

**Understanding USDA's Monthly
World Agricultural Supply and Demand Estimates Report
and
2009/10 U.S. Corn Supply & Demand Analysis**

Presented by:

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Introduction

I would like to begin by thanking Mr. Feng and the Dalian Commodity Exchange for inviting me to speak to the 3rd International Corn Industry Conference. I have had the pleasure of visiting China many times. I first visited here in 1983 and have been back nine times since then. Without question, the information exchanges between my agency and China's statistical agencies have been in our mutual interest. In short, my work with your National Bureau of Statistics, Ministry of Agriculture, and National Grain and Oils Information Center has been a highlight of my 39 years with the United States Department of Agriculture (USDA).

I am especially pleased that Mr. Feng also invited my colleague Jerry Norton to participate in a panel discussion regarding the situation and outlook for corn. Mr. Norton is USDA's senior grains analyst and a member of my staff. This is his first visit to China and I have no doubt that he will return in the future. Both of us look forward to learning more about the Dalian Commodity Exchange.

At Mr. Feng's request, I will divide my presentation into two parts. First, I will address the history of the *World Agricultural Supply and Demand Estimates* report and briefly describe its content and how it is prepared. Second, I will discuss USDA's current assessment of the supply and demand prospects for corn.

The World Agricultural Supply and Demand Estimates Report

The year 1983 was a good year for me. Not only did I visit China, but it was also the year I joined the World Agricultural Outlook Board (WAOB) as Deputy Chairperson. In 1994, I was appointed Chairperson of WAOB, my present position. WAOB was established by the Secretary of Agriculture in 1977 to assure the objectivity, reliability, and timeliness of USDA's commodity situation and outlook publications. The Secretary assigned WAOB responsibility for publishing the Department's *Agricultural Supply and Demand Estimates* report, a monthly report which had existed since 1973. It was focused on domestic supply, demand, and trade. The U.S. trade forecasts in this report reflected the Department's views regarding foreign supply and demand conditions; however, only U.S. estimates and forecasts were shown.

In 1980, WAOB changed the name of the *Agricultural Supply and Demand Estimates* report to the *World Agricultural Supply and Demand Estimates (WASDE)* report and, for the first time, published forecasts for the world, total foreign, and aggregate forecasts for major exporters and importers. Of course, data for the United States was shown; however, data for individual foreign countries was not shown. The first *WASDE* report to include individual foreign country data was issued in 1985. In that report, Argentina, Australia, and Canada were listed separately as major exporters and China and the former Soviet Union were listed as major importers.

As the *WASDE* report has evolved, more countries and commodities have been added. Individual country supply and demand forecast are shown for wheat, rice, corn, other coarse grains, soybeans, minor oilseeds, and cotton. For sugar, supply and demand forecasts are shown for the United States and Mexico. And finally, domestic forecasts are shown for a number of livestock products.

WASDE Security Procedures

Today, the *WASDE* report is the primary source of information used by markets worldwide to establish commodity prices. (figure 1, image of *WASDE* report) Because the *WASDE* report has an immediate impact on global trade and commodity prices, maintaining the integrity of the process and preventing pre-release of information is of paramount importance. WAOB applies strict security measures to the preparation and release of the *WASDE* report. All participants in the process must agree in writing not to pre-release market sensitive information. Doing so would result in a significant penalty.

From about midnight before the morning of release, doors in the “lockup” area of USDA’s South Building are secured, window shades are sealed, and telephone and Internet communications are blocked. To enter the lockup area, analysts must present a special lockup pass. Wireless communication devices are not permitted in the lockup area and no one can leave the lockup area until public release of the report.

With prior approval and a lockup pass, market reporters are permitted to enter a secured press room in the lockup facility. Communications with the outside are prohibited until release time. At 7:00 a.m., reporters are given advance copies of the *WASDE* report. Between 7:00 a.m. and 8:30 a.m. reporters summarize the *WASDE* report but, of course, cannot communicate with the outside.

At precisely 8:30 a.m., outside communication, including the Internet, is reactivated and the *WASDE* report is posted on USDA’s Web site. Simultaneously, reporters post their reports from the press room.

Interagency Process

USDA’s Interagency Commodity Estimates Committees (ICECs) are critical components of the commodity analysis program. There is one ICEC for each of nine major commodity groups. Each ICEC is comprised of representatives from key USDA agencies including the Foreign Agricultural Service, Economic Research Service, Farm Service Agency, and Agricultural Marketing Service. Each ICEC is chaired by a senior commodity analyst on my staff. It is important that each chairperson possess excellent analytical and organizational skills to assure that forecasts are based on sound analyses that reflect all available information.

The ICECs are the focal point for the information and perspective each agency brings to the *WASDE* analysis process. Because each agency brings unique information to the table, no single USDA agency or information source dominates the process. And, because USDA analysts employ numerous models and analytical techniques, no single methodology drives the process. Supply and demand estimates are developed within the ICECs by consensus to reflect the best judgment possible. They are not final until approved by the WAOB chairperson during lockup.

Joint Agricultural Weather Facility

Weather Analysis is another critical part of USDA's analytical process. When WAOB was established, the Secretary also assigned the new organization responsibility for monitoring global weather and preparing weather-crop impact assessments. WAOB manages the Joint Agricultural Weather Facility, a combined effort of USDA and the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. This facility publishes the *Weekly Weather and Crop Bulletin* on the Internet.

On a daily basis, analysts in the Weather Facility prepare crop assessments using global weather data provided by the World Meteorological Organization. This information is integrated into USDA's monthly foreign production estimates.

Forecasting Cycle

WASDE supply and demand estimates are forecast on a marketing-year basis. For each country, the marketing year for each crop begins with the month the harvest begins and ends just prior to the next harvest. (figure 2, [Local Corn Marketing Years](#)) Thus, marketing years for each country and commodity vary widely. In the aggregate, world supply and demand estimates represent the summation of numerous local marketing years that stretch across more than a 12-month period.

For example, the marketing year for U.S. corn begins on September 1 and ends on August 31. However, the corn marketing year for South Africa, a southern hemisphere country, begins in May and ends in April. Assuming South Africa has a good crop and competes with the United States in world corn markets, most of its exports likely will occur shortly after harvest. Thus, a forecast of the crop South Africa will harvest in 2010 is included in the *WASDE* 2009/10 year because it will compete with the U.S. crop that is harvested this fall.

