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U.S. 2013/14 Wheat Year in Review: Smaller Supplies and Higher Exports Lower Ending Stocks

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Abstract

Total U.S. wheat supplies for the 2013/14 marketing year (June 1, 2013-May 31, 2014) were below those of the previous year as lower beginning stocks and production were only partially offset by higher imports. Total domestic use was down year to year with a sharp decrease in feed and residual use with the recovery in U.S. corn production from the previous year's severe drought. Other domestic uses were up slightly. Exports were up sharply from the previous year. The season-average price (SAP) for 2013/14 was \$6.87 per bushel, down from the record high \$7.77 per bushel for 2012/13. The high SAP for 2012/13 was partially the result of the high corn prices due to the drought.

Keywords: Wheat, United States, world, production, feed, consumption, supply, use, stocks, price

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Summary

The Economic Research Service's wheat situation and outlook program publishes 12 monthly reports each year detailing the factors underlying the month-to-month changes in the U.S. Department of Agriculture's wheat supply and demand projections as published in the *World Agricultural Supply and Demand Estimates (WASDE)*. This report provides an annual year-in-review discussion of the 2013/14 domestic marketing year (June 1, 2013-May 31, 2014), covering supply, utilization, ending stocks, and prices.

A defining feature of the 2013/14 U.S. wheat marketing year was the striking impact of regional weather conditions on by-class production and supplies. Hard red winter (HRW) seedings were reduced compared to the previous year due to drought in the Southern and Central Plains at planting time. HRW production was further reduced as continued dry conditions and spring freeze damage resulted in low yields and a high rate of abandonment particularly in the western parts of this region. In contrast, favorable weather at seeding time led to increased soft red winter (SRW) planted area. Continued favorable weather through the growing season resulted in high SRW yields.

Spring wheat production was lower than the previous year as a late spring and excessive moisture in the Northern Plains significantly delayed spring wheat planting, and resulted in substantial prevented plantings. The loss of planted area in the Northern Plains was partially offset by higher yields resulting from favorable weather during the growing season. Production of hard red spring (HRS) and durum were both down year to year. Durum production was especially affected—down 30 percent year to year.

Another feature of the 2013/14 U.S. wheat marketing year was the sharply reduced feeding of wheat with the recovery of U.S. corn production from the previous year's severe drought. The recovery of U.S. corn production and subsequent year to year corn price decline contributed to lower wheat prices in the 2013/14 marketing year.

Supplies. Total U.S. supplies for 2013/14, at 3,021 million bushels, were down 97 million bushels from the previous year as lower beginning stocks and production were only partially offset by higher imports. Beginning stocks for 2013/14 were 718 million bushels, 25 million bushels less than in 2012/13.

All-wheat production was estimated at 2,135 million bushels for 2013, down 117 million bushels from 2012. All-wheat harvested area for 2013 was 45.3 million acres, down 3.5 million acres from the previous year. The U.S. all-wheat yield was 47.1 bushels per acre, exceeding the previous record of 46.2 bushels for 2012.

Utilization. Domestic use of wheat in 2013/14 was down year-to-year by 132 million bushels to 1,256 million bushels due to sharply lower feed and residual use as U.S. corn production recovered from the previous year's drought. Feed and residual use was down 142 million bushels from the previous marketing year to 228 million bushels. Other domestic uses were up slightly. Increased flour use due to population growth and a slight increase in per capita use were partially offset by continued high extraction rates—the amount of flour produced from a given quantity of wheat—resulting in a small increase in bushels of wheat milled compared with the year before. Seed use was also up slightly. U.S. exports for

2013/14 were up 164 million bushels from 2012/13 to 1,176 million bushels as markets expanded for U.S. wheat.

Ending stocks. Total U.S. ending stocks for 2013/14, at 590 million bushels, were down 128 million bushels from those of 2012/13. Though U.S. ending stocks have dropped each year since 2009/10's 976 million bushels, 2013/14 stocks are still 284 million bushels above the ending stocks for 2007/08, which were the lowest since the late 1940s.

Price. The season-average price (SAP) for 2013/14 was \$6.87 per bushel, down from the record high \$7.77 per bushel for 2012/13. The high SAP for 2012/13 was partially the result of the high corn prices due to the Midwest drought of 2012.

Global Wheat Production

Global wheat production was at a record level with favorable weather in many wheat-growing countries. The high world wheat prices and favorable weather resulted in record global production. World production increased 56 million metric tons (mmt) from 2012/13 to a record 714 mmt in 2013/14. This sharp increase was the result of large year-to-year increases in many countries.

U.S. Supplies for 2013/14

Total U.S. supplies for 2013/14, at 3,021 million bushels, were down 97 million bushels from the previous year (table 1). Lower production and beginning stocks were only partially offset by higher imports.

Beginning Stocks. Beginning stocks for 2013/14 were 718 million bushels and were down 25 million from 2012/13.

Imports. Imports for 2013/14, at 169 million bushels, were up 46 million bushels from 2012/13.

Production. All-wheat production was estimated at 2,135 million bushels for 2013, down 117 million bushels from 2012. All-wheat harvested area for 2013 was 45.3 million acres, down 3.5 million acres from the previous year. The U.S. all-wheat yield was a record 47.1 bushels per acre, exceeding the record previous record of 46.2 bushels for 2012.

U.S. planted area for 2013/14, at 56.2 million acres, was up 0.9 million acres from the 2012 acreage of 55.3 million. Winter seedings were up year to year while spring seedings were down year-to-year. The increased winter wheat seedings occurred because higher SRW seedings and white winter seedings more than offset smaller HRW seedings. Drought in the Southern and Central Plains was part of the reason for reduced HRW seedings. SRW seedings were up year to year because of an earlier row crop harvest compared to the previous year. HRS and durum seedings were both down from the previous year as excessive moisture and cool temperatures in the Northern Plains resulted in substantial prevented plantings.

Though wheat seeded area has (all classes, combined) increased 3 years in a row, this does not reverse the 30-year downward trend for wheat area in the United States. In 1981 and 1982, wheat planted area was 88.3 million acres and 86.2 million acres, respectively (fig. 1). With the enhanced planting flexibility in the 1996 and succeeding Farm Acts, relatively low returns led to the substitution of competing crops for wheat, particularly on the Plains. For information about the long-term forces behind this large decline in wheat area in the United States, follow the link in the box, "USDA Wheat Baseline, 2013-22."

USDA Wheat Baseline, 2013-22

Each year, USDA updates its 10-year projections of supply and utilization for major field crops grown in the United States, including wheat (see Overview of the USDA Baseline Process for more information). One key use of the projections is as a “baseline” from which to analyze the impacts of potential policy changes affecting U.S. agriculture.

This discussion summarizes analysis underlying the wheat projections for 2013-22. Details about projections for the U.S. macroeconomy, other U.S. crops, U.S. livestock, farm income and food prices, and U.S. and global agricultural trade, which are critical components of this analysis, can be found in the Agricultural Baseline Projections topic page.

