

# **Agricultural Commodity Outlook**

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# Price Volatility Factors

- **Strong Demand Worldwide for Agricultural Commodities**
- **Record High Petroleum Prices**
- **Increased Production of Renewable Fuels**
- **Tight Grain and Soybean Stocks**
- **World Wheat Consumption has exceeded Production in 7 of the last 8 years**
- **Restrictions on World Exports of Grains – especially Rice**
- **U.S. Cotton Area and Production sharply lower**
- **Rising Input Costs**
- **Weak U.S. Dollar**

# Price Volatility Factors

(continued)

- **Strong Demand Worldwide for Agricultural Commodities**
  - Income growth in developing countries – India, China, etc.
  - Japan and other Asian markets active buyers despite high prices
  - Weak U.S. dollar
- **Rising Petroleum Prices and Increased Production of Renewable Fuels**
  - Corn for Ethanol in the United States
  - Oilseeds for biodiesel in the European Union

# Price Volatility Factors

(continued)

- **Tight Grain and Soybean Stocks**
  - U.S wheat stocks at 60-year low
  - World wheat stocks at 30-year low
  - Corn stocks likely to be down sharply in 2008/09
  - U.S. soybean acres down sharply in 2007/08, stocks reduced from record beginning levels as use exceeds production by 400+ million bushels
  - South American soybean acres increased only modestly in 2007/08
  - China imports of soybeans forecast record high

# Price Volatility Factors

(continued)

- **World Wheat Consumption has exceeded Production in 7 of the last 8 years**
  - Yields below trend in major exporting countries for the past 2 years
  - Australia recorded 2 back-to-back crop failures – lost more than one full year's output
  - E.U. crops below par
  - U.S. yields below trend
  - Canadian crops below average

# Price Volatility Factors

(continued)

- **Restrictions on World Exports**
  - **Ukraine, Russia, and Kazakhstan curtailed grain exports**
  - **Argentina shut-off export registrations on corn and wheat and raised taxes on soybean exports**
  - **Vietnam, India, Egypt, Cambodia, and China have imposed various restraints on rice exports**
  - **Thai exporters are having difficulty securing rice supplies to meet contracts**
  - **Australian rice exportable supplies down sharply due to drought**

# Price Volatility Factors

(continued)

- **U.S. Cotton Area and Production Sharply Lower in 2007/08 and 2008/09**
  - Cotton acres lost to competing crops, especially soybeans and corn
  - Increased dependence on exports
  - U.S. export forecast reduced as season progressed due to diminished China purchases/increased competition from India
  - Area forecast to decline again - projected net returns expected to favor grains and oilseeds in 2008/09
  - Competitor production has been growing – notably in India
  - China - excellent crops
  - Australia - crop reduced by drought
  - Pakistan - crop reduced by insect infestation

# Price Volatility Factors

(continued)

- **Rising Input Costs**
  - **Fuel prices up sharply**
  - **Fertilizer prices at record highs**
    - **Strong global demand with higher incomes, improved cultural practices and more cultivated area amid rising prices for agricultural commodities**
    - **U.S. dependency on fertilizer imports is growing**
      - **domestic production accounts for less than half of nitrogen needs**
  - **Feed prices rising**



# World Wheat Production

Country or Region	2007/08 estimate	2008/09 forecast	Change from 2007/08
	<i>Million Tons</i>		<i>Percent</i>
World	606.4	656.0	<b>8.2</b>
United States	56.2	65.1	<b>15.7</b>
Argentina	15.5	15.0	<b>-3.2</b>
Canada	20.1	25.0	<b>24.7</b>
Australia	13.1	24.0	<b>83.2</b>
EU-27	119.5	140.0	<b>17.2</b>
Russia	49.4	52.0	<b>5.3</b>
Ukraine	13.9	20.0	<b>43.9</b>
China	106.0	109.0	<b>2.8</b>
India	75.8	76.8	<b>1.3</b>

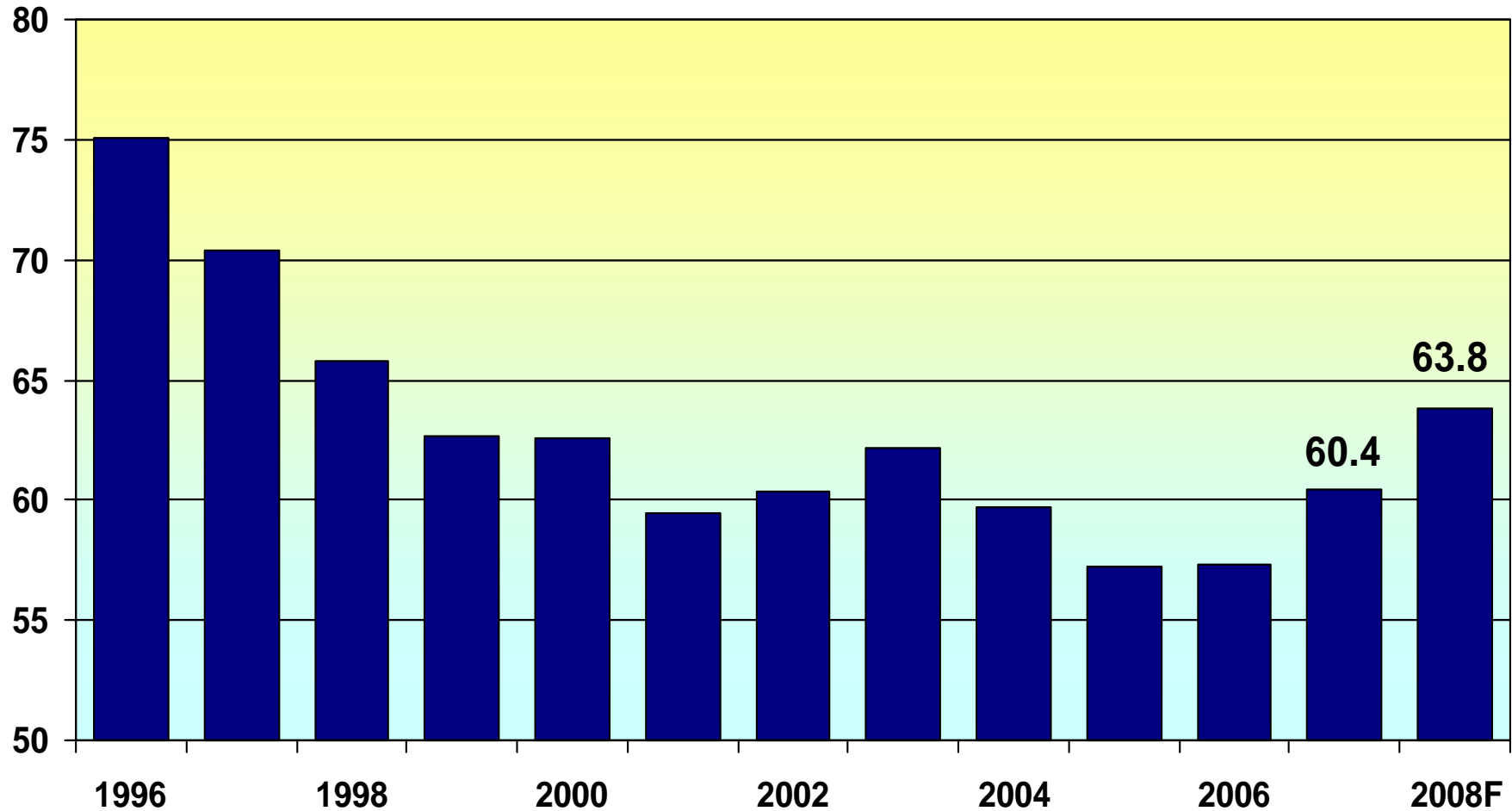
# U.S. Wheat Supply and Demand

	2007/08 estimate	2008/09 forecast	Change from 2007/08
			<i>Percent</i>
Planted area (million acres)	60.4	63.8	5.6
Harvested area (million acres)	51.0	56.3	10.3
Yield (bushels per acre)	40.5	42.5	4.9
	<i>Million bushels</i>		
Beginning stocks	456	239	-47.5
Production	2,067	2,392	15.7
Imports	95	100	5.3
Total supply	2,618	2,732	4.3
Food use	950	960	1.1
Seed	88	84	-5.0
Feed and residual	60	230	283.3
Domestic use	1,098	1,274	16.0
Exports	1,280	975	-23.8
Total use	2,378	2,249	-5.4
Ending stocks	239	483	101.5
	<i>Percent</i>		
Stocks to use ratio	10.1	21.5	
	<i>Dollars per bushel</i>		
Average market price	6.55	6.60/8.10	12.2

# U.S. Wheat Planted Area

Mil. acres

...wheat acres up 3.4 million for 2008



Note: 2008 planted area based on March 31, 2008, *Prospective Plantings*.

# World Rice Production

Country or Region	2007/08 estimate	2008/09 forecast	Change from 2007/08
	<i>Million Tons</i>		<i>Percent</i>
World	427.1	432.0	<b>1.2</b>
China	129.5	130.9	<b>1.1</b>
India	95.7	96.0	<b>0.3</b>
Vietnam	23.5	23.6	<b>0.1</b>
Thailand	18.5	18.8	<b>1.6</b>
Brazil	8.1	8.5	<b>4.6</b>
Japan	7.9	7.9	<b>-0.4</b>
United States	6.3	6.3	<b>-0.2</b>
Pakistan	5.5	5.6	<b>1.8</b>

# U.S. Rice Supply and Demand

## *Rough Equivalent of Rough and Milled Rice*

	2007/08 estimate	2008/09 forecast	Change from 2007/08
			<i>Percent</i>
Planted area (million acres)	2.76	2.77	0.3
Harvested area (million acres)	2.75	2.76	0.3
Yield (pounds per acre)	7,185	7,145	-0.6
	<i>Million cwt</i>		
Beginning stocks	39.3	21.6	-45.0
Production	197.5	197.0	-0.2
Imports	21.5	22.5	4.7
Total supply	258.3	241.1	-6.6
Domestic use	124.7	126.0	1.1
Exports	112.0	98.0	-12.5
Total use	236.7	224.0	-5.3
Ending stocks	21.6	17.1	-20.8
	<i>Percent</i>		
Stocks/use	9.1	7.6	
	<i>Dollars/cwt</i>		
Average market price	12.85/13.15	18.50/19.50	46.2

# 2007 Energy Act

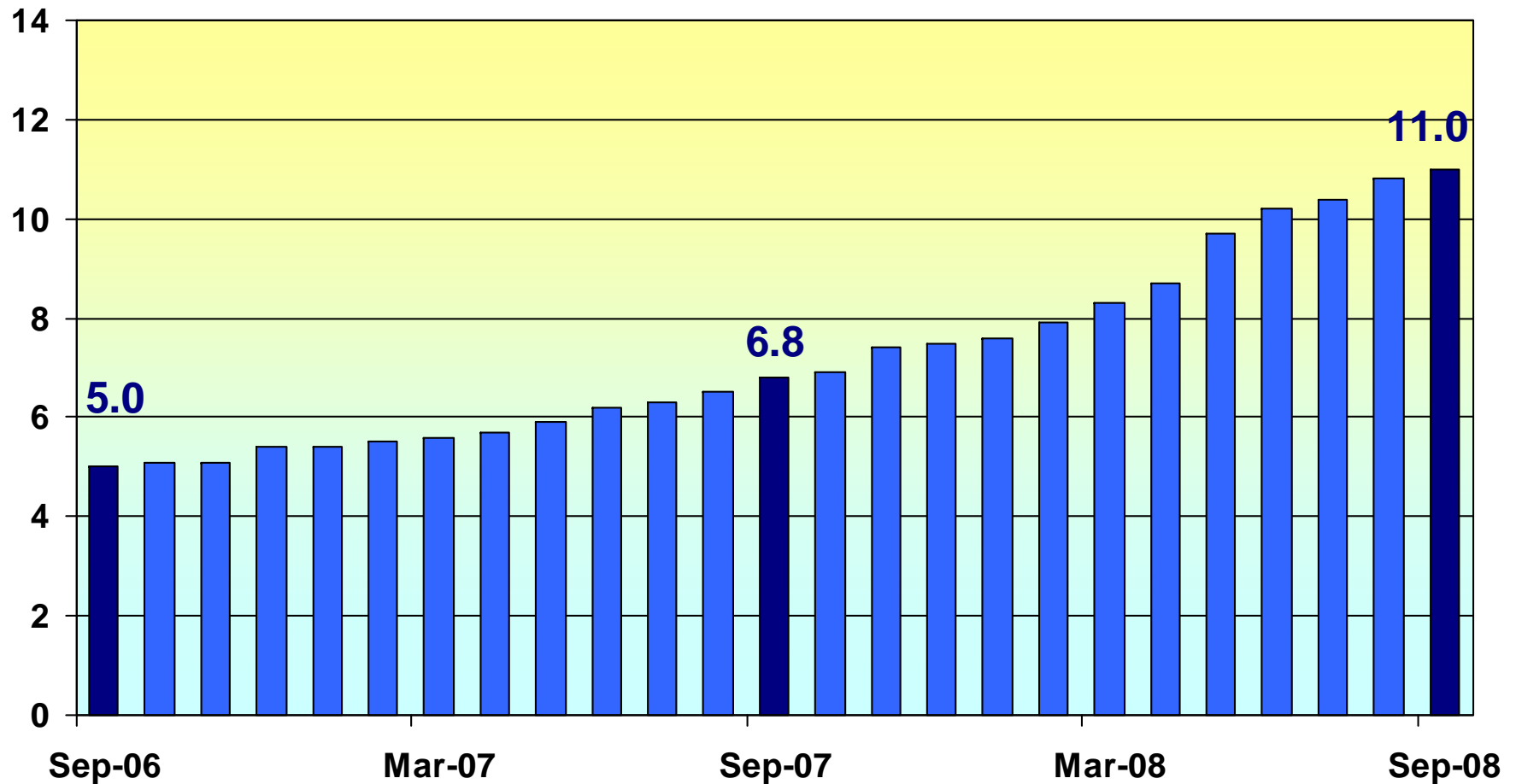
- Mandates very ambitious renewable fuel standard (RFS), starting at 9.0 billion gals in 2008 and increasing to 36 billion gals by 2022.<sup>1</sup>
- 15 billion gallons of the RFS will be corn-based ethanol starting in 2015.
- By 2016, all of the RFS increase must be met with cellulosic ethanol or other non-corn starch biofuels.

<sup>1</sup> The 2005 Energy Act mandated 5.4 billion gals by 2008, rising to 7.5 billion by 2012.