New Marketing Year Projections

USDA begins publishing projections for the "new" marketing year beginning with the May *WASDE* report. The National Agricultural Statistics Service (NASS) publishes its first estimate of U.S. winter wheat production in May, and spring wheat and other small grains production in July. NASS does not publish projections for the major spring-planted crops including corn, soybeans, and cotton until August. During the months of May, June, and July, production projections for these crops are prepared by the ICECs. They are based on NASS's *Prospective Plantings* report and trend yields, and, if necessary, adjusted for weather and planting progress.

It is important to note that U.S. production forecasts, when issued by NASS, are adopted without modification by WAOB. NASS provides production forecasts and quarterly stocks estimates to WAOB within the lockup area. NASS does not share its forecasts with ICEC analysts prior to lockup.

A key assumption underlying both U.S. and foreign production forecasts is that normal weather will prevail for the balance of the growing season. Thus, early-season projections for both the United States and the world are highly tentative. During each season, forecasts are continually reviewed and updated as additional information becomes available.

Balance Sheet Analysis

The WASDE report provides marketing year supply and demand balance sheets for each commodity and country. The balance sheet is a critical tool in USDA's analytical process. This concept dictates that the sum of beginning stocks, production, and imports must equal the sum of domestic use, exports, and ending stocks. Strict adherence to this equality brings discipline to the process. This means that no single number can be changed in a balance sheet without considering the impact this change will have on other variables. It should also be noted that the demand side of the balance sheet typically includes a category for "residual" or "unaccounted" disappearance to account for disappearance or usage that cannot be verified or cross-checked against other information sources.

Corn Market Situation & Outlook - August 12, 2009

(The following discussion is based on the August 12 WASDE report and will be updated for the September 17 presentation to reflect changes from the September 11 WASDE report.)

The U.S. corn supply and demand situation continues to be driven by the expansion in ethanol production and its use as a renewable alternative to crude oil in transportation fuel. (figure 3, U.S. Corn Supply and Demand) The use of corn for ethanol has more than doubled during the past 4 years and is expected to continue to grow, albeit at a slower rate, as Federal mandates for biofuel use rise. This growth in demand for corn has boosted prices, encouraged increased plantings and production, and had significant implications for domestic corn feeding. Despite the expansion in domestic corn use, exports remain an important source of demand for U.S. corn with export shipments expected to recover in 2009/10 following last year's sharp downturn caused by large supplies of feed quality wheat, high corn prices, and the world wide economic crisis.

Rising Biofuels Mandates Boost Corn Acreage and Supplies

The U.S. Renewable Fuels Standard (RFS), which mandates the use of biofuels, first became law in 2005 and then was expanded substantially in 2007. During this same period, the replacement of methyl tertiary butyl ether (MTBE) by ethanol as a gasoline oxygenate and higher crude oil prices drove demand for ethanol and profitability for ethanol producers. U.S. ethanol production capacity grew sharply in response to these policy and economic factors, increasing from 5 billion gallons per year in September 2006 to 13 billion today. (figure 4, U.S. Ethanol Production Capacity) Ethanol production capacity continues to outpace the Federal biofuel mandates, surpassing the 2010 requirement of 12 billion gallons by January 2009.

The dramatic rise in ethanol production capacity increased demand for corn and drove cash and futures prices well above historic levels during the fall of 2006. Although prices have fallen from their record highs in summer 2008, prices remain above the levels experienced prior to the expansion in ethanol production capacity that started in 2006. (figure 5, Corn Futures Prices) Higher corn prices have caused a significant shift in cropland utilization to corn starting in 2007. Planted area, which averaged 32.0 million hectares during the 1997-2006 period, has remained

historically high in 2008 and 2009. (figure 6, U.S. Corn Planted Area) The U.S. corn yield for 2009 is forecast to be up 4 percent from 2008 and the highest since 2004 pushing projected supplies to their highest level ever at 368 million tons. (figure 7, U.S. Corn Supplies)

Ethanol Drives Domestic Corn Use

U.S. domestic corn use is expected to increase 6 percent in 2009/10, growing to a record 274 million tons. Corn use for ethanol, which has more than tripled over the past 5 years, is expected to increase 15 percent in 2009/10 supported by higher biofuel mandates, abundant supplies, and lower prices. Use for ethanol is projected at 107 million tons, up 14 million from 2008/09. Ethanol production is projected to account for 33 percent of total corn use in 2009/10, up from 11 percent in 2003/04. (figure 8, U.S. Corn Used for Ethanol) With every ton of corn used for ethanol resulting in the production of about 300 kilograms of distillers dried grains, the rising availability of feed co-products has had a significant impact on corn feeding. The production of feed co-products from corn processing has increased 3 fold in the past 10 years with co-product output expected to exceed 41 million tons in 2009/10. All of this growth has been from the expansion of dry mill corn processing which produces distillers grains as a co-product of ethanol production. (figure 9, Corn Processing Feed Co-Product Production)

Corn feed and residual use for 2009/10 is projected at 135 million tons, up 1 percent from 2008/09 with the increase reflecting higher expected residual loss with the higher forecast yield and production. Weak demand for meat and severe financial pressure on livestock producers is expected to reduce red meat production in 2010 limiting feeding demand for corn. Rising supplies of distillers grains are expected to keep feeding demand for corn well below historic levels as we have seen in 2008/09. (figure 10, U.S. Corn Feed & Residual Use) Feed and residual use is projected to exceed ethanol use again in 2009/10; however, total food, seed, and industrial use, which includes ethanol and other use for sweeteners, starch, and food, is expected to exceed feed and residual use for the first time ever in 2009/10.

U.S. Corn Exports Recover

World corn production for 2009/10 is projected at a record 796 million tons with the 17-million-ton increase in the U.S. crop more than offsetting an expected 10-million-ton drop elsewhere in the world. U.S. exports are projected to rise with foreign consumption projected 7 million tons higher than in 2008/09.

