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# **GRAINS AND OILSEEDS OUTLOOK**

**2013 Agricultural Outlook Forum**

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**February 22, 2013**

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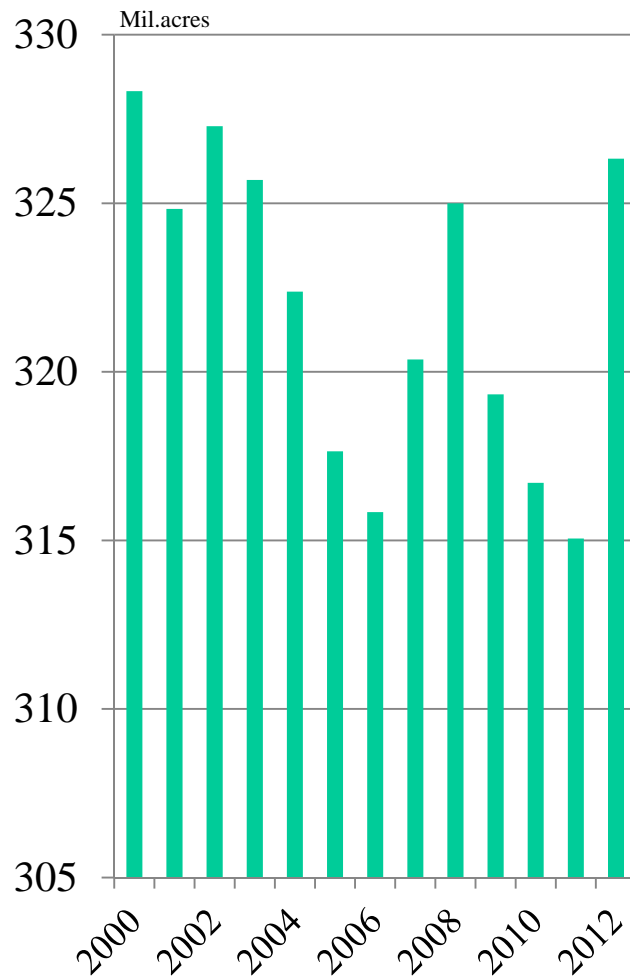
# Today's Presentation

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- **Acreage, including CRP Update**
- **Yields and Production**
- **Highlights of Supply and Demand Balance Sheets**
- **Corn and Soybean Yield Scenarios Under  
Alternative Weather Assumptions**



## 2012 Principal Crop Plantings were 326.3 million Acres, the Highest Since 2002

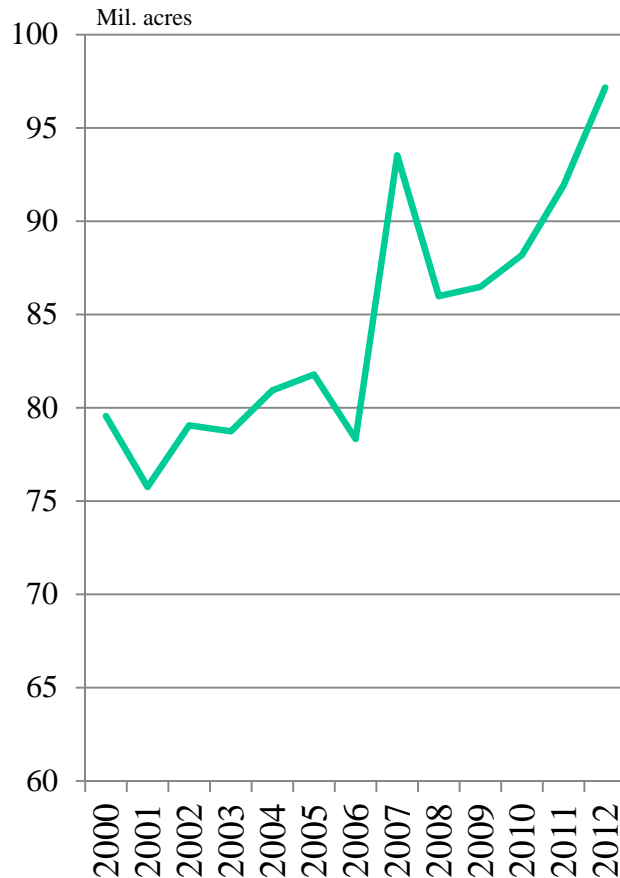


- Year to year increase was 11.2 million acres, the largest since 1996.
- Very strong price incentives and favorable (dry) planting conditions account for the large gain.
- Acreage for every principal crop except cotton showed an increase over 2011.
- Principal crops include all major field crops, hay, minor oilseeds, potatoes, dry beans, tobacco, sugarcane and beets, peas and lentils, millet, and rye.

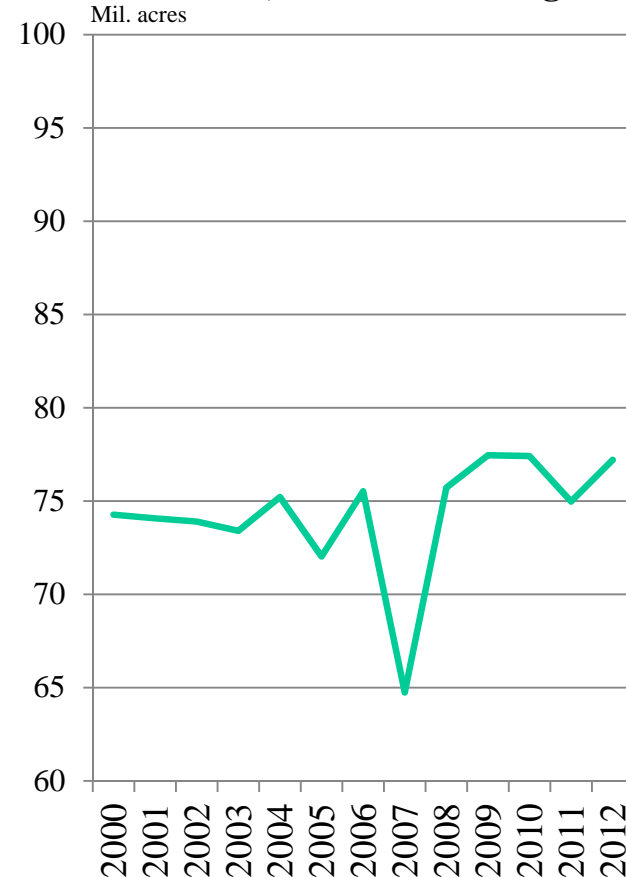


# Since 2008, Corn and Soybeans Have Accounted for More than Half of Principal Acres

### The Big Story is the Increase in Corn Planted Area



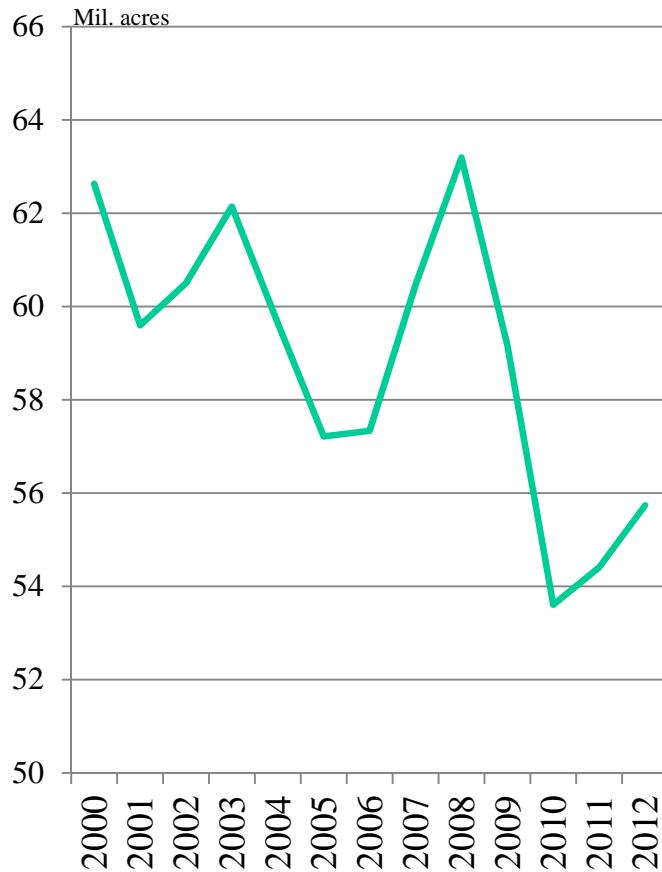
### Soybean Area Set Record in 2009, and Remains High