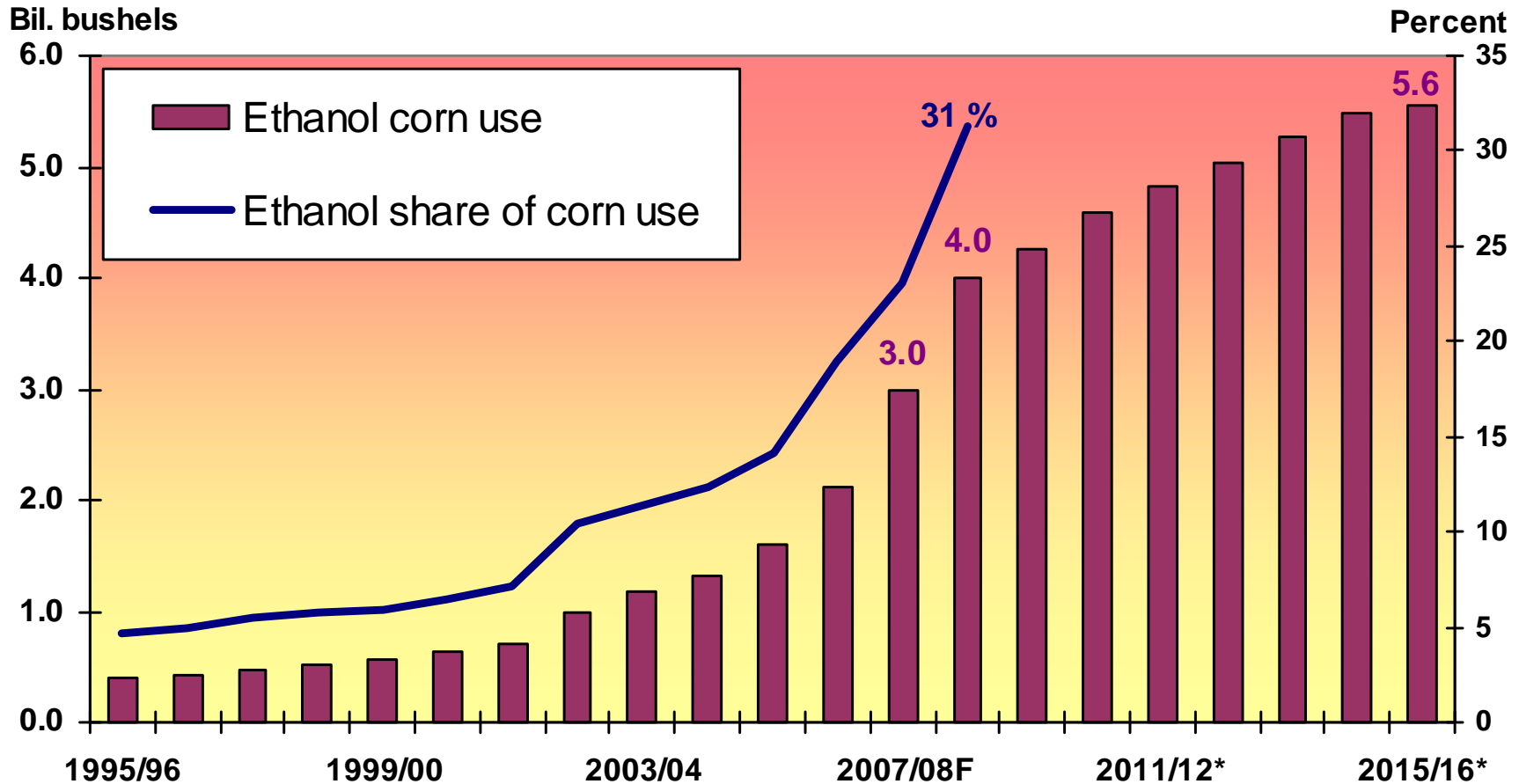
# U.S. Ethanol Production Capacity

## Annual Capacity by Month

Bil. Gallons



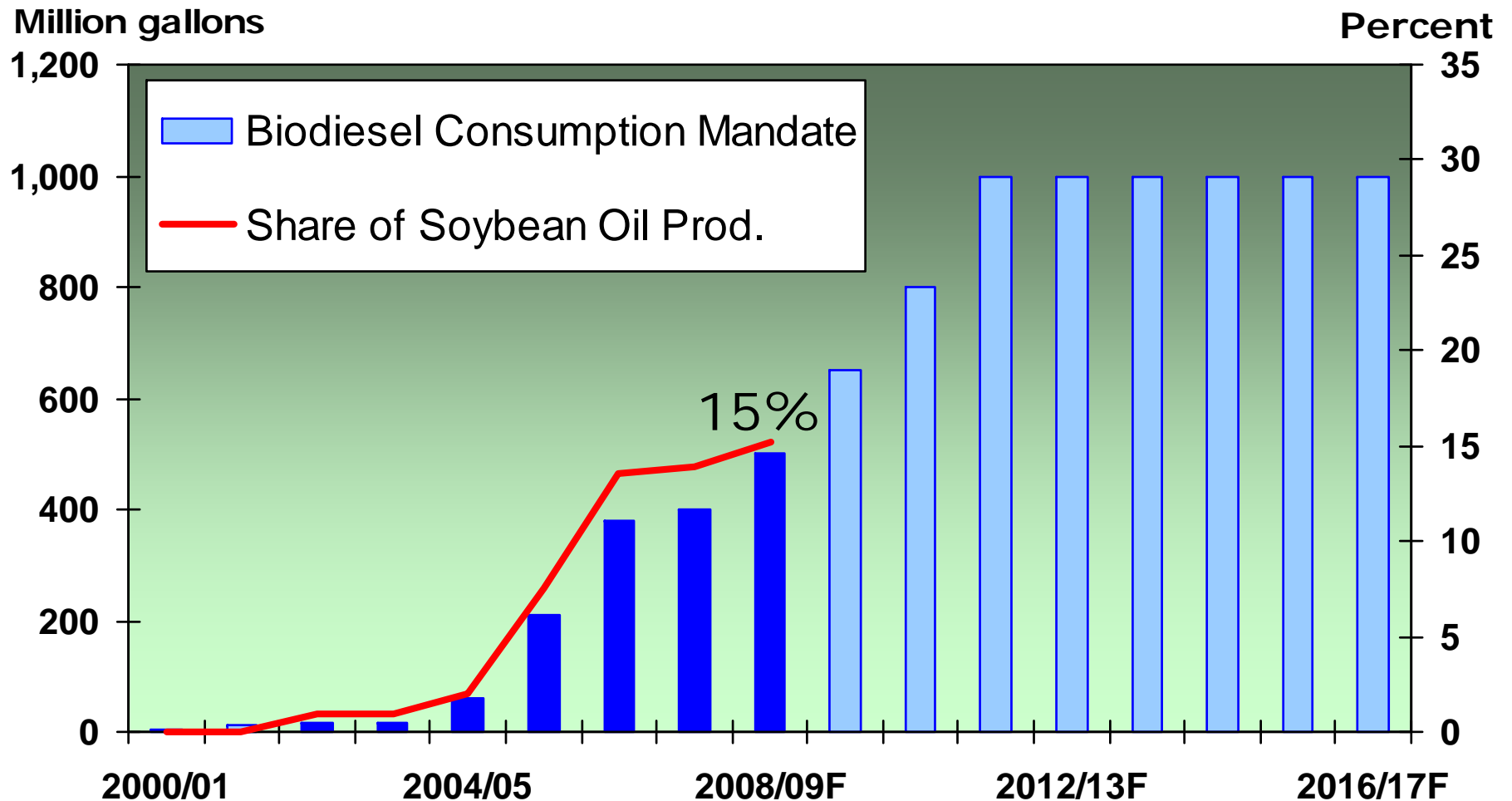
# U.S. Corn Used for Ethanol



Note: 2007/08 and 2008/09 projections from the May 9, 2008, *World Agricultural Supply and Demand Estimates*. \*Projections for 2009/10 and beyond based on RFS mandates for corn starch based ethanol under the Energy Independence and Security Act of 2007.



# U.S. Biodiesel Mandate (2007 Energy Act)



Note: 2007/08 and 2008/09 projections from the May 9, 2008, *World Agricultural Supply and Demand Estimates*. \*Projections for 2009/10 and beyond based on RFS mandates under the Energy Independence and Security Act of 2007.

# Area Planted, 5 major crops

## *USDA forecasts for 2008/09*

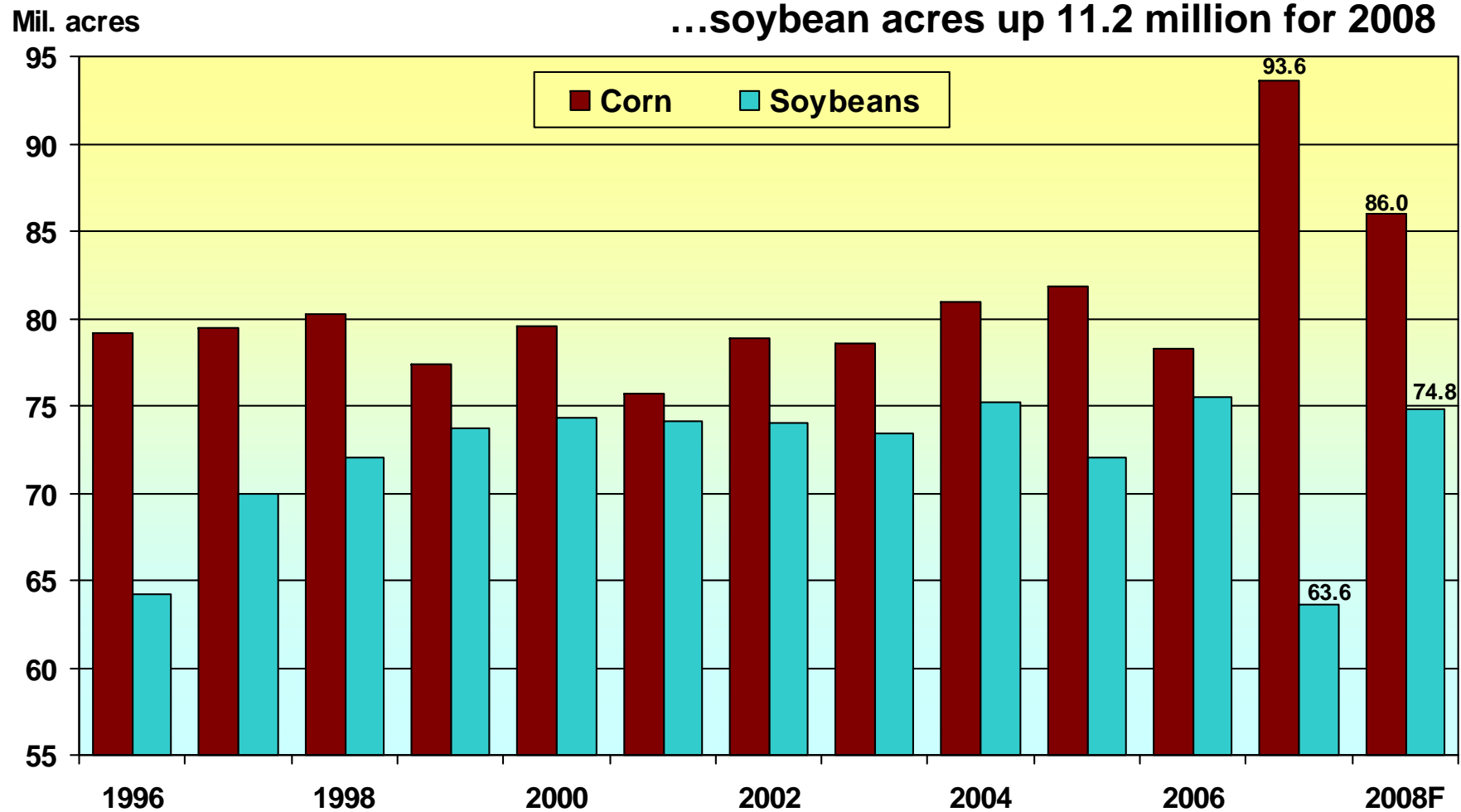
	2007/08 actual	Initial 2008/09 forecast 1/	March 2008/09 forecast 2/	June 2008/09 forecast 3/
Million acres				
Corn	93.6	90.0	86.0	
Soybeans	63.6	71.0	74.8	
Wheat	60.4	64.0	63.8	
All Cotton	10.8	9.5	9.4	
Rice	2.8	2.7	2.8	
5-crop total	231.2	237.2	236.8	

1/ February 22, 2008, Agricultural Outlook Forum.

2/ March 31, 2008, *Prospective Plantings*, from the National Agricultural Statistics Service.

3/ June 30, 2008, *Acreage*, from the National Agricultural Statistics Service.

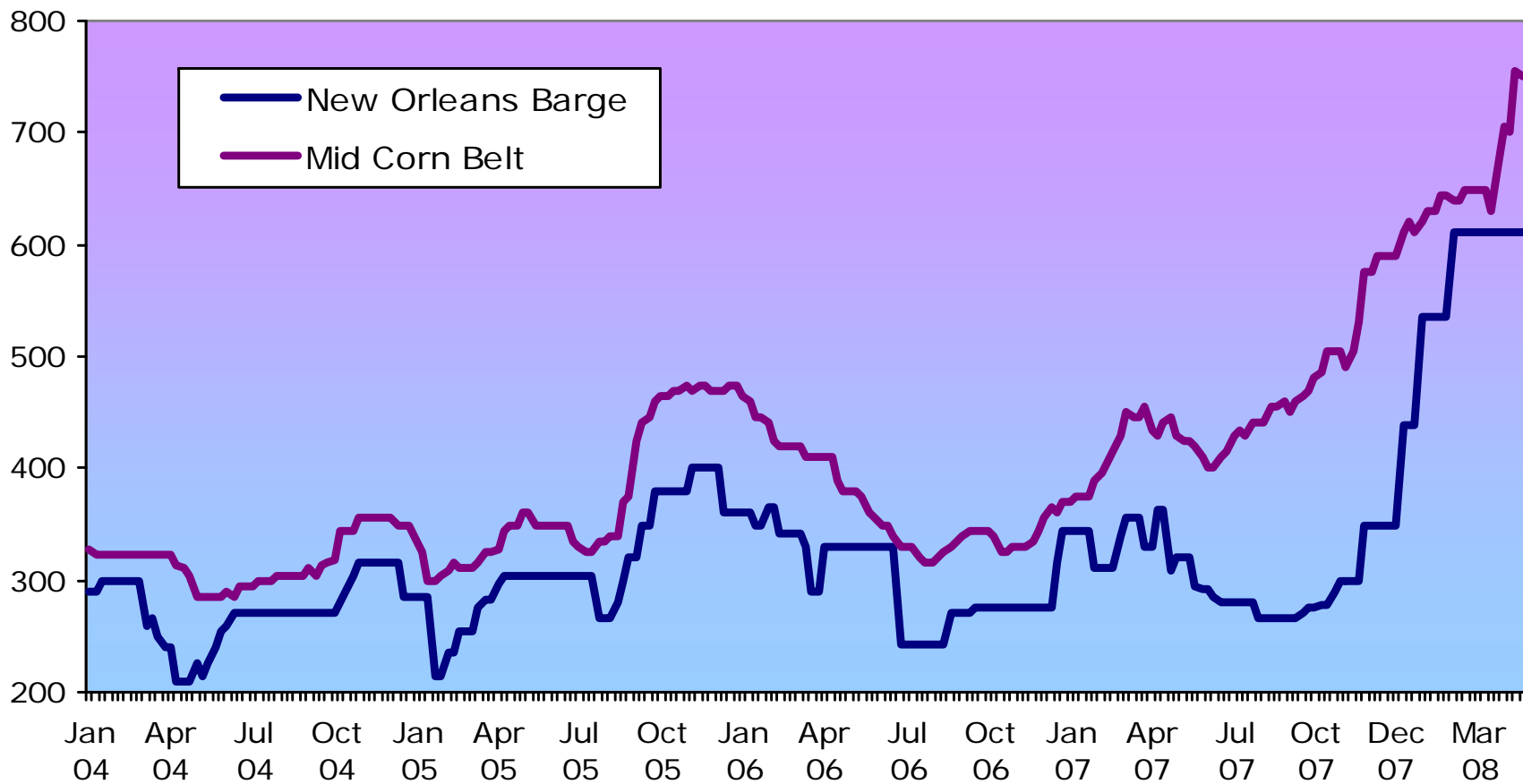
# U.S. Corn & Soybean Planted Area



Note: 2008 planted area based on March 31, 2008, *Prospective Plantings*.