U.S. corn exports are projected at 53 million tons, up 13 percent on the year, but well off their record of 62 million in 2007/08. Larger domestic corn supplies, lower prices, and a gradual recovery in world corn feeding demand are expected to boost U.S. exports. (figure 11, U.S. Corn Exports) Growth in global livestock and poultry feeding is expected to remain limited, but gains in corn feeding are expected as wheat feeding declines with reduced supplies of low-quality wheat. Global wheat feeding reached an 18-year high in 2008/09 with record world wheat production. Increased foreign corn consumption is expected to boost global corn imports 4 percent in 2009/10 with the United States gaining export market share on reduced competition from Black Sea exporters and stronger demand from Mexico, South Korea, and a number of smaller Central American and Caribbean countries that are traditional U.S. corn buyers. (figure 12, World Corn Imports)

Lower Ending Stocks Provide Little Support for Prices

U.S. total corn use in 2009/10 is forecast at a record 327 million tons with year-to-year growth expected to outpace the growth in supplies. U.S. corn ending stocks are projected at 41 million tons, down 2.5 million tons or 6 percent from 2008/09. Global corn ending stocks are also projected lower at 141 million tons primarily reflecting the reduction in the United States as foreign ending stocks are expected to be nearly unchanged from 2008/09

Corn prices are expected to remain under significant downward pressure despite the decline in projected U.S. and global ending stocks as the large U.S. crop provides ample supplies to meet the 2010 U.S. mandates for ethanol use. U.S. farm prices for the 2009/10 marketing year are expected to fall 13 percent from those producers received in 2008/09. At the mid-point of the projected range, the 2009/10 marketing-year average farm price is expected at \$138 per ton, down from \$159 in 2008/09 and a record \$165 in 2007/08 when ethanol production was at the height of its expansion.

Corn Area and Use Also Higher in China

USDA's supply and demand balance sheet for China corn shares many of the same themes as the U.S. balance sheet. China has experienced strong growth in domestic corn use, supported by higher area and yields, which boosted production to a record level in 2008/09. Despite an expected reduction in 2009/10 production, as yields are projected to return to trend, larger beginning stocks are expected to boost China's corn supplies to their highest level in 8 years. ([figure 13, China Corn Supply and Demand](#))

Domestic corn use in China has grown steadily, rising from 110 million tons in 1997/98 to a projected 158 million for 2009/10. ([figure 14, China Corn Production and Consumption](#)) And, to keep pace, China, like the United States, has allocated more crop area to corn. Between 2006 and 2009, China's harvested area jumped well above historical levels. At a projected 29.5 million hectares, the 2009 harvested area is expected to match the 2007 record. ([figure 15, China Corn Harvested Area](#))

Although China does not report ending stocks, it appears that growing demand for corn has reduced China's once very large stockpiles. Based on USDA estimates, China's corn ending stocks exceeded use as recently as 1999/2000. It appears that ending stocks bottomed in 2005/06 and, once again, began to grow as China expanded area and production. USDA projects that China's ending stocks will grow to about 36 percent of use in 2009/10, compared to 13 percent in the United States. ([figure 16, China Corn Stocks and Stocks/Use](#))

Let me close with one final observation. The supply and demand for corn and other commodities in China is extremely important to the efficient operation of world commodity markets. In recent years, China has made great progress making commodity information available to the rest of the world. Nevertheless, more work remains to be done and I would encourage China to continue its efforts in this regard.

Thank you.

Appendix: Understanding USDA's Monthly *World Agricultural Supply and Demand Estimates* Report and 2009/10 U.S. Corn Supply & Demand Analysis

