

# Updates on Fertilizer Prices

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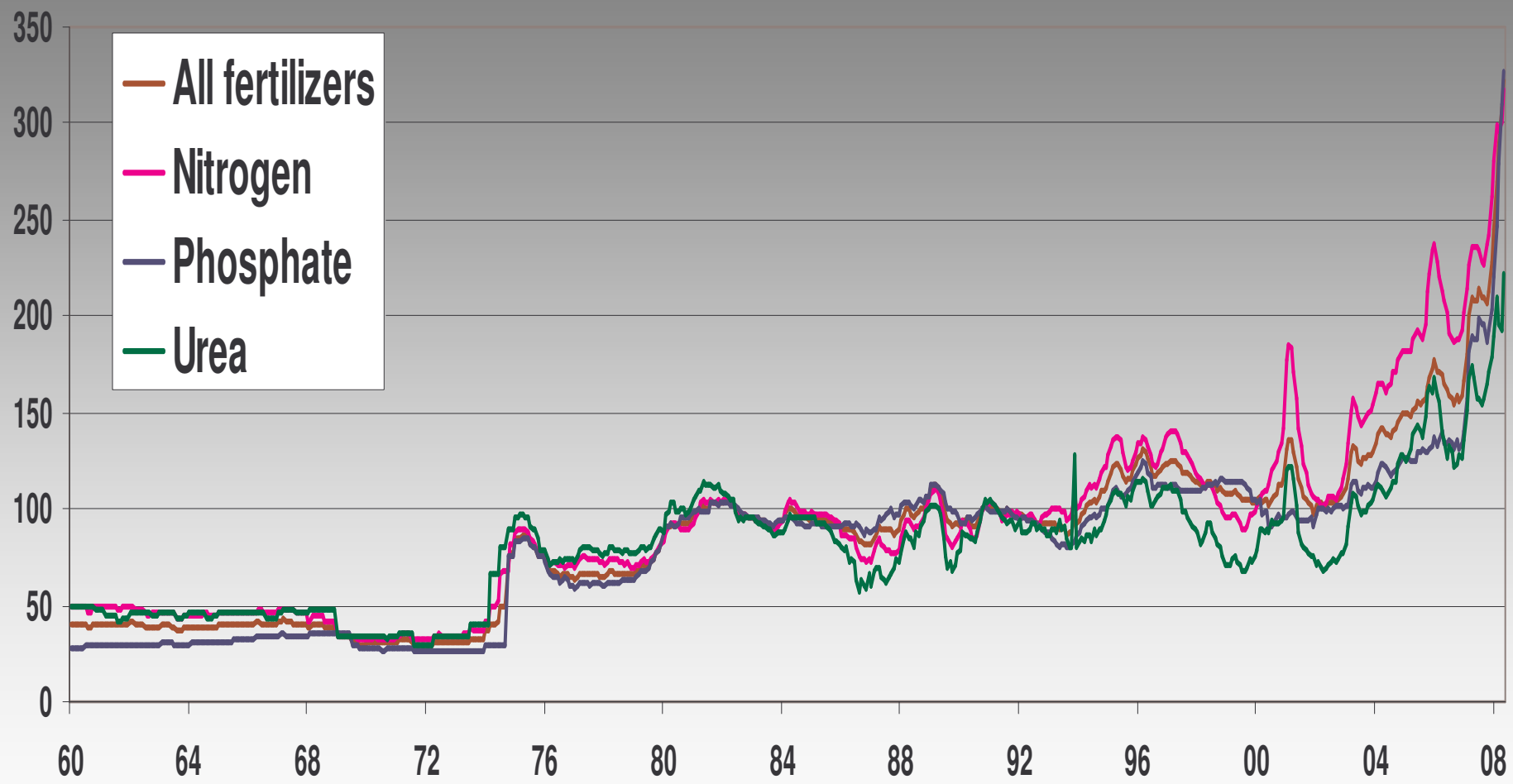


# World fertilizer prices continue to soar !!!

- World fertilizer prices doubled in 2007!
- The forecast for fertilizer prices - still climbing!
- Fla. farmers face costliest season as fertilizer prices soar!
- Phosphorus is hot !
- Running low on phosphorus!

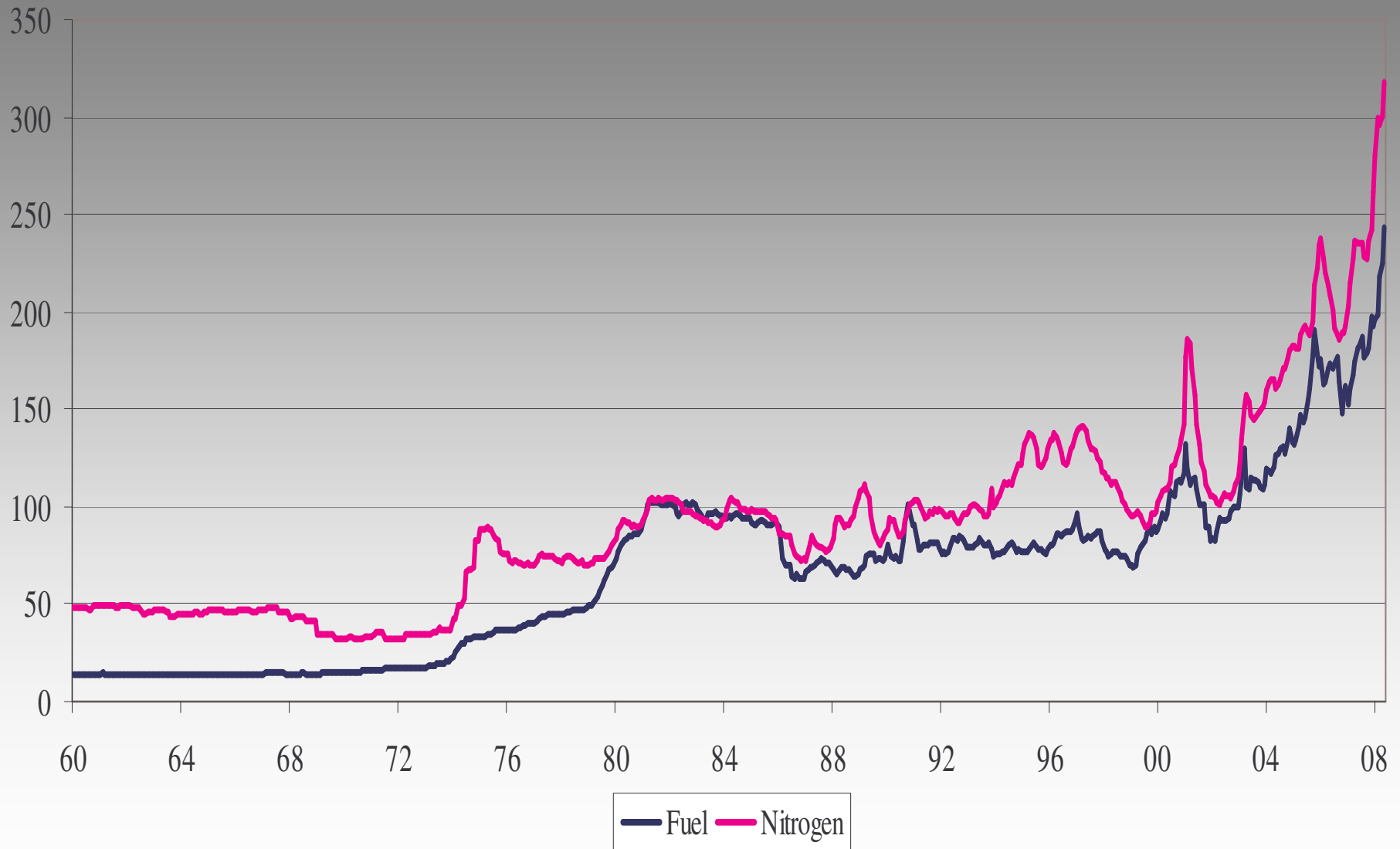
(titles and citations from various articles published in last few months)