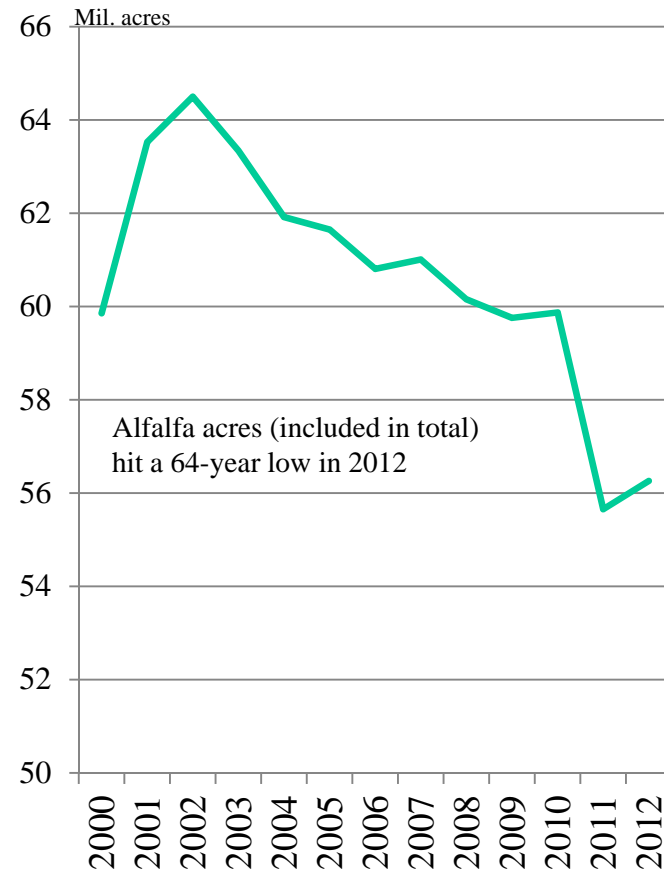


# Losing Acreage: Wheat and Hay Trending Down

**2010 Wheat Plantings  
Were the Lowest Since 1970**



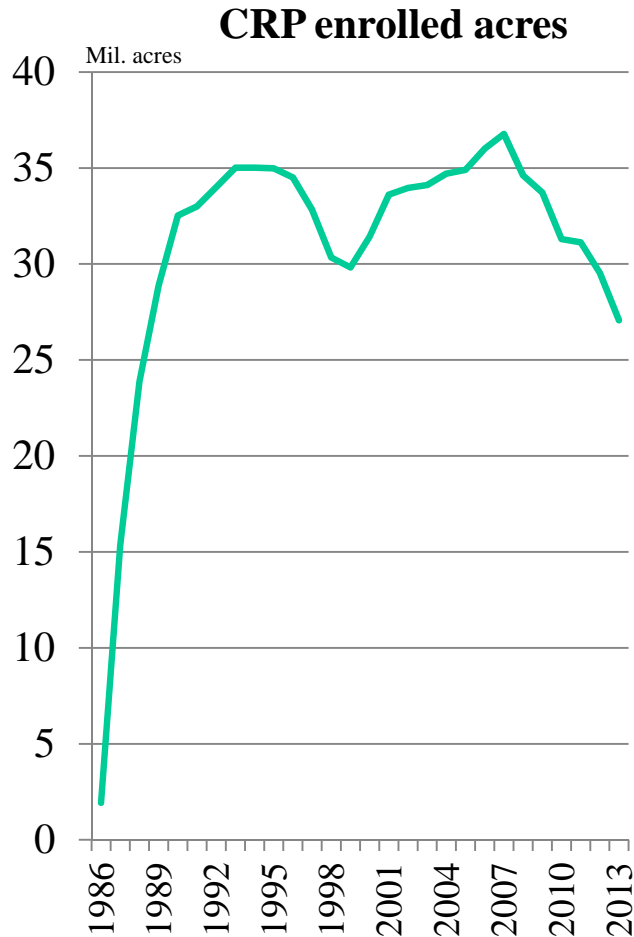
**2011 All Hay Harvested Acres  
Were the Lowest on Record \***



Alfalfa acres (included in total)  
hit a 64-year low in 2012

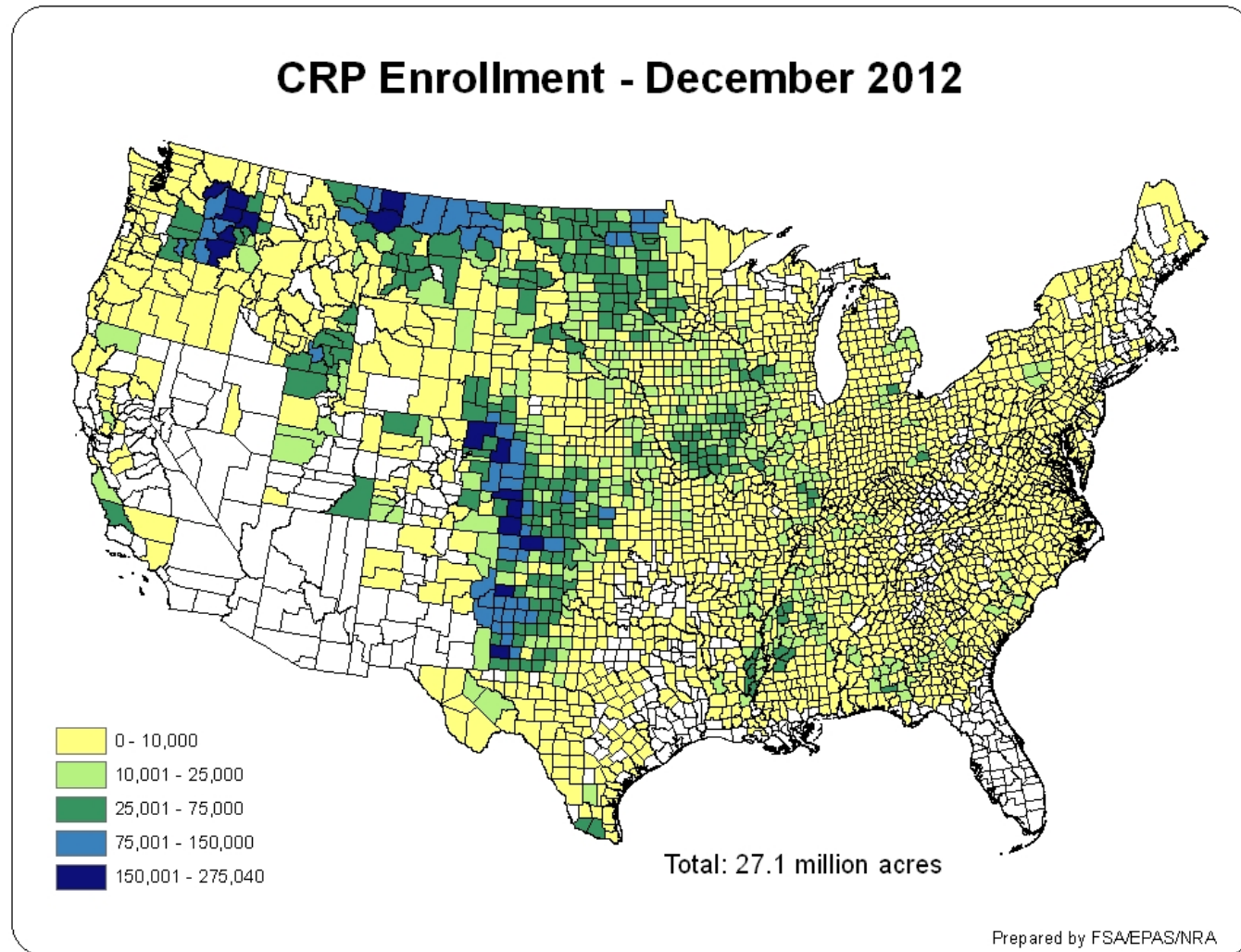
\* Records date from 1909.

