

## **Situation and Outlook for Agricultural Commodities**

**Gerald A. Bange, Chairman**

World Agricultural Outlook Board / Office of the Chief Economist  
U.S. Department of Agriculture, Washington, D.C.

As Chairman of the World Agricultural Outlook Board (WAOB), I am responsible for overseeing the coordination, review, and clearance of all commodity forecasts released by USDA. The *World Agricultural Supply and Demand Estimates (WASDE)* report is released monthly by USDA according to a published schedule. It is the Board's responsibility to ensure that USDA estimates and forecasts are unbiased, based on sound information, and released in a timely manner.

Today, any discussion of the commodity situation and outlook has to begin with a reference to recent developments in world energy markets. The global demand for bioenergy has had, and will continue to have, a significant impact on commodity prices as energy uses for crops account for a growing segment of demand. For the foreseeable future, demand for ethanol and biodiesel will support commodity prices, especially for corn and soybeans that will increasingly compete for acres and attempt to bid acres away from each other and other crops such as small grains and cotton. The competition for crop land likely will support prices across the board. In the longer term, commercialization of cellulosic ethanol may reduce the current pressure on prices and moderate future increases.

### **Total U.S. Crop Acreage to Increase Sharply in 2008**

USDA's first 2008 acreage forecasts for corn, soybeans, and the other spring planted crops were released at the Agricultural Outlook Forum this past February. Total wheat plantings are expected to increase as high wheat prices last fall boosted winter wheat seedings, and record prices for spring wheat encourage hard red spring wheat and durum plantings in the Northern Plains. Corn plantings, while down from last year, are expected to remain at a high level as substantial year-to-year price gains continue to support favorable corn returns despite rising fertilizer and other input costs. Soybean plantings for 2008 are expected to rebound sharply as returns rise relative to corn, cotton, and rice.

Thus, the combined area of wheat, corn, and soybeans is projected at 225 million acres, the highest since 1984. Record prices and large year-to-year gains in net returns for the three major field crops are expected to shift area away from other crops, principally upland cotton, and draw additional land into field crop production.

Planted area for the 5 major crops (wheat, corn, soybeans, upland cotton, and rice) is projected at 237 million acres, up 6 million from 2007, and also the highest since 1984. Contributing to cropland expansion is a net reduction of 2 million acres in the CRP including contracts that were not renewed last October. Soybean double cropping is also expected to be higher with record soybean prices and an additional 1.8 million acres of soft red winter wheat sowed last fall.

For an online copy of presentation, go to: <http://www.usda.gov/oce/speeches/index.htm>

## **Wheat**

The 2007/08 wheat situation reflects an extremely tight U.S. supply and demand balance sheet driven by weather problems domestically and abroad, and continued strong world demand for wheat. In the United States, strong domestic milling demand, particularly for high-quality wheat, and prospects for the highest exports since 1995/96 are expected to reduce ending stocks to the lowest level in 60 years.

Wheat yields in the United States have fallen below trend for the past 2 years due to assorted weather problems. An early April frost across the Central Plains and South damaged last year's crop. Extreme heat and dryness in parts of the Northern Plains and Pacific Northwest reduced output. Too much rain at harvest in the Central and Southern Plains reduced both yields and wheat quality. At the same time, production shortfalls in other major exporting countries reduced exportable supplies of wheat to very low levels. Thus, the United States became the only available source of wheat for many importing countries, further reducing domestic supplies.

The global wheat situation remains extremely tight. Below trend yields in major exporting countries such as Australia, Canada, EU-27, the United States, and Ukraine substantially reduced world wheat supplies for a second straight year in 2007/08. Despite record prices, world exports for the current year are projected down only 3 percent from 2006/07 with most of this decline reflecting lower expected shipments by Australia, Canada, EU-27, and Ukraine. Partly offsetting these declines are increased exports by the United States and Russia, up 35 percent and 16 percent, respectively, on the year. Global wheat ending stocks are projected to decline again in 2007/08, falling 12 percent from last year. World production has fallen short of consumption in 6 of the past 8 years with world ending stocks expected to be down 46 percent from 2000/01 and at their lowest level in 30 years.