The U.S. wheat sector faces many long-term challenges:

- The long-term projections point to smaller U.S. wheat planted area, a continuation of a long-term trend as profitability relative to other crops—particularly corn and soybeans—has declined.
- The sharp decline in domestic food use of wheat since 2000—arising from changing consumer preferences—appears to have ended. Future growth is likely to correspond with population growth.
- Internationally, in addition to traditional global competitors (Canada, Argentina, Australia, and the European Union), Ukraine and Russia have emerged as new competitors with the United States in foreign markets in years when their production is high. The overall result in the projections is a smaller U.S. share of an expanding world wheat trade market.

For more information on USDA’s 10-year baseline projections for wheat, see <http://www.ers.usda.gov/topics/farm-economy/agricultural-baseline-projections.aspx>

U.S. all-wheat harvested area for 2013 decreased year to year despite an increase in planted area. The decrease in the all-wheat harvested area was mostly due to reduced seeding of hard red winter (HRW) and hard red spring (HRS), the former due to abandonment and the latter due to prevented plantings because of excessive moisture during spring seeding time. These acreage losses were partially offset by a 1.9 million acre increase of soft red winter (SRW) planted area because of favorable weather at seeding time.

All-wheat harvested area was further reduced by a high rate of HRW abandonment due to dry weather and spring freeze damage. The abandonment rate (the proportion of planted acres not harvested due to damage) for the 2013 HRW crop was 31.9

percent compared with 17.4 percent in 2012. The abandonment rate for HRW is highly variable because of the frequent occurrence of drought in the Central and Southern Plains. In recent years it has ranged from a low of 15.8 percent in 2010 to as high as 33.7 percent in 2002.

The all-wheat yield for the 2013 crop was a record despite a 4.1-bushels-per-acre decrease in HRW yield from 2012 due to adverse weather conditions. Favorable growing conditions boosted the 2013 yield of durum, SRW, soft white spring (SWS), and HRS by 4.5 bushels, 3.4 bushels, 3.2 bushels, and 1.8 bushels, respectively. The SRW and HRS yields for 2013 were record highs.

All-wheat production for 2013 was down 117 million bushels from 2012. This decrease was primarily driven by year-to-year production decreases for HRW and HRS that exceeded the SRW production increase. For HRW, the reduced harvested area and lower yields drop output 253 million bushels from 2012. The reduced area for HRS more than offsets higher yields, so output is down 14 million bushels year to year. SRW's larger area and higher yield raises output 148 million bushels from 2012. All-white wheat production was up 12 million bushels from 2012, as larger area more than offset the impact of slightly lower yields.

Domestic Demand Continues To Exceed Foreign Demand for U.S. Wheat in 2013/14

U.S. domestic use for 2013/14 decreased by 130 million bushels year to year to 1,256 million bushels, but was still 80 million bushels larger than exports. For comparison, exports exceeded domestic use in only 1 of the previous 5 marketing years, 2010/11. Total domestic use in 2013/14 was down year to year because of sharply reduced feed and residual use. U.S. exports, at 1,176 million bushels for 2013/14, were up from 2012/13 by 164 million bushels, mostly due to greatly expanded exports to China and Brazil.

Feed and Residual Use. Feed and residual use for 2013/14 was down 142 million bushels from 2012/13 to 228 million bushels. The sharp decrease in feed and residual use was the result of a recovery of U.S. corn production in 2013 from the severe drought in the United States that caused large corn production losses in 2012 in the U.S. Corn Belt States. The larger supplies of corn and the resulting lower prices reduced the financial incentives in 2013/14 to include wheat in livestock rations.

Total Food Use. Total domestic food use of wheat, at 951 million bushels, was up 6 million bushels from 2012/13. Increased flour use with a rising population and a slightly higher per capita flour use was partially offset by continued high extraction rates.

Table 1--Wheat: U.S. market year supply and disappearance

Item and unit		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Area:								
Planted	Million acres	60.5	63.6	59	56.6	54.3	55.3	56.2
Harvested	Million acres	51.0	56.0	49.8	46.9	45.7	48.8	45.3
Yield	Bushels per acre	40.2	44.8	44.3	46.1	43.6	46.2	47.1
Supply:								
Beginning stocks	Million bushels	456	306	657	976	862	743	718
Production	Million bushels	2,051	2,512	2,209	2,163	1,993	2,252	2,135
Imports 1/	Million bushels	113	127	119	97	112	123	169
Total supply	Million bushels	2,620	2,945	2,984	3,236	2,968	3,118	3,021
Disappearance:								
Food use	Million bushels	948	927	919	926	941	945	951
Seed use	Million bushels	88	78	68	71	76	73	77
Feed and residual use	Million bushels	16	268	142	85	157	370	228
Total domestic use	Million bushels	1,051	1,273	1,129	1,081	1,174	1,388	1,255
Exports 1/	Million bushels	1,263	1,015	879	1,291	1,051	1,012	1,176
Total disappearance	Million bushels	2,314	2,288	2,008	2,373	2,226	2,400	2,431
Ending stocks	Million bushels	306	657	976	862	743	718	590
CCC inventory 2/	Million bushels	0	0	0	0	0	0	0
Stocks-to-use ratio, percent		13.2	28.9	48.4	35.7	33.2	29.9	24.3
Loan rate	Dollars per bushel	2.75	2.75	2.75	2.94	2.94	2.94	2.94
Direct payment rate	Dollars per bushel	0.52	0.52	0.52	0.52	0.52	0.52	0.52
Farm price 3/	Dollars per bushel	6.48	6.78	4.87	5.70	7.24	7.77	6.87

Totals may not add due to rounding.

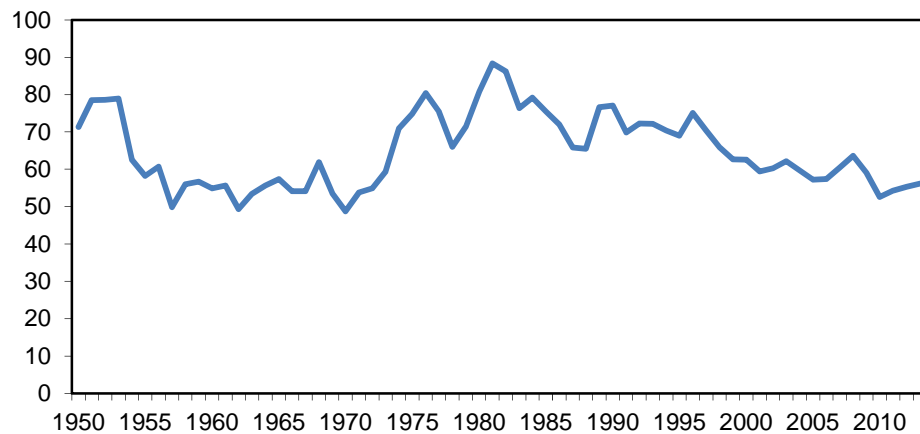
1/ Includes flour and selected other products expressed in grain-equivalent bushels. 2/ Stocks owned by USDA's Commodity Credit Corporation (CCC). CCC-owned inventory held in the Bill Emerson Humanitarian Trust was liquidated in 2007/2008 when world wheat stocks fell to a 26-year low. 3/ U.S. season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, World Agricultural Outlook Board, *World Agricultural Supply and Demand Estimates* and supporting materials.