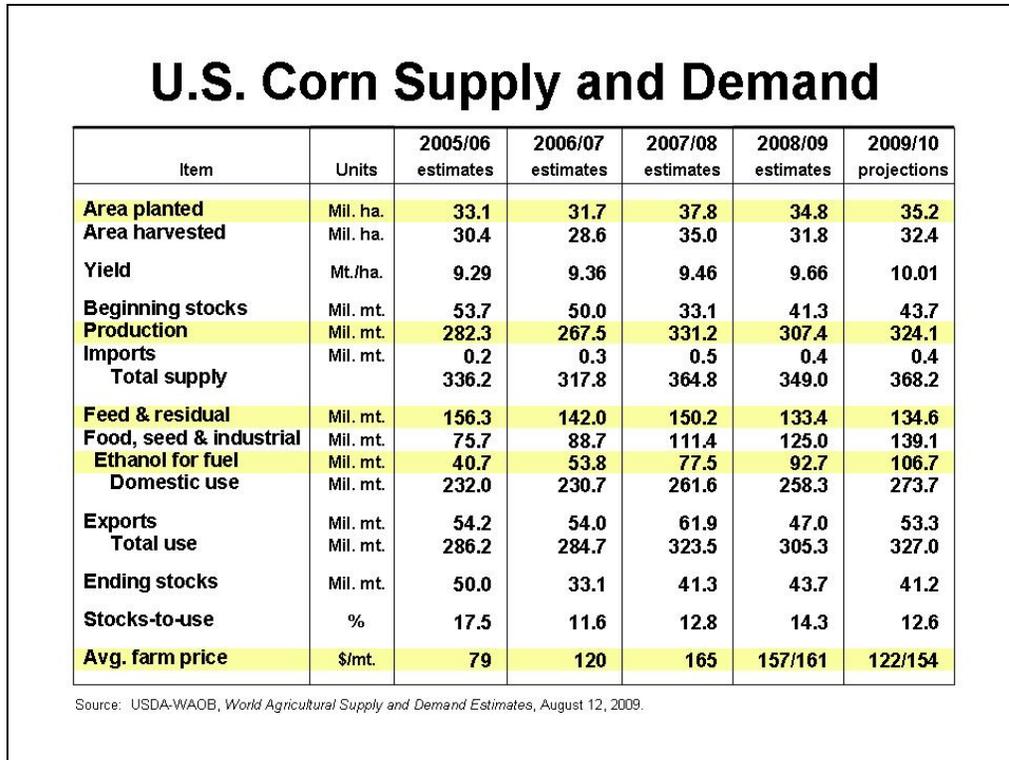


Figure 3--U.S. Corn Supply and Demand

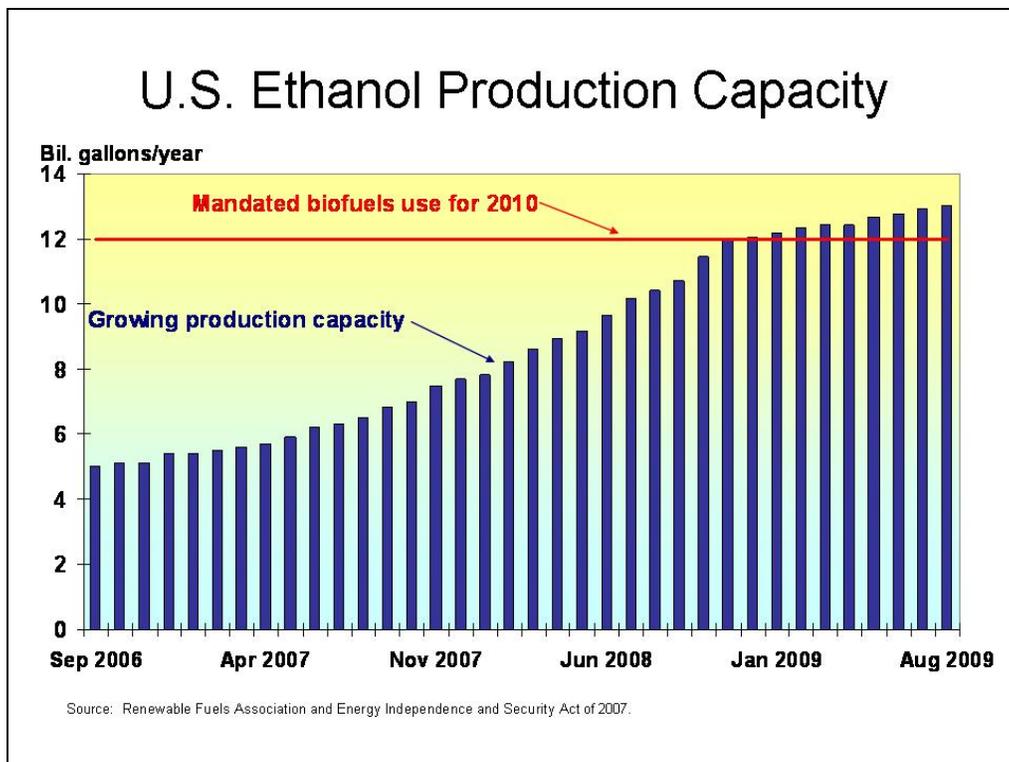


Figure 4--U.S. Ethanol Production Capacity

Appendix: **Understanding USDA's Monthly *World Agricultural Supply and Demand Estimates* Report and 2009/10 U.S. Corn Supply & Demand Analysis**

