Rising Agricultural Commodity Prices:
How We Got Here and Where Do We Go

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Outline

- Why are world ag commodity prices high?
  - Macroeconomic factors
  - Market dynamics
  - Policy measures
- Outlook
  - Initial 2008/09 global grain S&D projection
  - Long-term outlook
- Responding to the price crisis
  - Short-to-medium-term assistance
  - Long-term responses

Why world ag commodity prices are high

- **MACROECONOMIC FACTORS:**
  - Price surge **broad based**, non-ag commodity prices increase faster
  - Strong **economic growth**, especially in developing countries, boosts demand
  - Higher **energy and freight costs**
  - **Depreciating dollar** contributes to demand
  - **Increased speculation** by hedge and index funds raises prices and adds volatility

Futures Prices Rising Since 2002; Soaring Since Late 2006

Trend not unique to ag commodities, suggesting broad-based macroeconomic factors; **not** *a simple case of biofuels being the culprit*

Goldman Sachs commodity index

Corn futures

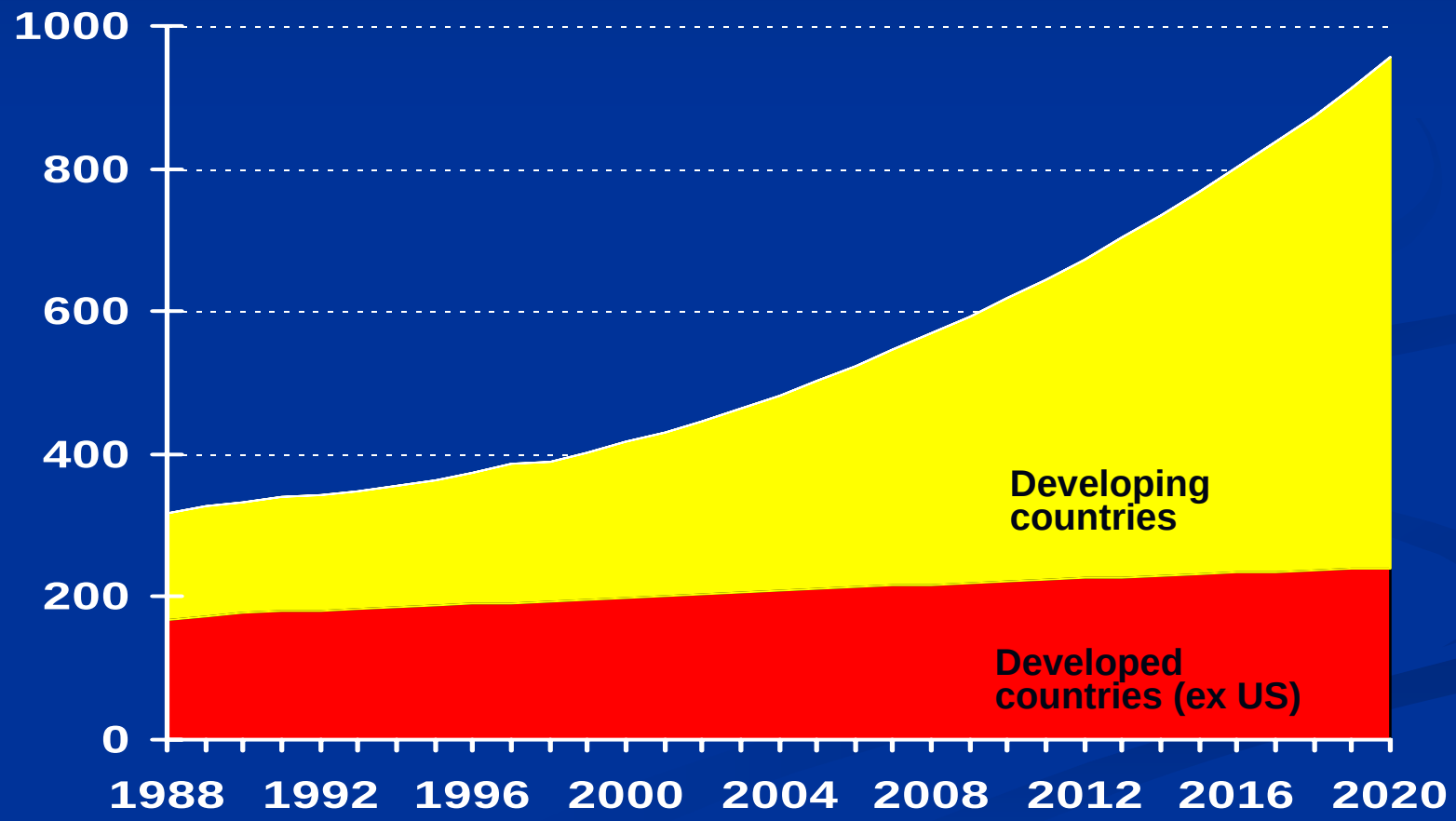
Wheat futures

Soybean futures

Prepared by OGA/FAS/USDA

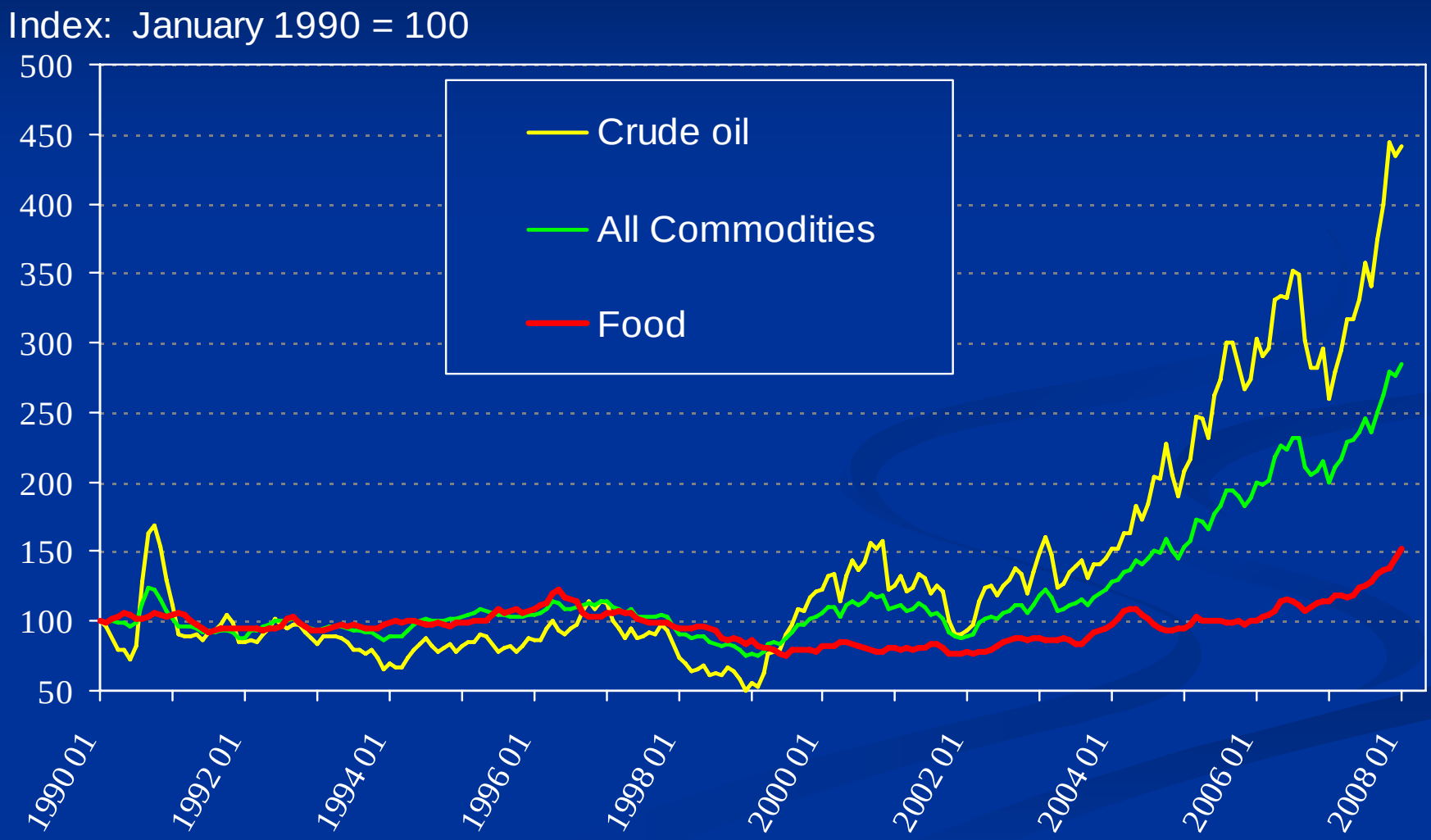
Strong Economic Growth, Especially In Developing Countries, Stimulates Demand For Both Food And Fuel