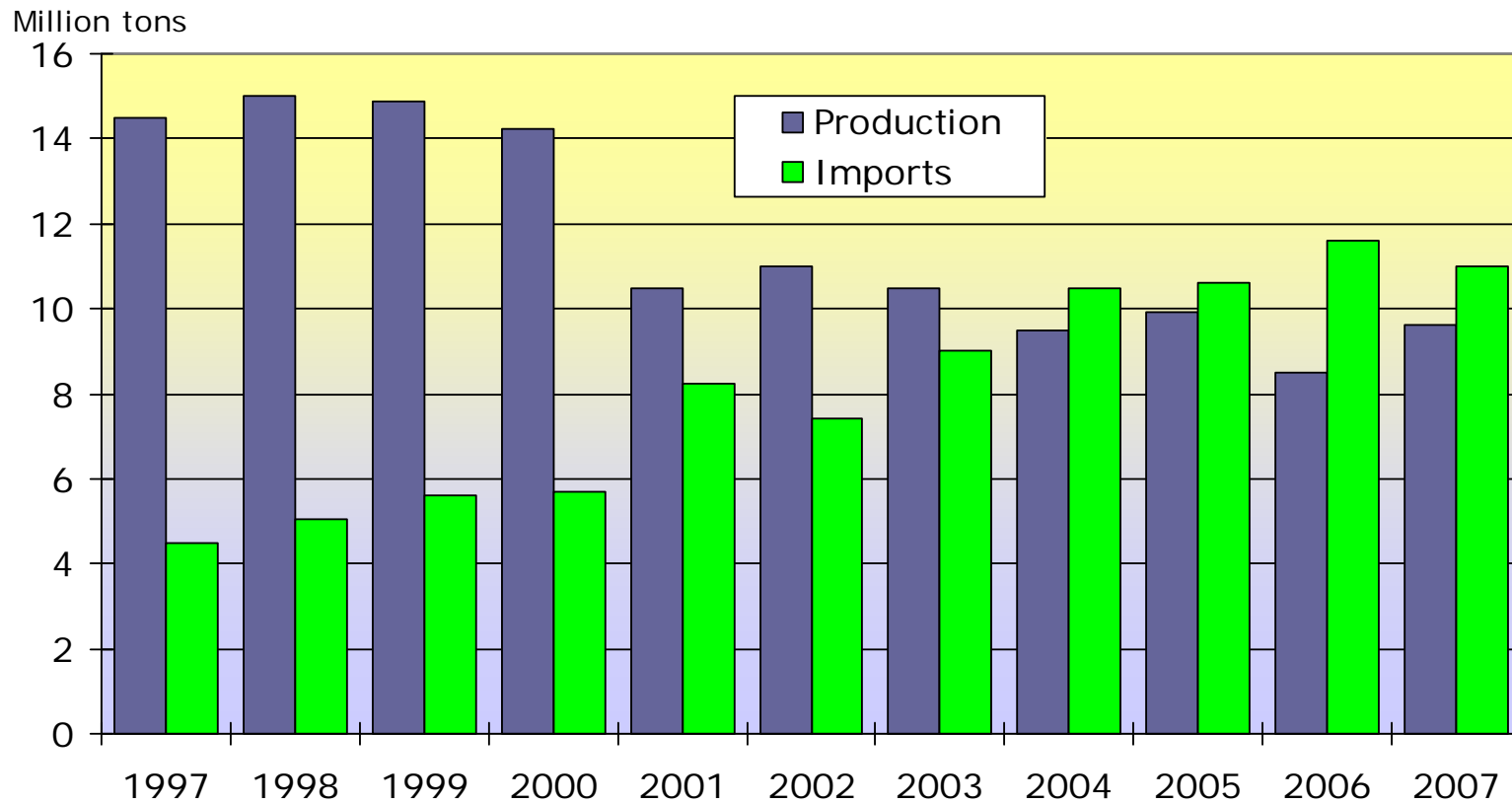
# U.S. Ammonia Prices, weekly

\$ per short ton



Source: Green Markets Fertilizer Market Intelligence Weekly

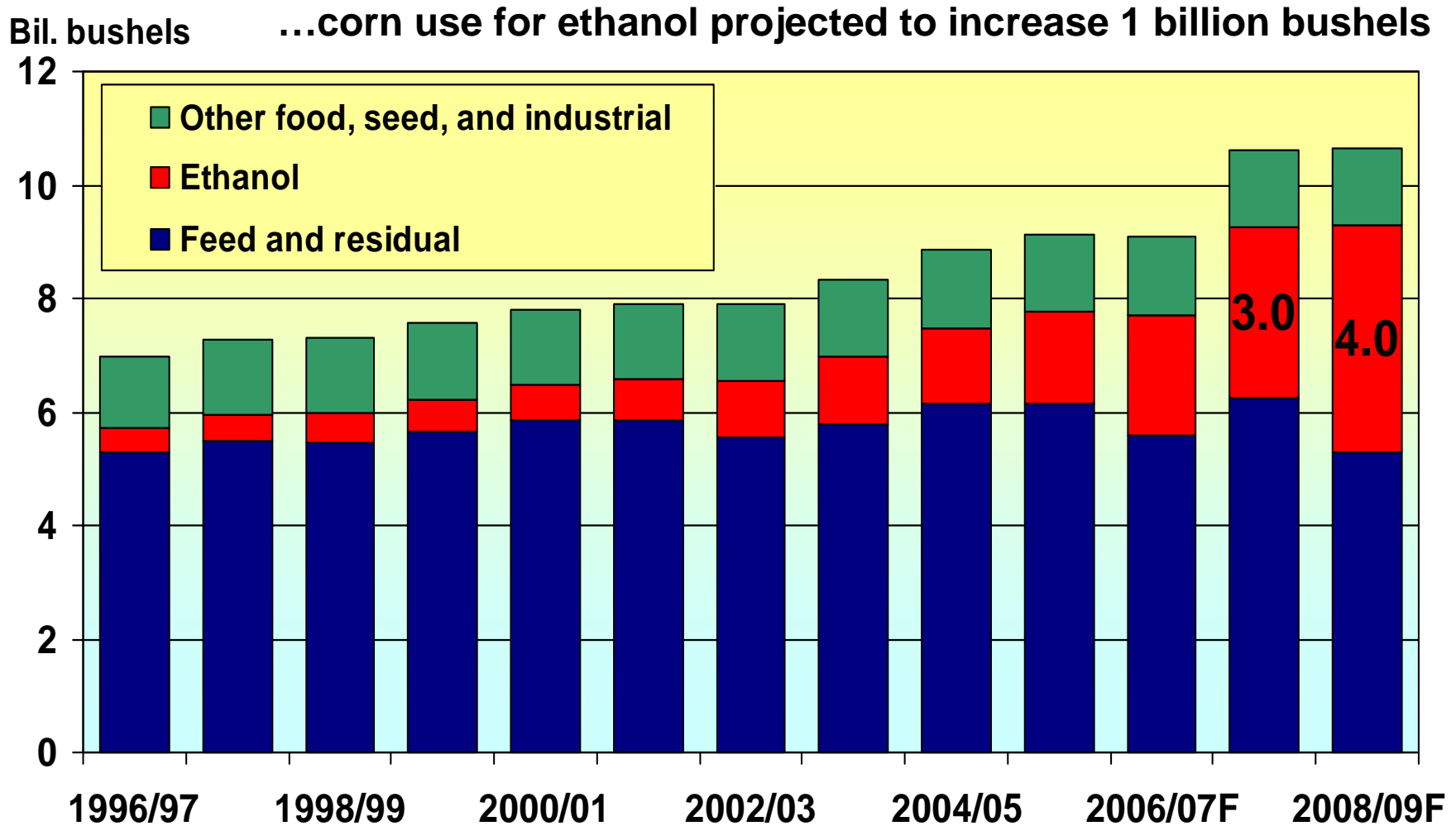
# U.S. Nitrogen Production and Imports



# U.S. Corn Supply and Demand

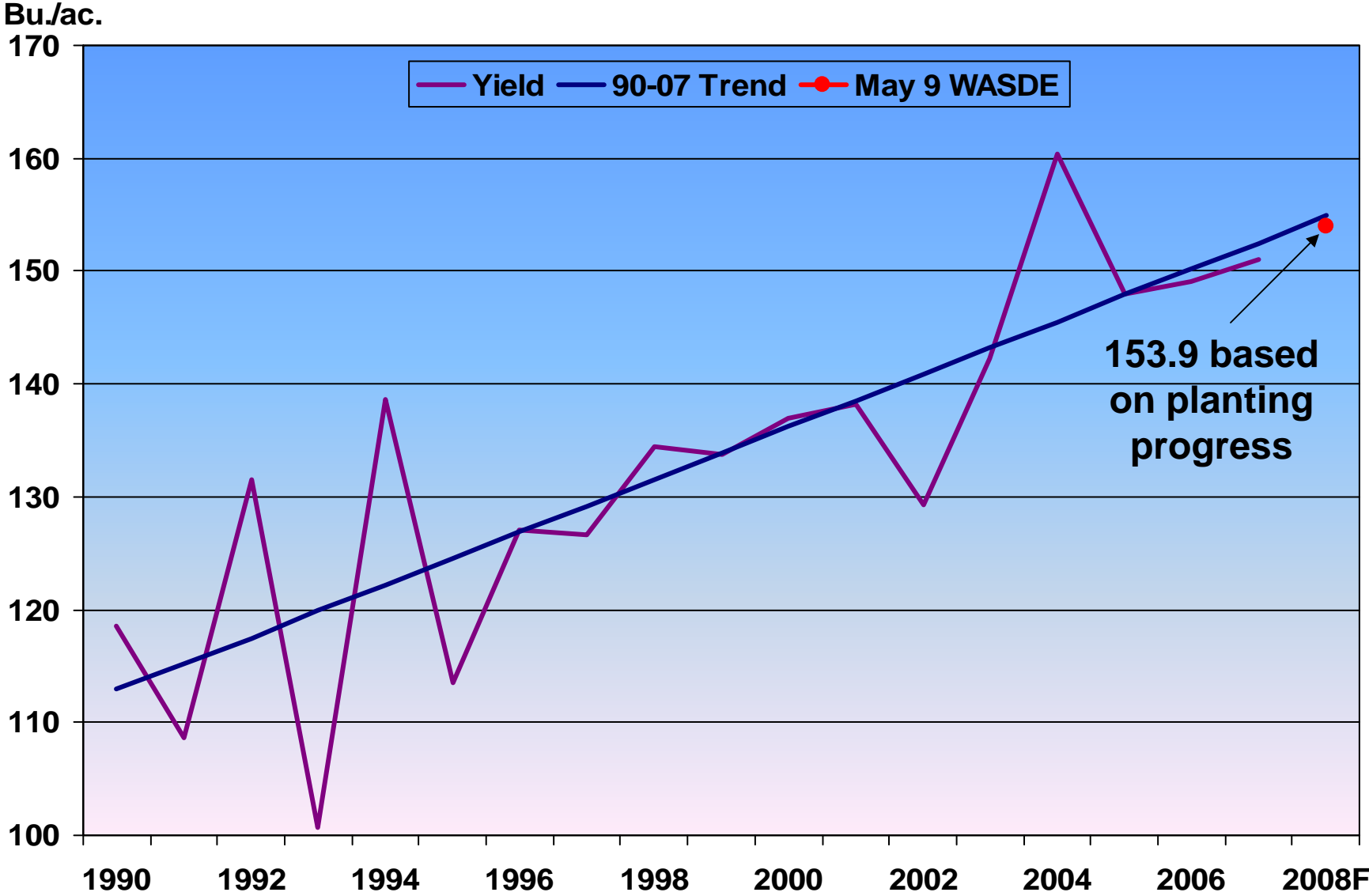
	2007/08 estimate	2008/09 forecast	Change from 2007/08
			<i>Percent</i>
Planted area (million acres)	93.6	86.0	-8.1
Harvested area (million acres)	86.5	78.8	-8.9
Yield (bushels per acre)	151.1	153.9	1.9
	<i>Million bushels</i>		
Beginning stocks	1,304	1,383	6.1
Production	13,074	12,125	-7.3
Total supply	14,393	13,523	-6.0
Feed and residual	6,150	5,300	-13.8
Food, seed, and industrial	4,360	5,360	22.9
Ethanol	3,000	4,000	33.3
Domestic use	10,510	10,660	1.4
Exports	2,500	2,100	-16.0
Total use	13,010	12,760	-1.9
Ending stocks	1,383	763	-44.8
	<i>Percent</i>		
Stocks/use	10.6	6.0	
	<i>Dollars/bushel</i>		
Average market price	4.10/4.40	5.00/6.00	29.4

# U.S. Corn Domestic Use



Note: 2007/08 and 2008/09 projections from the May 9, 2008, *World Agricultural Supply and Demand Estimates*.

