58 percent of which were premium subsidies paid by the Government. Since the enactment of the Agricultural Risk Protection Act of 2000, which increased subsidies, wheat producers have insured at higher coverage levels and have shifted to revenue insurance from traditional crop yield insurance. In 2004, 58 percent of wheat acres insured were insured at the 70 percent coverage level or higher (includes both yield and revenue insurance); 73 percent of wheat acres insured were covered by revenue insurance.

Export Assistance and Food Aid. In the past, the United States has used direct export subsidies to promote wheat exports, but this program has not been used for wheat since the 1995-96 marketing year. The United States provides credit guarantees to some countries that import U.S. wheat.

U.S. food assistance programs donate or sell agricultural products directly to individual countries with food aid needs through loans at concessional rates. The United States provides food assistance through Public Law 480 (Food for Peace) and the Food for Progress Program. Title I of PL 480 finances sales of commodities under long-term credit arrangements to developing countries that are deemed to have insufficient foreign exchange. Title II provides for donations for emergency food relief and non-emergency humanitarian assistance to international organizations such as the World Food Program and to recipient governments. Section 416(b) of the Agricultural Act of 1949, as amended, provides for donations of Commodity Credit Corporation (CCC) owned surplus commodities to developing countries, and Food for Progress authorizes the donation or sale of food aid commodities to assist developing countries that are implementing market-oriented policy reform. Presently, most of the CCC-owned stocks are in the Bill Emerson Humanitarian Trust (formerly, the Food Security Commodity Reserve) and, thus, are available for humanitarian purposes. The McGovern-Dole International Food for Education and Child Nutrition Program was authorized by the Farm Act of 2002 to provide donations of U.S. agricultural products and technical assistance for school feeding projects in low-income countries.

The volume of U.S. wheat exported under Government programs, export subsidies, export credits, or food aid averaged 75 percent in the first half of the 1990s. Since the last half of the 1990s, coverage has averaged about 25 percent, chiefly due to the ending of Export Enhancement Program (EEP) activity.

Government Payments and Land Values

Research results report that government program payments, such as direct and countercyclical payments, are partially capitalized into land values and rental rates (Barnard). Such effects impact the wealth of farmland owners (increased land values), rental income of farmland owners (increased rental income) and producer's production costs (increased rental payments or land purchase costs). Nearly two-thirds of program acreage is leased. Consequently, future changes to government payments may affect land values and rental rates which could impact future income statements and/or balance sheets of the farm sector.

Issues for Upcoming Farm Legislation

As with producers of other commodity program crops, the level and type of Government payments under future legislation is a source of uncertainty for stakeholders in the wheat sector (wheat farmers and owners of wheat base acres). Most likely, wheat policy under new farm legislation will be largely determined by the overall direction of farm policy, particularly programs affecting direct commodity payments to producers of major field crops.

Domestic market conditions and Federal budget concerns are important in this debate, but trade policy and domestic support issues—particularly World Trade Organization (WTO) negotiations and regional trade agreements—will also likely enter into discussions. Thus, adjustments in wheat specific provisions will be debated largely within the context of domestic budget priorities and international obligations that are intertwined with domestic market and policy developments.

The current and projected Federal budget deficit, in particular, will likely play a significant role in the farm bill debate. The 2002 Farm Act was considered at a time when projected budget surpluses allowed for increased spending on farm programs. However, new farm legislation is occurring at a time when there is concern over projected Federal budget deficits which could affect funding for domestic farm programs. Thus, budget concerns and other policy issues could result in potential changes to the overall level of spending and basic structure of commodity programs, or in modifications to the parameters of existing programs. For example, loan rates, direct and countercyclical payment rates, the use of commodity certificates, payment limitations, and crop insurance provisions could be reconsidered. In addition, funding for crops currently supported by commodity programs could compete with proposals to provide support for other commodities, to expand support for conservation programs, and to change current restrictions on planting fruit and vegetables.

Trade policy concerns associated with regional and international trade agreements such as the WTO have also increasingly become important to U.S. farm legislation. As a member of the WTO, for example, the United States agreed to limit the amount of trade distorting domestic support provided to the agricultural sector. Wheat producers may benefit from marketing loans, countercyclical payments, and crop insurance subsidies that are, or may be, subject to aggregate spending limits under the existing WTO agreement. These spending limits could be further reduced and/or modified if an agreement is reached under the Doha Round.⁶

Furthermore, Brazil's challenge to U.S. cotton programs, although not directly related to wheat, may have general ramifications for U.S. commodity programs, including the marketing loan and countercyclical payments programs that were implicated in the ruling. The U.S. has already made some adjustments to its export credit guarantee programs, to come into compliance with one aspect of the WTO ruling on export subsidies. In addition, future trade agreements may place limits on food assistance programs in which commodities are donated directly to needy countries.