# Conservation Reserve Program (CRP) Acres Are Declining



- CRP conserves soil, water, and wildlife resources by taking environmentally sensitive land out of crop production, under 10-15 year contracts.
- Land is planted to long-term, conserving covers, mainly grass and trees.
- Current total enrolled is 27.1 million acres, down 9.7 million from 2007 peak.
- 2008 Farm Bill lowered cap on acres from 39.2 million to 32.0 million.

# CRP Acres: Concentrated in the Plains







# What Land Left the CRP in 2012?

6.5 million acres expired, but about 3.4 million was reenrolled and some new acres were also enrolled

	State	1000 acres
1	North Dakota	583
2	Montana	483
3	Minnesota	152
4	Kansas	149
5	Missouri	146
6	South Dakota	130
7	Iowa	113
8	Nebraska	95
9	Colorado	94
10	Texas	69
	Other	439
	United States	2,455

## Will the land be cropped in 2013?

- Some will go into corn and soybeans, given high prices, but little would be considered prime land.
- While most CRP acres were in grass, the land still needs preparation before crops can be planted.
- Traditionally, a large share has stayed in grass immediately after CRP, reflecting both its location, and time and costs to prepare for crops.
- Net expired acres available for 2013 cropping total nearly 2.5 million.



## 2013 Acreage Projections: Slight Decline in Corn, Small Gains in Soybeans and Wheat

Million acres

	2011	2012	2013 F
Wheat	54.4	55.7	56.0
Soybeans	75.0	77.2	77.5
Corn	91.9	97.2	96.5
3 crops	221.3	230.1	230.0

Another year of large plantings supported by strong new-crop prices:

- Corn down slightly from last year's 75-year high on more normal spring planting weather.
- Despite favorable price incentives, HRW area down due to drought. SRW acres are up, while spring wheat expected to decline.
- Soybeans increase with attractive prices relative to year ago and relative to corn, more double cropping potential, and decline in cotton acres.



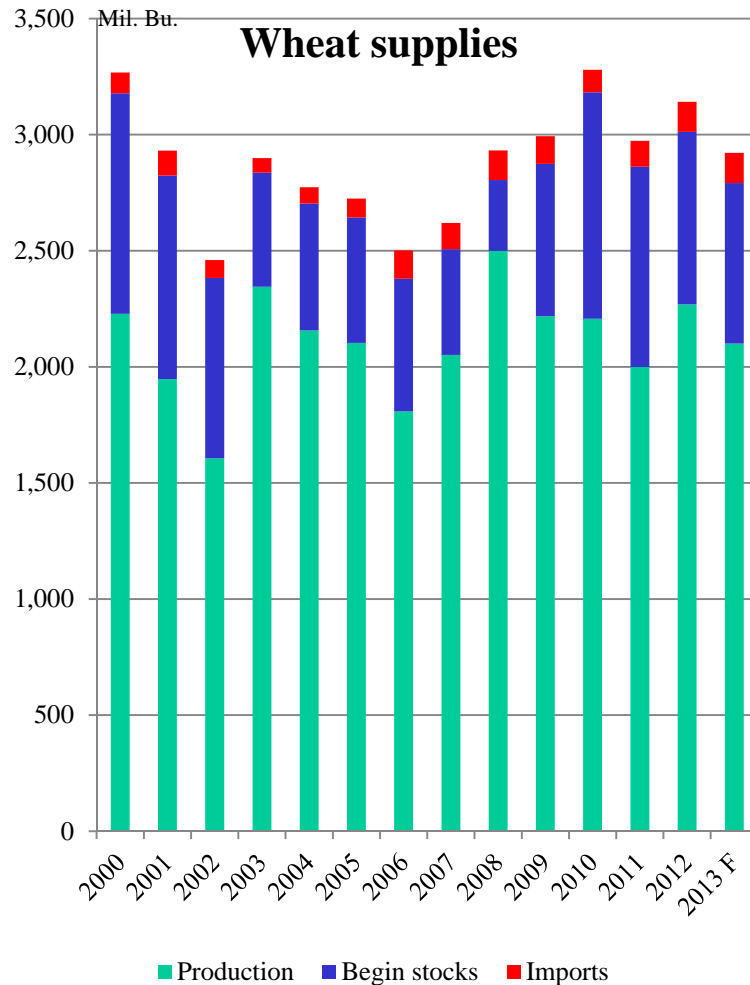
## Corn and Soybean Yields and Production to Rebound with Normal Weather

<b>Yields</b>			
Bushels/acre	<b>2011</b>	<b>2012</b>	<b>2013 F</b>
Wheat	43.7	46.3	45.2
Soybeans	41.9	39.6	44.5
Corn	147.2	123.4	163.6
<b>Production</b>			
Mil. bushels	<b>2011</b>	<b>2012</b>	<b>2013 F</b>
Wheat	1,999	2,269	2,100
Soybeans	3,094	3,015	3,405
Corn	12,360	10,780	14,530

- Wheat yield (based on trend) down from 2012 record.
- Harvested HRW acres to fall on poor weather .
- Wheat crop projected 7 percent lower.
- Soybean production projected to rise 13 percent as yield recovers from drought.\*
- Corn production projected to jump 35 percent as yield recovers by 40 bushels per acre.\*

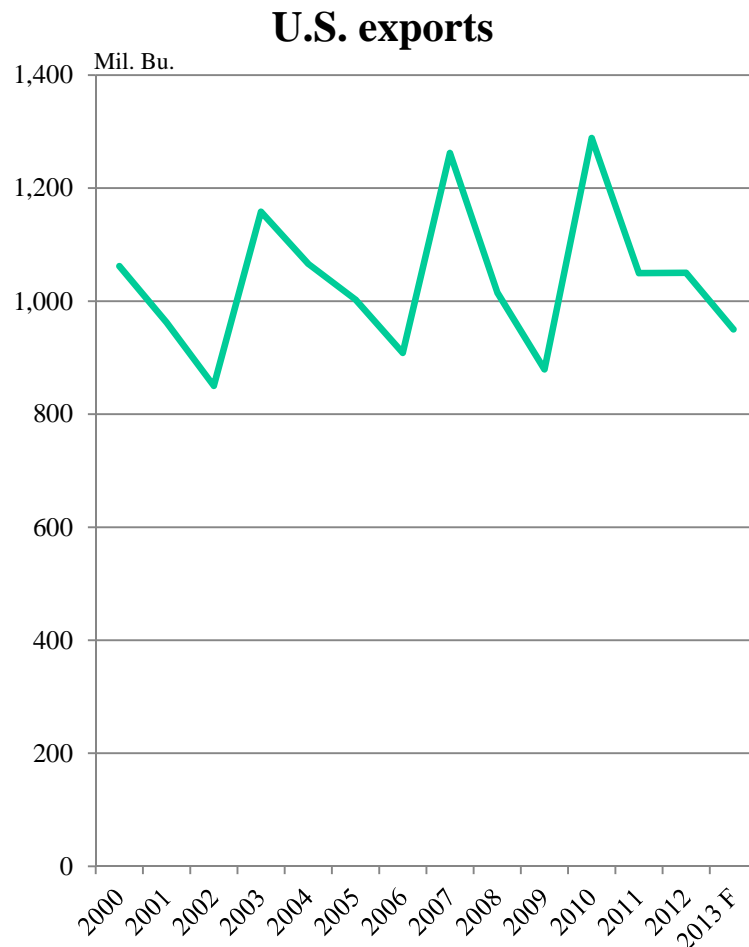
\*Corn and soybean yields based on weather model.