# U.S. Corn Trend Yields





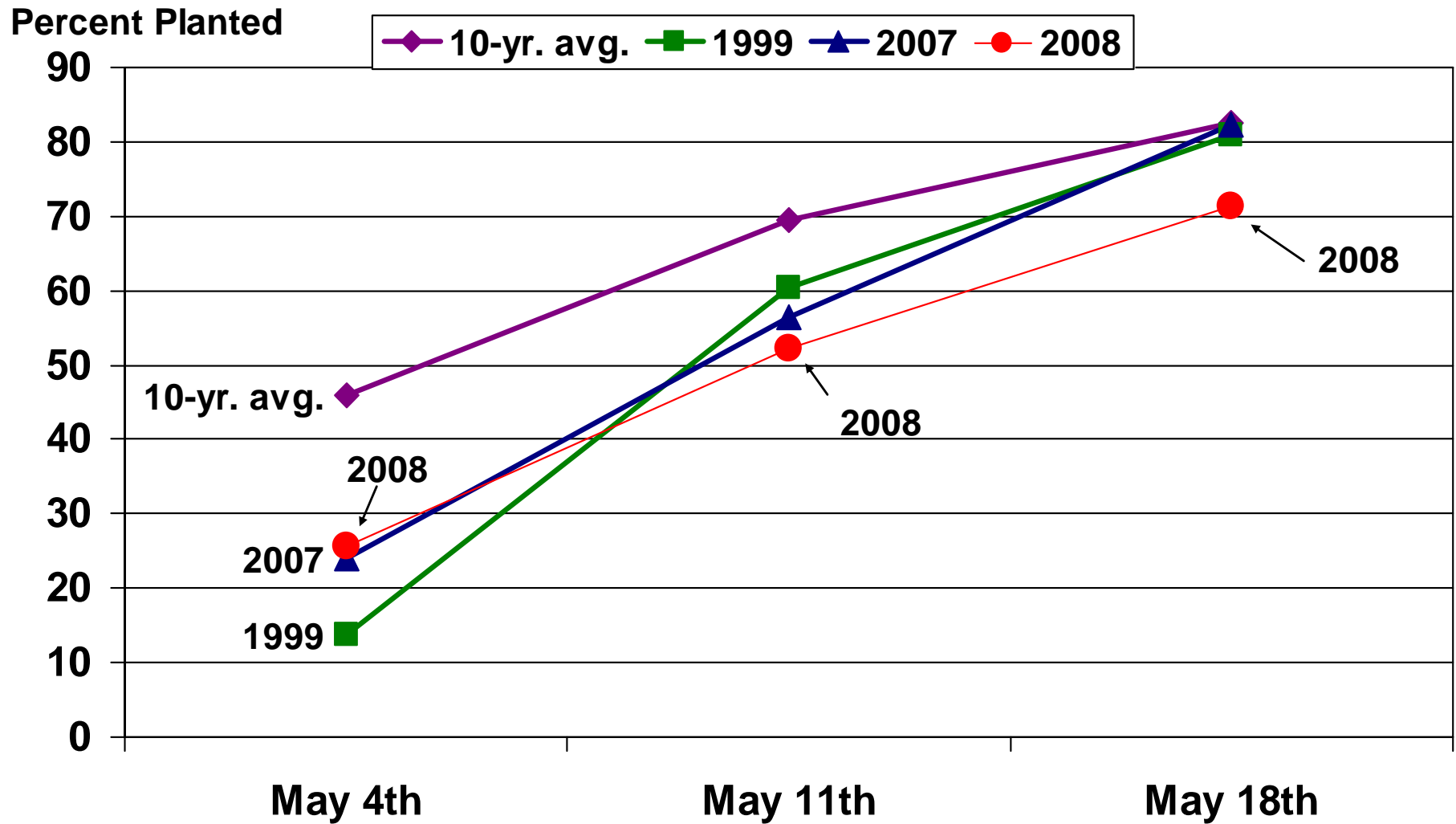
# USDA Planting Progress Corn Yield Model

- Based on yields in 5-state region
  - IL, IN, IA, MO, and OH (45% area / 52% production, 5-yr.avg.)
  - Highly correlated with U.S. national average yield
  - Mid-May planting progress (May 18, 2008)
  - Assumes average July rainfall and temperatures
  - Weighted by intended acreage
- Projected U.S. yield based on mid-May progress
  - 153.9 bu./ac. assumes 5-state May 18 progress of 82%
  - 10-yr. avg. 5-state mid-May progress 82.6%
  - 2007 5-state May 14 progress was 82.3%

Note: Model estimated based on planting progress closest to May 15<sup>th</sup> each year.

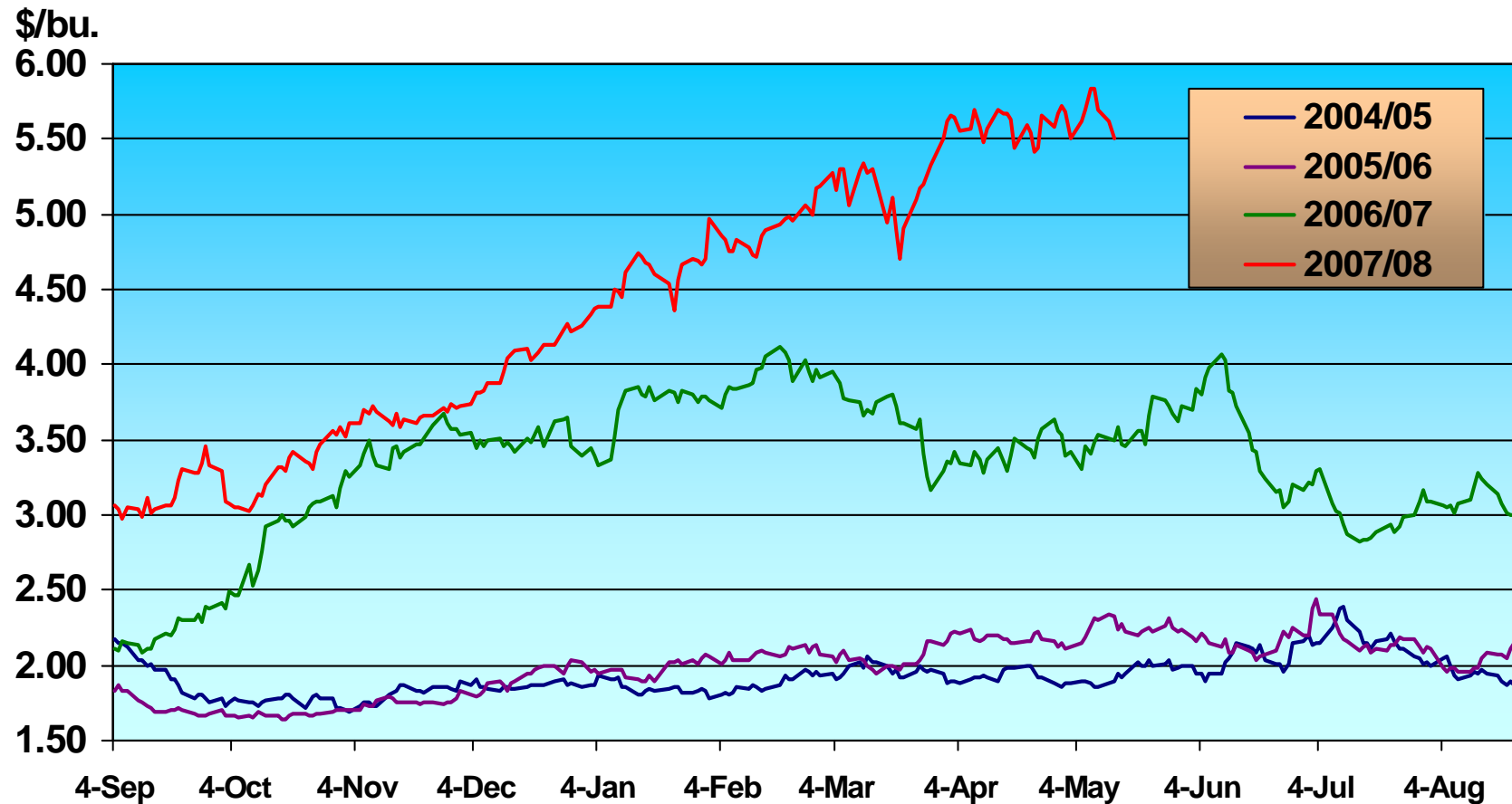
# 5-State Corn Planting Progress (IL, IN, IA, MO, OH)

*Comparable weeks for May 2008*



# Daily Cash Market Corn Prices

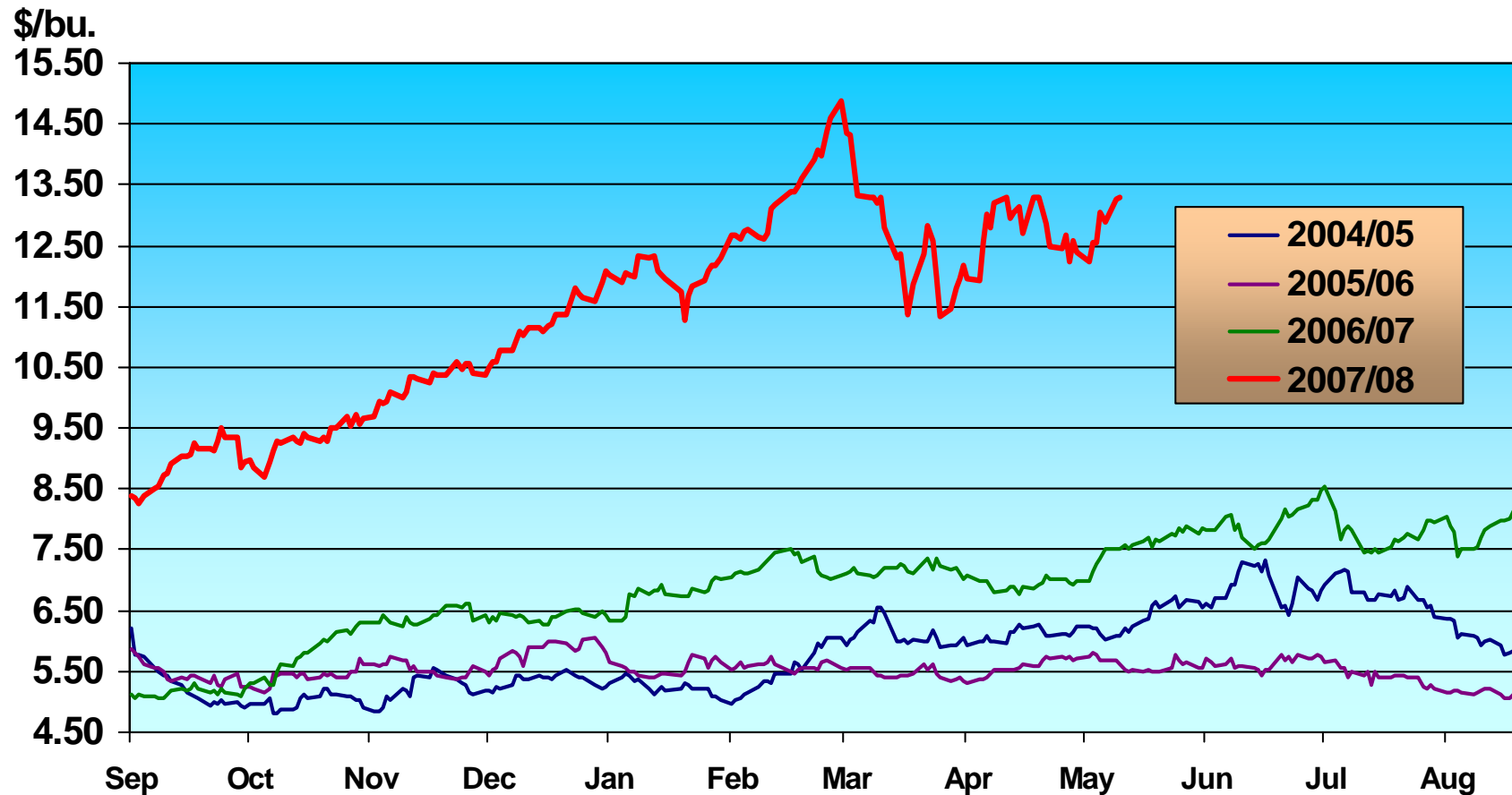
## 2004/05 through 2007/08 to date



Note: Central Illinois cash bids.

# Daily Cash Market Soybean Prices

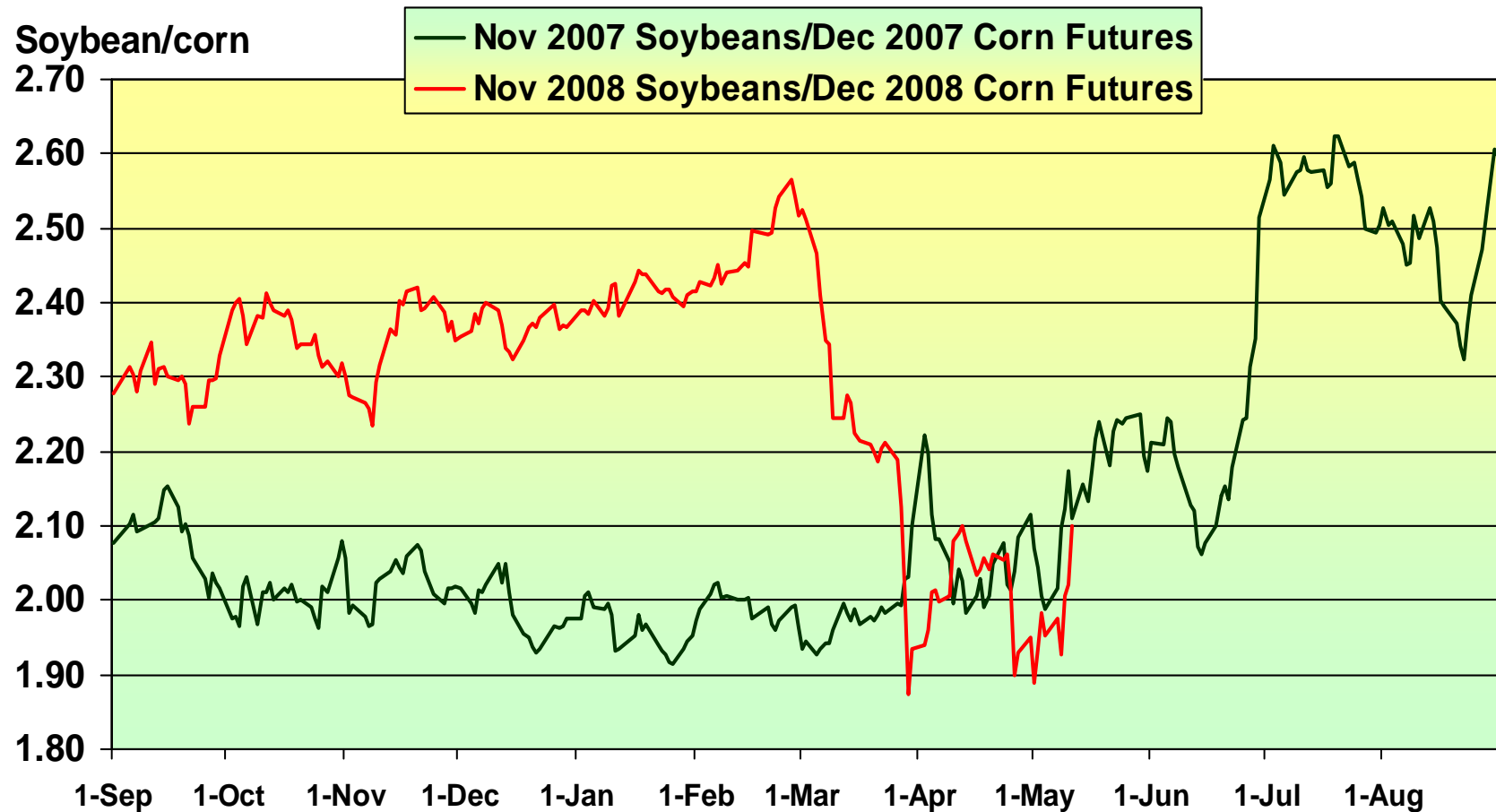
## 2004/05 through 2007/08 to date



Note: Central Illinois cash bids.