Foreign households w/real PPP incomes greater than $20,000 a year (in millions of households)



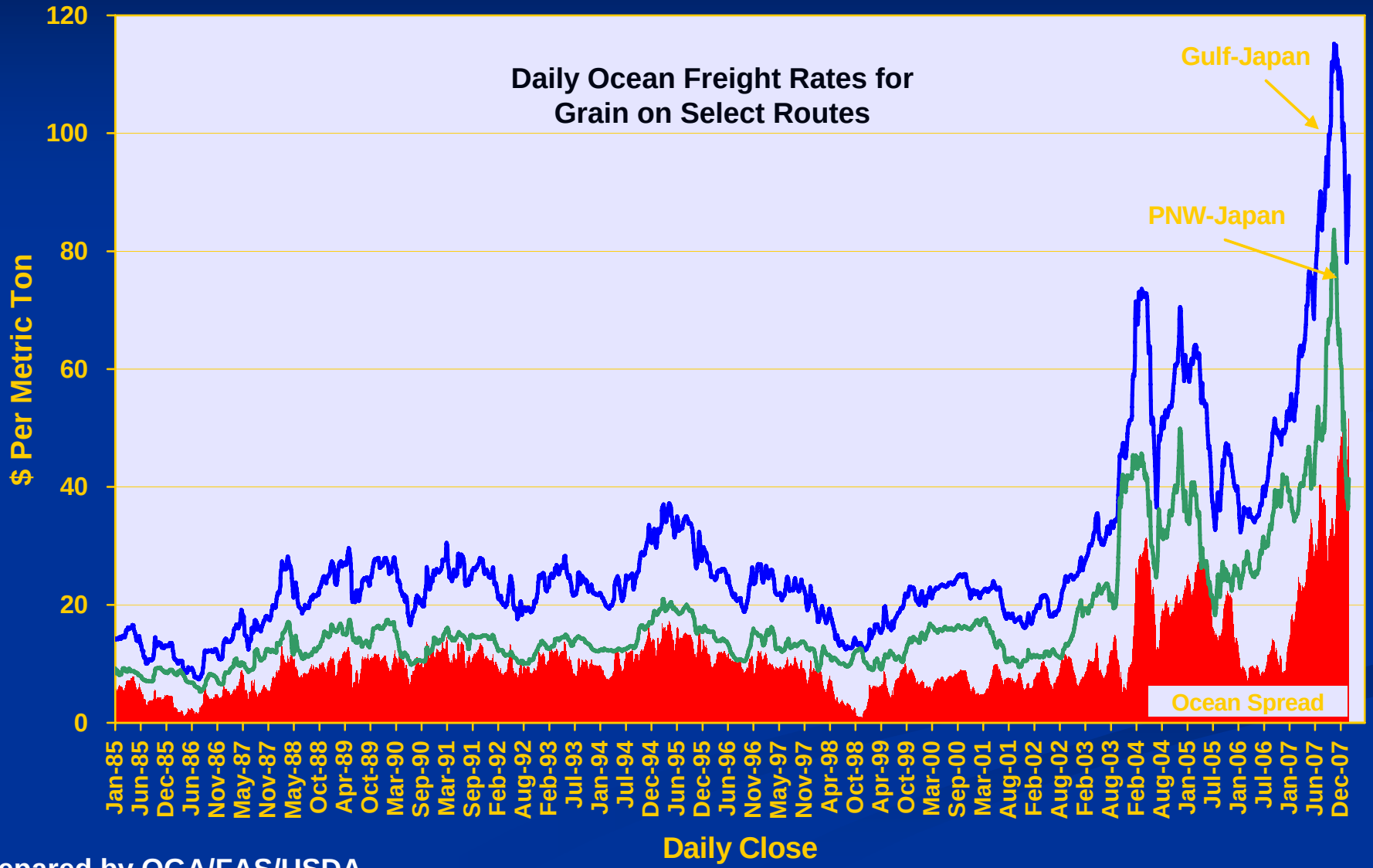
Source: Global Insight's Global Consumer Markets data as analyzed by OGA/FAS/USDA