# Wheat Supplies to Fall on Lower Beginning Stocks and Smaller Crop



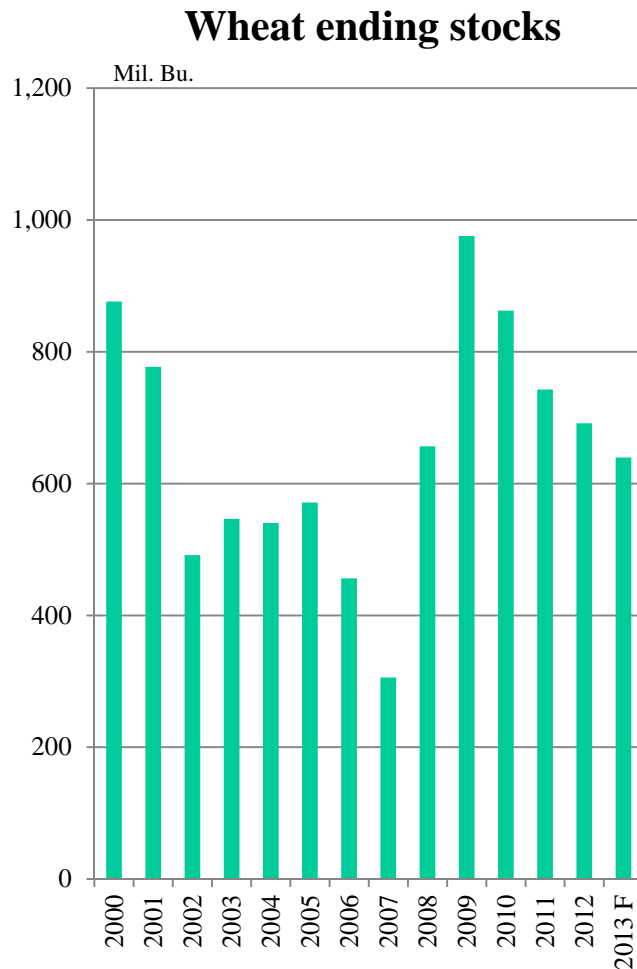
- Wheat supplies projected to fall 7 percent, lowest since 2007/08.
- Beginning stocks for 2013/14 expected to slip under 700 million bushels for the first time in 4 years.
- 2013 production of 2.1 billion bushels would be just under the previous 3-year average.

# Wheat Exports Expected to Decline as Competitor Production Rebounds



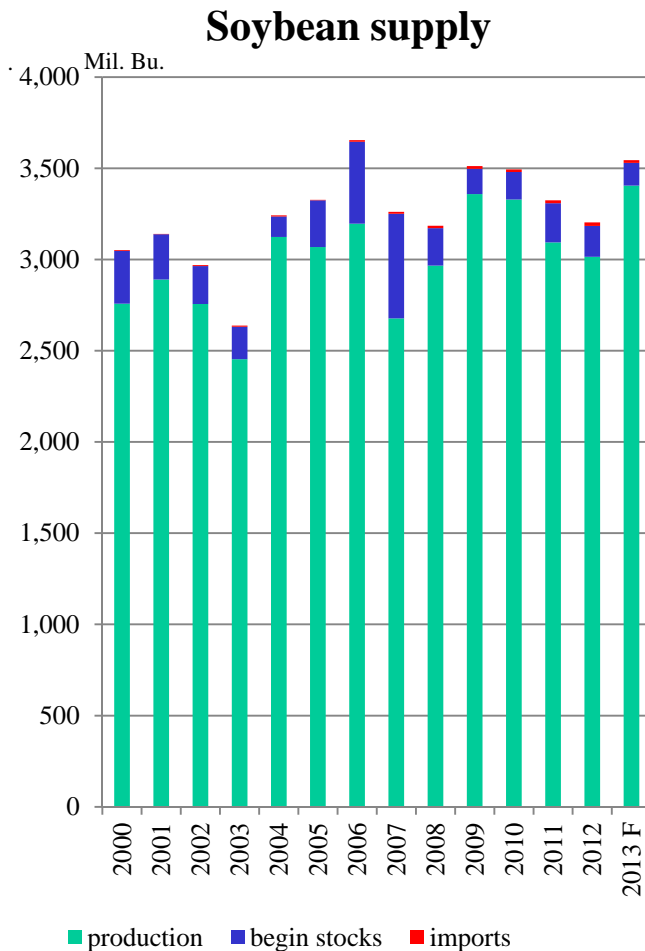
- While U.S. supply falls, most competing exporters are projected to have larger crops, led by the Black Sea region and the EU.
- There will be good opportunities for U.S. exports in the first half of the marketing year, as new-crop winter wheat is harvested before the main competitor crops.
- However, the longer term downtrend in U.S. export market share is expected to continue.

# Wheat Ending Stocks Projected to Decline But Outlook is Far from Tight



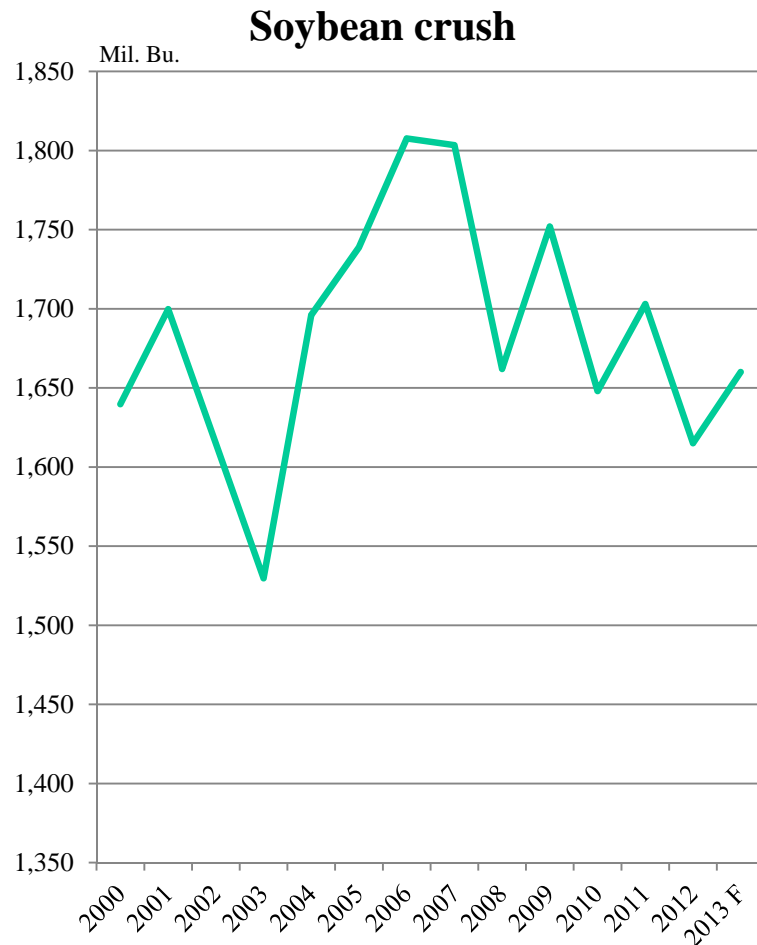
- Stocks are projected at 639 million bushels, the lowest since 2007/08.
- Total use projected to slide 7 percent from 2012/13, with declines in exports and domestic use.
- The ratio of stocks-to-use is projected at 28 percent, down just marginally from the 28.2 percent forecast for 2012/13.