⁶See <http://www.ustr.gov>, the Office of the United States Trade Representative website for the latest U.S. reform proposal for the Doha Round of WTO negotiations.

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Useful Links

Wheat Yearbook tables (<http://usda.mannlib.cornell.edu/data-sets/crops/88008/>) include historical data covering domestic and foreign wheat production, trade, use, and prices by class of wheat.

Production, Supply and Distribution (PSD) database

(<http://www.fas.usda.gov/psd/>) contains official USDA data on production, supply, and distribution of agricultural commodities for the United States and major importing and exporting countries. The database provides projections for the coming year and historical data for more than 200 countries and major crop, livestock, fishery, and forest products.

WTO Agricultural Trade Policy Commitments Database

(<http://www.ers.usda.gov/db/wto/>) contains data on implementation of trade policy commitments by WTO member countries. Data on domestic support, export subsidies, and tariffs are organized for comparison across countries. This queryable database offers various options for viewing and downloading data.

Quick Stats: Agricultural Statistics Database

(<http://www.nass.usda.gov/QuickStats/>) offers U.S., State, and county-level agricultural statistics for many commodities and data series. Quick Stats offers the ability to query by commodity, State, and year. The dataset can be downloaded for easy use in a database or spreadsheet.

Agricultural Atlas of the United States

(<http://www.nass.usda.gov/research/atlas02/>) provides maps showing county-level data from the 2002 Census and some maps showing increases and decreases from 1997 Census data.

Farm policy background, program provisions, and history

(<http://www.ers.usda.gov/Briefing/FarmPolicy/historyOfFarm.htm>) provides access to previous Farm Acts and policy backgrounders prepared by ERS for those Acts.

Farm Program Acres (<http://www.ers.usda.gov/data/baseacres/>) allows downloading and mapping of county-level farm program and planted acreage data for nine major program crops (corn, grain sorghum, barley, oats, wheat, rice, cotton, peanuts, and oilseeds).

Farm Programs, Price Supports, Participation, and Payment Rates

(<http://www.ers.usda.gov/Briefing/FarmPolicy/Provisions.xls>) contains program parameters for individual commodities.

CCC Net Outlays by Commodity and Function

(<http://www.fsa.gov/dam/bud/CCC%20Estimates%20Book/2006PresBud/Pres%20Bud%20Table%2035.pdf>) provides total Commodity Credit Corporation expenditures by commodity.

U.S. and State farm income data includes calendar year data on direct government payments.

- **Direct government payments, history**
(<http://www.ers.usda.gov/data/FarmIncome/finfidmu.htm#payments>)
- **Latest forecast**
(http://www.ers.usda.gov/Briefing/FarmIncome/Data/GP_T7.htm)

Price Support Loan and LDP Activity Report

(<http://www.fsa.usda.gov/dajp/psd/Reports.htm>) includes data on year-to-date and the previous 4 years of marketing loan and loan deficiency payment expenditures.

National and County Commodity Loan Rates

(<http://www.fsa.usda.gov/dajp/psd/LoanRate.htm>) provides county and national marketing loan rates.

U.S. WTO Domestic Support and Support Reduction Commitments

(<http://www.ers.usda.gov/briefing/FarmPolicy/usnotify.htm>) summarizes the U.S. domestic support notifications to the WTO.

Appendix table 1

Wheat production costs and returns per planted acre, excluding Government payments, 2003-2004¹