Cash wheat prices remain near record levels for all classes of wheat. Prices for hard red winter wheat in Kansas City recently topped \$13 per bushel. Prices for hard red spring wheat set records in February above \$20 per bushel in the Minneapolis market. Bids for white wheat at Portland export elevators remain above \$10 per bushel after setting records in February above \$15 per bushel. Durum prices in Montana and North Dakota reached \$20 per bushel this past winter and remain above \$15 per bushel. Soft red winter wheat prices are above \$8 per bushel after setting records near \$12 per bushel in late February.

Wheat prices are expected to remain at or near record levels into the spring supported by increasingly tight world supplies. With indications of sharply higher seeded acreage around the world for 2008, wheat prices, particularly for lower quality wheat, are expected to moderate but remain historically high well into the 2008/09 marketing year supported by strong export demand and high corn and soybean prices. Even as world stocks return to more normal levels with higher world output in the coming years (assuming normal weather), wheat prices will be supported at relatively high levels by strong feed grain and oilseed prices and competition for acreage.

### **Winter Wheat Acres Up 4 Percent**

USDA issued its first survey-based forecast for U.S. winter wheat acreage in the January 11, 2008, *Winter Wheat Seedings* report. Plantings were forecast at 46.6 million acres, up 4 percent from 2007. The most recent *Crop Progress* report was issued at the end of November and put

this year's wheat crop conditions below those for last year's crop at the same time. Dryness since late summer in the western areas of the hard red winter wheat belt delayed planting and crop establishment and remains a concern for this year's winter wheat crop. The most recent state crop condition reports indicate that continued dryness has further stressed wheat in these areas. Recent rains in the eastern and central portions of the Southern Plains have improved crop conditions slightly for the hard red winter wheat crop overall, but precipitation is badly needed in Colorado and the western areas of Texas, Oklahoma, and Kansas.

With the recent rise in hard red spring wheat prices to new record levels and record durum prices, wheat and durum area in the Northern Plains is expected to expand in 2008, but with record or near record prices for corn, barley, soybeans, sunflower seed, canola, and other minor oilseed crops, competition for acreage will limit expansion in spring wheat.

## **Corn**

The U.S. corn market in 2007/08 is being dominated by growth in domestic utilization as corn based ethanol production grows at a record pace. In anticipation of strong prices, U.S. corn producers planted 93.6 million acres to corn last spring, the largest corn area since 1944 and 15.3 million more acres than 2006/07. A slow start to spring planting in the Midwest combined with the second largest area expansion in history to keep the U.S. average yield just below trend at 151.1 bushels per acre. However, at 13.1 billion bushels, 2007/08 production was record high and supplies reached a record 14.4 billion bushels, up 1.9 billion from 2006/07 and 1.2 billion higher than the previous record in 2005/06.

Despite record corn production and supplies, record use in 2007/08 is expected to leave ending stocks up just 134 million bushels from 2006/07, a year in which corn stocks declined more than 660 million bushels. Total corn use, including exports, is expected to increase 1.7 billion bushels or 16 percent in 2007/08. Year-to-year increases in feed and residual use and exports are contributing to the expected jump in corn use, but the largest share of the increase is for ethanol. Corn use for ethanol in the U.S. is projected up 1.1 billion bushels or 51 percent for 2007/08. Thus, corn prices have risen to record levels this year and, given the anticipated growth in corn demand, sustained high prices are expected to continue into the foreseeable future.

It should be noted that strong corn demand is not unique to the United States. World corn stocks are expected to fall for the third consecutive year this year to the lowest level since 1983/84. Global exports are projected at a record 94 million tons, up 2 percent from 2006/07 as world consumption is being driven higher by strong feeding demand and increased food, seed, and industrial use, most of which reflects higher ethanol production, particularly in the United States. Thus, strong global demand for corn and the pressure to maintain or increase acreage in the context of record wheat and oilseed prices will provide sustained support for corn prices at or near record levels.