Figure 1

U.S. wheat planted area, 1950-2013¹

Million acres



Notes: ¹Includes winter wheat area planted in the preceding fall.

Source: USDA, National Agricultural Statistics Service, *Quick Stats*.

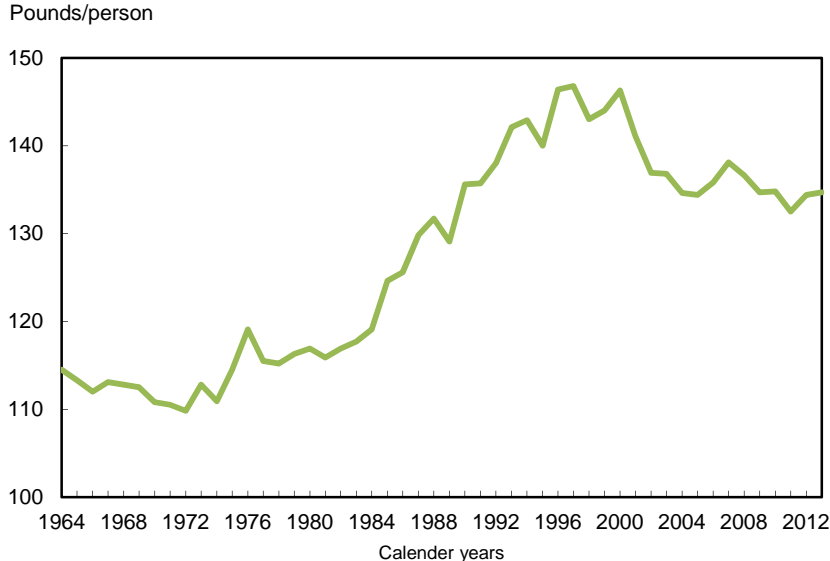
The 2013/14 flour extraction rate continued at a very high level by historical standards. High flour extraction rates mean that fewer bushels of wheat need to be milled to produce a given quantity of flour.

The flour extraction rate varies partly with the plumpness of the grain kernels and partly with the diligence with which mills optimize flour extraction. Kernel plumpness is greater when the wheat crop is not stressed by moisture shortages or high temperatures during the grain-filling production stage. With very high wheat prices, there is a greater incentive for mill managers to frequently adjust their mills to maximize flour extraction.

Per Capita Flour Use. Per capita all-wheat flour use for 2013 is estimated at 134.7 pounds, up 0.3 pounds from the 2012 estimate but down 3.6 pounds from 2007, a recent peak. The 2013 per capita food use is down 11.6 pounds from the 2000 level when flour use started dropping sharply, apparently due to increased consumer interest in low-carbohydrate diets. Time series data of flour consumption can be found in table 29 at <http://www.ers.usda.gov/data-products/wheat-data.aspx>.

From the early 1970s until the late 1990s, U.S. wheat producers could count on rising per capita food use to expand the domestic market for their crop. The growth of the domestic market during this time period reflected changes that included 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 of eating high-fiber, grain-based foods.

Figure 2
U.S. per capita wheat flour use, 1964 to 2013



Source: USDA, Economic Research Service.

Exports. U.S. wheat exports for 2013/14 totaled 1,176 million bushels, up from 1,012 million bushels for 2012/13. Exports rose year to year for all classes of wheat except for white wheat.

World wheat production was up from 2012/13 and reached a new record high, with expansion in many exporting countries. Black Sea production recovered sharply from the effects of drought the previous year. EU and Australian production was up substantially from the previous year. Wheat production in Canada reached a record high, up 10 million tons from 2012/13. Indian wheat production, though down slightly from the previous year's record, was still high by historical standards. Argentina production was up slightly year to year, but still very low by historical standards. Black Sea wheat production was up 39 percent from 2012/13, led by the increase in Russia.

Longer term, Ukraine's farmers have been increasing corn production for export, mainly to the EU. These corn shipments to the EU are replacing feed wheat from Eastern European farmers. Ukraine now produces and exports more corn than wheat.

Canada's wheat crop was a record one. Early season exports were constrained by transportation problems, particularly rail. Canada's railways were used to transport oil to such an extent that there was a shortage of engines available to pull grain cars. This shortage slowed the initial pace of Canadian wheat exports to world markets. However, Canada's exports for the year were the highest since 1991/92.

The highlight of the 2013/14 U.S. wheat export story is the large exports of SRW to China and HRW to Brazil. These two countries are traditionally low-volume importers of U.S. wheat. China is mostly self-sufficient in wheat, but adverse weather conditions in back-to-back crops led to a slight decrease in good quality wheat. China was then forced to import wheat for storage, blending and feed purposes. Brazil's imports of U.S. wheat were due to the lack of supplies from Argentina, its main wheat supplier. Argentina production was low a second year in a row, constraining its capacity to supply Brazilian wheat import demand. The Argentine Government policy was to limit exports to prevent inflationary pressure while re-building stocks due to a tight supply situation. Brazil's importers turned to the United States to supply their wheat requirements. This led to record U.S. HRW wheat exports to Brazil.

Ending Stocks. Total U.S. ending stocks for 2013/14, at 590 million bushels, were down 128 million bushels from 2012/13. Though U.S. ending stocks have dropped each year since 2009/10's 976 million bushels, stocks for 2013/14 are still 284 million bushels above 2007/08 ending stocks. Ending stocks for 2007/08 were the lowest since the late 1940s (fig. 3).

The U.S. stocks-to-use ratio for 2013/14 was 24 percent, below the 30 percent and the 33 percent for 2012/13 and 2011/12, respectively. The 2013/14 ratio is much lower than the recent high of 49 percent for 2009/10. The U.S. stocks-to-use ratio averaged 24 percent in the 3 years before the 2007/08 price spike. In 2007/08, the U.S. stocks-to-use ratio dropped to 13 percent as world demand for U.S. wheat exports rose to a 15-year high.

Monthly Wheat Prices

The monthly prices for 2013/14 were significantly lower than for 2012/13. Abundant world supplies held down global wheat prices, forcing down U.S. prices to be competitive in export markets. Early in the marketing year, offers of Black Sea wheat and EU wheat from August forward undercut U.S. prices. Farmgate monthly prices dropped from \$7.37 per bushel in June to \$6.80 in September (fig. 4). There was a brief rally through December, but farmgate prices resumed their decline to a wintertime low of \$6.50 in February with export competition from many suppliers, including Australia, Canada, the European Union and Russia.

Wheat prices then rallied again as plunging wheat crop ratings amid harsh winter conditions and ongoing drought in the Southern Plains, along with geopolitical unrest between Russia and Ukraine in the Black Sea region, triggered a strong rally from the winter lows in the wheat market. Then the mid-April freeze hit the Southern Plains, taking another bite out of the HRW crop and pushing prices up. Prices then dropped from an early May peak with the realization that winter wheat in most of the rest of the Northern Hemisphere was in good condition and another huge world wheat crop is expected.