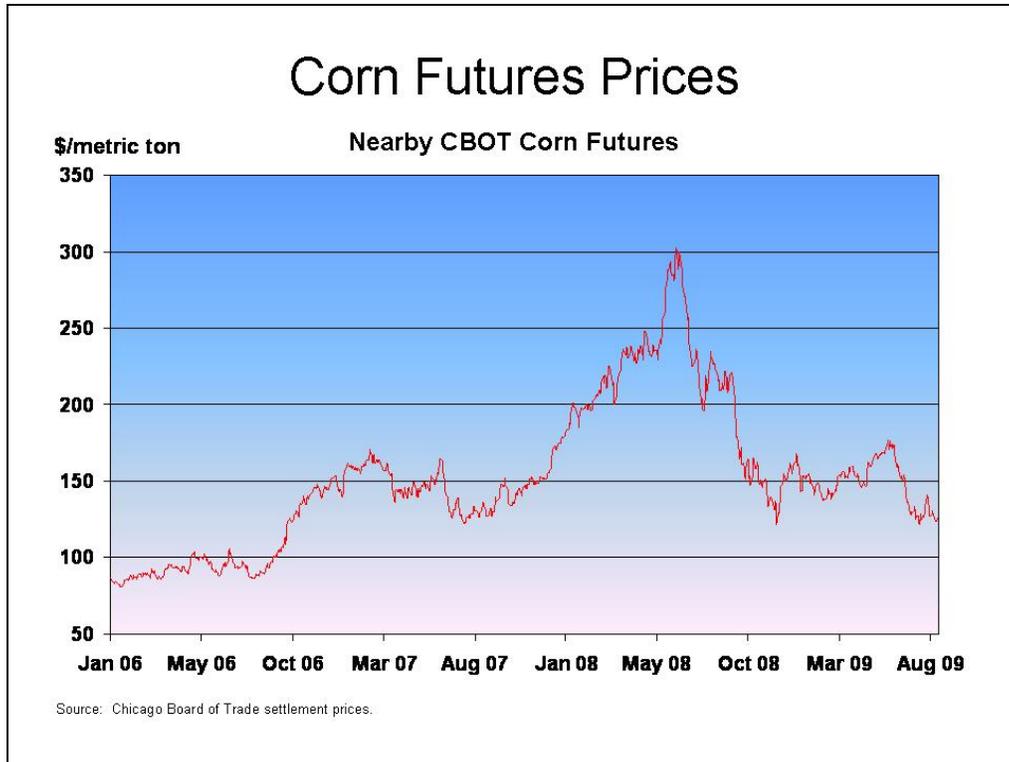


Figure 5--Corn Futures Prices

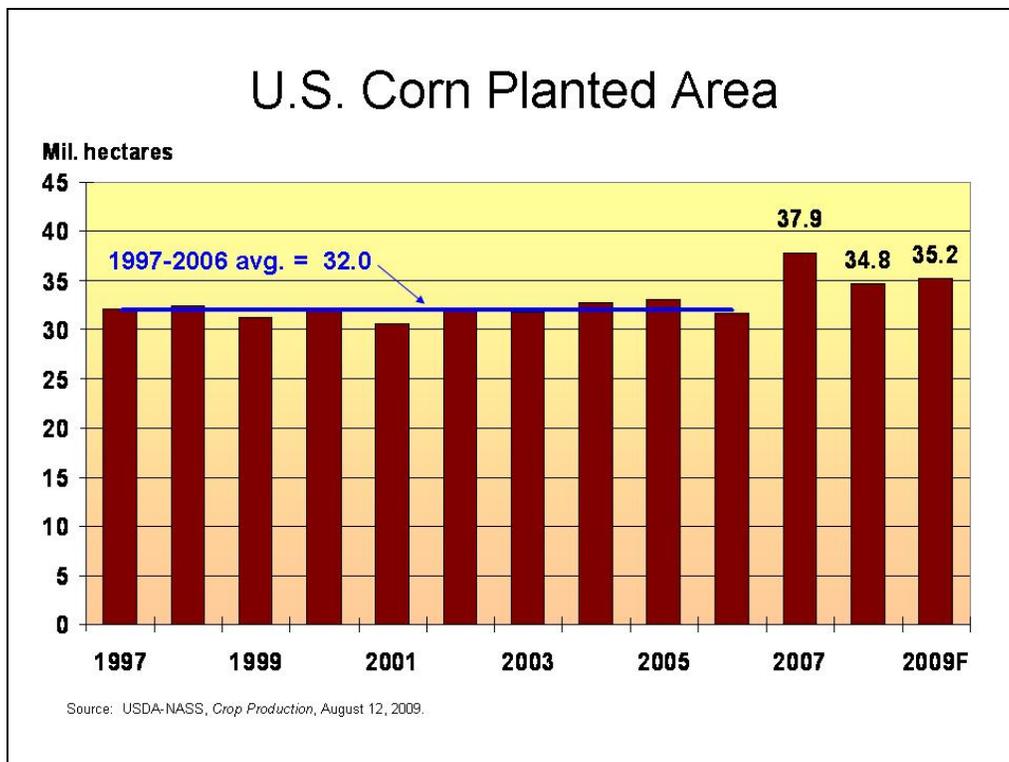


Figure 6--U.S. Corn Planted Area

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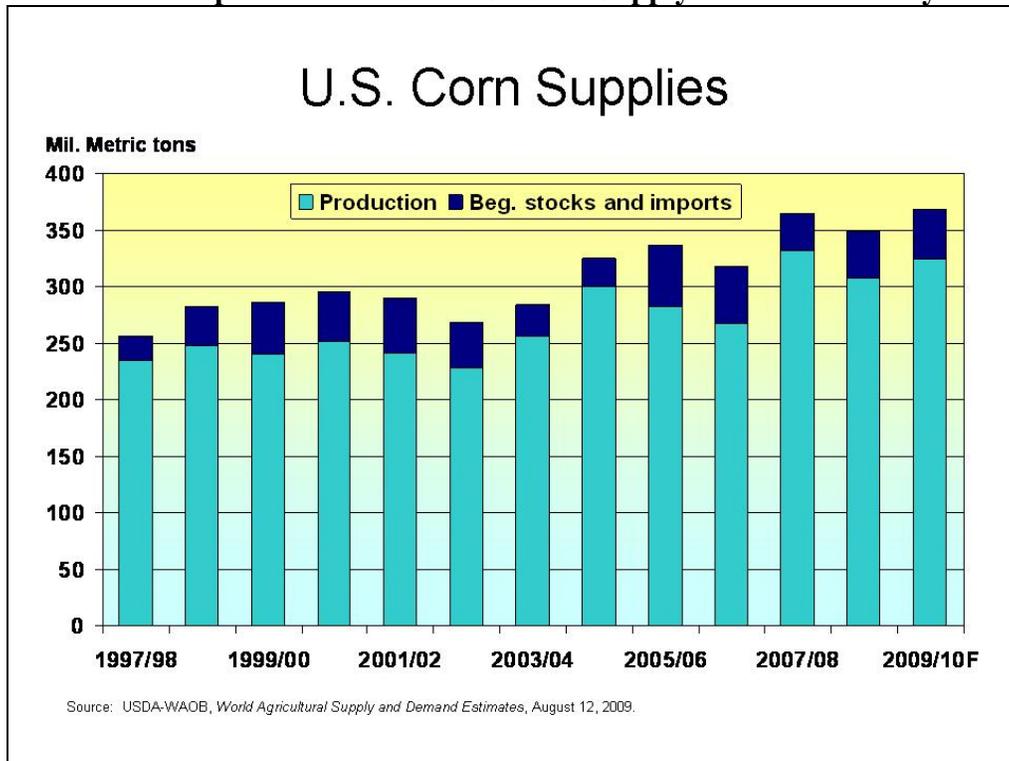