# New-crop Soybean/Corn Price Ratios

## 2007-crop and 2008-crop through May 13, 2008



Note: Chicago Board of Trade daily settlement prices.

# U.S. Soybean Supply and Demand

	2007/08 estimate	2008/09 forecast	Change from 2007/08
			<i>Percent</i>
Planted area (million acres)	63.6	74.8	17.5
Harvested area (million acres)	62.8	73.8	17.5
Yield (bushels per acre)	41.2	42.1	2.2
	<i>Million bushels</i>		
Beginning stocks	574	145	-74.7
Production	2,585	3,105	20.1
Imports	10	8	-20.0
Total Supply	3,169	3,258	2.8
Crush	1,840	1,850	0.5
Seed and Residual	94	173	83.6
Domestic use	1,934	2,023	4.6
Exports	1,090	1,050	-3.7
Total Use	3,024	3,073	1.6
Ending stocks	145	185	27.9
	<i>Percent</i>		
Stocks/use ratio	4.8	6.0	
	<i>Dollars/bushel</i>		
Average market price	10.00	10.50/12.00	12.5

# U.S. Soybean Oil Supply and Demand

	2007/08 estimate	2008/09 forecast	Change from 2007/08
	<i>Million pounds</i>		<i>Percent</i>
<b>Beginning stocks</b>	2,904	2,792	-3.9
<b>Production</b>	21,250	21,090	-0.8
<b>Imports</b>	37	47	26.7
<b>Total supply</b>	24,192	23,929	-1.1
<b>Domestic use</b>	18,550	18,600	0.3
<b>Methyl ester</b>	2,950	3,200	8.5
<b>Exports</b>	2,850	2,650	-7.0
<b>Total use</b>	21,400	21,250	-0.7
<b>Ending stocks</b>	2,792	2,679	-4.0
	<i>Cents per pound</i>		
<b>Average market price</b>	52.00	50.00/54.00	0.0

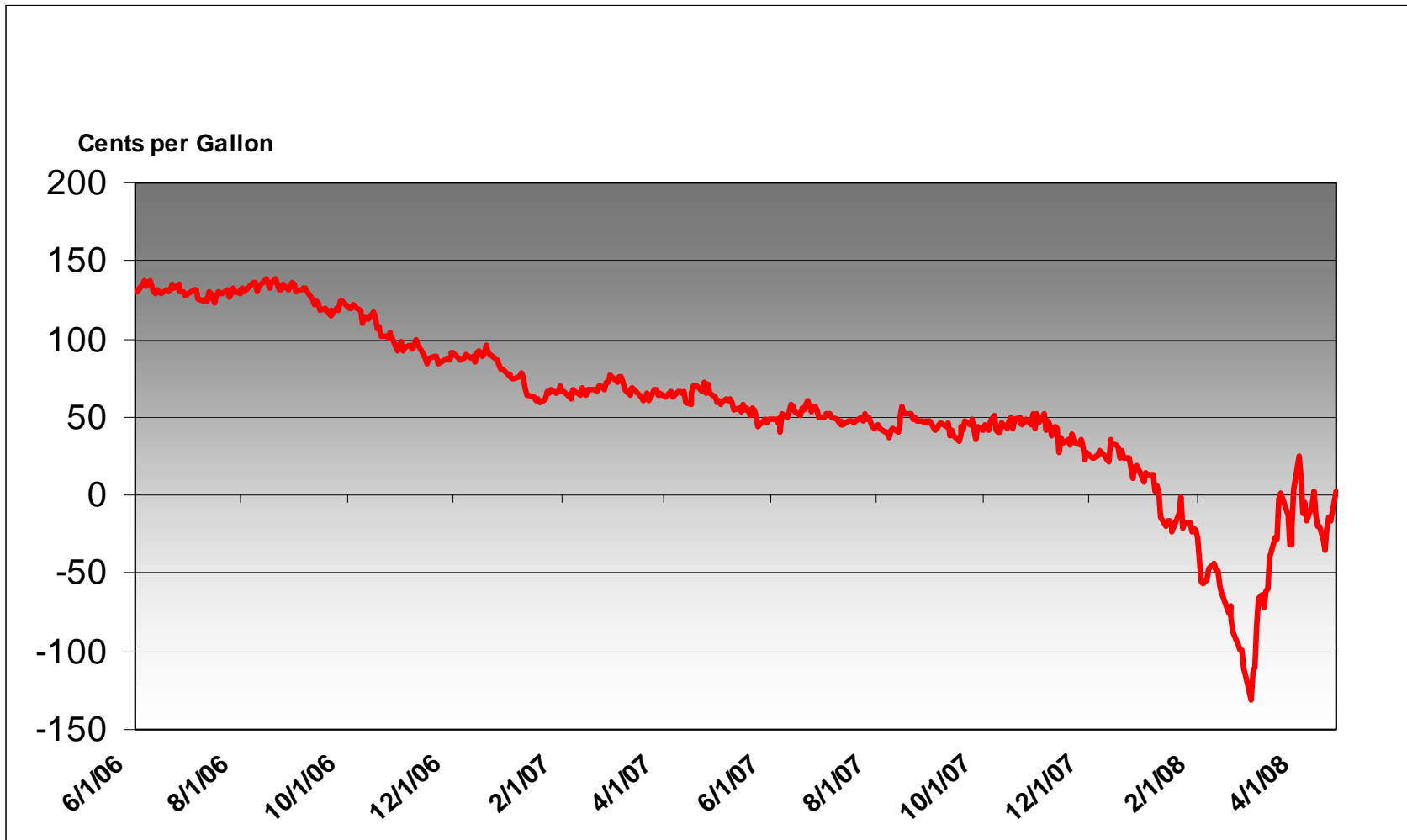
# Soybean Oil Futures Prices



Note: Chicago Board of Trade daily settlement prices.



# U.S. Domestic Biodiesel Production Margin



# U.S. Soybean Meal Supply and Demand

	2007/08 estimate	2008/09 forecast	Change from 2007/08
	<i>Thousand short tons</i>		<i>Percent</i>
<b>Beginning stocks</b>	351	300	-14.5
<b>Production</b>	43,834	43,985	0.3
<b>Imports</b>	165	165	0.0
<b>Total supply</b>	44,350	44,450	0.2
<b>Domestic</b>	35,100	35,350	0.7
<b>Exports</b>	8,950	8,800	-1.7
<b>Total use</b>	44,050	44,150	0.2
<b>Ending stocks</b>	300	300	0.0
	<i>Dollars/short ton</i>		
<b>Average market price</b>	315.00	280.00/340.00	-1.6

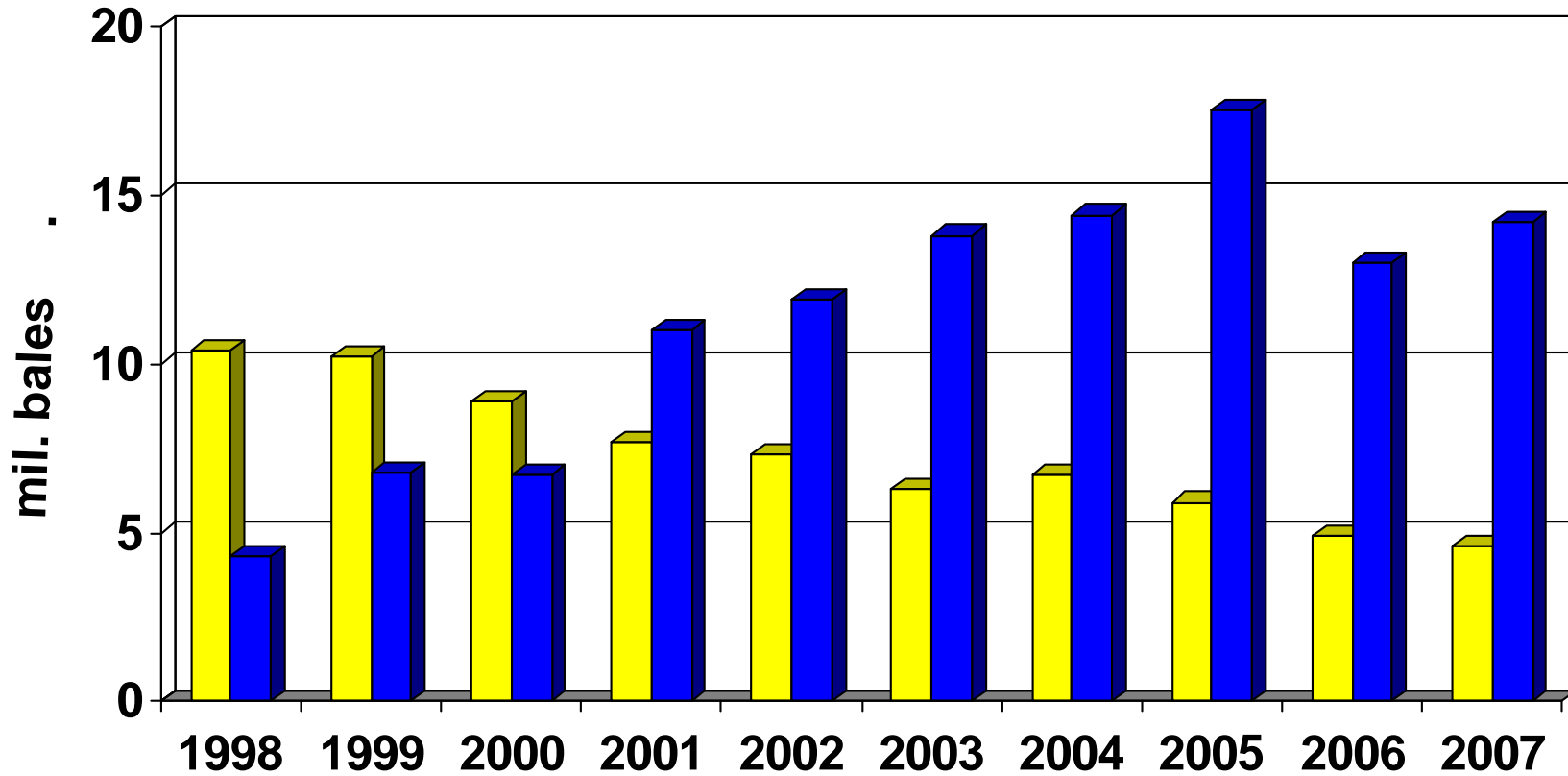
# U.S. Cotton Supply and Demand

	2007/08 estimate	2008/09 forecast	Change from 2007/08
			<i>Percent</i>
Planted area (million acres)	10.83	9.39	-13.3
Harvested area (million acres)	10.49	8.39	-20.0
Yield (pounds per acre)	879	830	-5.6
			<i>Million bales</i>
Beginning stocks	9.48	9.90	4.4
Imports	0.02	0.02	0.0
Production	19.21	14.50	-24.5
Total supply	28.70	24.42	-14.9
Mill use	4.60	4.30	-6.5
Exports	14.20	14.50	2.1
Total use	18.80	18.80	0.0
Unaccounted	0.00	0.02	
Ending stocks	9.90	5.60	-43.4
			<i>Percent</i>
Stocks/use	52.7	29.8	
			<i>Cents per pound</i>
Average market price	56.40*	**	

\*Average price for August 2007-March 2008. \*\*USDA is prohibited by law from publishing cotton price projections.

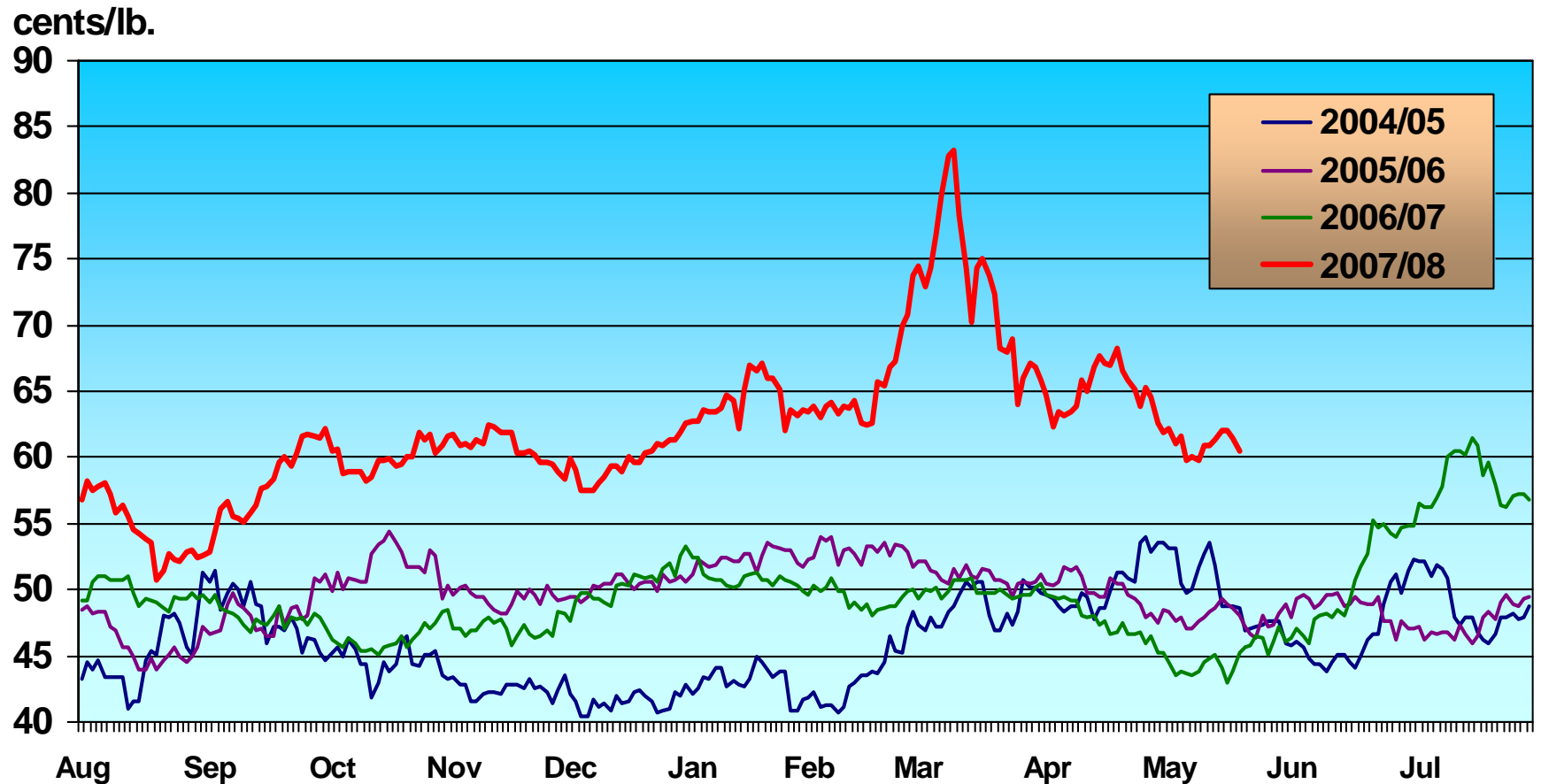
# U.S. Cotton Domestic Mill Use and Exports by Marketing Year