Item	United States		Northern Great Plains		Prairie Gateway	
	2003	2004	2003	2004	2003	2004
<i>Dollars per planted acres</i>						
Gross value of production						
Primary product: Wheat grain	126.48	133.20	124.20	129.04	100.23	97.74
Secondary product: Straw/grazing	3.54	3.17	2.07	1.70	2.54	2.34
Total, gross value of production	130.02	136.37	126.27	130.74	102.77	100.08
Operating costs:						
Seed	7.60	7.64	7.89	7.42	5.25	5.19
Fertilizer ²	23.11	23.98	19.74	20.28	18.54	19.29
Chemicals	6.94	6.99	10.02	10.01	3.16	3.16
Custom operations	7.19	7.00	4.68	4.56	8.05	7.56
Fuel, lube, and electricity	10.95	11.84	7.02	7.32	13.11	14.23
Repairs	10.85	10.68	10.38	9.54	10.39	10.46
Purchased irrigation water and straw baling	0.68	0.69	0.18	0.19	0.17	0.18
Interest on operating inputs	0.36	0.54	0.32	0.47	0.31	0.47
Total, operating costs	67.68	69.36	60.23	59.79	58.98	60.54
Allocated overhead:						
Hired labor	2.66	2.70	1.80	1.86	2.15	2.15
Opportunity cost of unpaid labor	17.20	18.81	12.62	14.26	18.22	19.39
Capital recovery of machinery and equipment	52.30	53.25	52.88	50.47	48.01	49.95
Opportunity cost of land (rental rate)	39.93	39.87	37.71	37.51	30.17	30.22
Taxes and insurance	3.95	4.01	4.08	4.15	3.22	3.24
General farm overhead	7.40	7.61	7.16	7.39	6.34	6.48
Total, allocated overhead	123.44	126.25	116.25	115.64	108.11	111.43
Total, costs listed	191.12	195.61	176.48	175.43	167.09	171.97
Value of production less total costs listed	-61.10	-59.24	-50.21	-44.69	-64.32	-71.89
Value of production less operating costs	62.34	67.01	66.04	70.95	43.79	39.54
Supporting information:						
Yield (<i>bushels per planted acre</i>)	40.7	38.7	37.8	38.52	35.2	28.6
Price (<i>dollars per bushel at harvest</i>)	3.11	3.44	3.29	3.35	2.85	3.42
Enterprise size (<i>planted acres</i>) ¹	296	296	527	527	347	347
<i>Percent of acres</i>						
Production practices: ¹						
Winter wheat	67	67	19	19	100	100
Spring wheat	27	27	66	66	0	0
Durum wheat	6	6	15	15	0	0
Irrigated	5	5	*	*	6	6
Dryland	95	95	99	99	94	94
Straw	7	7	8	8	*	*

See footnotes at end of table.

—continued

Appendix table 1

**Wheat production costs and returns per planted acre, excluding Government payments,
2003-2004¹—Continued**

Item	Basin and Range		Fruitful Rim		Northern Crescent	
	2003	2004	2003	2004	2003	2004
<i>Dollars per planted acres</i>						
Gross value of production						
Primary product: Wheat grain	203.16	239.40	203.92	263.18	194.04	193.58
Secondary product: Straw/grazing	0.57	0.54	4.44	3.99	57.19	53.41
Total, gross value of production	203.73	239.94	208.36	267.17	251.23	246.99
Operating costs:						
Seed	10.83	11.34	12.42	13.48	12.67	13.27
Fertilizer ²	35.97	35.40	37.00	37.01	40.36	42.03
Chemicals	15.04	15.26	14.07	14.16	2.89	2.91
Custom operations	4.33	4.77	14.06	14.98	12.46	13.04
Fuel, lube, and electricity	12.14	12.21	21.84	22.06	6.39	21.49
Repairs	15.36	15.58	15.83	17.05	6.92	7.05
Purchased irrigation water and straw baling	1.26	1.27	7.00	7.16	2.19	2.33
Interest on operating inputs	0.50	0.75	0.65	0.99	0.44	0.8
Total, operating costs	95.43	96.58	122.87	126.89	84.32	102.92
Allocated overhead:						
Hired labor	6.27	6.38	8.34	8.27	0.44	0.48
Opportunity cost of unpaid labor	28.77	31.88	21.91	25.20	17.85	20.62
Capital recovery of machinery and equipment	74.50	78.65	69.23	77.46	42.18	44.52
Opportunity cost of land (rental rate)	53.71	53.38	83.45	82.38	70.59	70.61
Taxes and insurance	7.39	7.51	5.99	6.22	4.31	4.35
General farm overhead	12.82	13.03	11.14	11.59	8.88	9.07
Total, allocated overhead	183.46	190.83	200.06	211.12	144.25	149.65
Total, costs listed	278.89	287.41	322.93	338.01	228.57	252.57
Value of production less total costs listed	-75.16	-47.47	-114.57	-70.84	22.66	-5.58
Value of production less operating costs	108.30	143.36	85.49	140.28	166.91	144.07
Supporting information:						
Yield (<i>bushels per planted acre</i>)	58.4	64.0	60.5	69.4	63.0	58.8
Price (<i>dollars per bushel at harvest</i>)	3.48	3.74	3.37	3.79	3.08	3.29
Enterprise size (<i>planted acres</i>) ¹	527	527	359	359	45	45
<i>Percent of acres</i>						
Production practices: ¹						
Winter wheat	80	80	80	80	95	95
Spring wheat	19	19	12	12	5	5
Durum whea	*	*	8	8	0	0
Irrigated	8	8	35	35	0	0
Dryland	92	92	65	65	100	100
Straw	6	6	14	14	64	64