Higher energy prices contribute to higher food prices by Increasing costs of inputs, processing, and transportation



Source: International Monetary Fund: International Financial Statistics; chart prepared by ERS/USDA

Surging Freight rates add to costs



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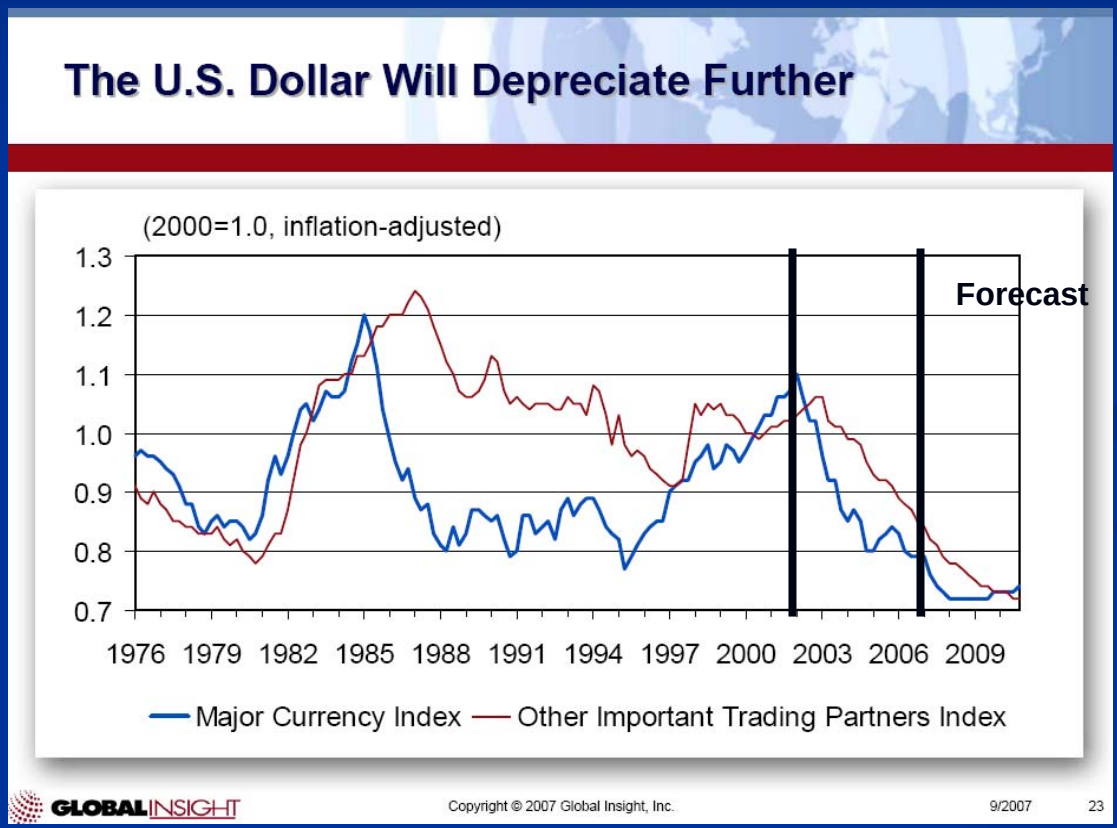