Fertilizer Prices Index Jan 60-May08 (1982=100)



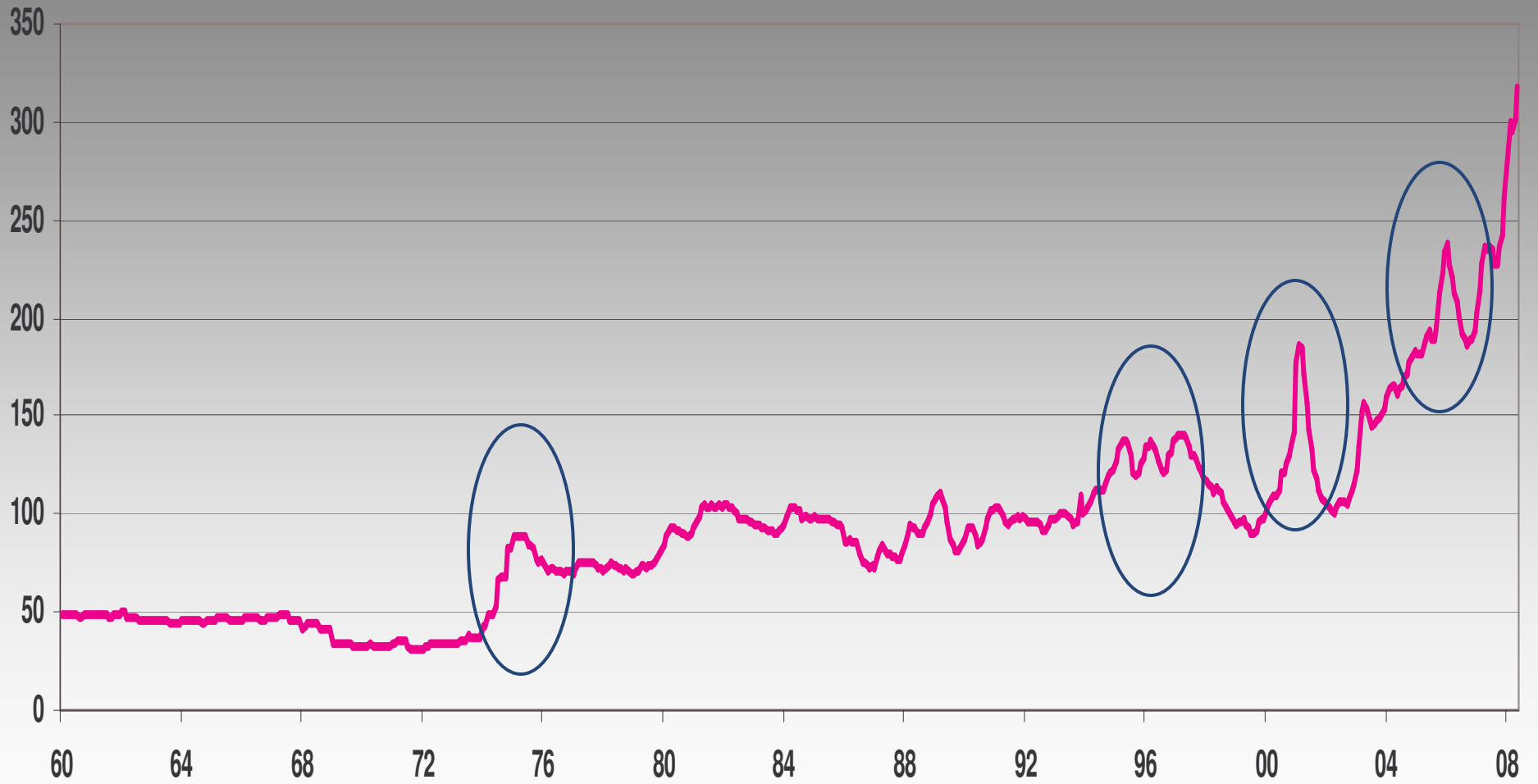
Source: Bureau of Labor Statistics

Fuel and Nitrogen Index Prices Jan 60-May08 (1982=100)



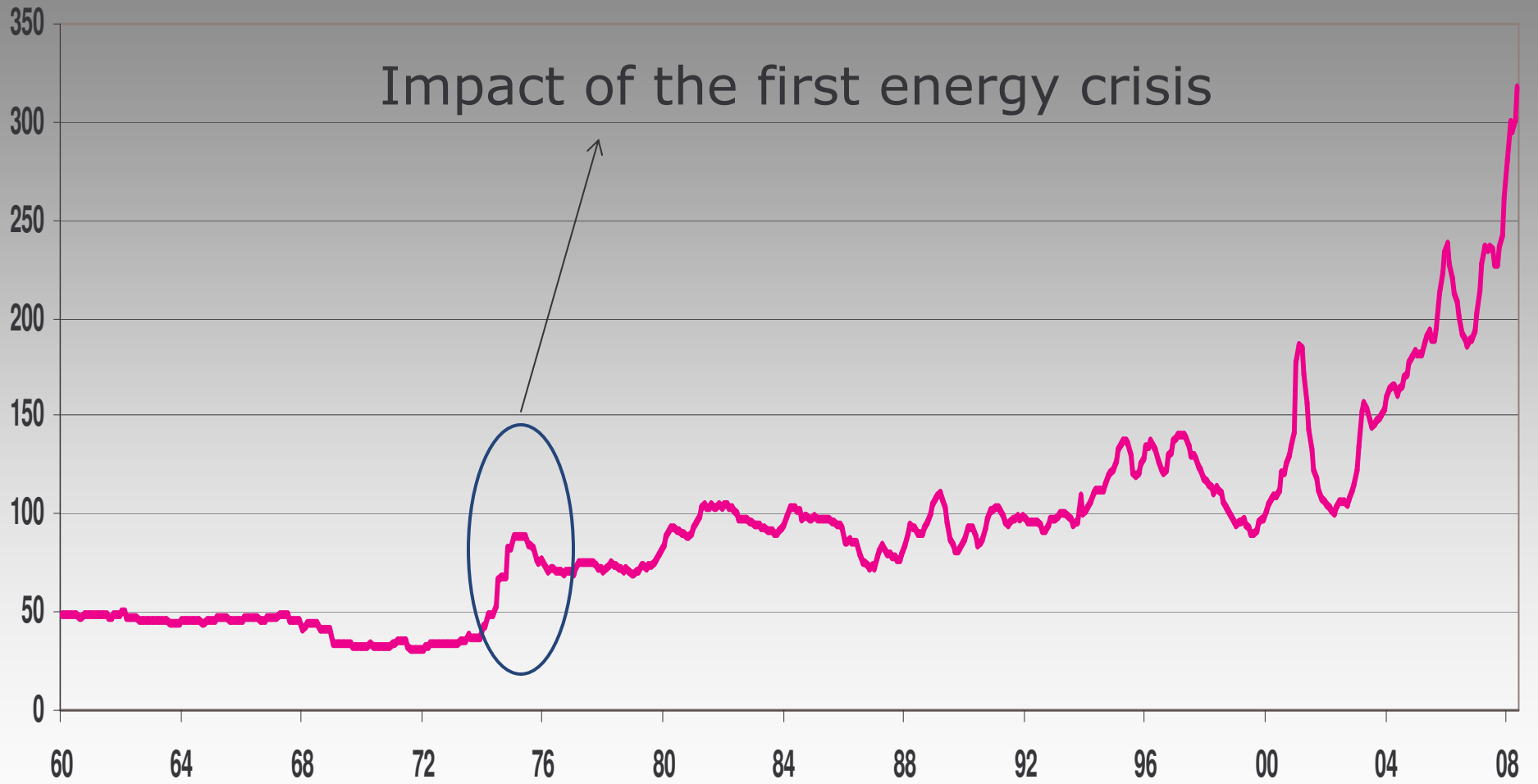
Source: FAOSTAT

Nitrogen Price Index Jan 1960-May 2008 (1982=100)