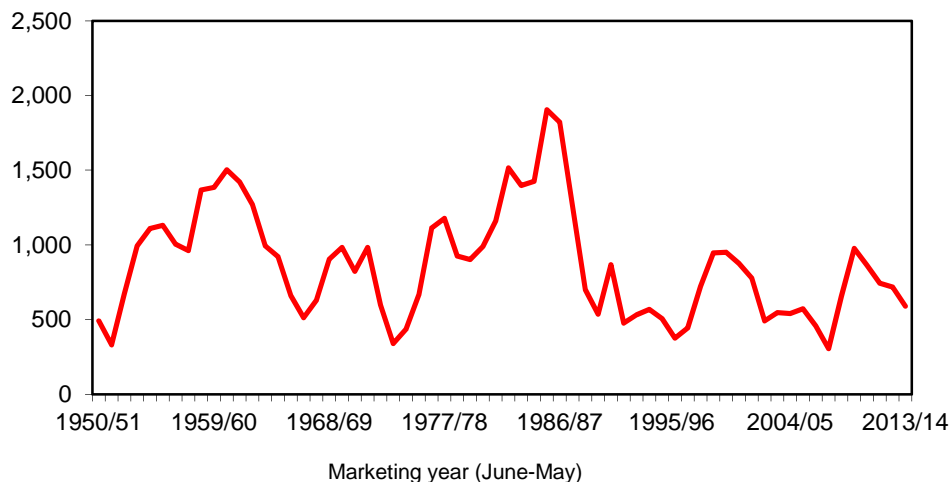
The season-average farmgate price (SAP) for 2013/14 was \$6.87 per bushel. This compares with the record-high SAP of \$7.77 for 2012/13.

Government Payments to the Wheat Sector Remained Low in 2013

The U.S. wheat sector is eligible for various forms of Government assistance, including marketing assistance loans, direct and countercyclical payments, crop

Figure 3
U.S. wheat ending stocks, 1950/51-2013/14

Millions bushels



Source: USDA, National Agricultural Statistics Service, *Quick Stats*.

insurance, and export assistance through credit guarantees and food donation programs.¹ Some payments are dependent on market prices, so when prices are high, those payments are relatively low.

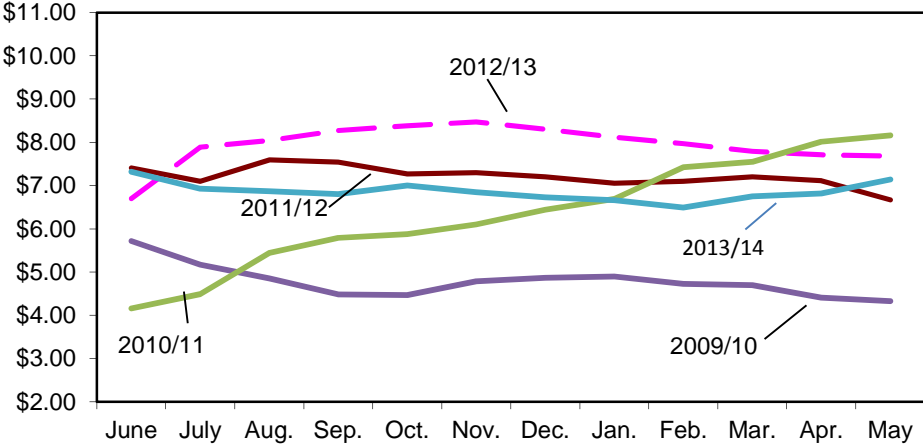
¹For more information on these programs, see <http://www.ers.usda.gov/topics/farm-economy/farm-commodity-policy.aspx>

Marketing Loans. Marketing assistance loans (MALs) provide eligible producers with interim financing on their production. Instead of selling their crop immediately at harvest, producers may pledge their production as loan collateral, receiving loan proceeds equal to the loan rates times the quantity placed under loan. Under marketing loan provisions, producers may repay a MAL at the lower of the loan rate plus accrued interest or the posted county price (PCP). If the PCP is below the loan rate, the amount by which the loan rate exceeds the PCP is the marketing loan gain (MLG) rate. Farmers are also eligible for a loan deficiency payment (LDP) in lieu of obtaining a MAL. The LDP rate is the amount by which the loan rate exceeds the PCP—the same as the MLG rate.

With high prices, 2013 crop marketing loan activity for wheat was very low. Marketing loans were made on only 24.7 million bushels (1 percent of production), continuing a recent trend. Use of marketing loans has been very limited in recent years: 27.5 million bushels in 2012; 36.0 million bushels in 2011; 66.5 million bushels for 2010; and 102.5 million bushels for 2009, and no marketing loan benefits (including marketing loan gains, LDPs, and eLDPs (electronic LDPs)) have been paid over the past several years.

Direct Payments (DP). DPs are decoupled (separated) from current production and prices, providing farmers with a predetermined payment that does not depend on market conditions. DP expenditures related to wheat base acres have averaged \$1.1 billion annually under the 2002 and 2008 Farm Acts.

Figure 4
Monthly all-wheat prices
Dollars/bushel

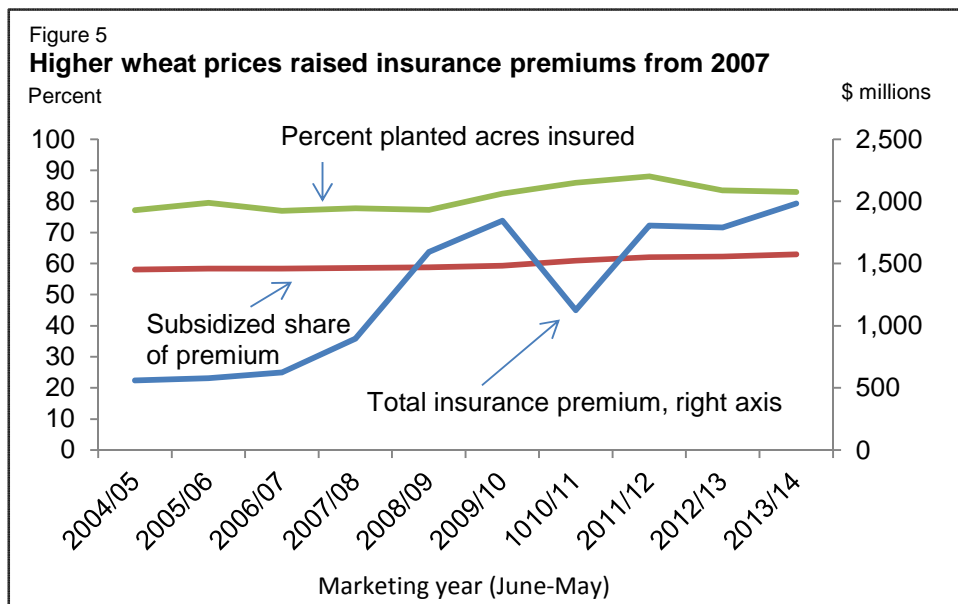


Source: USDA, National Agricultural Statistics Service, *Quick Stats*.