Figure 7--U.S. Corn Supplies

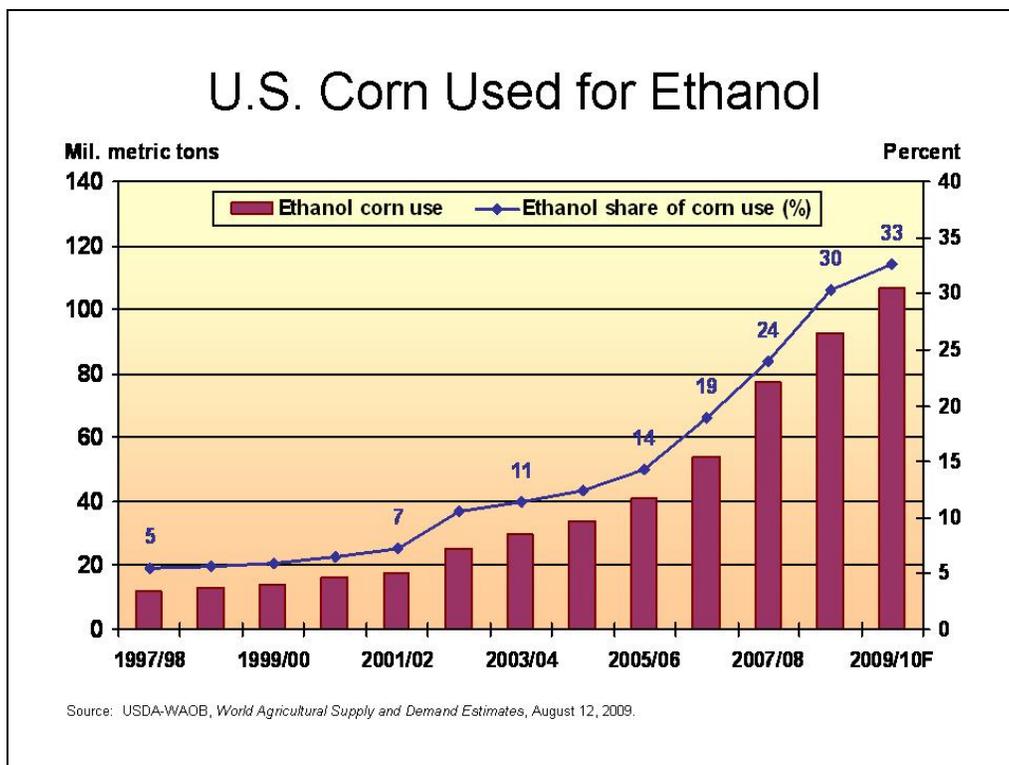


Figure 8--U.S. Corn Used for Ethanol

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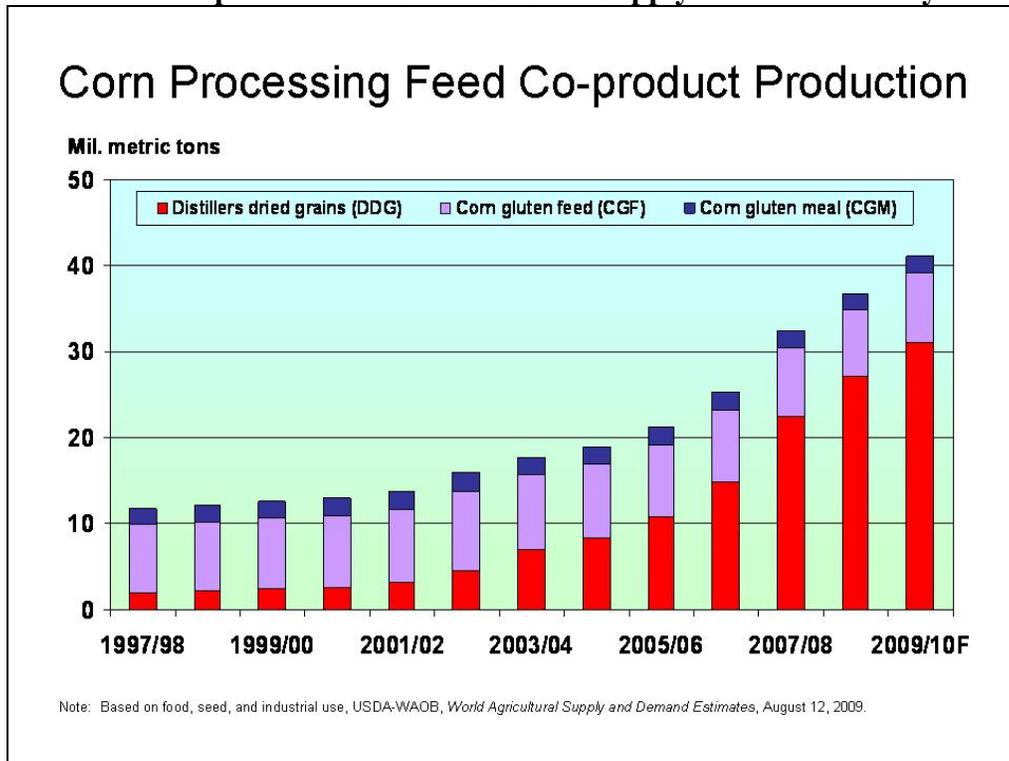