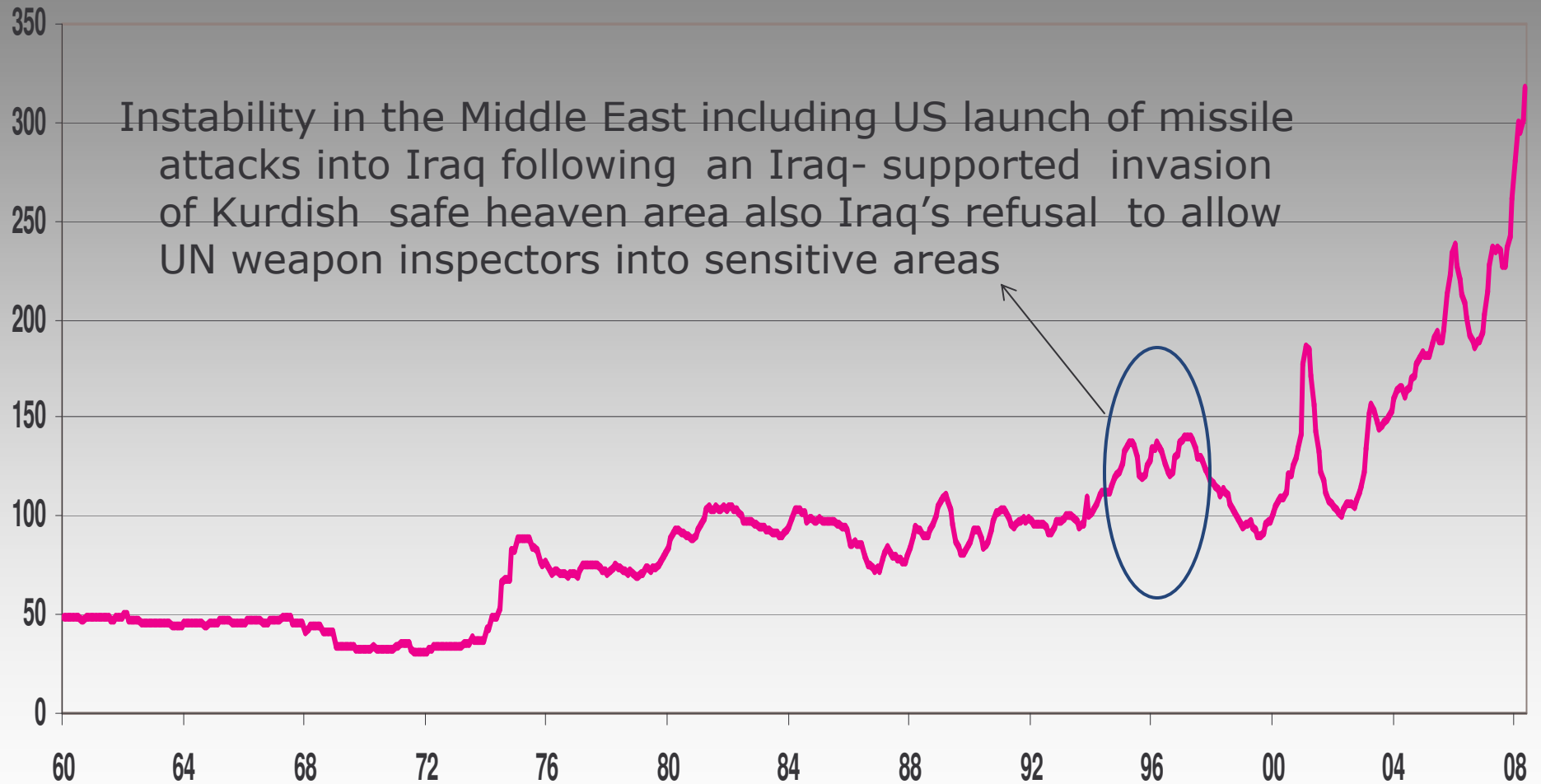
Source: Bureau of Labor Statistics

# Nitrogen Price Index Jan 1960-May 2008 (1982=100)



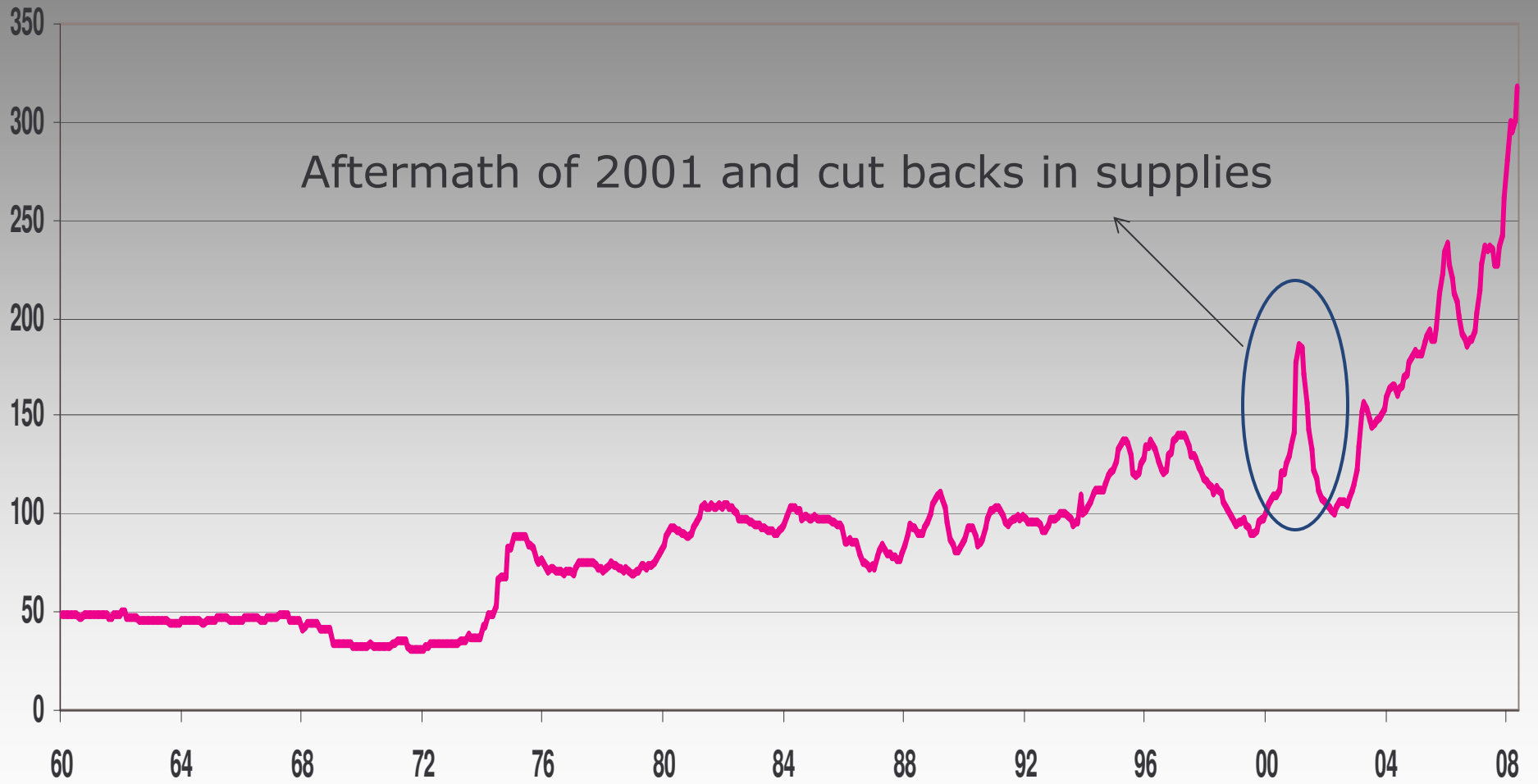
Source: Bureau of Labor Statistics

## Nitrogen Price Index Jan 1960-May 2008 (1982=100)



Source: Bureau of Labor Statistics