Counter-cyclical Payments (CCP). CCPs are decoupled from current production, but linked inversely to season-average farm prices. CCP rates rise as the season-average market price falls below certain levels. With the 2013/14 season average at \$6.87 per bushel, no CCPs were made for wheat base acres for the 2012 crop. The CCP price trigger is \$3.65 per bushel.

Crop Insurance Subsidies. In the 2013 crop year, about 48.6 million acres or about 86 percent of planted wheat acres were insured under the Federal crop insurance program, including both yield and revenue products. About \$2.27 billion was paid to wheat producers in crop insurance indemnities on the 2013 crop. Total crop insurance premiums paid for wheat were about \$1.98 billion, of which about \$1.25 billion were premium subsidies paid by the Government. The total cost of the premiums rose as the price of wheat increased from 2007 (fig. 5). Participation in revenue insurance in 2013 was about 84 percent of wheat-insured acres.

Export Assistance and Food Aid. U.S. food assistance programs provide agricultural products to individual countries with food aid needs through direct donations and through loans at concessional rates. The United States provides food assistance through Public Law (P.L.) 480 (Food for Peace) and the Food for Progress Program. Title I of P.L. 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 nonemergency 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.



2013/14 Wheat Situation by Class

All Wheat Production Down Largely Because of Decline in HRW Production

HRW and durum 2013/14 wheat supplies were down year to year because of reduced production.² Supplies of the other classes were up from the previous year, especially SRW and HRS. SRW supplies were up with larger production and HRS supplies were larger due to increased imports from Canada. White wheat supplies were nearly unchanged. Total domestic use was down year to year mostly due to lower feed and residual use of HRW. Total exports were up year to year led by increases of HRW and SRW.

Total ending stocks are down 18 percent year to year led by decreases for HRW and white. Only HRS stocks were up year to year, up 2 percent. The ending stocks of HRW, white, SRW, and durum were down 31 percent, 21 percent, 9 percent, and 7 percent, respectively.

HRW monthly prices ended the 2013/14 marketing year on a seasonal high. The other four classes had their season-high monthly prices in June at the start of the marketing year. The seasonal low for monthly prices for all the classes was in February

HRW Production Down With Severe Drought and Spring Freeze

HRW production for 2013, at 747 million bushels, was down 251 million bushels from 2012 with fewer harvested acres and lower yields (table 2). Severe drought conditions at seeding time contributed to smaller HRW planted area. HRW production was further reduced as continued dry conditions and spring freeze damage resulted in low yields and a high rate of abandonment, particularly in western Texas, eastern Colorado, western Nebraska, Wyoming, and South Dakota.

HRW planted area for 2013 was 29.7 million acres, down 0.1 million acres from 2012. The harvest-to-planted ratio for 2013 was 69 percent, much lower than 2012 ratio of 83 percent. Thus, HRW harvested area for 2013 was only 20.4 million acres compared to 24.6 million acres in 2012. The average harvest-to-planted ratio for the five years before 2012 was 86 percent with a low of 84 percent and a high of 89 percent.

Drought conditions during the growing season and spring freeze damage reduced 2013 yields to 36.6 bushels per acre. The 2012 HRW yield was 40.6 bushels per acre.

HRW supplies in 2013/14, at 1,109 million bushels, were down 224 million bushels from the previous marketing year because of sharply reduced production. Both carryin stocks and imports were up slightly year to year. **Total use**, at 873 million bushels, was 117 million bushels below the previous year (fig. 6). Total domestic use was down 182 million bushels to 427 million. Domestic use was down because of both lower food use and feed and residual use. HRW food use was down because the lower output that reduced the availability for milling. For some wheat products, HRS was substituted for HRW in the mill grind. Feed and residual use of HRW was also down with the lower HRW output and the recovery of U.S. corn

²For background information on the U.S. wheat classes, see <http://www.ers.usda.gov/topics/crops/wheat/background.aspx>

production from the previous year's drought. HRW exports were up 65 million bushels year to year to 446 million bushels largely because of expanded trade with Brazil (fig. 7). Brazil's imports of U.S. wheat were due to the lack of supplies from Argentina, its main wheat supplier. This led to a large increase in U.S. HRW wheat exports to Brazil compared to previous years.

The net result of the supply and use changes from 2012/13 to 2013/14 was that **HRW ending stocks** were down 107 million bushels year to year to 236 million bushels. This level of ending stocks results in a stocks-to-use ratio of 27 percent, down from 35 percent in 2012/13 and 37 percent for 2011/12. The HRW stocks-to-use ratio was as high as 48 percent for 2009/10 and as low as 14 percent in 2007/08, the year of the global wheat shortage. The HRW stocks-to-use ratio averaged 23 percent over the 5 years before 2007/08.

Monthly **farmgate prices** for HRW began the market year at \$7.35 per bushel and ended the year at \$7.39—the highest monthly price of the year—with a large year-to-year drop in ending stocks and the weather reduced production for the 2013 HRW crop. The decline in HRW ending stocks accounted for more than 80 percent of the year-to-year decline in all-wheat ending stocks. The monthly HRW prices during the marketing year fluctuated between an October high of \$7.25 and a February low of \$6.64 (fig. 8). The season-average price (SAP) for 2013/14 HRW was \$7.03 per bushel, below the record \$7.56 for 2012/13, but up from \$6.92 and \$6.49 for 2011/12 and 2010/11, respectively.

HRS Production Down From 2012 Because of Fewer Acres

HRS production for 2013, at 491 million bushels, was down 13 million bushels from 2012 because of fewer planted and harvested acres (table 3). Higher yields partially offset the reduced acreage. HRS planted area was smaller because excessive moisture and cool temperatures on the Northern Plains resulted in late seeding and prevented plantings. For example, at the end of the first week of May, North Dakota and Minnesota did not report any spring wheat seeding compared to 47 percent and 80 percent that was completed by that time the previous year. South Dakota and Montana each reported 6 percent seeded compared to 90 percent and 45 percent completed the previous year. The 2013 HRS crop achieved record yields despite a delayed planting season because the growing season conditions were excellent.

HRS planted area for 2013 was down 0.7 million acres from 2012 to 10.9 million acres. Harvest area was also down from 2012 by 0.8 million acres to 10.7 million acres. The HRS 2013 yield was 45.8 bushels per acre, up from 44 in 2012. HRS yields averaged 41.7 bushels per acre over the previous 5 years.

HRS supplies in 2013/14, at 733 million bushels, were up 35 million bushels from the previous marketing year as the lower production was more than offset by higher carryin stocks and imports. HRS total use, at 564 million bushels, was up 31 million bushels from 2012/13. Both domestic use and exports were up year to year. HRS food use was up as millers substituted HRS for HRW in the mill grind for some wheat products because of the reduced HRW output.