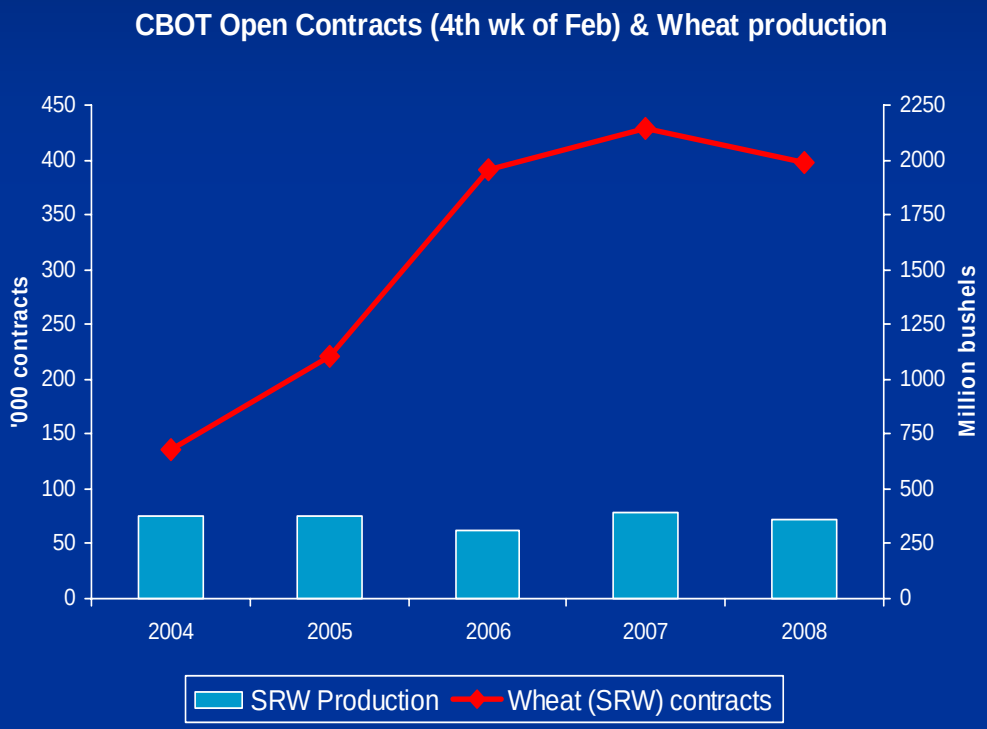
Depreciating Dollar Boosts Demand



- Dollar started depreciating in 2002. Further declines expected through 2011
- Boosts purchasing power of foreign buyers of dollar-denominated commodities
- Thereby increasing demand and put upward pressure on prices