# Soybean Supply Expected to be the Highest in 7 Years



- Despite very low beginning stocks, bigger crop will raise supply 11 percent and would be the second highest ever.
- 2013 production projected to slightly eclipse prior record high of 2009.

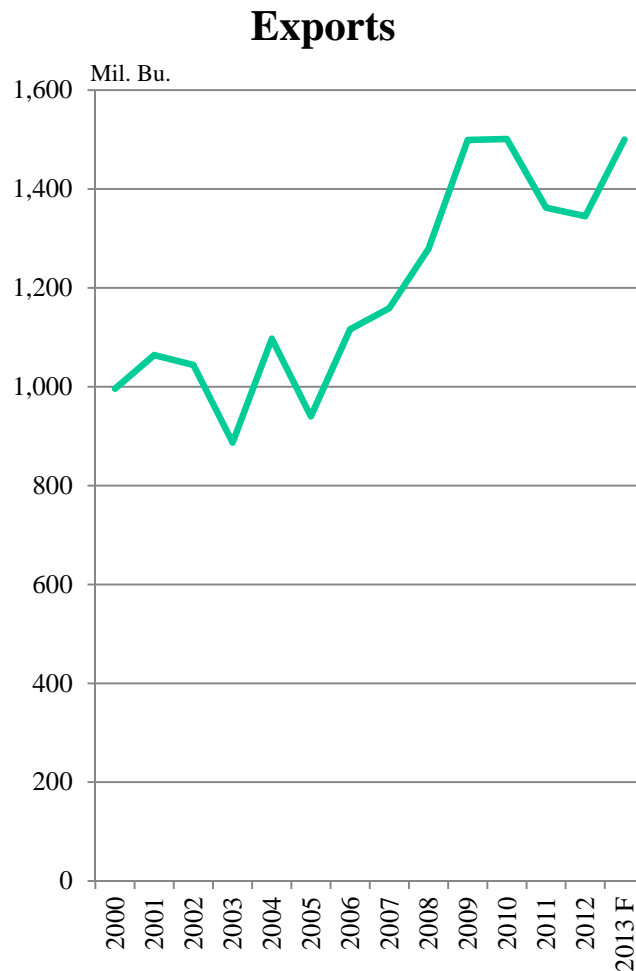
# Soybean Crush Projected to Increase 3 Percent



- 2013/14 crush rebounds from 9- year low.
- Soybean meal feeding to increase modestly on lower prices and some expansion in poultry and pork.
- Despite increased crush, soybean oil supplies are projected to decline for the fourth straight year--to the lowest since 2004/05--on very low carryin stocks.

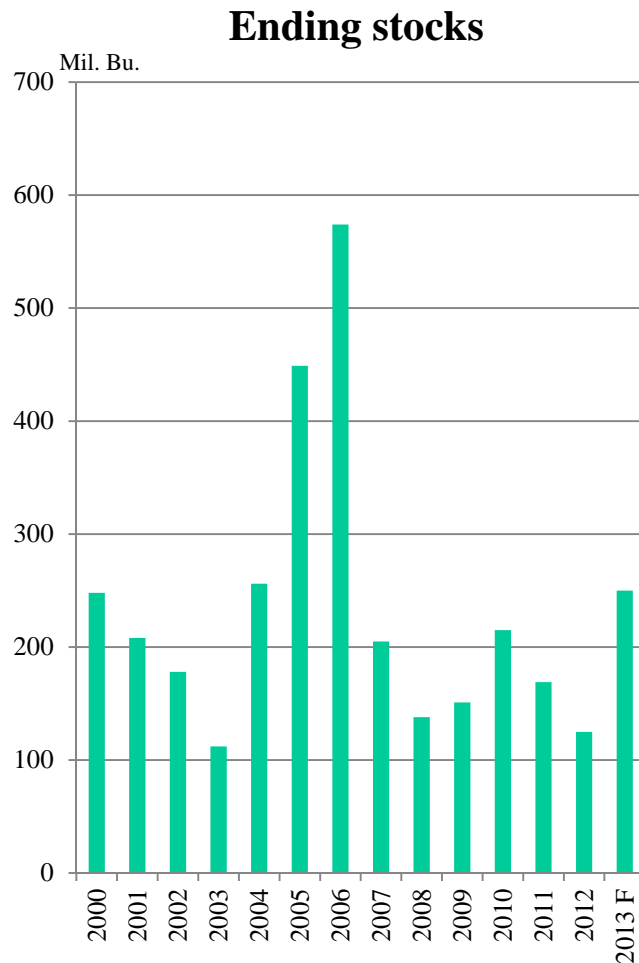


# Soybean Exports to Grow on Continued Strong Import Demand by China



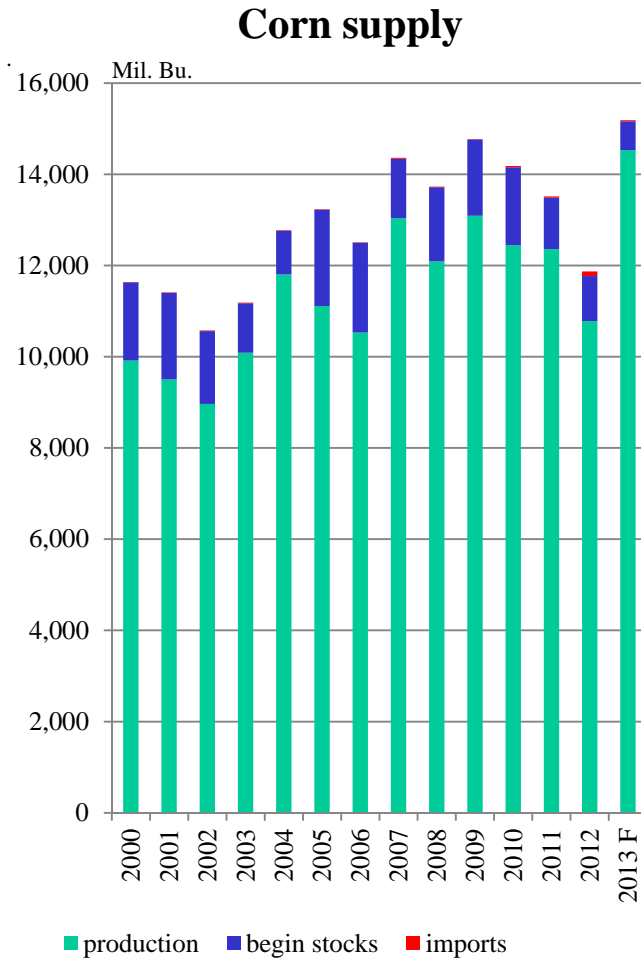
- U.S. exports projected up 12 percent, matching previous record highs.
- China's growth driven by strong demand for veg. oil for food and improved feed rations using more protein meal.
- Despite supply gains and lower prices, export competition will remain intense as South American production rebounds from last year's poor crops.