See footnotes at end of table.

—continued

**Wheat production costs and returns per planted acre, excluding Government payments,
2003-2004¹—Continued**

Item	Heartland		Southern Seaboard		Mississippi Portal	
	2003	2004	2003	2004	2003	2004
<i>Dollars per planted acres</i>						
Gross value of production						
Primary product: Wheat grain	196.68	188.13	95.06	123.94	140.92	189.02
Secondary product: Straw/grazing	15.49	13.48	6.99	7.52	1.47	1.43
Total, gross value of production	212.17	201.61	102.05	131.46	142.39	190.45
Operating costs:						
Seed	12.78	13.51	15.43	18.36	14.09	15.10
Fertilizer ²	42.45	45.47	50.12	55.57	31.05	32.66
Chemicals	3.70	3.72	5.25	5.33	6.27	6.21
Custom operations	7.97	7.75	13.65	14.50	16.68	18.10
Fuel, lube, and electricity	7.22	11.53	9.11	9.36	8.40	9.77
Repairs	8.76	8.52	8.63	10.74	9.90	10.96
Purchased irrigation water and straw baling	0.60	0.59	0.20	0.21	0.13	0.14
Interest on operating inputs	0.44	0.72	0.54	0.9	0.46	0.73
Total, operating costs	83.92	91.81	102.93	114.97	86.98	93.67
Allocated overhead:						
Hired labor	1.61	1.71	6.69	6.84	6.88	6.85
Opportunity cost of unpaid labor	19.81	21.64	24.34	26.48	7.90	8.15
Capital recovery of machinery and equipment	47.26	47.60	40.22	51.75	47.84	55.08
Opportunity cost of land (rental rate)	67.87	67.71	45.93	46.30	49.06	49.08
Taxes and insurance	3.49	3.53	3.07	2.97	7.81	7.98
General farm overhead	8.12	8.33	6.85	6.83	12.41	12.93
Total, allocated overhead	148.16	150.52	127.10	141.17	131.90	140.07
Total, costs listed	232.08	242.33	230.03	256.14	218.88	233.74
Value of production less total costs listed	-19.91	-40.72	-127.98	-124.68	-76.49	-43.29
Value of production less operating costs	128.25	109.80	-0.88	16.49	55.41	96.78
Supporting information:						
Yield (bushels per planted acre)	63.7	57.7	31.9	38.7	47.8	55.3
Price (dollars per bushel at harvest)	3.09	3.26	2.98	3.20	2.95	3.42
Enterprise size (planted acres) ¹	79	79	131	131	232	232
<i>Percent of acres</i>						
Production practices: ¹						
Winter wheat	85	85	100	100	100	100
Spring wheat	15	15	0	0	0	0
Durum wheat	0	0	0	0	0	0
Irrigated)	0	0	*	*	0	0
Dryland	100	100	99	99	100	100
Straw	17	17	13	13	*	*

¹Developed from survey base year, 1998.

²Commercial fertilizer, soil conditioners, and manure.

* = 0.1 to less than 5 percent.

Source: USDA/ERS, 2003 Agricultural Resource Management Survey (ARMS).

Appendix table 2

Characteristics of wheat farms, 2003

Item	Specialized wheat farms	Other wheat farms	All wheat farms
Total farms	41,319	125,432	166,752
<i>Percent</i>			
ARMS share			
Farms	25	75	100
Wheat acres	46	54	100
Wheat production	42	58	100
<i>Acres</i>			
Farm size			
Operated	1,208	1,298	1,276
Owned	659	604	617
Rented	550	695	659
Cropland	879	852	859
Harvested cropland	624	790	749
Crop harvested			
Wheat	464	182	252
Wheat yield (<i>bushels per acre</i>)	41	47	44
Corn	11	187	144
Soybeans	21	207	161
Barley/oats	23	21	22
Hay	40	82	72
Sorghum	45	29	33
Cotton	id	25	19
<i>Numbers</i>			
Average number of commodities grown	2.5	4.5	4.0
<i>Percent of farms</i>			
Number of commodities grown			
One commodity	25	0	6
Two commodities	34	9	15
Three commodities	19	23	22
Four or more commodities	22	68	56
Production specialty ¹			
Wheat	100	0	25
Corn	0	12	9
Soybean	0	10	8
Other crops	0	50	38
Beef cattle	0	18	14
Other livestock	0	10	7

Note: Totals may not add due to rounding.