Table 2--Hard red winter wheat supply and demand 1/

Item	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Million acres											
Area:											
Planted	32.6	30.8	30.0	29.3	33.0	31.6	31.7	28.2	28.5	29.6	29.7
Harvested	25.6	23.4	24.6	21.3	25.7	26.1	24.3	23.9	21.5	24.6	20.4
Bushel per harvested acre											
Yield	41.7	36.6	37.8	32.0	37.2	40.0	38.1	42.1	36.4	40.6	36.6
Million bushels											
Supply:											
Beg. stocks	188	227	193	215	165	138	254	385	386	317	343
Production	1,071	856	930	682	956	1,046	926	1,006	783	998	747
Imports	0	1	0	1	1	2	2	1	0	18	19
Total supply	1,260	1,084	1,123	898	1,121	1,185	1,182	1,392	1,170	1,333	1,109
Domestic use:											
Food	378	382	370	366	397	385	361	359	404	400	367
Seed	35	33	33	37	35	36	32	32	33	33	34
Feed & residual	109	86	77	50	15	63	34	-3	19	175	27
Total domestic	522	502	481	453	448	483	427	389	455	608	428
Exports	510	389	428	280	536	447	370	617	397	382	446
Total use	1,033	891	908	733	984	930	797	1,005	853	990	874
Ending stocks	227	193	215	165	138	254	385	386	317	343	235
Stocks-to-use ratio, %	22.0	21.7	23.7	22.5	14.0	27.3	48.3	38.4	37.2	34.6	26.9
Dollars per bushel											
Farm price 2/	\$3.23	\$3.29	\$3.38	\$4.53	\$6.15	\$6.90	\$4.84	\$6.49	\$6.92	\$7.56	\$7.03

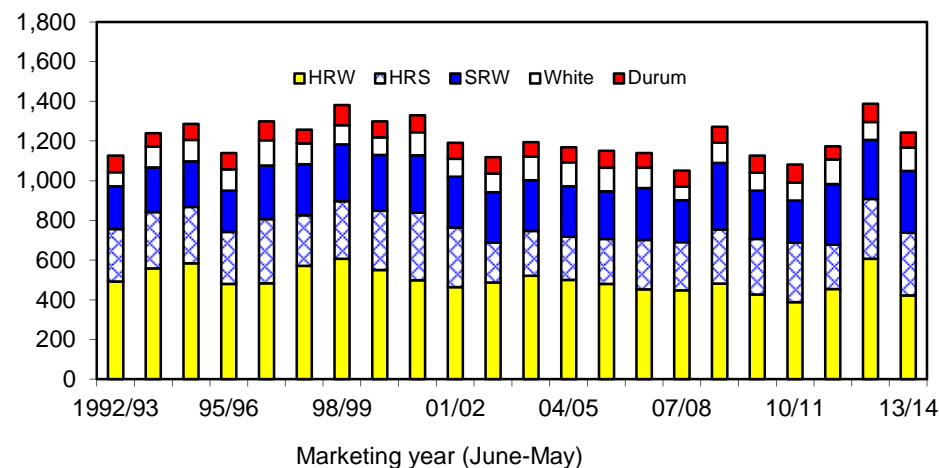
1/ ERS estimates of area, yield, and domestic use.

2/ Season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, Economic Research Service, *Wheat Outlook*.

Figure 6
U.S. domestic wheat use through 2013/14

Million bushels



HRW = Hard red winter. HRS = Hard red spring. SRW = Soft red winter.

Source: USDA, Economic Research Service, *Wheat Outlook*.

The net result of these supply and use changes was nearly unchanged **HRS ending stocks** for 2013/14 compared to 2012/13. Ending stocks for 2013/14 were up 4 million bushels from 2012/13 to 169 million bushels. The 2013/14 ending stocks-to-use ratio was 30 percent, just slightly below the 31 percent for 2012/13. The ratio for these two years was less than the recent high of 47 percent for 2009/10. For comparison, the stocks-to-use ratio was only 12 percent for the price-spike year of 2007/08, and averaged 29 percent over the 5 years prior to 2007/08.

Monthly **farmgate prices** for HRS began the marketing year at \$7.73 per bushel and dropped steadily to a season low of \$6.39 for the month of February. HRS prices then recovered to end the marketing year at \$6.85 per bushel. The SAP for HRS for 2013/14 was \$6.73 per bushel, down sharply from \$8.27 and \$8.38 for 2012/13 and 2011/12, respectively.

SRW Production Up 38 Percent in 2013

SRW production for 2013, at 568 million bushels, was up 156 million bushels from 2012 (table 4). The 2013 harvested area was up 2 million acres from 2012 to 8.9 million acres due to higher plantings. SRW seedings were up 2 million acres because of the timely row-crop harvest during the fall before seeding of winter wheat. The SRW seedings for 2012 were down because of the late row-crop harvest.

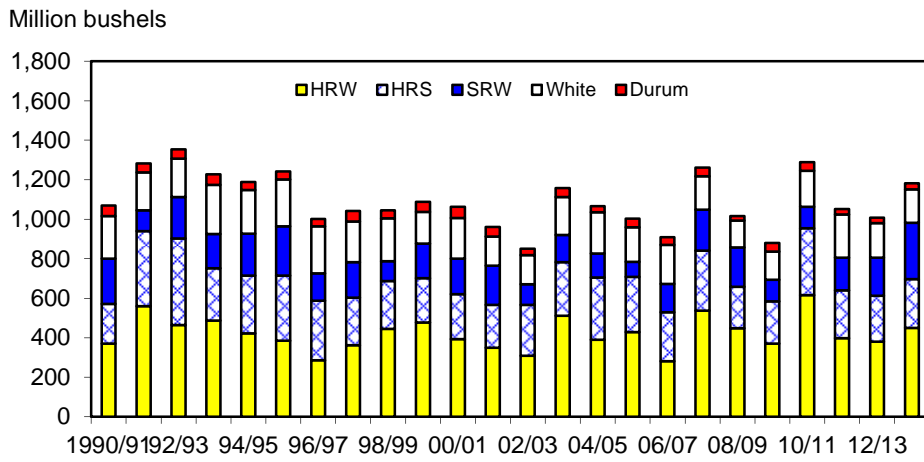
SRW production was also boosted year to year because of higher yields. Favorable 2013 growing conditions raised SRW yields 3.2 bushels per acre from 2012 to 63.7 bushels per acre.

SRW supplies for 2013/14, at 713 million bushels, was up 98 million bushels from 2012/13 as higher production and imports more than offset lower carryin stocks. **Total SRW use**, at 599 million bushels, was up 109 million bushels compared with the previous marketing year mostly because of higher exports. SRW exports were up partly because of large shipments to China. China is mostly self-sufficient in wheat, but adverse weather conditions led to a poor domestic crop. China was then forced to import wheat to meet domestic consumption needs.

SRW ending stocks for 2013/14, at 113 million bushels, were down 11 million bushels from 2012/13. The ending stocks-to-use ratio for 2013/14 was 19 percent, down from 25 percent for 2012/13. The 2013/14 ratio was also less than the 2010/11 and 2009/10 levels of 54 percent and 69 percent, respectively. The stocks-to-use ratio for 2007/08, the price-spike year, was 13 percent, much less than the average of the previous 5 years of 23 percent.