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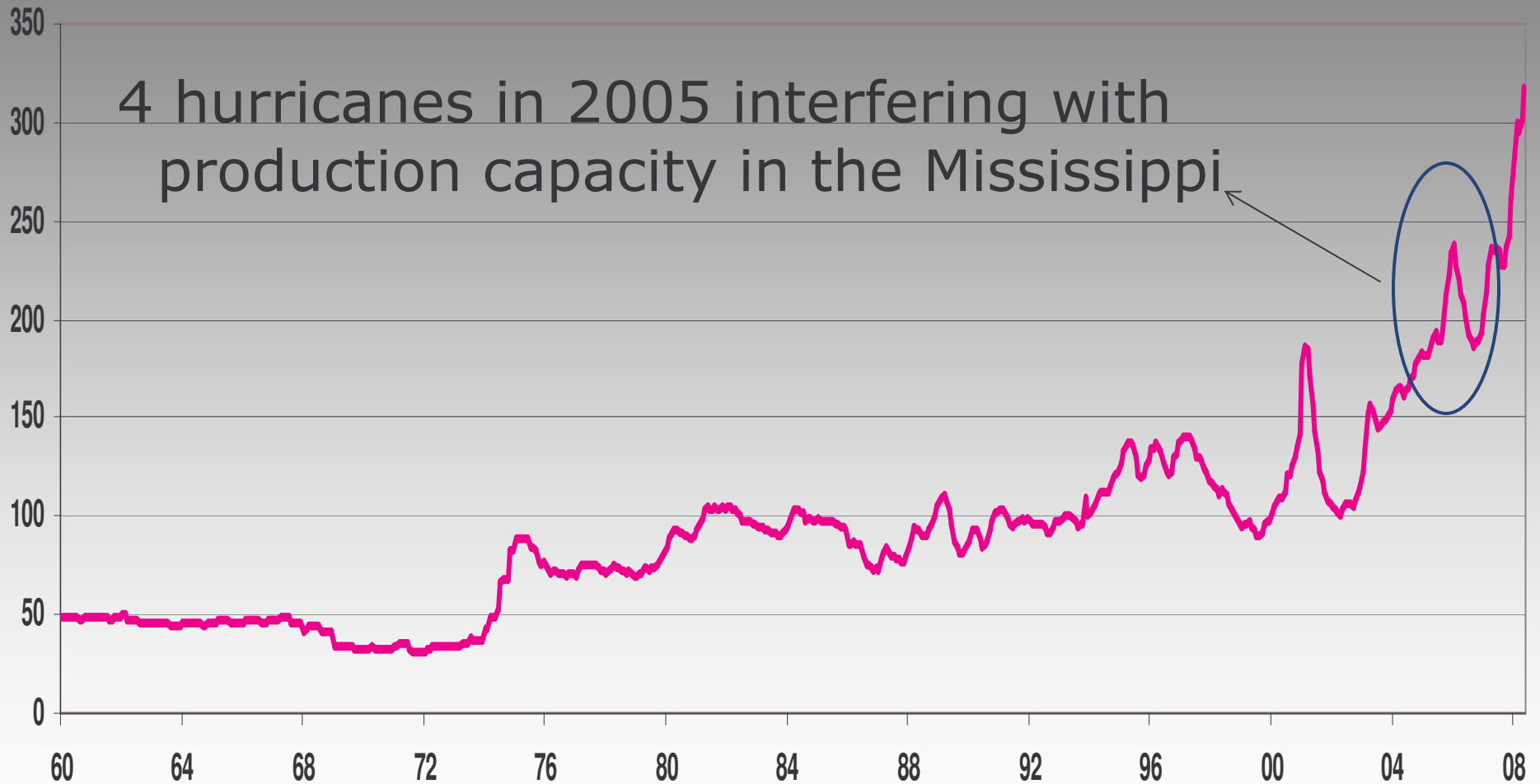


Aftermath of 2001 and cut backs in supplies

Source: Bureau of Labor Statistics

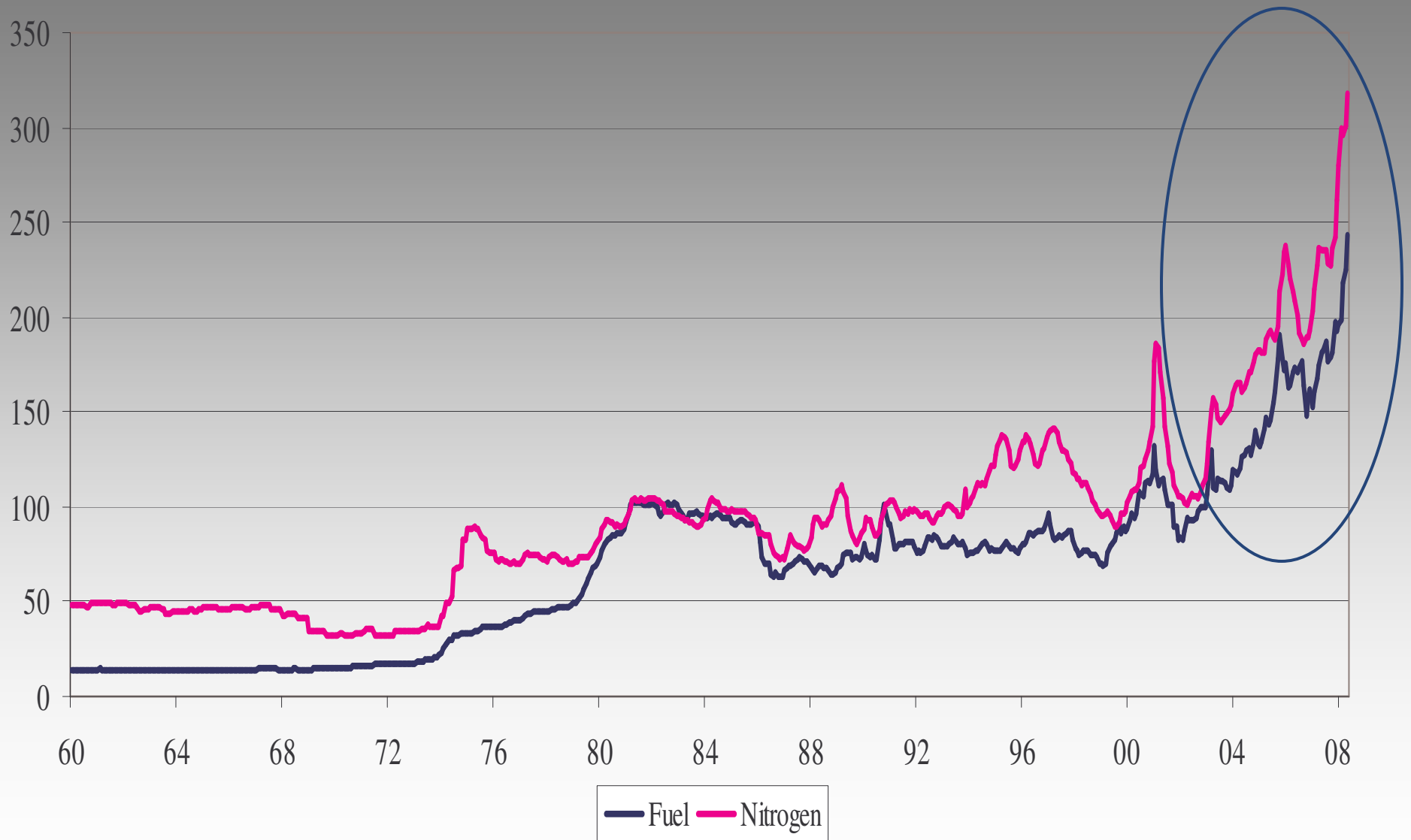


Nitrogen Price Index Jan 1960-May 2008 (1982=100)