Figure 9--Corn Processing Feed Co-product Production

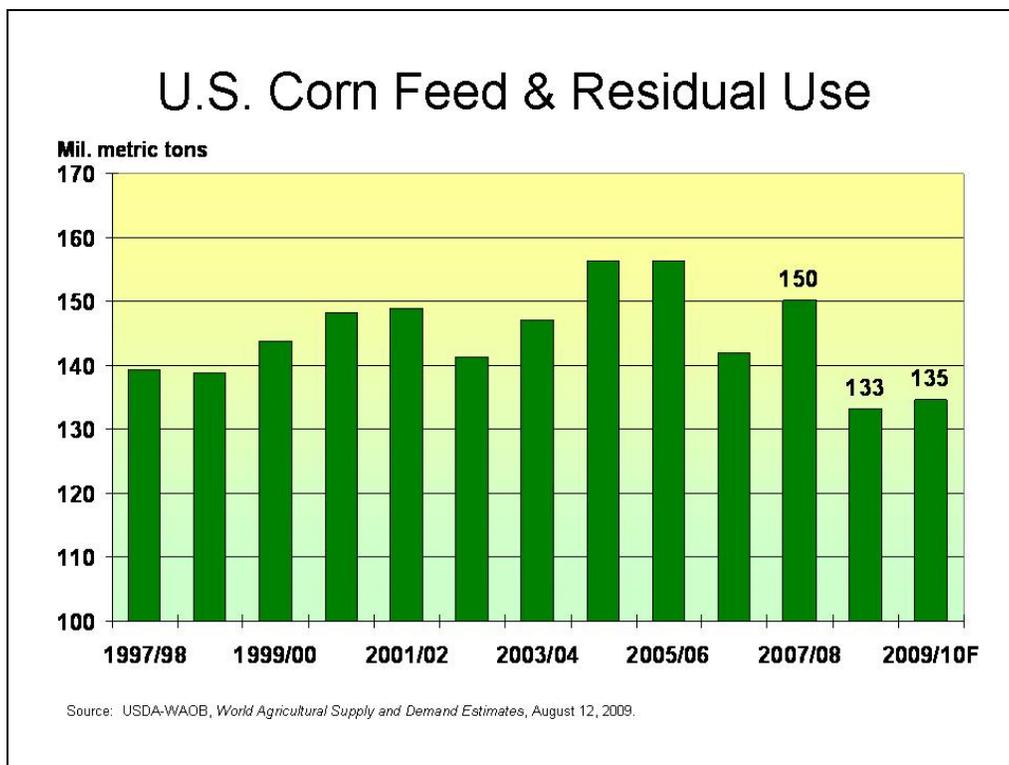


Figure 10--U.S. Corn Feed & Residual Use

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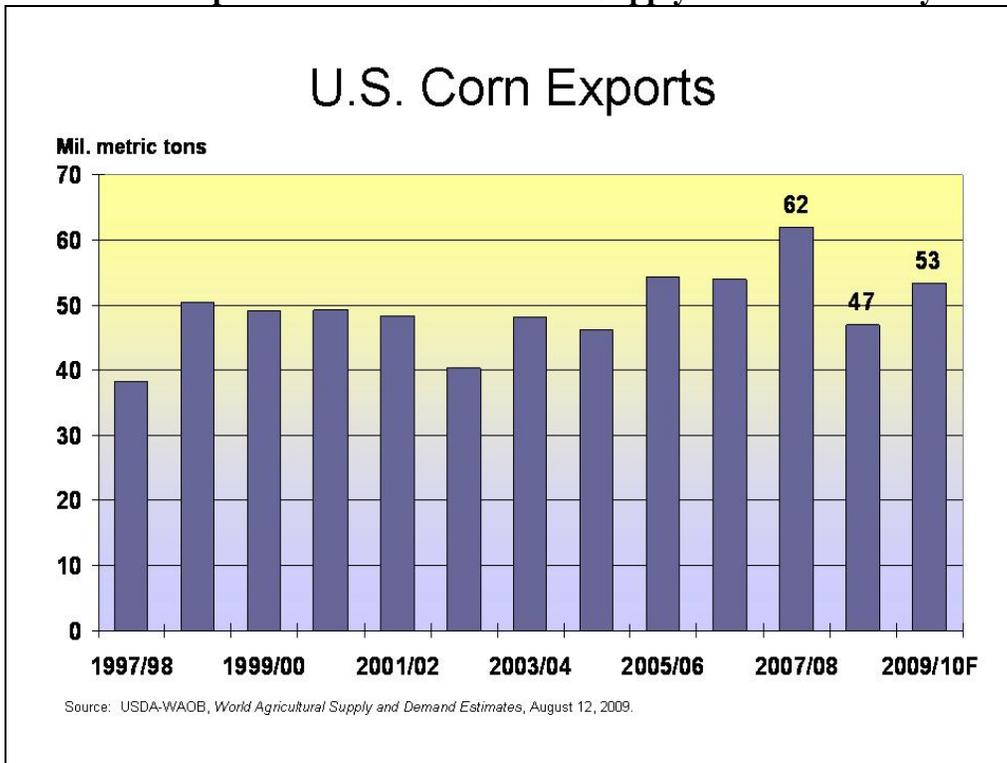


Figure 11--U.S. Corn Exports

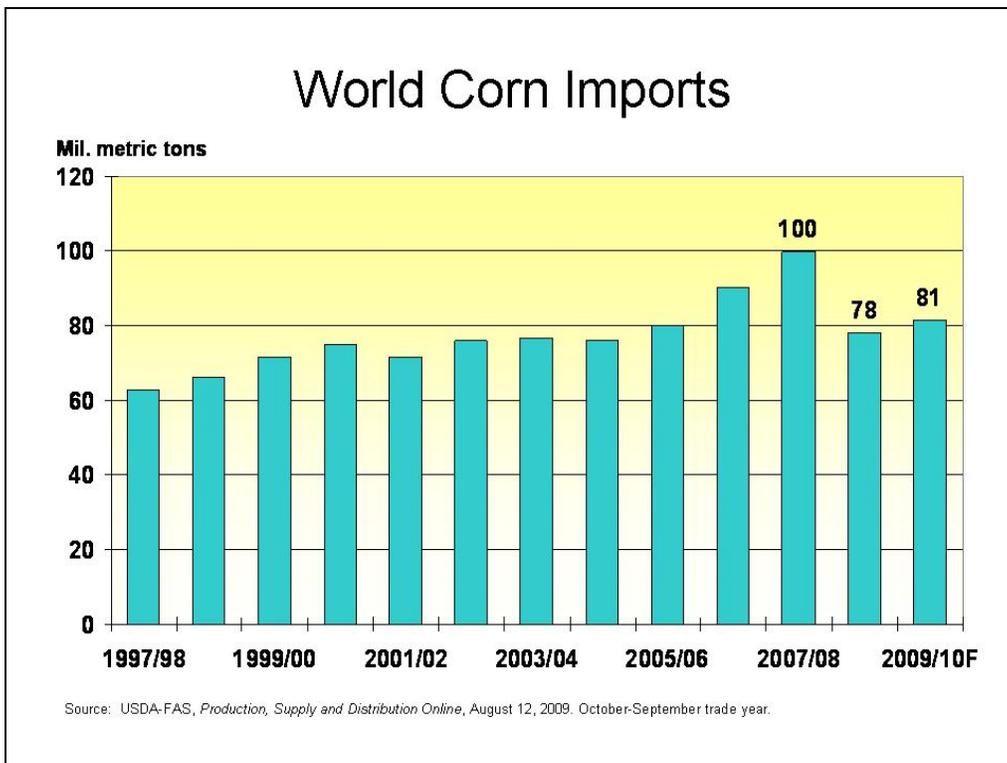


Figure 12--World Corn Imports

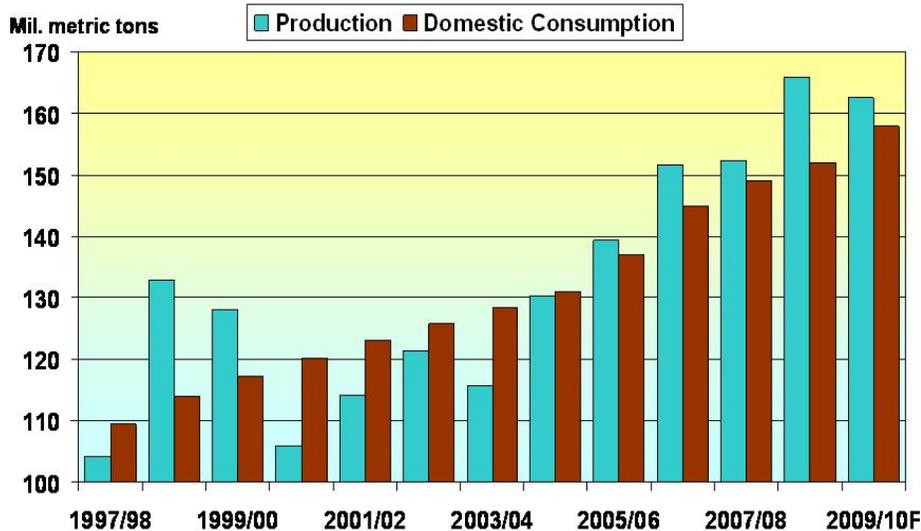
China Corn Supply and Demand

Item	Units	2005/06 estimates	2006/07 estimates	2007/08 estimates	2008/09 estimates	2009/10 projections
Area harvested	Mil. ha.	26.4	28.5	29.5	29.4	29.5
Yield	Mt./ha.	5.29	5.33	5.17	5.64	5.51
Beginning stocks	Mil. mt.	36.6	35.3	36.6	39.4	53.1
Production	Mil. mt.	139.4	151.6	152.3	165.9	162.5
Imports	Mil. mt.	0.1	0.0	0.0	0.1	0.1
Total supply		176.0	186.9	188.9	205.3	215.6
Feed & residual	Mil. mt.	101.0	104.0	105.0	110.0	115.0
Food, seed & industrial	Mil. mt.	36.0	41.0	44.0	42.0	43.0
Domestic use	Mil. mt.	137.0	145.0	149.0	152.0	158.0
Exports	Mil. mt.	3.7	5.3	0.5	0.3	0.5
Total use	Mil. mt.	140.7	150.3	149.5	152.3	158.5
Ending stocks	Mil. mt.	35.3	36.6	39.4	53.1	57.1
Stocks-to-use	%	25.1	24.4	26.4	34.9	36.0

Source: USDA-WAQB, *World Agricultural Supply and Demand Estimates*, August 12, 2009.