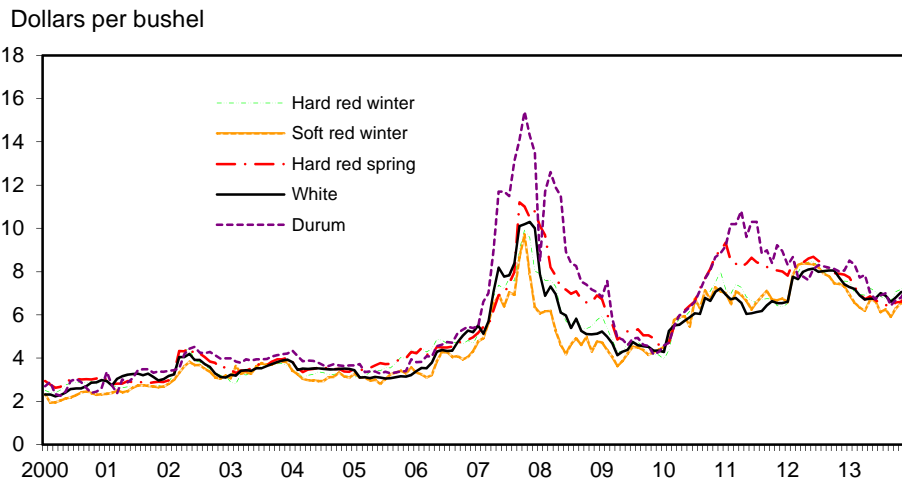
Monthly **farmgate prices** received by SRW producers began the 2013/14 marketing year with a monthly price of \$6.92 per bushel—the high for the year. SRW monthly prices moved downward in an uneven pattern to a seasonal low of \$5.90 before rebounding to \$6.73 in May. The 2013/14 SAP for SRW was \$6.53 per bushel, down from the record \$7.26 for 2012/13. For comparison, the SAP for 2011/12 and 2010/11 was \$6.78 and \$5.16, respectively.

Figure 7
Wheat exports up in 2013/14



Marketing year (June-May)
 HRW = Hard red winter. HRS = Hard red spring. SRW = Soft red winter.
 Source: USDA, Economic Research Service, *Wheat Outlook*.

Figure 8
Average monthly prices received by wheat farmers, June 2000-May 2014



Source: USDA, National Agricultural Statistics Service, *Agricultural Prices*.

Table 3--Hard red spring wheat supply and demand 1/

Item	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Million acres											
Area:											
Planted	13.1	13.0	13.3	14.4	12.7	13.4	12.6	12.8	11.6	11.7	10.9
Harvested	12.7	12.5	12.9	13.4	12.4	12.8	12.3	12.5	11.3	11.5	10.7
Bushels per harvested acre											
Yield	39.2	42.2	36.0	32.2	36.3	39.9	44.5	45.1	35.2	43.9	45.8
Million bushels											
Supply:											
Beg. stocks	145	157	159	132	117	68	142	234	185	151	165
Production	500	525	467	432	450	510	546	564	396	503	491
Imports	9	8	12	50	48	45	41	28	35	44	78
Total supply	654	690	638	614	615	623	729	826	616	698	733
Domestic use:											
Food	223	228	227	236	233	224	239	247	223	228	266
Seed	19	21	21	19	20	17	17	14	19	13	19
Feed & residual	-17	-33	-22	-6	-11	30	26	40	-19	60	33
Total domestic	225	216	226	248	243	271	281	301	223	301	318
Exports	272	315	280	248	304	210	214	340	243	232	246
Total use	497	531	506	497	547	481	495	641	465	533	564
Ending stocks	157	159	132	117	68	142	234	185	151	165	169
Stocks-to-use ratio, %	31.6	29.9	26.1	23.5	12.4	29.5	47.3	28.9	32.5	31.0	30.0
Dollars per bushel											
Farm price 2/	\$3.63	\$3.51	\$3.70	\$4.48	\$7.16	\$7.39	\$5.26	\$6.54	\$8.38	\$8.27	\$6.73

1/ ERS estimates of area, yield, and domestic use.

2/ Season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, Economic Research Service, *Wheat Outlook*.

Table 4--Soft red winter wheat supply and demand 1/

Item	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Million acres											
Area:											
Planted	8.3	8.2	6.1	7.4	8.6	11.4	8.2	4.9	8.5	8.0	10.0
Harvested	6.8	7.0	5.1	6.2	7.0	10.2	7.0	4.0	7.4	6.8	8.9
Bushels per harvested acre											
Yield	55.6	54.2	59.9	63.2	50.0	60.5	55.8	54.7	61.5	60.5	63.7
Million bushels											
Supply:											
Beg. stocks	55	64	88	106	109	55	171	242	171	185	124
Production	380	380	308	390	352	618	391	219	453	413	568
Imports	22	22	26	20	14	34	32	29	32	18	21
Total supply	457	466	423	515	475	707	594	490	656	616	713
Domestic use:											
Food	153	155	155	165	150	155	156	150	155	152	155
Seed	16	12	14	16	21	16	9	16	15	19	16
Feed & residual	87	89	71	80	41	166	77	43	135	127	145
Total domestic	256	255	241	261	212	337	243	210	306	298	317
Exports	138	122	76	145	208	199	109	109	165	193	282
Total use	393	378	317	406	420	536	352	319	471	492	599
Ending stocks	64	88	106	109	55	171	242	171	185	124	114
Stocks-to-use ratio, %	16.3	23.3	33.4	26.8	13.1	31.9	68.8	53.6	39.3	25.2	19.0
Dollars per bushel											
Farm price 2/	\$3.17	\$3.21	\$3.19	\$3.38	\$5.20	\$5.78	\$4.35	\$5.16	\$6.78	\$7.26	\$6.53

1/ ERS estimates of area, yield, and domestic use.

2/ Season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, Economic Research Service, *Wheat Outlook*.

White Wheat Production Up Slightly for 2013

Total **white wheat production** for 2013, at 271 million bushels, was up 14 million bushels from 2012 (table 5). Total white wheat planted and harvested areas were 4.2 million acres and 4.0 million acres, respectively. Planted area was up 0.3 million acres from 2012 and harvested area was up 0.2 million acres. The all-white wheat yield for 2013 was 68.1 bushels per acre, down 0.2 bushels per acre from 2012.