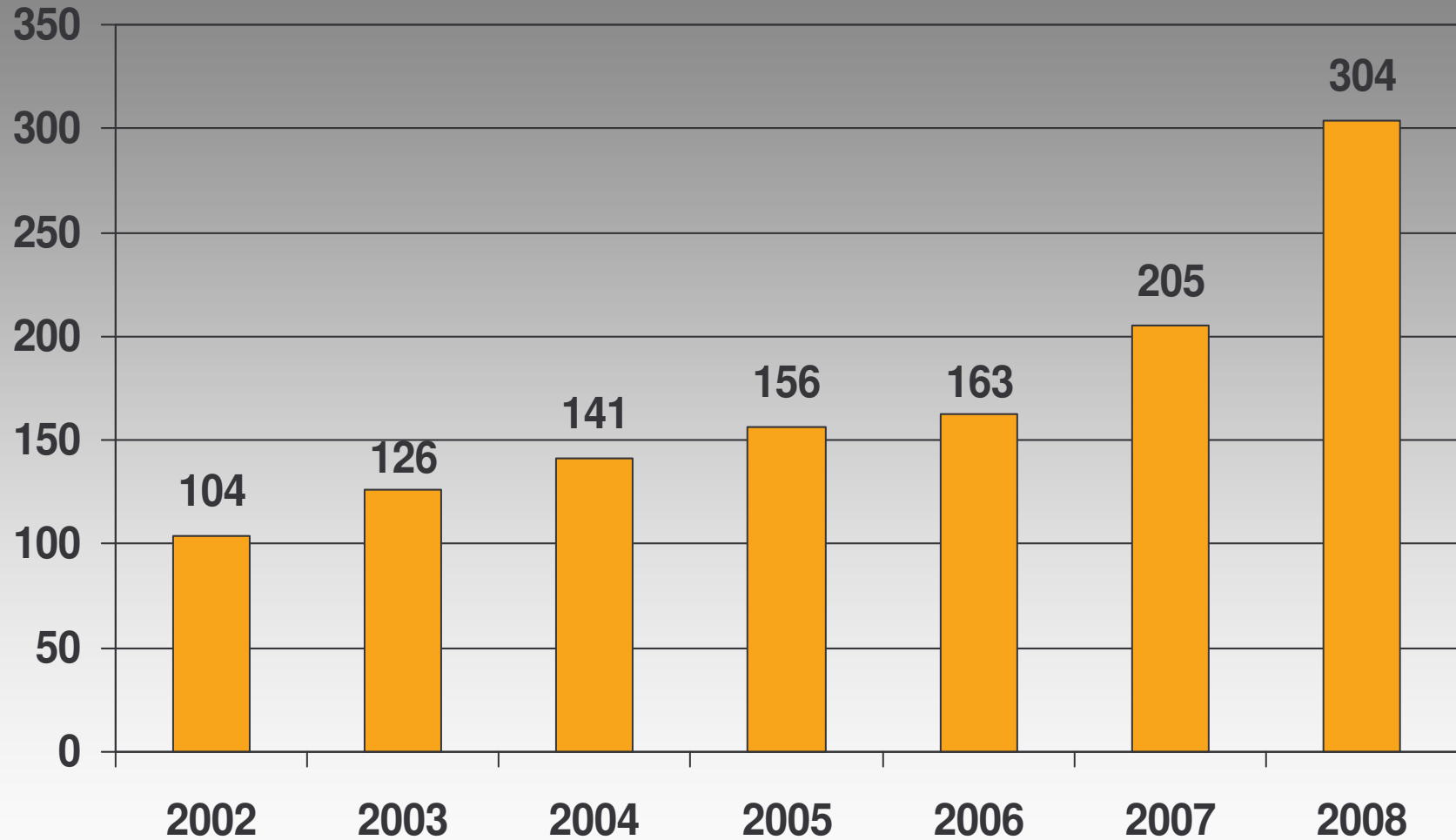
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### Fuel and Nitrogen Index Prices Jan 60-May08 (1982=100)