Figure 13--China Corn Supply and Demand

China Corn Production and Consumption



Source: USDA-WAQB, *World Agricultural Supply and Demand Estimates*, August 12, 2009.

Figure 14--China Corn Production and Consumption

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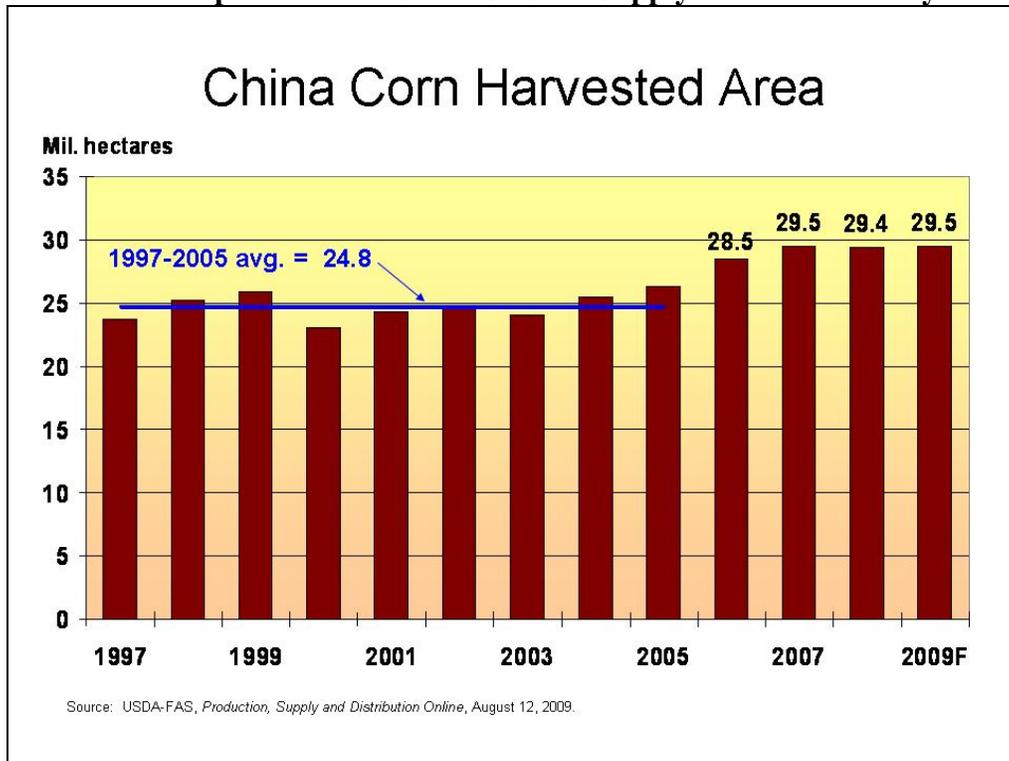


Figure 15--China Corn Harvested Area

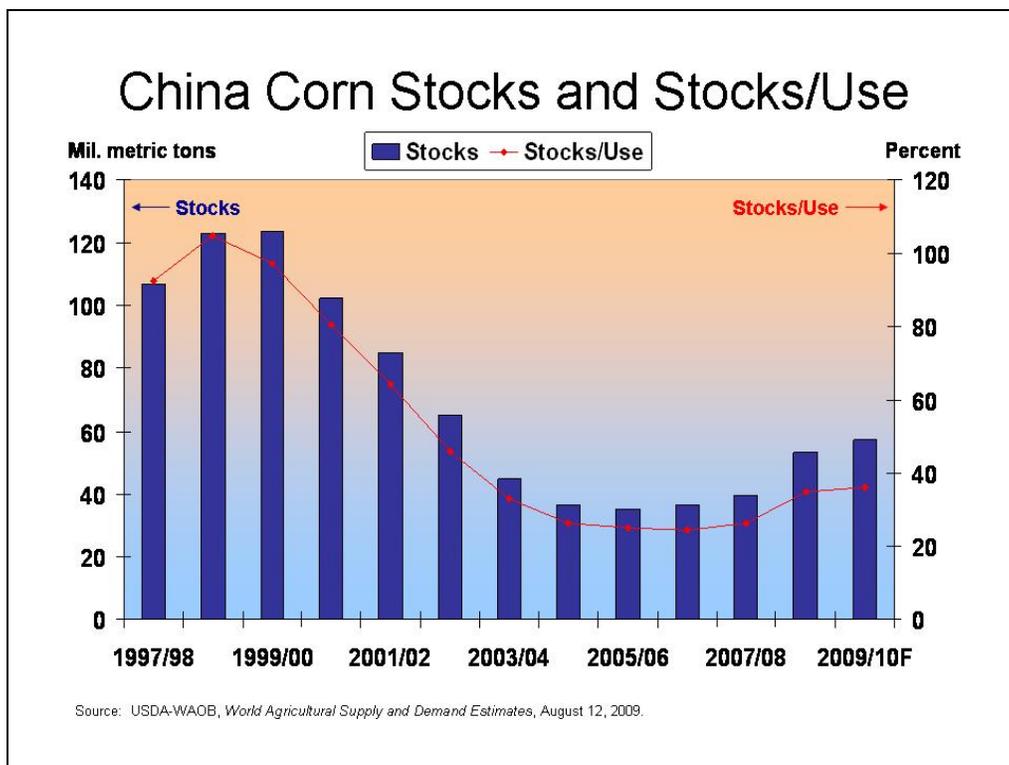


Figure 16--China Corn Stocks and Stocks/Use