■ Domestic mill use ■ Exports



# Daily Cash Market Cotton Prices

## 2004/05 through 2007/08 to date

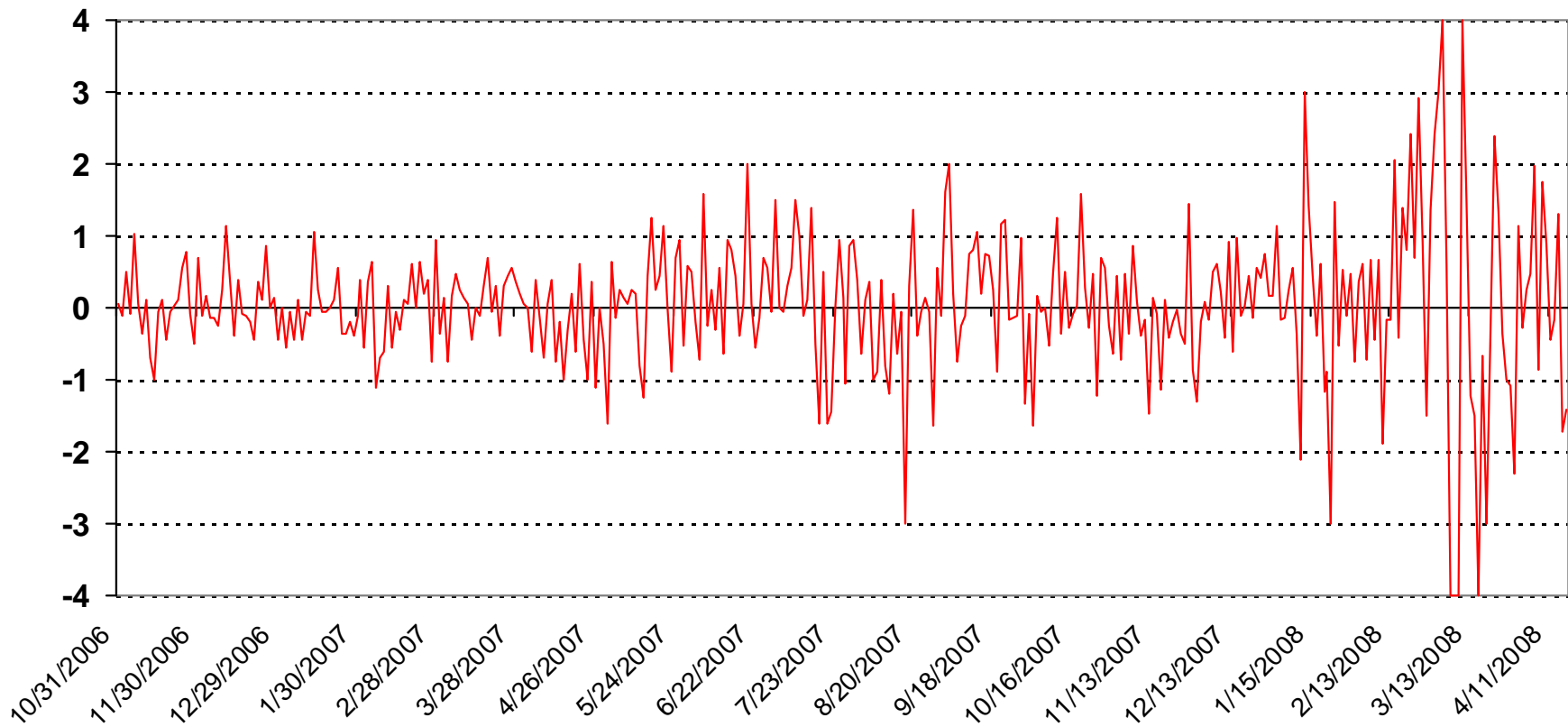


Note: Memphis 1 1/16.

# July 2008 Cotton Futures – Daily Changes

## Volatility Increasing

Cents per pound

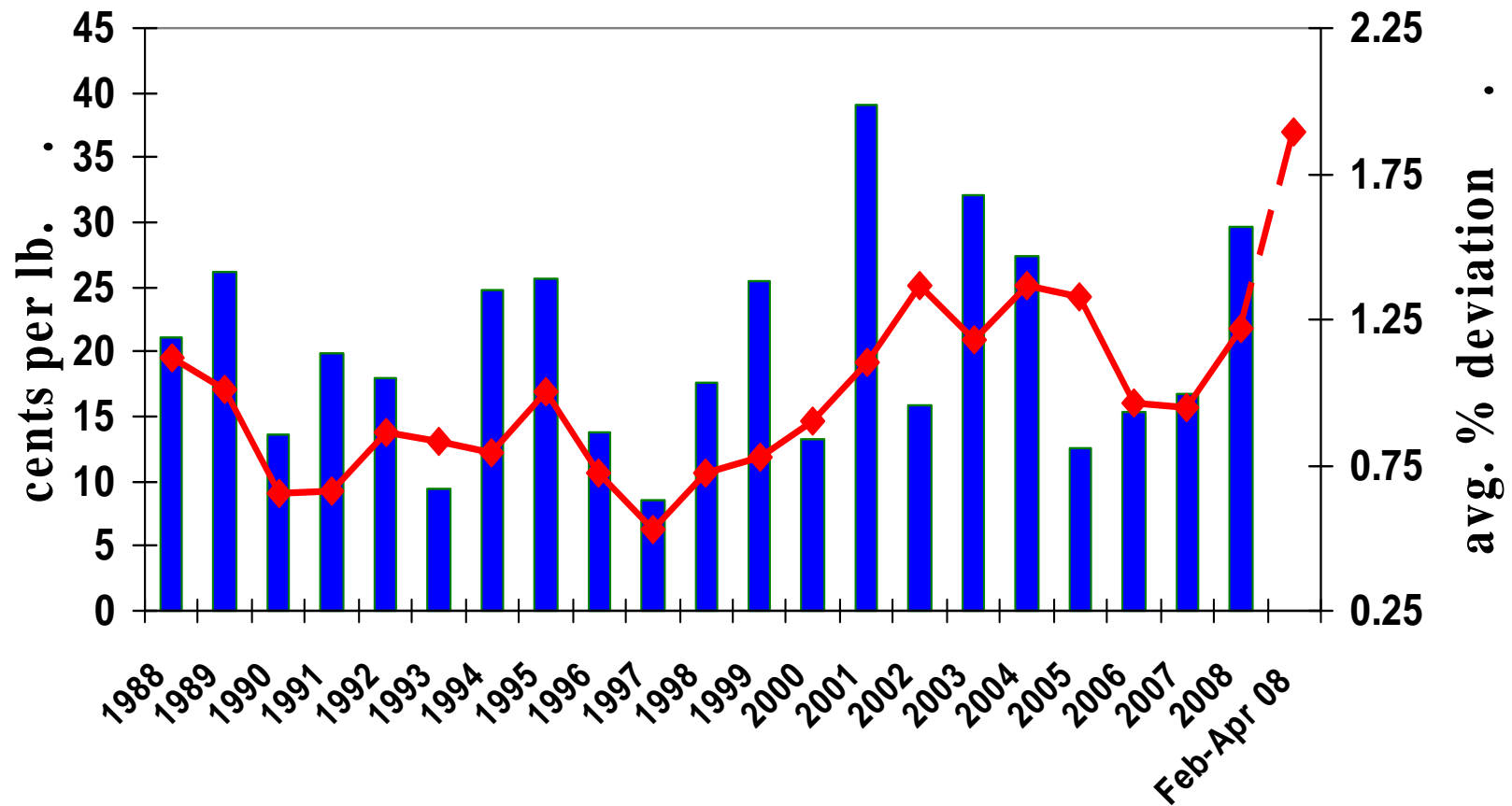


# Futures Market Volatility Higher Since 2000

## Daily Close 1988-2008 December Contracts

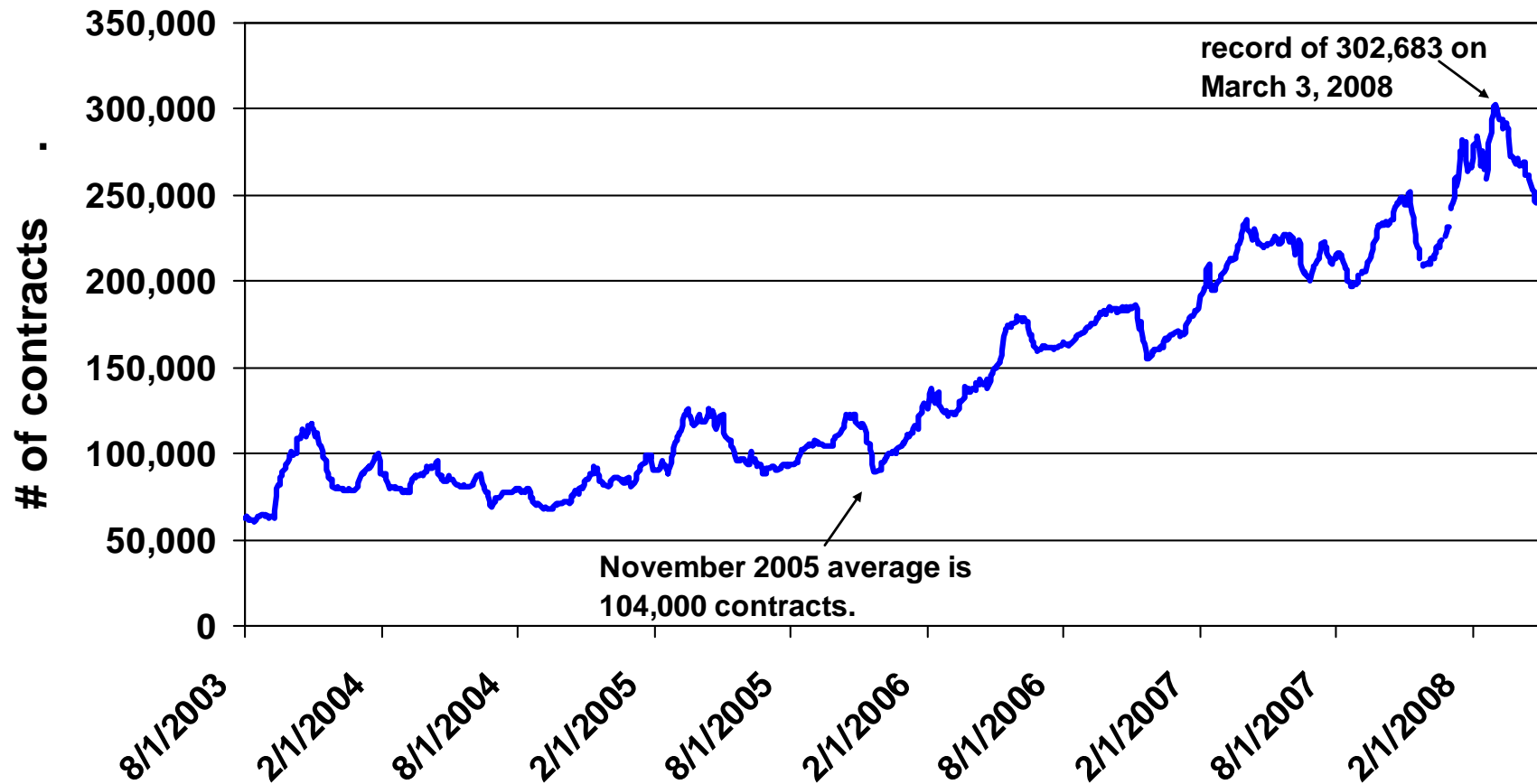
from July 15 – end of trading (16 months)

■ max-min value ◆ avg. % dev. 15-day centered avg.



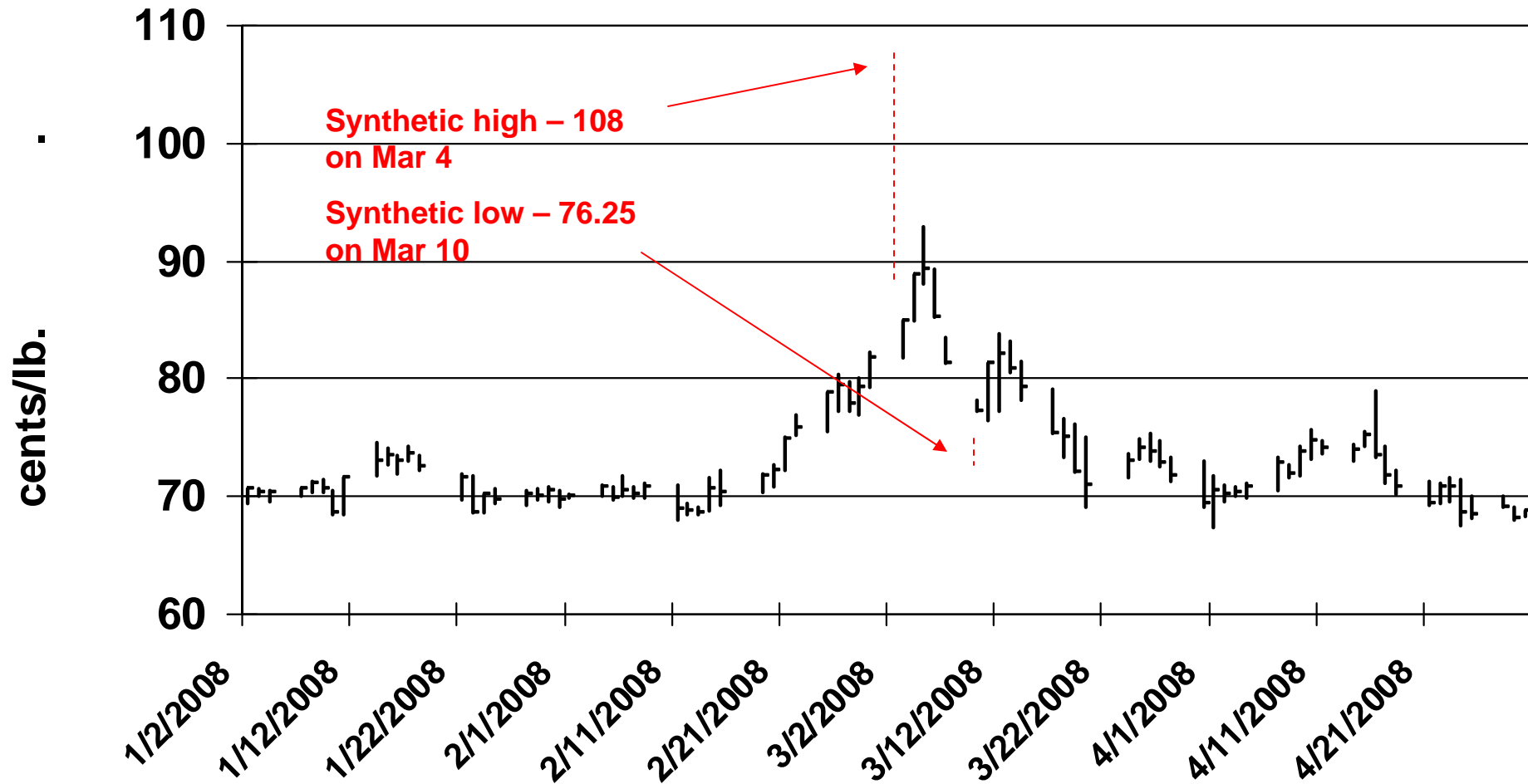
# Open Interest in Cotton Futures, All Contracts