## **Ethanol Corn Use Expands Rapidly**

Corn based ethanol is expected to be the primary biofuel in the United States for the next several years. Despite expected increases in corn production in the U.S. and abroad, it is virtually certain that the demand for corn to produce ethanol in the U.S. will keep U.S. and world commodity prices at historically high levels. Corn use for ethanol was 2.1 billion bushels in 2006/07, the equivalent of 5.7 billion gallons of ethanol. This marketing year, an estimated 3.2

billion bushels of corn will be used to produce approximately 8.6 billion gallons. In 2008/09, expected plant capacities suggest that 4.1 billion bushels of corn will be used to produce ethanol. USDA expects about 90 million acres of corn to be planted this spring, down less than 4 percent from 2007.

Looking further into the future, U.S. corn use is expected to continue to increase as the demand for corn for ethanol production grows to satisfy the higher mandated ethanol use levels in the Energy Independence and Security Act of 2007 (2007 Energy Act). This Act mandates that U.S. gasoline consumption must include 9.0 billion gallons of renewable fuel by calendar year 2008, rising to 15 billion gallons by 2015. The current pace of plant construction and expansion indicates that ethanol production capacity in the United States will surpass the 2008 mandate sometime this spring with capacity topping 12 billion gallons potentially as early as next fall. Plants under construction and plant expansions will add an additional 5.3 billion gallons capacity during the next 18 to 24 months, bringing annual production capacity to 13.6 billion gallons.

### **Soybeans**

Increased biofuels production is also underlying the dramatic increase in soybean prices. The rapid rise in U.S. ethanol production boosted corn prices last year leading to an unprecedented shift in planted acres from soybeans to corn in 2007. This past spring, U.S. producers reduced planted soybean area by 16 percent, or 11.9 million acres. In addition, the expanded use of biodiesel around the world, especially in Europe and the U.S., is having a dramatic impact on global vegetable oil markets. As a result, soybean and other vegetable oil prices have risen sharply.

Led by a 19 percent decrease in U.S. soybean production, global soybean production is projected to decline 7.3 percent in 2007/08. With the exception of the drought year in 2003/04, this is the first year-to-year decline in more than a decade. This decline will more than offset modest gains for rapeseed and peanuts. Soybean planted area in Brazil is estimated to have increased modestly as higher prices were partly offset by grower concerns about unfavorable exchange rates. Production for Brazil is projected record large at 61 million metric tons based on higher planted area and trend yields. Argentine soybean production, however, is expected to decrease about 3.5 percent as higher planted area is more than offset by lower yields. Soybean prices are expected to remain strong enough following harvest of the 2008 crop in North America to encourage additional South American acres in 2009.

Reduced 2007/08 soybean production, increased demand for biodiesel use, and strong export markets for soybean meal and oil will reduce soybean stocks in the United States by 76 percent this marketing year, helping to drive soybean prices to the highest level on record. Thus, the record high U.S. soybean stocks in 2006/07 that helped to buffer the impact of lower plantings for the 2006/07 marketing year will largely be depleted this year. As a result, prices are expected to remain firm and U.S. acreage will recover sharply in 2008 to 71 million, an increase of nearly 12 percent compared to last year's 63.6 million.

The 2007 Energy Act mandates that U.S. biodiesel use must reach 500 million gallons by 2009, and rise to 1 billion gallons by 2012. This year, soybean oil-based biodiesel will account for about 380 million gallons of biodiesel production. When other fats and oils are included, biodiesel production is projected to exceed the 500-million-gallon level mandated for 2009 by the 2007/08 marketing year, well ahead of schedule. However, reaching the 1-billion-gallon

level by 2012 will present a greater challenge.

Based on figures reported by the National Biodiesel Board in the Fall of 2007, annual existing production capacity for biodiesel stands at 1.85 billion gallons per year with another 1.37 billion gallons of annual capacity planned for development by the end of 2008.

Only about 25 percent of existing capacity is currently being utilized. With soybean oil prices rising so sharply, net returns for producing biodiesel are not favorable. With current soybean oil prices near 55 cents per pound, net returns are negative for most plants even with the \$1.00 per gallon tax credit for blending. In the market environment expected for the balance of 2007/08 and into 2008/09, food processors are likely to continue to bid vegetable oil prices to levels that leave biodiesel production margins negative. If not, food processors' vegetable oil supplies would be at risk due to the substantial idle biodiesel production capacity.