¹Production specialty is the farm's production classification that represents the largest proportion of gross commodity receipts from the farm operation.

Source: USDA/ERS, 2003 Agricultural Resource Management Survey (ARMS).

Appendix table 3

Farm operator characteristics of wheat farms, 2003

Item	Specialized wheat farms	Other wheat farms	All wheat farms
Operator age (years)	56	55	55
	<i>Percent of farms</i>		
Age class			
Less than 50 years	35	40	39
50 years or more	65	60	61
Education			
Less than high school	13	11	11
Completed high school	33	45	42
Completed college	55	44	47
Primary occupation			
Farming	59	78	74
Retirement	13	9	10
Nonfarm job	28	13	17
Farm typology			
Rural-residence farms ¹	51	25	32
Intermediate farms	41	45	44
Commercial farms	8	30	25
Farm resource region			
Northeast ²	8	48	38
Southeast ³	2	9	8
Northern Great Plains	16	13	13
Prairie Gateway	64	25	35
West ⁴	10	6	7

Note: Totals may not add due to rounding error.

¹Rural-residence farms had operators whose occupation was retirement or a nonfarm job. Intermediate and commercial farms had operators whose primary occupation was farming. Intermediate farms had sales less than \$250,000, whereas commercial farms had sales of \$250,000 or more.

²Northeast = Heartland and Northern Crescent.

³Southeast = Eastern Uplands, Southern Seaboard and Mississippi Portal.

⁴West = Basin and Range and Fruitful Rim.

Source: USDA/ERS, 2003 Agricultural Resource Management Survey (ARMS).

Appendix table 4

Financial characteristics of wheat farms, 2003

Item	Specialized wheat farms	Other wheat farms	All wheat farms
<i>Dollars per farm</i>			
Gross value of production	80,248	265,773	219,802
Wheat value of production	59,293	27,192	35,146
<i>Percent</i>			
Wheat value of production	74	10	16
<i>Percent per farm</i>			
Farms receiving Government payments			
Any payments	90	92	92
Commodity payments	86	91	90
Conservation payments	25	23	24
<i>Dollars per farm</i>			
Farm income statement			
Gross cash income	94,111	274,458	229,770
Livestock sales	9,017	62,894	49,544
Crop sales	51,251	150,330	125,779
Government payments	16,951	23,868	22,154
Commodity-related payments	14,596	22,637	20,645
Conservation payments	2,355	1,231	1,509
Cash expenses	70,637	203,668	170,704
Net cash farm income	23,474	70,790	59,066
Depreciation	9,535	25,557	21,587
Net farm income ¹	27,507	65,481	56,071
Farm balance sheet			
Farm assets	653,854	1,191,136	1,058,003
Farm liabilities	69,835	156,453	134,990
Farm equity	584,018	1,034,683	923,013
<i>Percent</i>			
Debt/asset ratio	11	13	13
Favorable position ²	75	69	70
<i>Dollars per household</i>			
Farm household income			
Total household income	55,155	78,071	72,334
Farm-related income ³	13,154	41,229	34,201
Off-farm income	42,001	36,842	38,133
Earned sources	31,006	24,506	26,133
Unearned sources	10,996	12,336	12,000

¹Net farm income is net cash farm income less costs for depreciation and noncash benefits for hired workers, plus the value of the inventory change in 2003 and any nonmoney income. Nonmoney income includes the value of farm products consumed on the farm and an imputed rental value for the farm operator dwelling.

²Favorable position means a positive income and debt/asset ratio less than 0.40. These farms are generally considered financially stable.

³Farm-related income is that portion of farm income that is accrued by the farm household. Farm-related income is then adjusted to reflect any other households that share in the farm business income, and the farm earning of household members other than the farm operator.

Source: USDA/ERS, 2003 Agricultural Resource Management Survey (ARMS).