August 1, 2003 through April 30, 2008



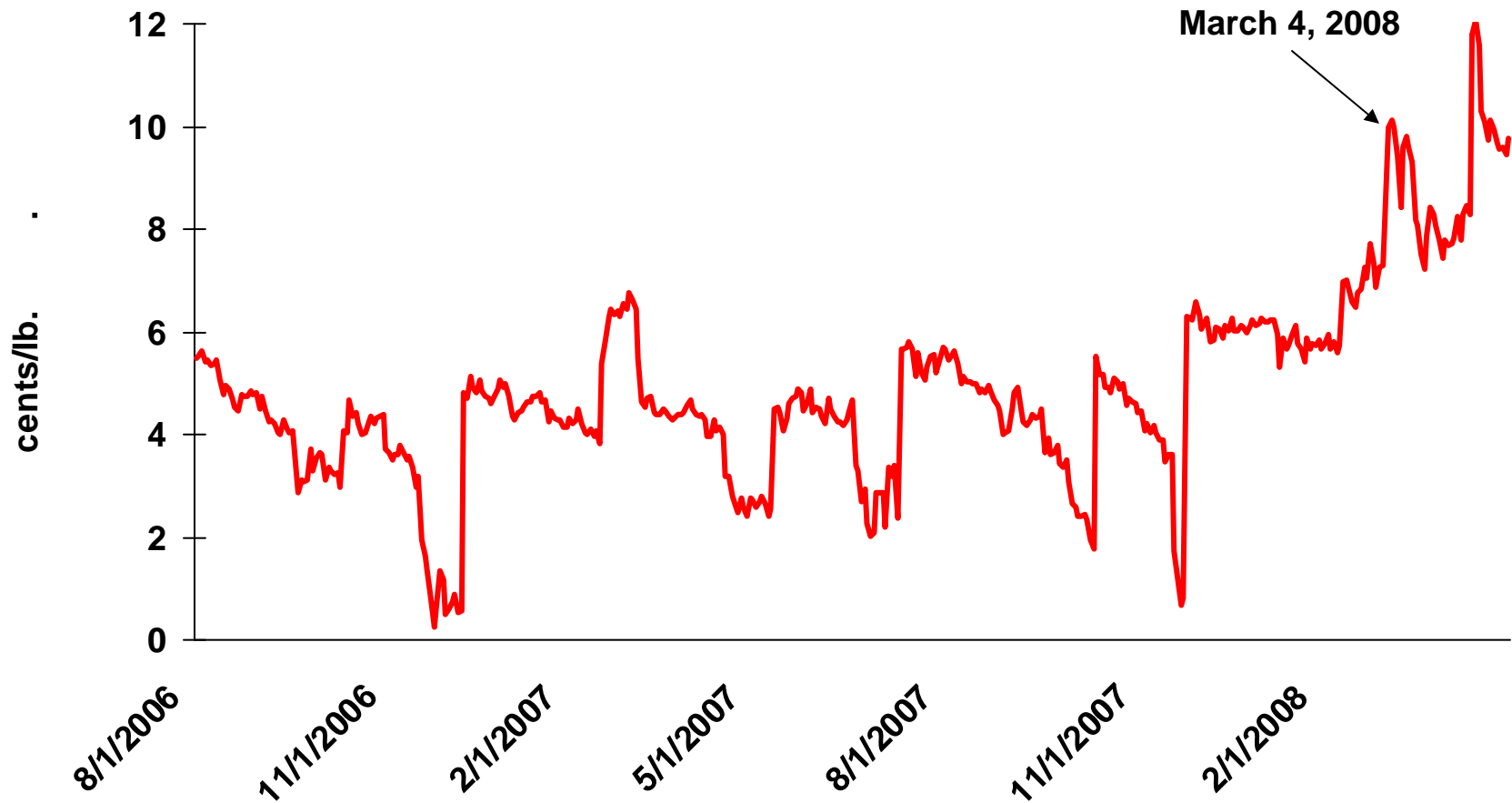


# Daily High, Low, and Close for May 2008 Cotton Futures January 2 – April 30, 2008



# Daily Values for Basis = Nearby Futures Minus the Spot Market Average

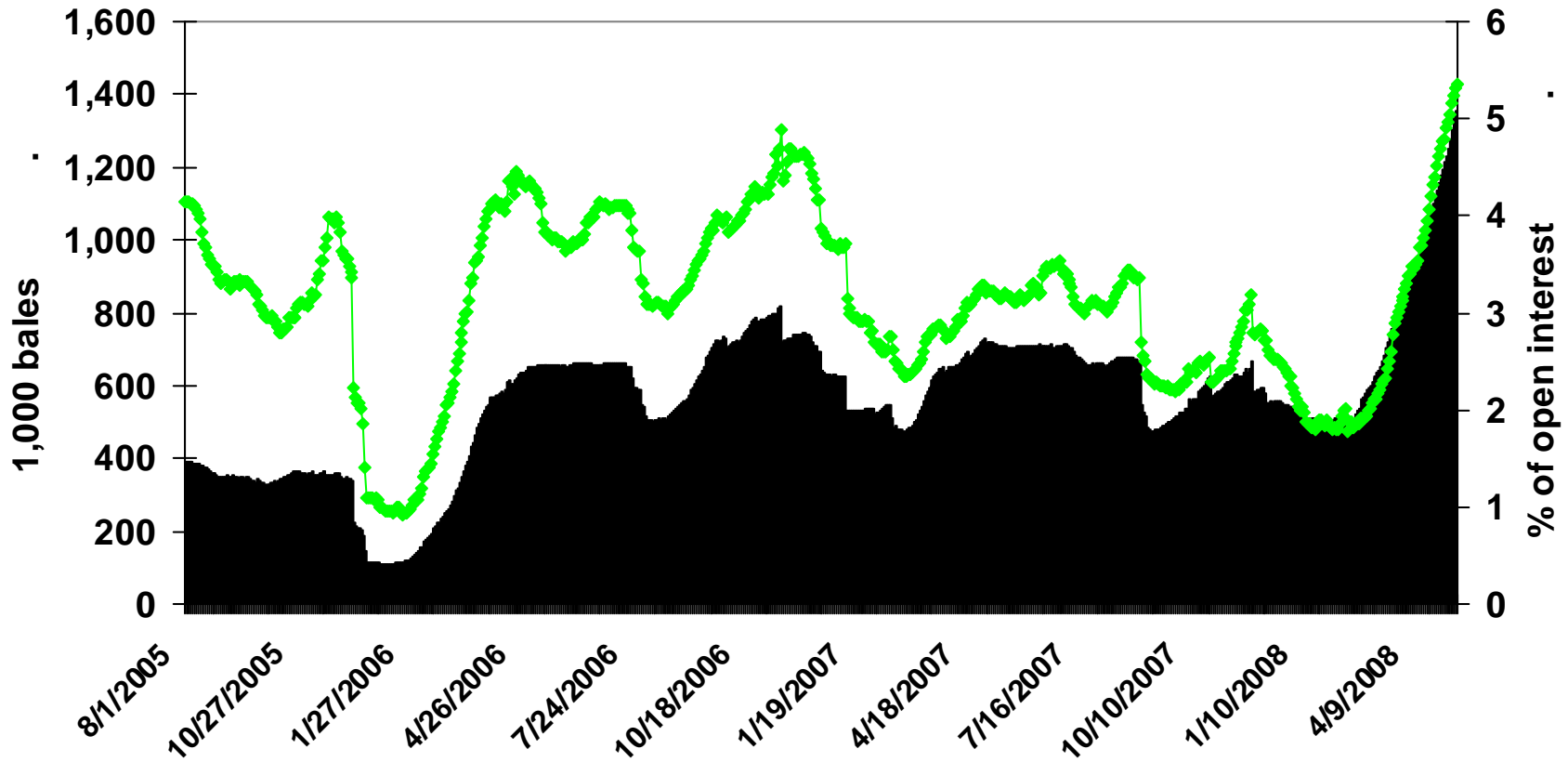
August 1, 2006 – April 30, 2008



# Certificated Stocks and Percent of Open Interest

August 1, 2005 through May 12, 2008

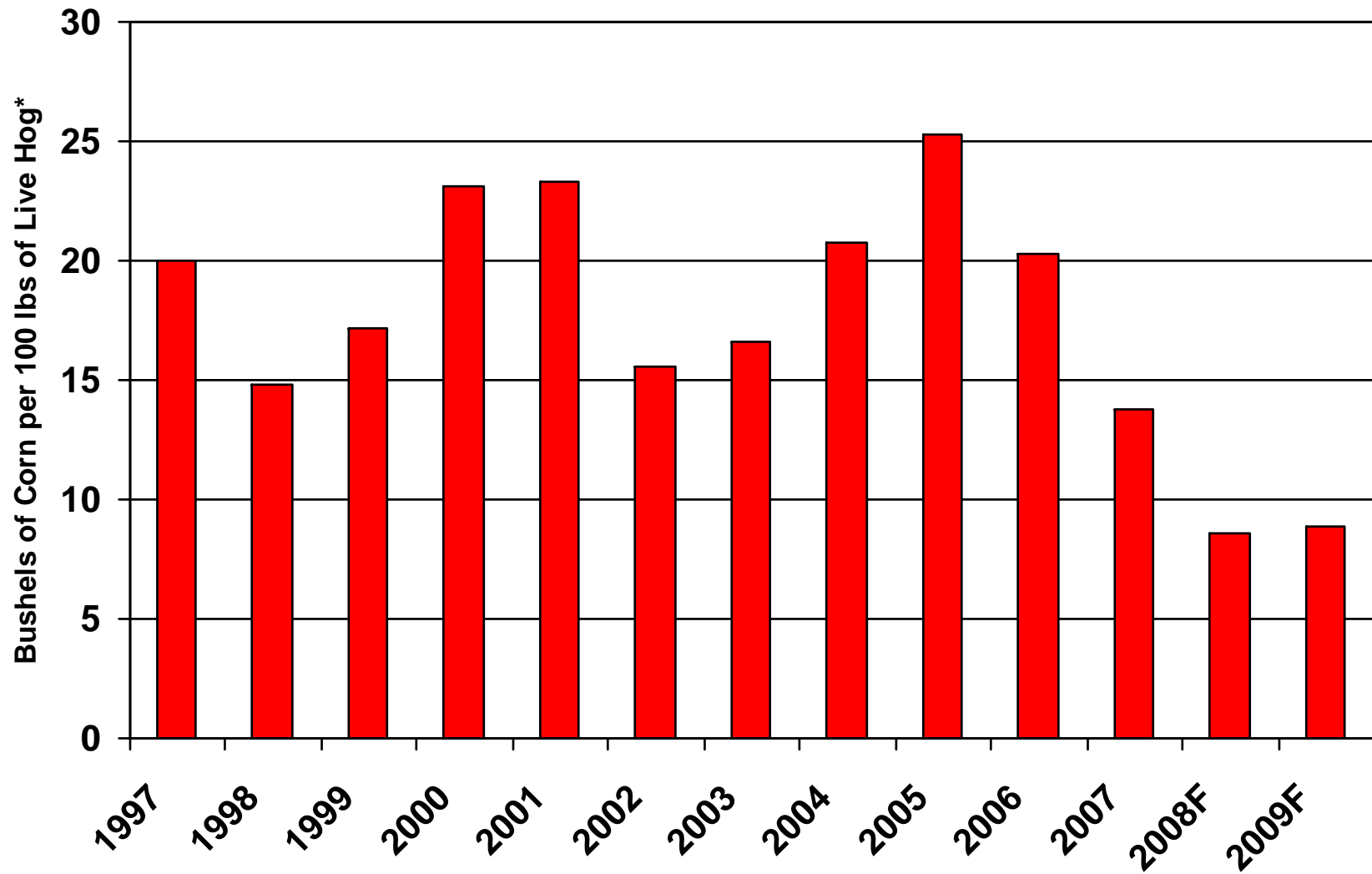
■ Cert Stocks ◆ % of Open Interest



# U.S. Meat Production and Prices

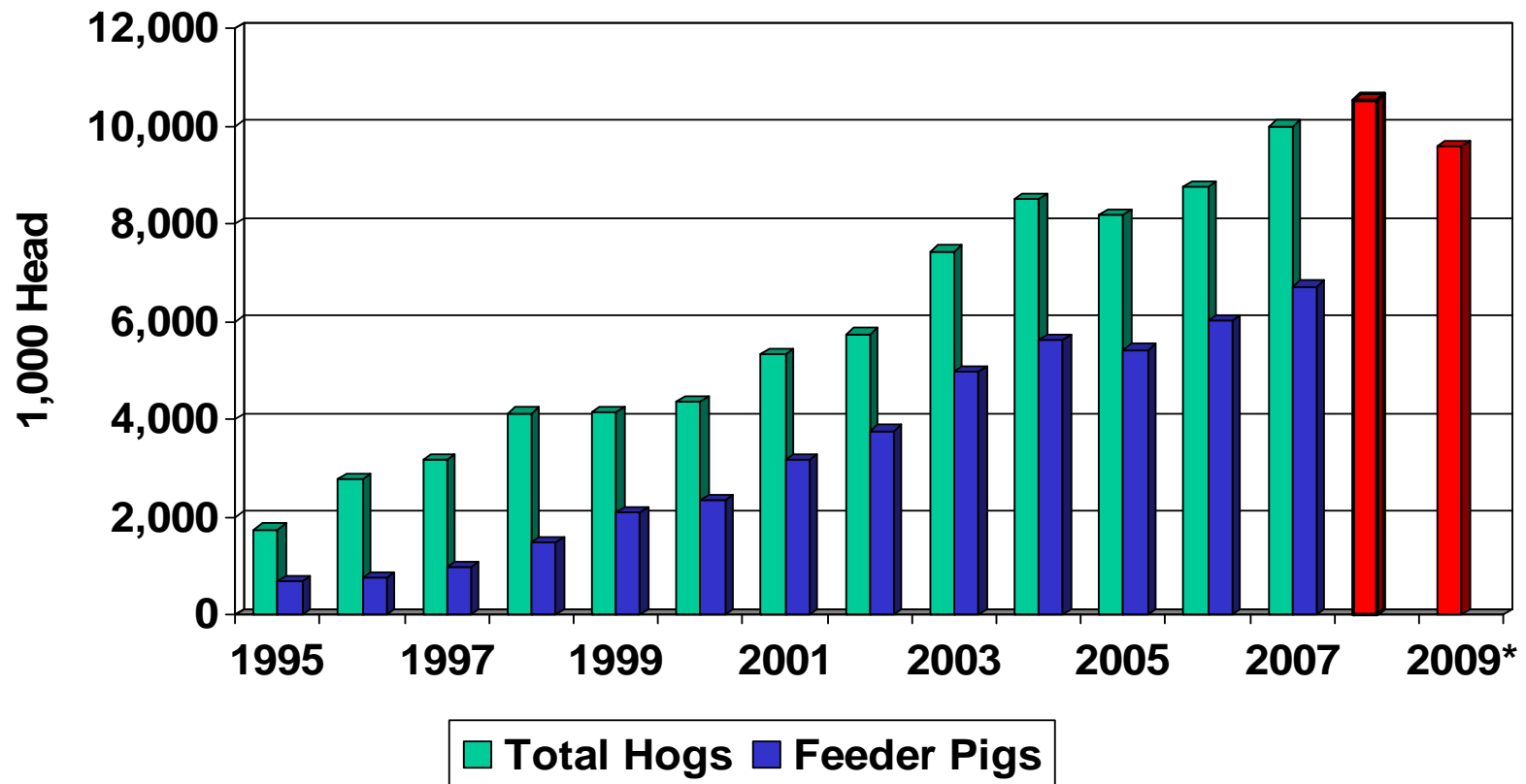
	2008 forecast	2009 forecast	Change from 2008
<b>Production</b>	<i>Billion pounds</i>		<i>Percent</i>
Beef	26.71	26.39	-1.2
Pork	23.48	22.93	-2.4
Broilers	36.86	37.15	0.8
Turkey	6.18	6.14	-0.6
Total meat	94.09	93.45	-0.7
<b>Prices</b>	<i>Dollars/cwt</i>		
Steers	91.15	91.25	0.1
Hogs	43.66	47.75	9.4
	<i>Cents/lb</i>		
Broilers	80.5	83.0	3.1
Turkey	87.9	85.8	-2.4