To meet the 2012 mandated levels laid out by the 2007 Energy Act, a sharp increase in imported vegetable oil will be needed. These imports will either be in the form of vegetable oil already processed into biodiesel, or as food grade vegetable oil used to replace other oil that will be used to make biodiesel in the U.S. There simply is not enough domestically produced vegetable oil to meet food needs and biodiesel mandates by 2012.

Historic high petroleum prices and speculative demand for biodiesel production have driven vegetable oil prices to record high levels. With global demand for vegetable oils rising to meet biodiesel demand, production of oilseed crops likely will rise. Indonesia, the world's single largest producer of palm oil, is making plans to expand area planted to palm, and Brazil continues to have vast tracts of land that can be developed depending on crop prices.

### **World Soybean Trade in Transition**

China is the world's leading soybean importer. In only 6 years, China's soybean imports have increased by 24 million tons, reflecting a sharp growth in protein meal consumption. China now accounts for 45 percent of global soybean imports. This marketing year, China is expected to import a record 34 million tons, as protein and vegetable oil demand continues to grow. Over the next 10 years, China will remain the world's leading importer of soybeans as imports are projected to exceed 50 million tons. With little growth projected for domestic production, China's dependence on foreign supplies will rise to 75 percent from 70 percent in 2007/08.

In coming years, expanded soybean production in South America is expected to satisfy the growing global demand for oilseeds and products as competition from corn limits soybean area in the United States. Brazil and Argentina are expected to provide the answer. Since 2001, Brazil and Argentina combined have increased output of soybeans by 46 percent to a projected 108 million tons for 2007/08. Each country will have added about 17 million tons of production over that time period. Without the expansion in South America that coincided with the expansion in world soybean imports, especially in China, prices would have risen even more sharply and growth in consumption would have been much less.

### **Cotton**

The world cotton balance sheet shows stocks declining about 3 percent while consumption exceeds production. World cotton consumption has grown at an average rate of nearly 6 percent

over the past 5 years, but growth is expected to slow to about 1 percent in 2007/08 due to economic difficulties in developed countries and rapidly rising cotton prices. At the same time, world production is falling nearly 3 percent, due mainly to lower production in the United States, Australia, Pakistan, and the African Franc Zone. U.S. planted area fell nearly 30 percent in the spring of 2007, but large beginning stocks and favorable weather boosted the total domestic supply slightly above 2006/07. USDA forecasts that higher exports will about offset the larger supply; however, the U.S. export forecast of 14.5 million bales is highly dependent on imports by China. Purchases by China were relatively weak during the first half of the 2007/08 marketing year but are expected to accelerate during the remainder of the season. World and U.S. cotton prices have risen sharply in 2008 due to hedge and pension fund investment and record prices for grains and oilseeds. Cotton futures prices have been highly volatile in recent weeks, reaching levels not seen for more than a decade.

Most analysts expect that U.S. cotton planted area will fall further in 2008/09, as wheat and soybean prices have risen faster than cotton prices when compared to a year ago. Increases in winter wheat seedings in some southeast and Delta states suggest that a significant number of producers are opting to double crop wheat and soybeans. However, cotton planted area is difficult to predict due to the market's recent volatility. USDA's spring survey of producers' planting intentions will be published in the *Prospective Plantings* report on March 31, 2008.

### **World and U.S. Cotton Markets Dependent on Demand by China**

In recent years, world cotton consumption has increased sharply due to strong world economic growth and competitive cotton prices relative to synthetic fibers. In addition, the liberalization of quotas on textile trade, which came to fruition in January 2005 under the World Trade Organization's (WTO) Agreement on Textiles and Clothing (ATC), benefited countries whose textile exports had previously been restricted – especially China, India, and Pakistan.

China is by far the world's largest cotton importer and also the largest customer of U.S. cotton, but demand by China is highly variable and difficult to predict. Prospects for China's imports, which have ranged from a low of 1.4 million tons to a high of 4.2 million tons during the past four seasons, dominate the world cotton outlook. China's import demand is an especially important factor in the U.S. cotton outlook because the United States is the world's largest cotton exporter, and up to half of all U.S. exports are shipped to China.