Prepared by OGA/FAS/USDA

Increased Speculation by Hedge and Index Funds



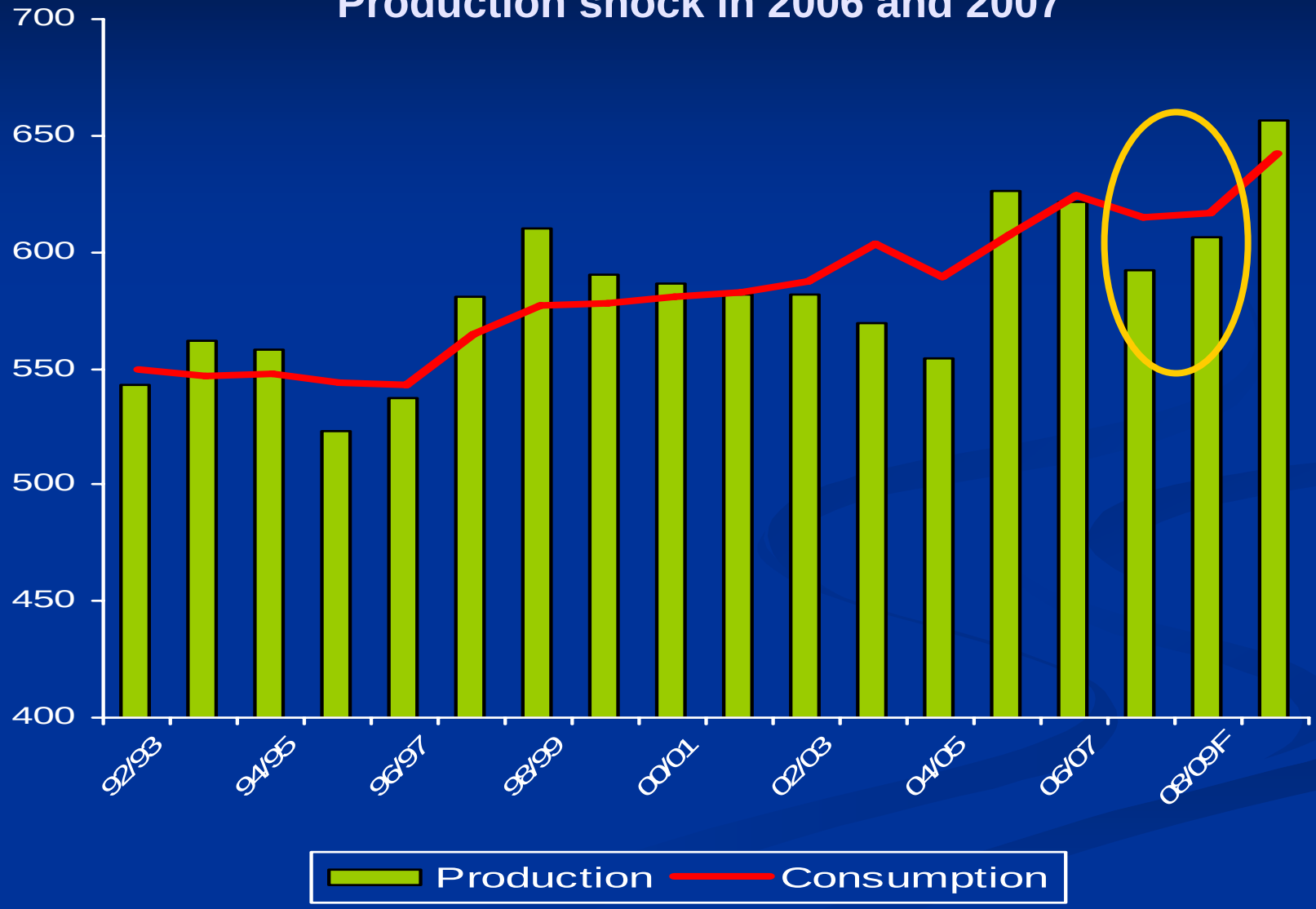
- Chicago Board of Trade (CBOT) contracts for wheat have tripled since 2004
- 1 contract = 5,000 bushels
- Total U.S. SRW wheat production = **358 million bushels**
- In late February 2008, open contracts for wheat represented **2 billion bushels – over 5 times the level of production**
- Speculative investment has pushed prices beyond levels supported by supply-and-demand fundamentals
- Increased speculations add volatility to the market.