# Hog-Corn Price Ratio



\*Based on NASS Prices Received

# U.S. Hog Imports



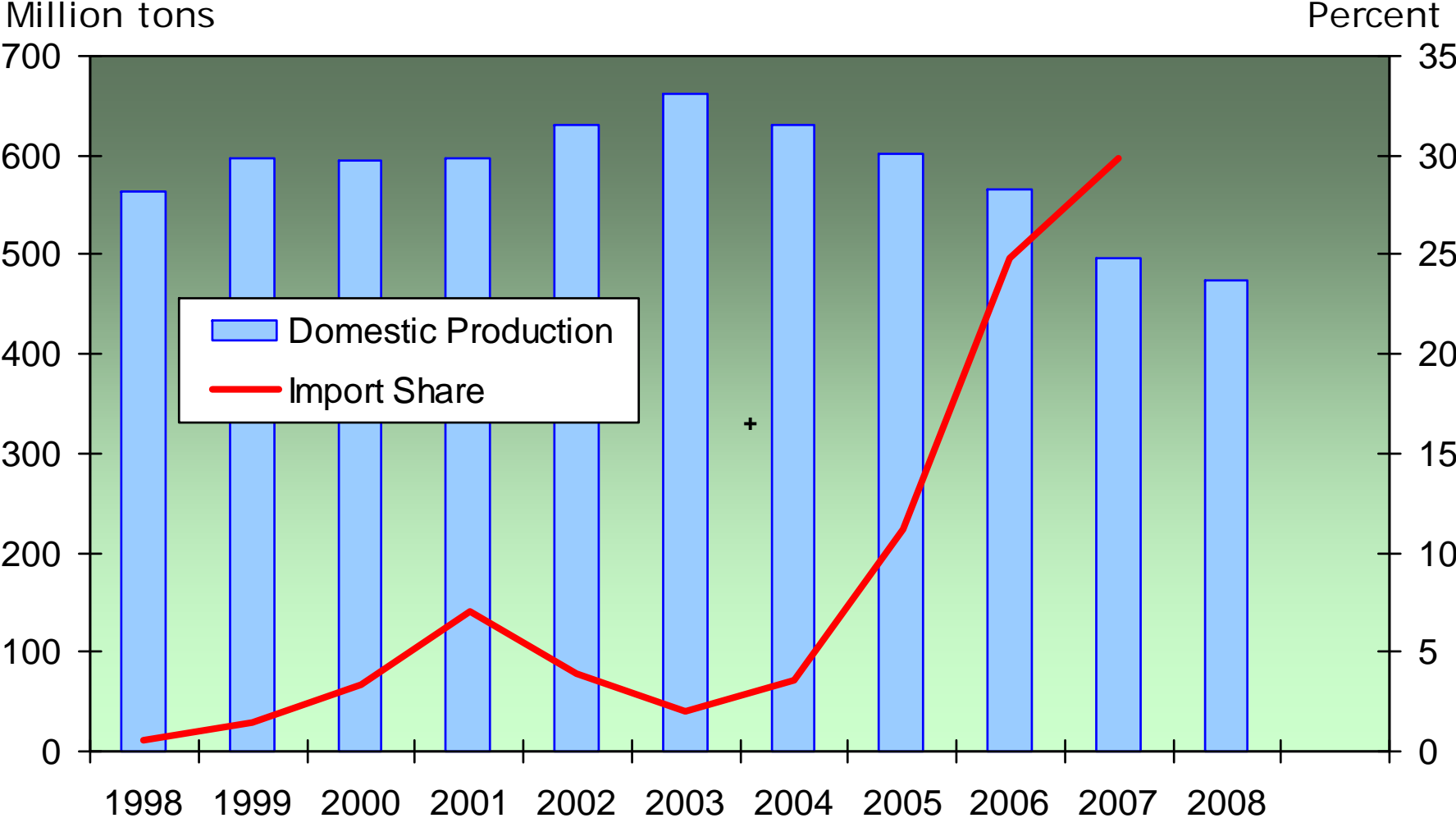
\*Forecast

# U.S. Meat Exports

*Million Pounds*

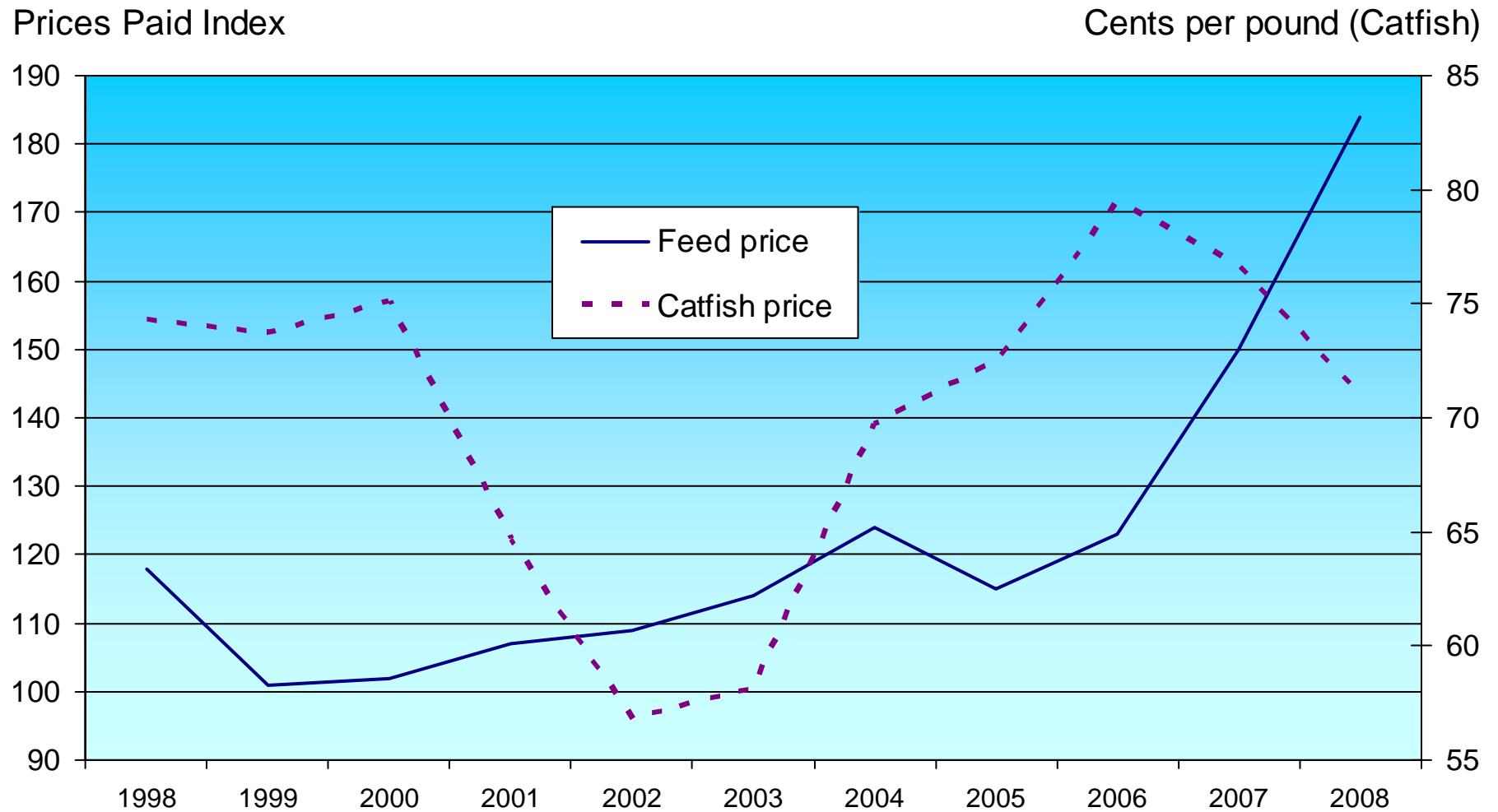
	<b>2008 forecast</b>	<b>2009 forecast</b>	<b>Change from 2008</b>
	<i>Exports</i>		<i>Percent</i>
<b>Beef</b>	<b>1,645</b>	<b>1,870</b>	<b>13.7</b>
<b>Pork</b>	<b>4,310</b>	<b>3,985</b>	<b>-7.5</b>
<b>Broilers</b>	<b>6,000</b>	<b>6,100</b>	<b>1.7</b>
<b>Turkey</b>	<b>605</b>	<b>635</b>	<b>5.0</b>
<b>Mature Chickens</b>	<b>150</b>	<b>150</b>	<b>0.0</b>
<b>Total Meat</b>	<b>12,719</b>	<b>12,752</b>	<b>0.0</b>
	<i>Imports</i>		
<b>Beef</b>	<b>2,815</b>	<b>3,010</b>	<b>6.9</b>

# Catfish Production and Import Share of Supply





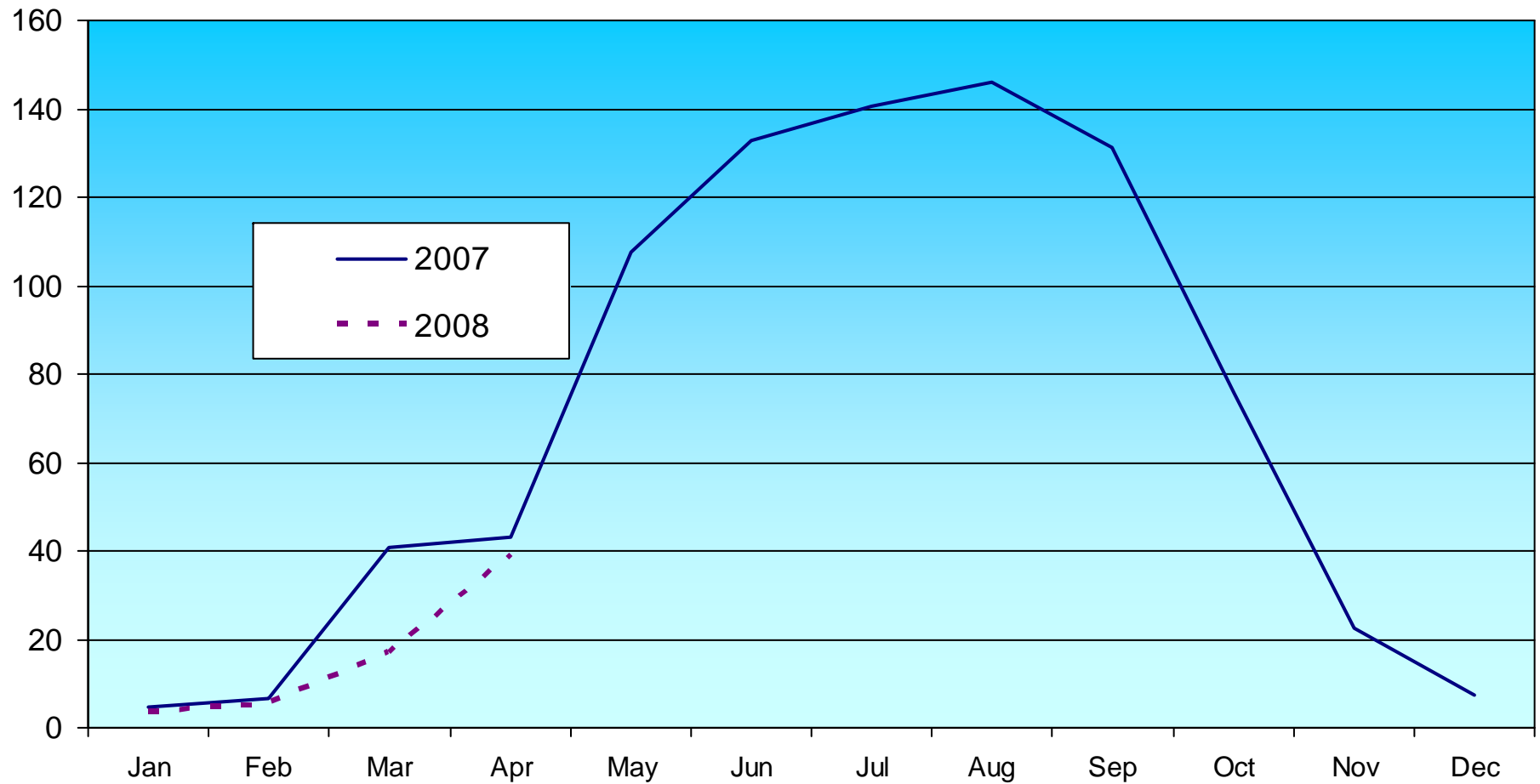
# U.S. Catfish and Feed Prices



Note: Prices paid index (1990-92 = 100).

# Feed Deliveries to U.S. Catfish Producers

Thousand tons



End