World cotton production has kept pace with consumption growth as better technology, especially the use of genetically engineered seeds, has raised yields and lowered production costs in several countries, notably China, India, and the United States, which are the world's three largest cotton producers. At the same time, the persistence of high world supplies relative to use held world cotton prices relatively flat until recently, in contrast to higher prices for corn, other grains, and oilseeds.

### **Livestock**

The livestock sector is facing higher feed prices as a result of the increased demand for corn. To remain profitable, livestock producers will need to pass these costs back to suppliers of other inputs (eg; feeder calf or feeder pig producers) or along to consumers. Although the increased availability of distillers' dry grains (DDGs) may mitigate the impact of higher corn prices for some livestock producers, the impacts will vary by specie and location of operation. Ruminants

(beef and dairy cattle) are able to utilize DDGs better than simple stomached species (hogs and poultry), but limits on the amounts of DDGs that can be added to rations prevent it from fully displacing corn in feed rations. Geography also affects DDG usage as there are higher costs incurred in drying and hauling DDGs as the distance from the source of production increases.

If higher feed prices result in an extended period of poor returns, there will be a liquidation of animal numbers and likely a contraction in the number of producers. As lower animal numbers translate into reduced meat production, livestock prices will rise and if returns improve for an extended period of time, production will expand. However, the amount of gains and losses to the various segments largely will depend on the price of feed ingredients and consumer demand for meat.

## **Food Price Outlook**

While the ethanol boom can be expected to bring higher incomes to farmers and reduce government outlays for farm programs, it also will contribute to higher crop and livestock prices. As a result, overall retail food prices for 2008-10 are expected to rise faster than the general inflation rate.

Consumer prices for food are expected to increase 3.5 to 4.5 percent in 2008 compared to the 4 percent increase in 2007 (figure 12). Processing, transportation, and marketing costs that are subject to volatile energy costs and other factors in “core” inflation will contribute about 2 percent to retail food prices. Commodity prices at the farm level are expected to increase less than last year, with declines for livestock and dairy products partially offsetting higher crop values.

## **Despite Increased Production Costs, Net Farm Income Projected at Record Level**

The outlook for the farm economy as a whole is for another very good year in 2008, driven by strong demand, both domestic and foreign, for feed crops, oilseeds, and food grains. Net farm income is forecast at \$92.3 billion, up 4.1 percent from \$88.7 billion in 2007, and 51 percent above the 10-year average (figure 12). Favorable returns to the farm sector translate into another year of rising asset values, particularly land. Declining ratios of debts to assets and equity point to a financially strong farm economy.

For 2008, the value of crop production, at \$174.6 billion, is forecast to exceed its previous record (attained in 2007) by \$30.6 billion, a 21-percent increase. Prices of major crops (corn, soybeans, wheat) were trending upward in late 2007 and are expected to maintain those gains in early 2008. Livestock cash receipts are projected to decline about 2 percent to \$138.7 billion. Small declines are projected in the value of production for all major livestock sectors (cattle, hogs, poultry, and dairy).

Production expenses for 2008 are forecast to increase to almost \$280 billion, up 9 percent from 2007, following an 11 percent increase last year. Feed prices, forecast at \$45 billion, are up 18 percent, after rising 25 percent in 2007. Manufactured inputs (fertilizer, fuels, electricity, and pesticides) are forecast to total \$47 billion, up 14 percent in 2008 on top of a 12 percent rise in 2007. As we move into the spring planting season, prices for selected inputs are increasing sharply. Notably, the January 2008 index of prices paid for fertilizer is up 32 percent on the year. Fertilizer price increases largely reflect crop area expansion here and abroad, a growing

dependence on imports, and the weak U.S. dollar.

There can be little debate that 2007 was one of the most remarkable years agriculture has ever seen. As we look forward to 2008, the stage seems set for another year of prosperity and growth. In the end, how the new year unfolds will be determined by the vagaries of weather and the impact of public policies, which will affect global trade and investment in agriculture.

**Tables and Charts:**

The following charts and tables provide additional detail.