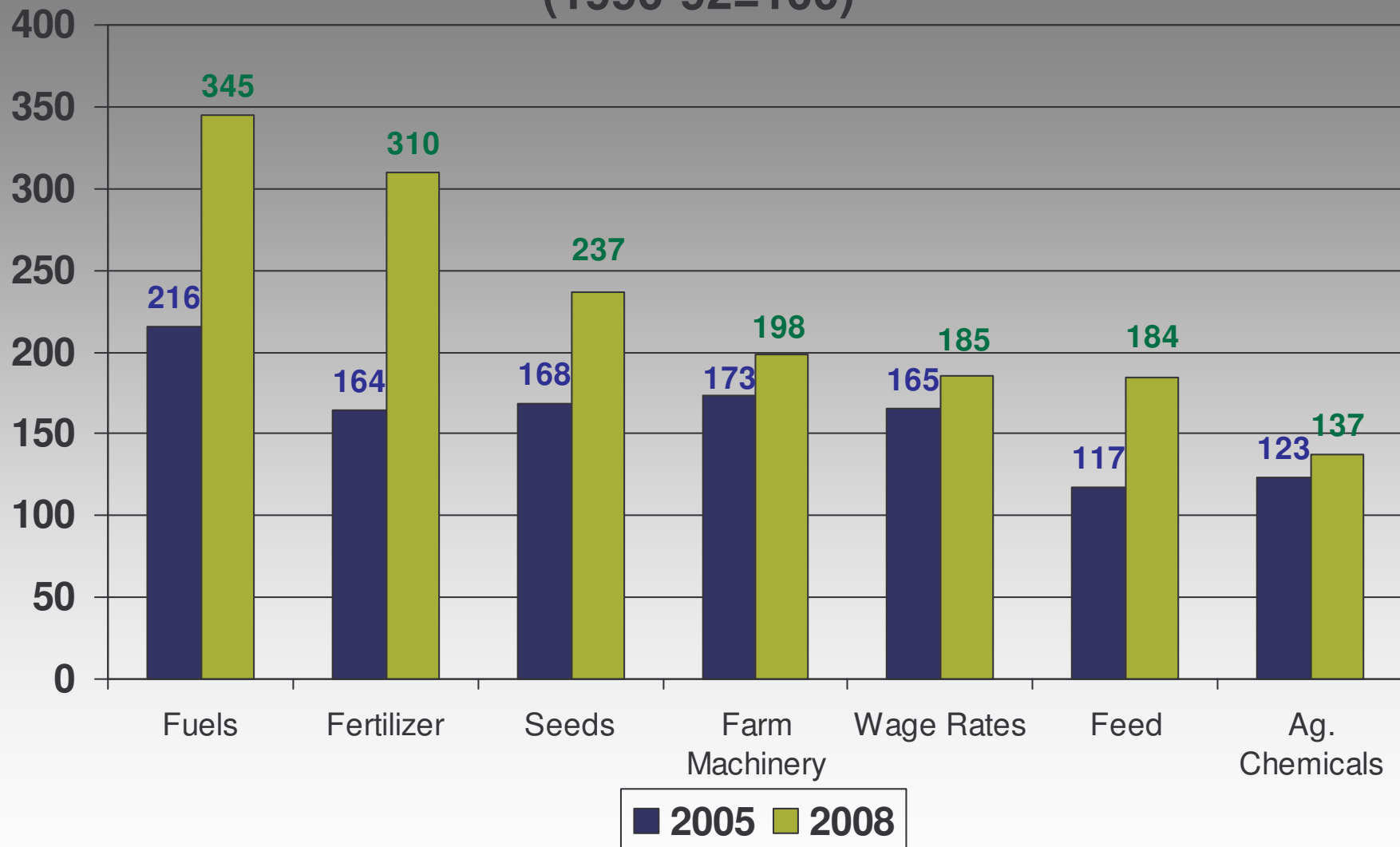


Source: FAOSTAT

## Fertilizer Price Index 2002-2008

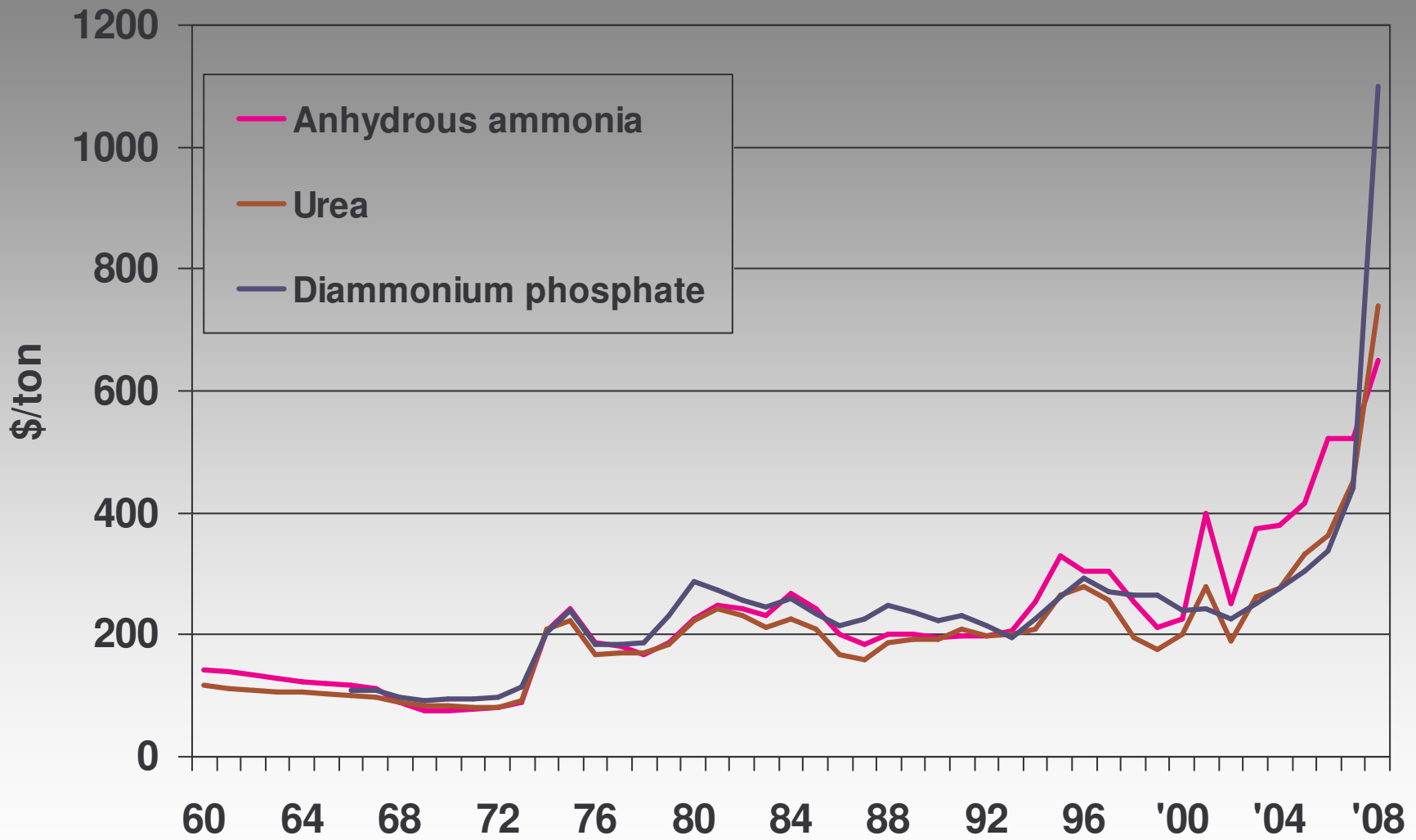


## Input Prices Index Paid by Farmers 2005-2008 (1990-92=100)



Source: Economic Research Service/USDA

## Average US Farm Prices of Fertilizers 1960-08



Source: Economic Research Service/USDA

# What about phosphorus?

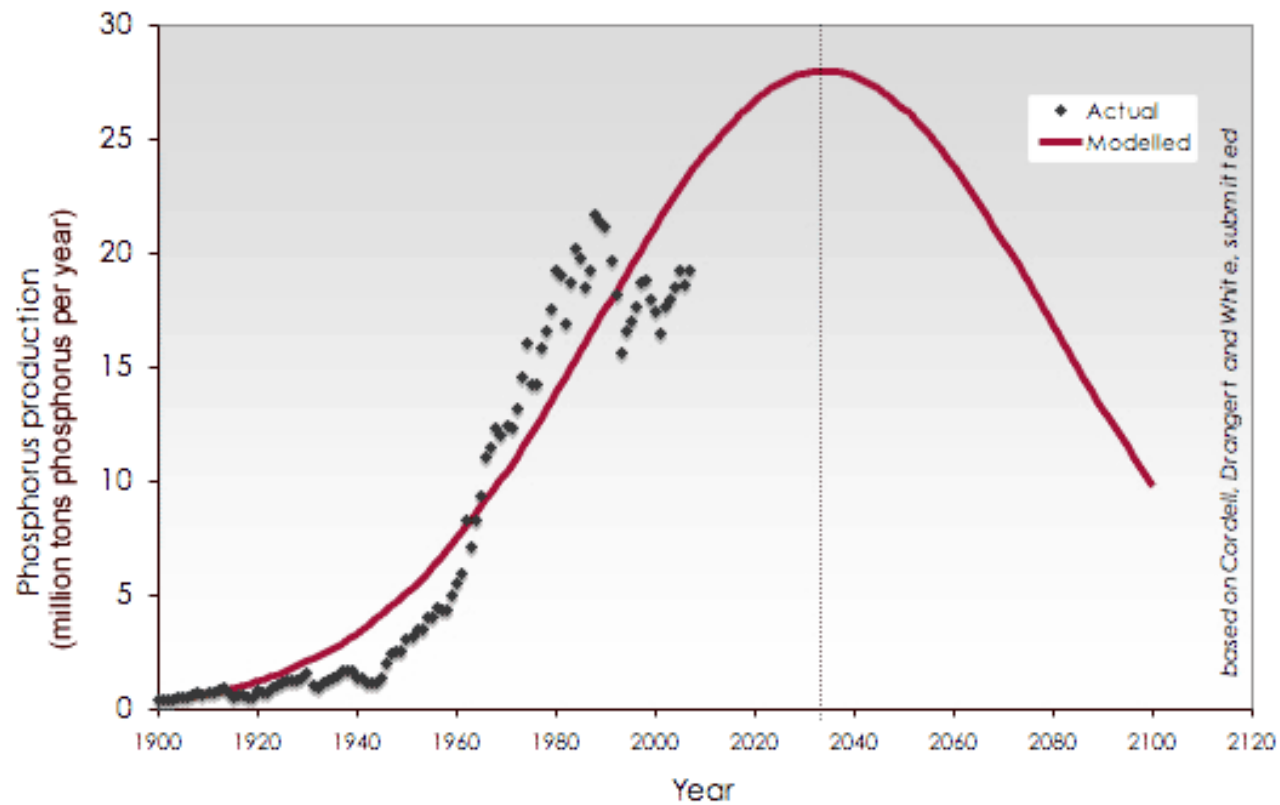
- Phosphorus fertilizer comes from phosphate rock
- 142 million tons was mined worldwide in 2006
- Phosphate deposits are concentrated in the United States (FL), China, Morocco and Russia
- Due to the soaring demand for phosphorus fertilizer, the price of one ton of diammonium phosphate (a fertilizer that also contains nitrogen) "jumped to \$1,102 a ton from \$393 a ton in the last year"