The planted and harvested areas, production, and yield for white winter wheat were as follows (hard white winter = HWW and soft white winter = SWW):

2013	HWW	SWW
Planted area (million acres)	0.36	3.15
Harvested area (million acres)	0.28	3.05
Yield (bushels/acre)	38.9	70.8
Production (million bushels)	11.1	216.0

2012	HWW	SWW
Planted area (million acres)	0.33	3.0
Harvested area (million acres)	0.29	2.91
Yield (bushels/acre)	45.5	71.1
Production (million bushels)	13.4	206.6

The planted and harvested areas, production, and yield for white spring wheat were as follows (hard white spring = HWS and soft white spring = SWS):

2013	HWS	SWS
Planted area (million acres)	0.15	0.52
Harvested area (million acres)	0.14	0.50
Yield (bushels/acre)	74.5	65.9
Production (million bushels)	10.5	32.9

2012	HWS	SWS
Planted area (million acres)	0.12	0.48
Harvested area (million acres)	0.11	0.46
Yield (bushels/acre)	74.1	62.8
Production (million bushels)	8.3	28.7

Total 2013/14 **white wheat supplies**, at 341 million bushels, were up 13 million bushels from those of 2012/13 as slightly higher production more than offset lower beginning stocks and imports. **Total white wheat use**, at 291 million bushels, was up 26 million bushels compared with 2012/13. Higher domestic use more than offset lower exports in 2013/14.

White wheat ending stocks for 2013/14, at 50 million bushels, were down 13 million bushels from those of a year earlier. The ending stocks-to-use ratio for 2013/14 was 17 percent, compared to 24 percent the previous year. The recent high for the ending stocks to use ratio was 35 percent in 2009/10, while it reached a low

of 16 percent during the price-spike year of 2007/08, and averaged 23 percent over the previous 5 years.

Monthly **farmgate prices** received by white wheat producers began the year at \$7.29 per bushel in June—the high for the 2013/14 marketing year. Monthly prices fluctuated, but trended lower to a marketing-year low of \$6.61 in February before rebounding to \$7.12 per bushel in May. The 2013/14 SAP at the farmgate for white wheat was \$6.85 per bushel, down from the record \$7.88 in 2012/13, but up compared to the 2011/12 price of \$6.42 and the 2010/11 price of \$5.88 per bushel.

Durum Production Down 25 Percent for 2013

Durum **production** was down 24 million bushels from 2012 to 58 million bushels for 2013 with lower planted and harvested areas (table 6). As with HRS, the excessive moisture and cool temperatures in the Northern Plains delayed seedings and led to prevented durum plantings. Durum planted area was 1.4 million acres, down 0.7 million acres from 2012. Harvested area was down 0.8 million acres to 1.3 million acres. The 2013 average yield was 43.3 bushels per acre, a 4.9-bushel-per-acre increase above 2012 because of favorable weather during the growing season.

Table 5--White wheat supply and demand 1/

Item	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Million acres											
Area:											
Planted	5.2	5.1	4.9	4.3	4.0	4.5	4.1	4.2	4.4	3.9	4.2
Harvested	5.0	4.8	4.7	4.1	3.7	4.3	3.9	4.0	4.3	3.8	4.0
Bushels per harvested acre											
Yield	59.5	64.5	63.7	61.5	59.1	59.4	61.9	68.1	73.9	68.3	68.0
Million bushels											
Supply:											
Beg. stocks	75	72	63	78	44	37	64	80	85	64	63
Production	297	305	297	251	221	258	241	272	314	257	271
Imports	11	11	10	10	9	8	9	7	8	7	7
Total supply	383	388	370	339	275	303	314	359	407	328	341
Domestic use:											
Food	85	75	85	85	85	85	83	85	85	85	85
Seed	7	6	6	5	6	6	6	6	5	6	5
Feed & residual	27	36	27	9	-23	13	3	1	34	-1	30
Total domestic	119	118	118	100	68	103	91	92	124	91	120
Exports	192	208	174	195	169	136	143	182	219	175	171
Total use	311	326	292	295	238	239	234	274	343	265	291
Ending stocks	72	63	78	44	37	64	80	85	64	63	50
Stocks-to-use ratio, %	23.2	19.3	26.7	14.9	15.5	26.8	34.2	31.0	18.7	23.8	17.2
Dollars per bushel											
Farm price 2/	\$3.54	\$3.52	\$3.13	\$4.14	\$7.23	\$6.01	\$4.52	\$5.88	\$6.42	\$7.88	\$6.85

1/ ERS estimates of area, yield, and domestic use.

2/ Season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, Economic Research Service, *Wheat Outlook*.

Table 6--Durum supply and demand 1/

Item	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
Million acres											
Area:											
Planted	2.9	2.6	2.8	1.9	2.2	2.7	2.5	2.5	1.3	2.1	1.4
Harvested	2.9	2.4	2.7	1.8	2.1	2.6	2.4	2.5	1.3	2.1	1.3
Bushels per harvested acre											
Yield	33.7	38.0	37.2	29.5	34.1	31.3	44.0	41.2	36.8	38.4	43.3
Million bushels											
Supply:											
Beg. stocks	28	26	38	40	21	8	25	35	35	25	23
Production	97	90	101	53	72	80	105	101	47	82	58
Imports	21	29	32	41	40	38	35	33	36	36	44
Total supply	145	145	171	135	134	127	165	169	118	143	125
Domestic use:											
Food	73	70	80	86	83	78	80	84	75	80	78
Seed	3	5	3	4	4	4	4	2	3	2	2
Feed & residual	-3	2	3	-15	-6	-4	2	3	-12	9	-8
Total domestic	73	77	85	74	81	78	86	90	66	91	73
Exports	46	31	45	40	45	24	44	44	27	29	31
Total use	119	108	131	114	126	102	130	133	93	120	103
Ending stocks	26	38	40	21	8	25	35	35	25	23	22
Stocks-to-use ratio, %	21.8	35.2	30.5	18.4	6.3	24.5	26.9	26.3	26.9	19.2	21.4
Dollars per bushel											
Farm price 2/	\$3.97	\$3.85	\$3.46	\$4.43	\$9.92	\$9.26	\$5.47	\$5.98	\$9.68	\$8.18	\$7.46

1/ ERS estimates of area, yield, and domestic use.

2/ Season-average price based on monthly prices weighted by monthly marketings.

Source: USDA, Economic Research Service, *Wheat Outlook*.

Durum supplies in 2013/14, at 125 million bushels, were 18 million bushels below the previous year. Lower production and beginning stocks more than offset higher imports. **Durum total use**, at 103 million bushels, was down 16 million bushels from 2012/13 as domestic use was down sharply and exports were only slightly higher.

Ending durum wheat stocks for 2013/14, at 22 million bushels, were down 1 million bushels year to year. The ending stocks-to-use ratio for 2013/14 was 21 percent, higher than the prior year's 19 percent. The ratio averaged 27 percent for the three previous years. The ratio for 2007/08 price-spike year was only 7 percent, much lower than the average of 26 percent for the previous 5 years.

Monthly **farmgate prices** received by durum wheat producers began the 2013/14 marketing year at \$8.51 per bushel—the high for the marketing year. Durum monthly prices then drifted downward to a seasonal low of \$6.43 in February before rebounding to \$7.21 in May. The SAP at the farmgate for 2013/14 for durum was \$7.46 per bushel, down from \$8.18 for 2012/13 and significantly less than the \$9.68 for 2011/12, but higher than the 2010/11 price of \$5.98 per bushel. Durum farmgate prices were record high in 2007/08 with a SAP of \$9.92 per bushel.