Prepared by OGA/FAS/USDA

Why world ag commodity prices are high

- **MARKET DYNAMICS:**
  - **Wheat**: tighter supply due to drought, low stocks
  - **Corn**: higher demand, including U.S. ethanol production
  - **Soybeans**: strong demand from China and the EU; tight supplies
  - **The "China Factor":** driving prices higher for commodities & freight rates

Wheat: Global Consumption Outpaces Production
In 7 out of the last 8 years;
Production shock in 2006 and 2007



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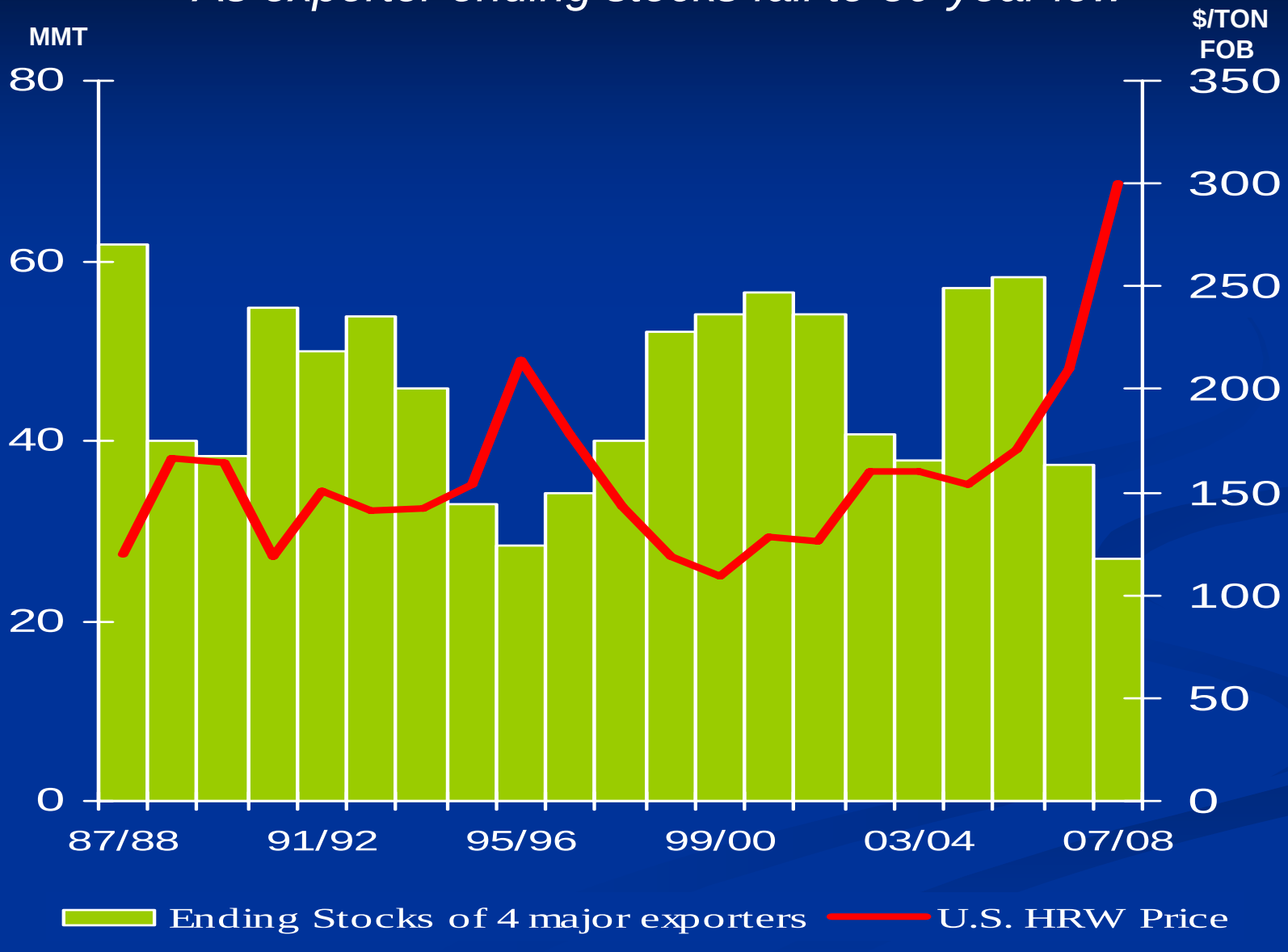
Wheat Prices Reach Record Levels