# Soybean Ending Stocks Projected to Double in 2013/14



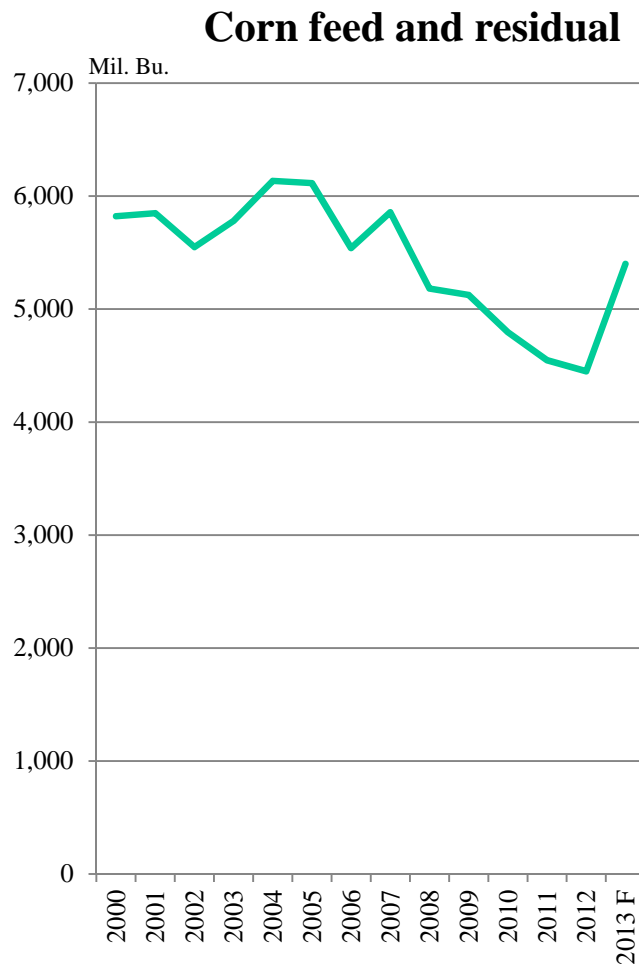
- Soybean ending stocks are projected at 250 million bushels, double the level forecast for 2012/13, and the highest since 2006/07.
- The stocks-to-use ratio would rise to 7.6 percent, compared with the historically low level of 4.1 percent forecast for 2012/13.

# 2013 Corn Supply Expected to be Record Large



- Despite the lowest forecast carryin stocks since 1995/96, corn supply projected up 28 percent to 15.2 billion bushels.
- Although planted area is expected to fall slightly, harvested area is expected to be the highest since 1933.
- Area of corn cut for silage or abandoned will decrease with better growing conditions.

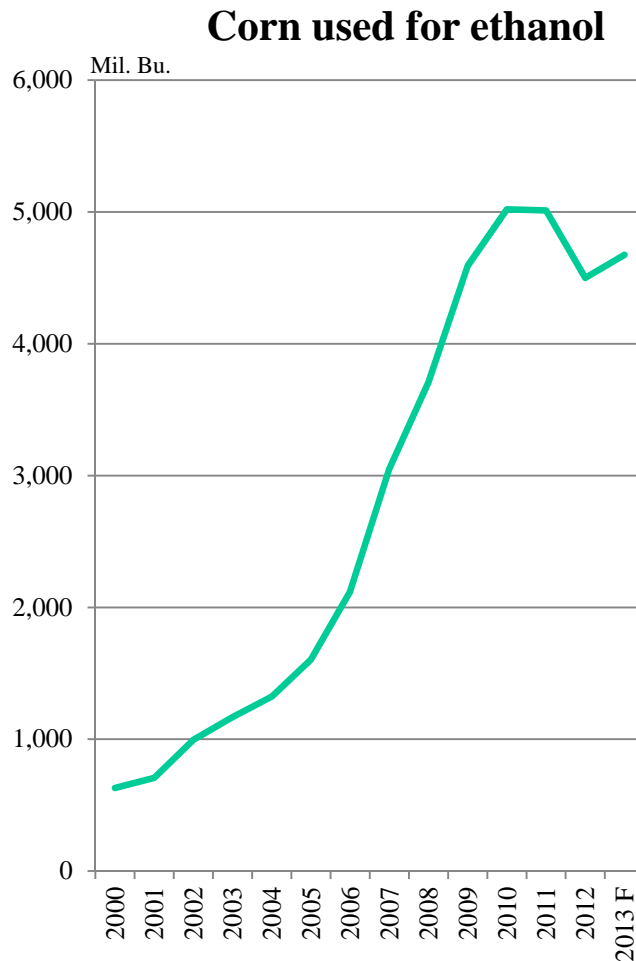
# Feed and Residual Use to Increase in 2013/14 On Larger Corn Supply and Lower Prices



- Feeding to increase with lower feed costs and growth in poultry and pork production.
- Sharp increase in residual disappearance with huge increase in the crop.
- Beef sector prospects hampered by drought impacts and tighter cattle supplies.
- Any recovery in forage supplies will also influence grain feeding.
- Small expansion in feeding of distillers' grains expected with more ethanol production.

# Only Modest Rebound in Ethanol in 2013/14

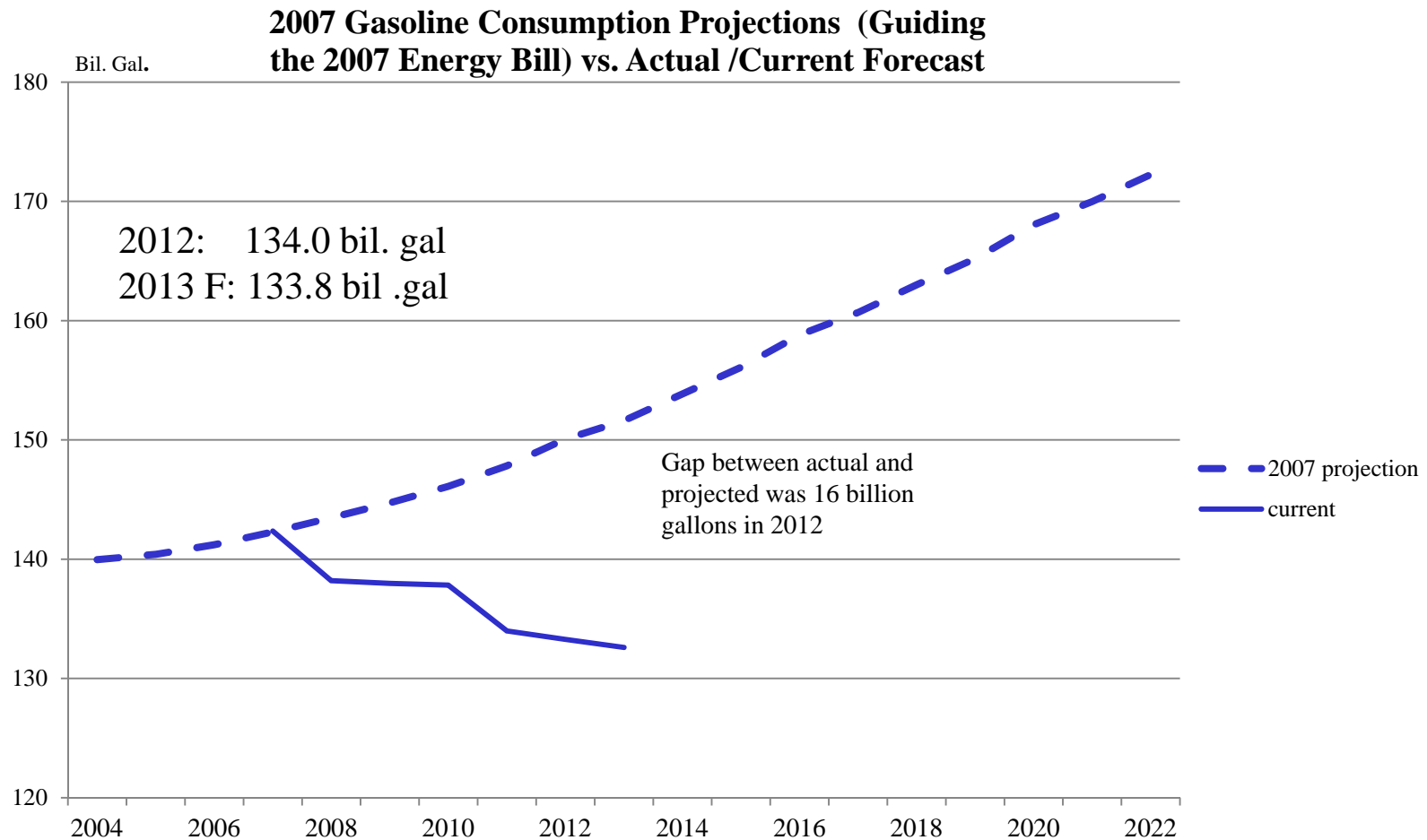
## Reflects Decline in Gasoline Use and “Blend Wall”