# Phosphorus cont.

- Is the soaring price a temporary blip? or a sign that phosphorus rock is getting scarce?
- Importance of P for agriculture worldwide
- Warnings of an impending phosphorus crisis from a research group headed by Stuart White, director of the [Institute for Sustainable Futures](#) at the University of Technology in Sydney, Australia

# Phosphorus Production

## Phosphorus production: When will it peak?





# What is going on with phosphorus in Florida ?

- Minnesota-based Mosaic Co.
- The \$6-billion fertilizer company is one of only three phosphate firms left in Florida from the 100 that operated in the early 20th century
- Formed in 2004 by a merger of Cargill Crop Nutrition and IMC Global (Cargill remains 65% owner), it controls more than 300,000 acres of the state
- **Mosaic is the biggest phosphate supplier in the world (16%),** and the soaring demand for fertilizer has sent its sales and profits skyrocketing
- Mosaic's share price jumped 345% last year, making it **the fastest-rising U.S. large-cap stock**

# What is going on with phosphorus in Florida?

- ... For the industry, the question is whether the end of mining comes sooner or later. “Florida is out of business in terms of phosphate by 2040,” says G. Michael Lloyd Jr., research director of the Florida Institute of Phosphate Research

# Potash

- Global demand for potash stood at around 60 million tons a year and was growing at around 3 percent a year as more farmland is diverted away from food production to growing crops for energy

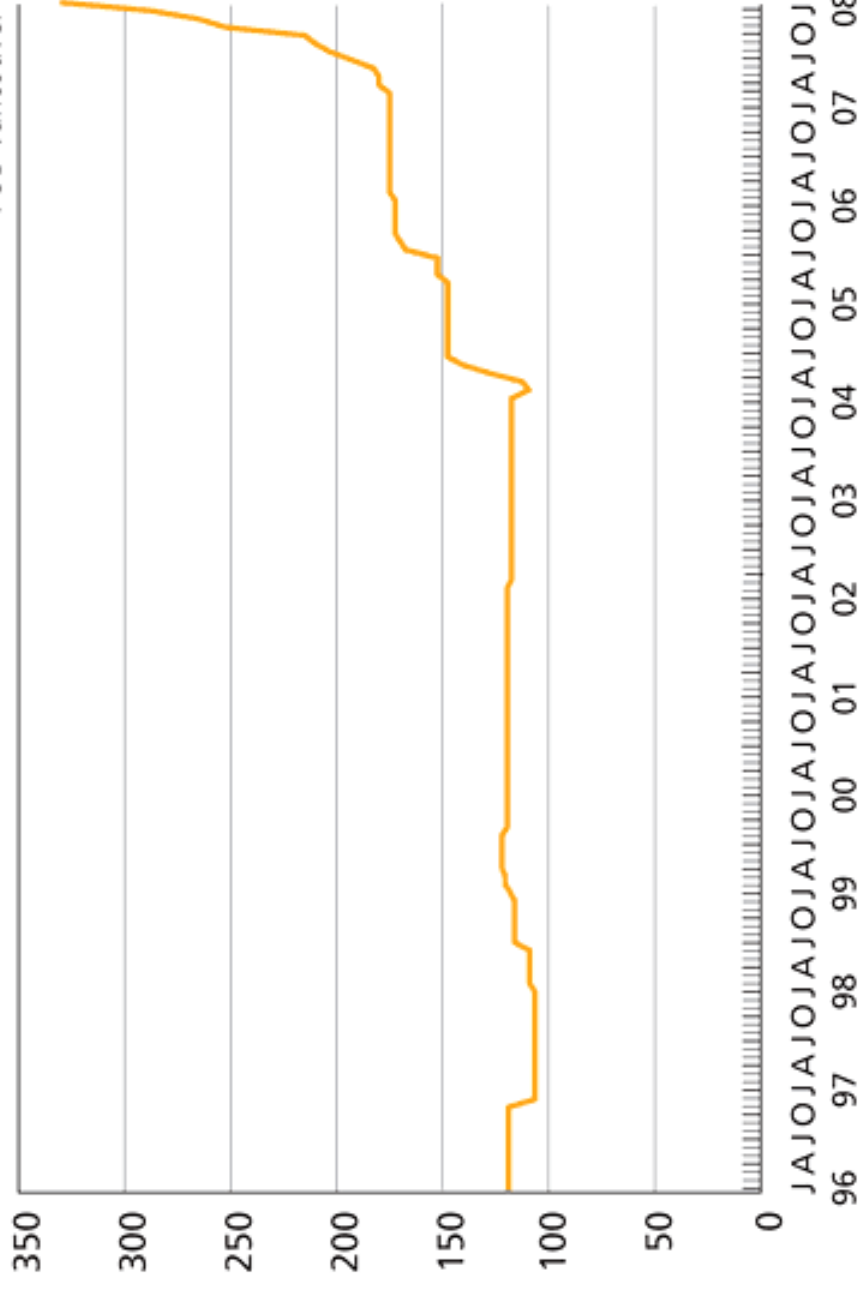
# Potash

- **Potash price rises more than 300 % (April 2008)**
- TORONTO - Potash Corp. of Saskatchewan Inc. said Wednesday that the marketing company for Saskatchewan potash producers and a leading fertilizer company in China have agreed to set potash pricing this year at about \$576 US a tonne, some \$400 higher than last year
- As millions of Chinese join the middle class, their diets are changing to include meat and dairy products. This has in turn spurred demand for grains to feed livestock. As grain production rises, so does demand for fertilizer and the potash used to make it.
- The new price for potash shipped to China will rise to about \$576 per tonne at the Port of Vancouver, said Potash director of investor relations Denita Stann.

# KCI

\$US/MT STD Grade

— FOB Vancouver



Source: Fertecon

# Fertilizer prices based on local distributors

Fertilizer	Price	
	May, 2008	1 year ago
Urea	40¢ / lb N	18¢ / lb N
UAN solution	48¢ / lb N	36¢ / lb N
Amm. nitrate	53¢ / lb N	36¢ / lb N
Amm. sulfate	69¢ / lb N	40¢ / lb N
Di-ammonium phosphate	\$1200 / ton	\$340 / ton
Mono-ammonium phosphate	\$1000 / ton	\$340 / ton

# Factors driving the high fertilizer costs

- High cost of energy
  - Fertilizer production is energy intensive and strong correlation between the price of oil and natural gas and fertilizer prices
  - Natural gas main ingredient in production of nitrogen fertilizers
  - High transportation costs