- Potential market for ethanol constrained by declining gasoline consumption.
- The “blend wall” refers to a market saturated at the 10-percent blend (E10).
- Ethanol exports are not expected to recover to 2011 highs, with higher production in Brazil and EU trade barriers.
- Imports of sugarcane ethanol from Brazil are increasing.
- No significant expansion expected for E15 or E85.



# Falling Gasoline Use Constrains Ethanol Expansion



# What Accounts for Declining Gasoline Consumption?

## Fewer Miles Driven

- Vehicle miles driven peaked in 2007.
- Recession explains initial decline, but there are other factors:
  - High gasoline prices.
  - Aging baby boomers.
  - Teenagers delaying driving.
  - Population shifts to urban areas.

## Efficiency Gains

- Virtually all new vehicles get more miles per gallon.

© Ford Motor Company



- For example, the Ford 150 series pick up (the top selling vehicle over the last decade), gets 18 mpg for 2013, up from 16 in 2003, a 12.5 percent improvement.\*

\*Example of 6-cylinder automatic

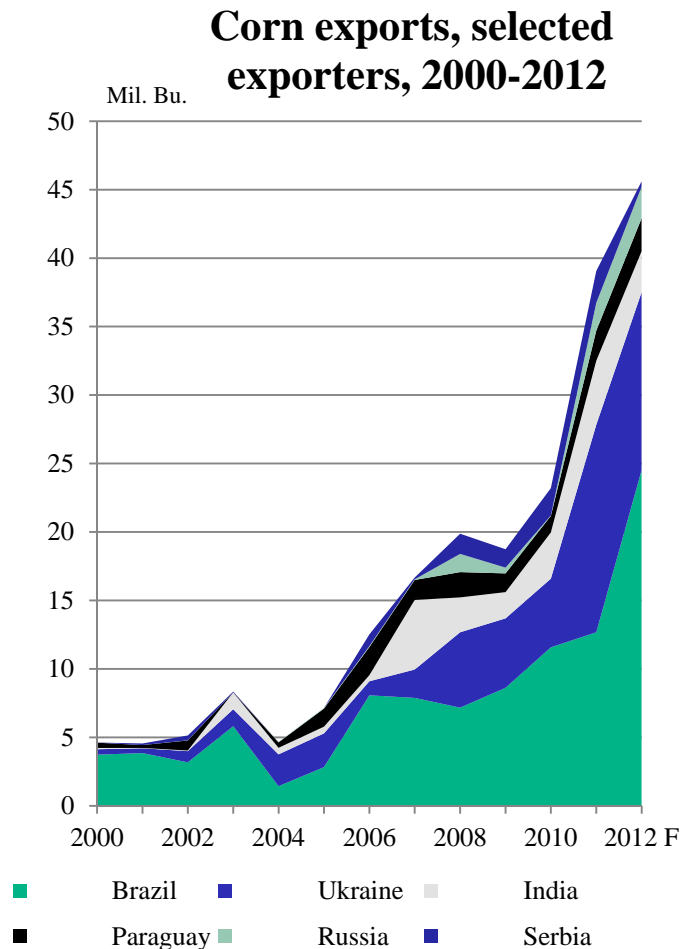
# Corn Export Recovery Limited As Competition Remains Strong



- Exports for the current 2012/13 year are forecast at just 900 million bushels, the lowest since 1971/72.
- U.S. shipments are projected to rise, but stay relatively low at 1,500 million bushels.
- The recent downtrend reflects very high U.S. prices and loss of market share, as farmers worldwide have responded to high price signals.



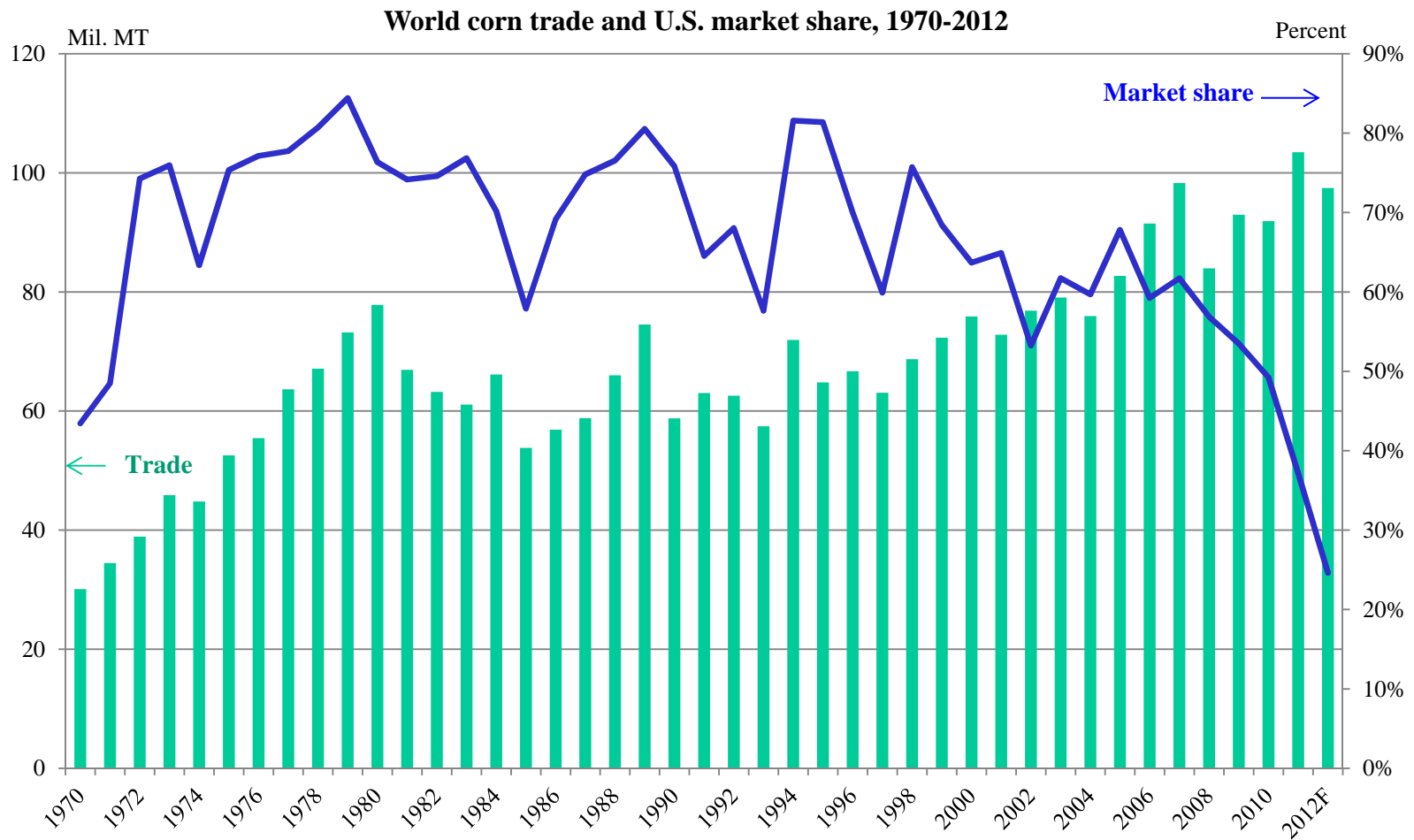
# High Prices Trigger Sharp Increase in Corn Exports by Non-Traditional Exporters



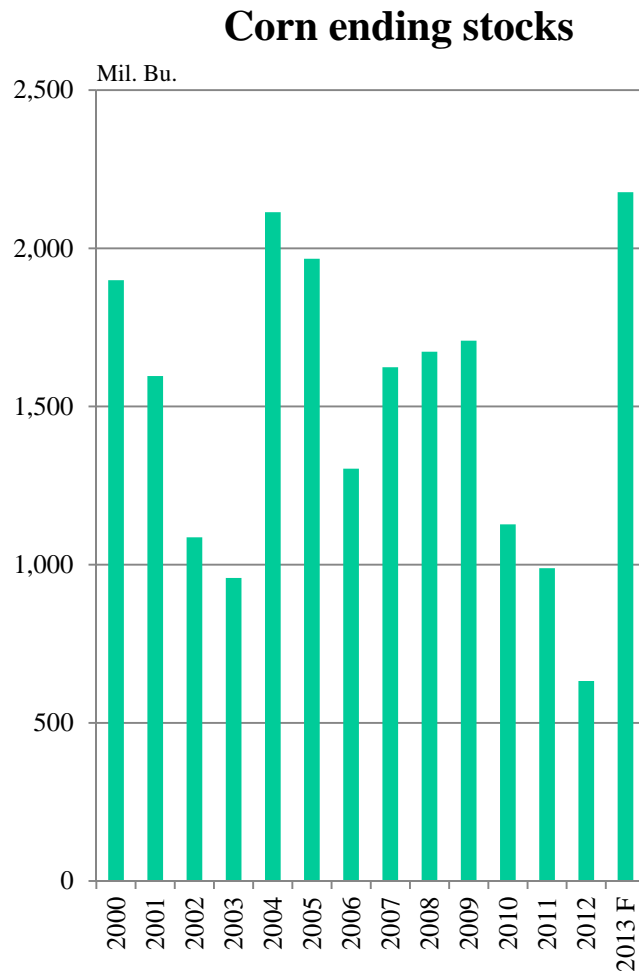
- Record high corn prices have triggered a strong production response in the rest of the world.
- Foreign export gains have been led by Brazil and Ukraine.
- Much of Brazil's gains reflect winter corn production that does not directly compete with soybeans.
- Some countries normally not competitive due to high prices and/or quality concerns have stepped up shipments.



# U.S. Market Share Plummetes While Global Corn Trade is Near Record High



# Corn Ending Stocks to Build as Supply Gain Outpaces Increase in Use



- Stocks projected to more than triple from 2012/13, to nearly 2.2 billion bushels, slightly higher than 1992/93 and 2004/05.
- Total use is projected at 13 billion bushels, up 16 percent from sharply curtailed use in 2012/13, but still slightly below record use of earlier years.
- Stocks build as sharp export competition, the plateau in ethanol, and the declining cattle herd limit a full rebound in use.



## 2013 Prices Will Decline with Record Corn Supply and Increase in Soybean Crop

Prices received by farmers  
\$ per bushel

	2011	2012	2013 F
Wheat	\$7.24	\$7.90	\$7.00
Soybeans	\$12.50	\$14.30	\$10.50
Corn	\$6.22	\$7.20	\$4.80

- Wheat price decline moderated by large share marketed during the summer months when corn prices will still be high.
- The soybean price expected to be the lowest since 2009/10, under heavy pressure from the corn market.
- Corn prices expected to fall sharply from the 2012/13 record, given the dramatic production increase.
- While harvest-time cash corn prices could fall toward \$4.00, some forward sales will support the farm price at a higher level.

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## Risks Around the Forecasts

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- Uncertain transition from the very tight old crop situation:
  - South American crop production.
  - Brazil export logistics.
  - Degree and duration of the new crop risk premium.
  - Timing/availability of new-crop supplies.
- Actual planted acreage for 2013.
- Volatility in oil and energy markets.
- Foreign producers' response to falling prices.
- China:
  - Will it continue to increase soybean buying?
  - Will China ramp up corn imports as prices become more attractive?
- Weather.



# Yield Scenarios From Weather Models

Assume Plus or Minus One Standard Deviation\* for Rainfall  
and Temperature in Most Critical Growing Period

## Corn

- Average July rain = 3.87 in.
- Average July temp. = 73.9 F.

Low Yield: 154.0 bu./ac.

- Rain 2.67 in.
- Temp. 76.4 F.

High yield: 170.1 bu./ac.

- Rain 5.08 in.
- Temp. 71.4 F.

\* Standard deviation = 1.21in. (rain), 2.5 degrees (temp).

## Soybeans

- Average July-Aug. rain = 3.80 in./month.
- Average July-Aug. temp. = 73.1 F.

Low yield: 42.9 bu./ac.

- Rain 3.08 in.
- Temp. 75.2 F.

High yield: 45.6 bu./ac.

- Rain 4.52 in.
- Temp. 71.1 F.

\* Standard deviation = 0.72 in. (rain), 2.0 degrees (temp)



## Corn Yield Scenario Balance Sheets

	Low	Trend	High
Yield (bu./ac.)	154.0	163.6	170.1
		-----mil. bu.-----	
Production	13,630	14,530	15,140
Feed and residual	5,100	5,400	5,600
Ethanol	4,575	4,675	4,725
Exports	1,350	1,500	1,600
Total use	12,460	13,010	13,360
Ending stocks	1,827	2,177	2,437
Price (\$/bu.)	\$5.80	\$4.80	\$4.20

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# Corn Yield Scenarios

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## Supply

- Low yield production of 13.6 billion bu. would still beat 2009 record high of 13.1 billion bu. by 500 million.
- High yield case pushes production to 15.1 billion bu., 2 billion bu. higher than the old record.

## Utilization

- Most response seen in feed and residual in either case.
- In the low case, there would also be little or no pasture recovery.
- Ethanol expansion constrained by blend wall.
- Export potential similarly constrained by large foreign supplies.

## Ending Stocks and Price

- Big stocks increase even in low yield scenario will push price down sharply.





## Soybean Yield Scenario Balance Sheets

	Low	Trend	High
Yield (bu./ac.)	42.9	44.5	45.6
		-----mil. bu.-----	
Production	3,285	3,405	3,495
Crush	1,635	1,660	1,680
Exports	1,435	1,500	1,545
Total use	3,205	3,295	3,360
Ending stocks	220	250	275
Price (\$/bu.)	\$11.60	\$10.50	\$9.75

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# Soybean Yield Scenarios

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## Supply

- Low yield production of 3.3 billion bu. would still result in a year to year increase of 270 million bu.
- The high yield scenario would increase the potential record size of the crop by 90 million bu. from the trend yield.

## Utilization

- Strong domestic demand for protein limits adjustment in crush.
- Crush also supported by mandated biodiesel use.
- Export effects muffled by strong demand by China.

## Ending Stocks and Price

- Impact is modest in both cases, with much of the price effect driven by corn.