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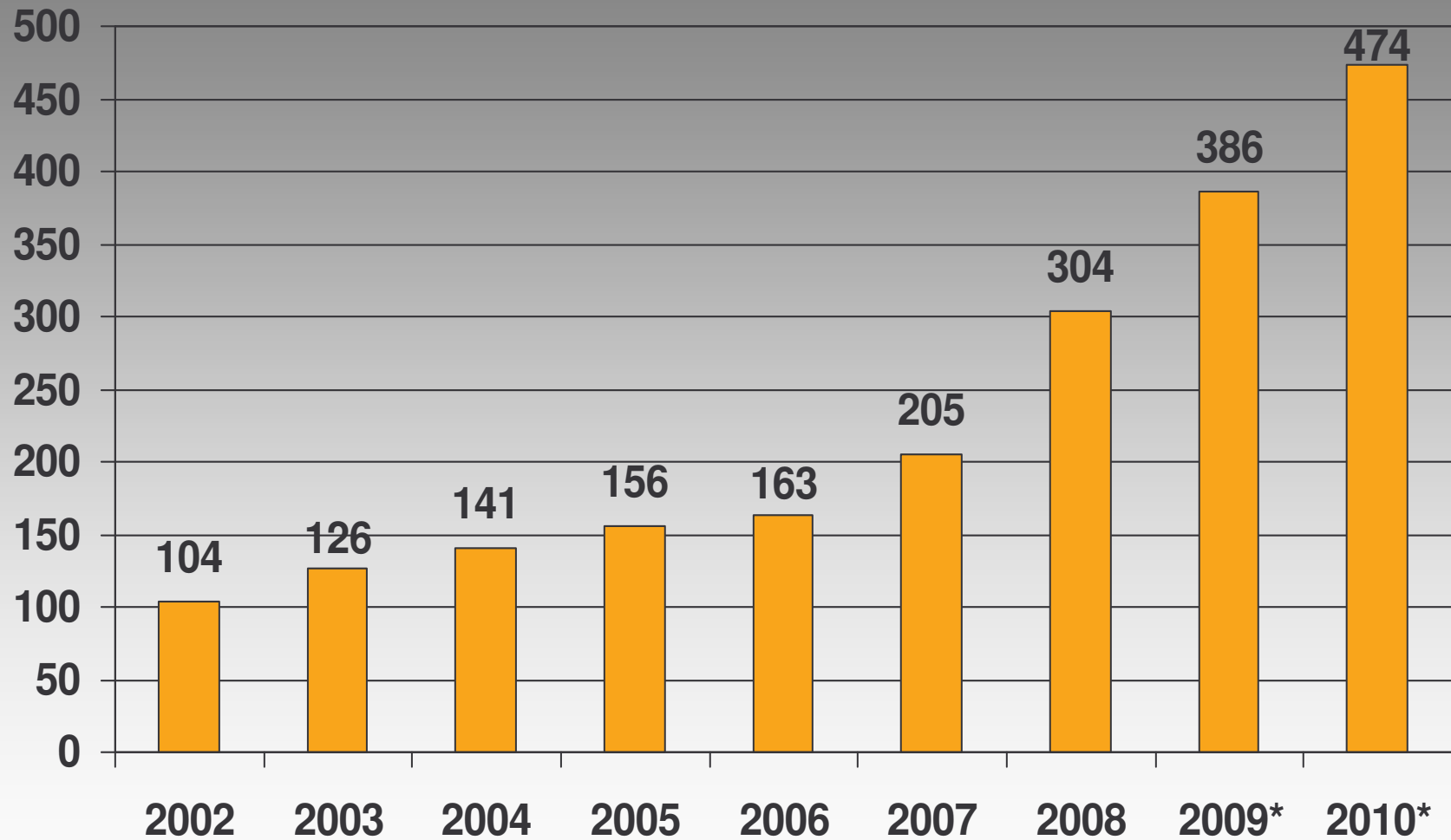
- Increased demand for fertilizers due to the rise in demand for agricultural commodities (for food and non-food uses)
  - High prices of agricultural commodities lead to greater use of fertilizers to increase output
  - Bio-fuels
  - Increased standard of living in China, India leading to increased demand for food



# Factors driving the high fertilizer costs

- Technology (in some cases limited production capacities)
- Weak US dollar (Substantial amount of US fertilizers is imported)
- Speculators (ease with which stocks can be traded)

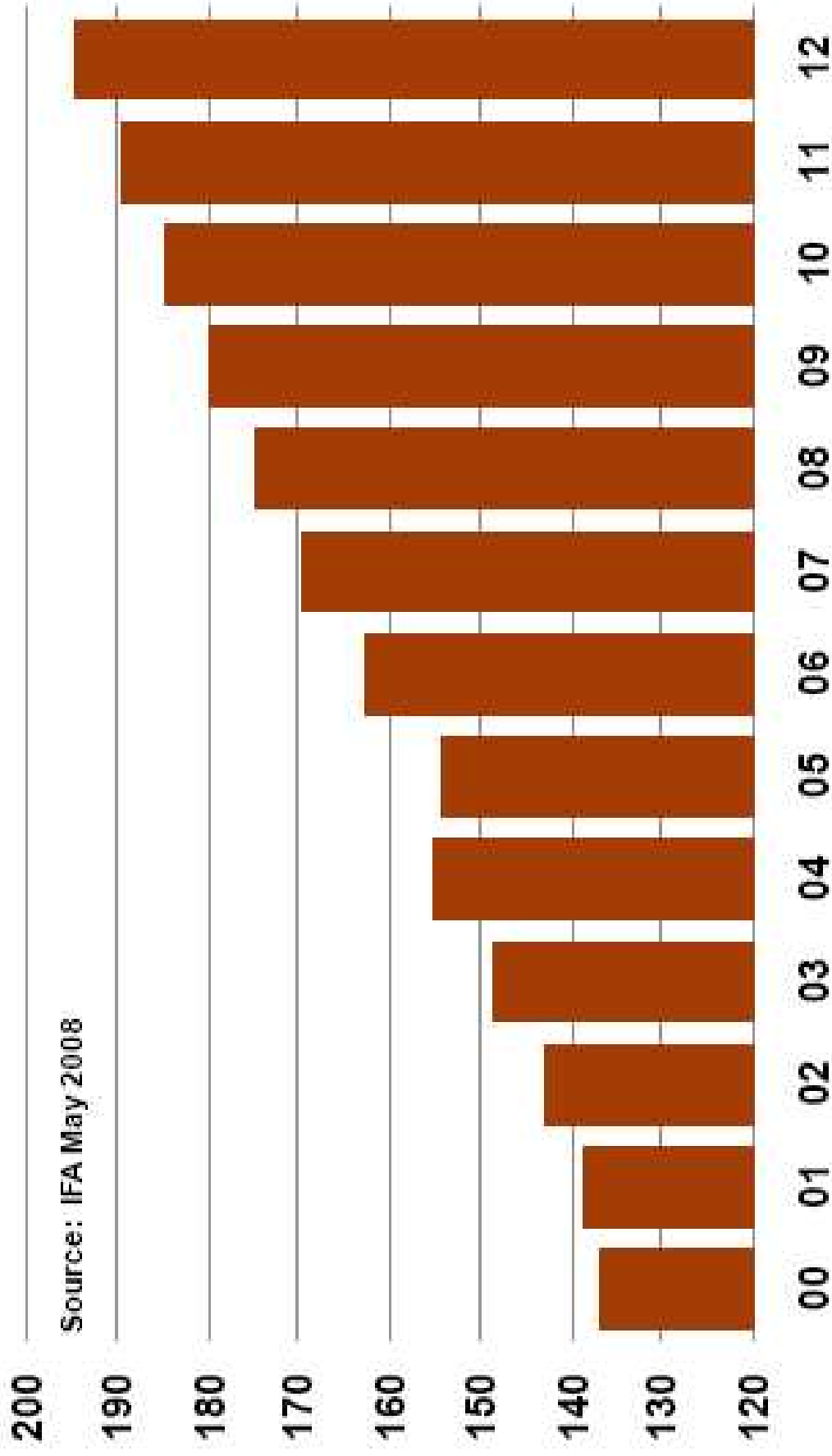
## Fertilizer Price Index 2002-2010



\*Note: 2009 to 2010 Fertilizer Price Index Forecasts

## World Nutrient Use

Mill Tonnes



# Potential Solutions

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- Need for improving of fertilizer and irrigation efficiency
  - Implementation of BMPs
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Thank You

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