As exporter ending stocks fall to 30-year low



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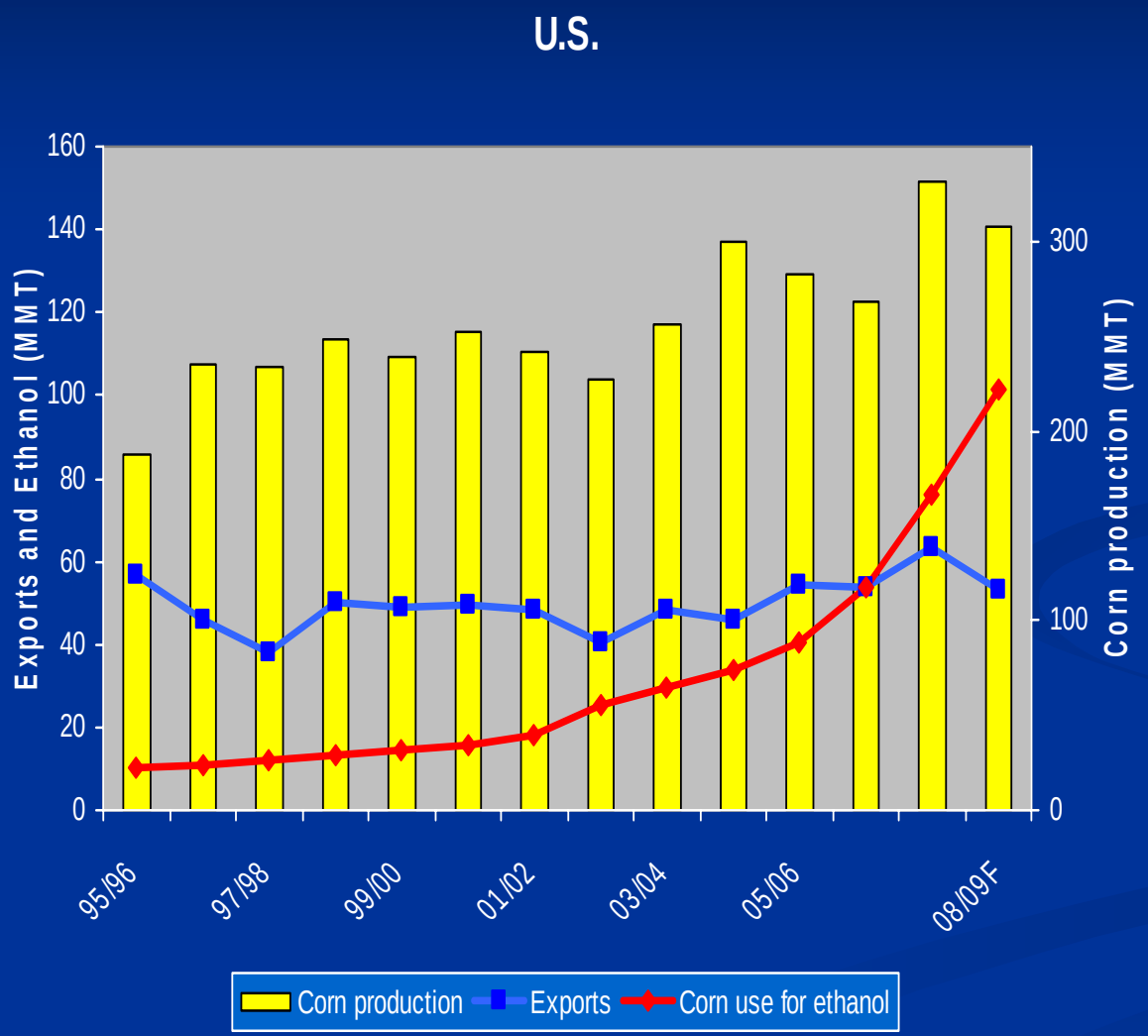
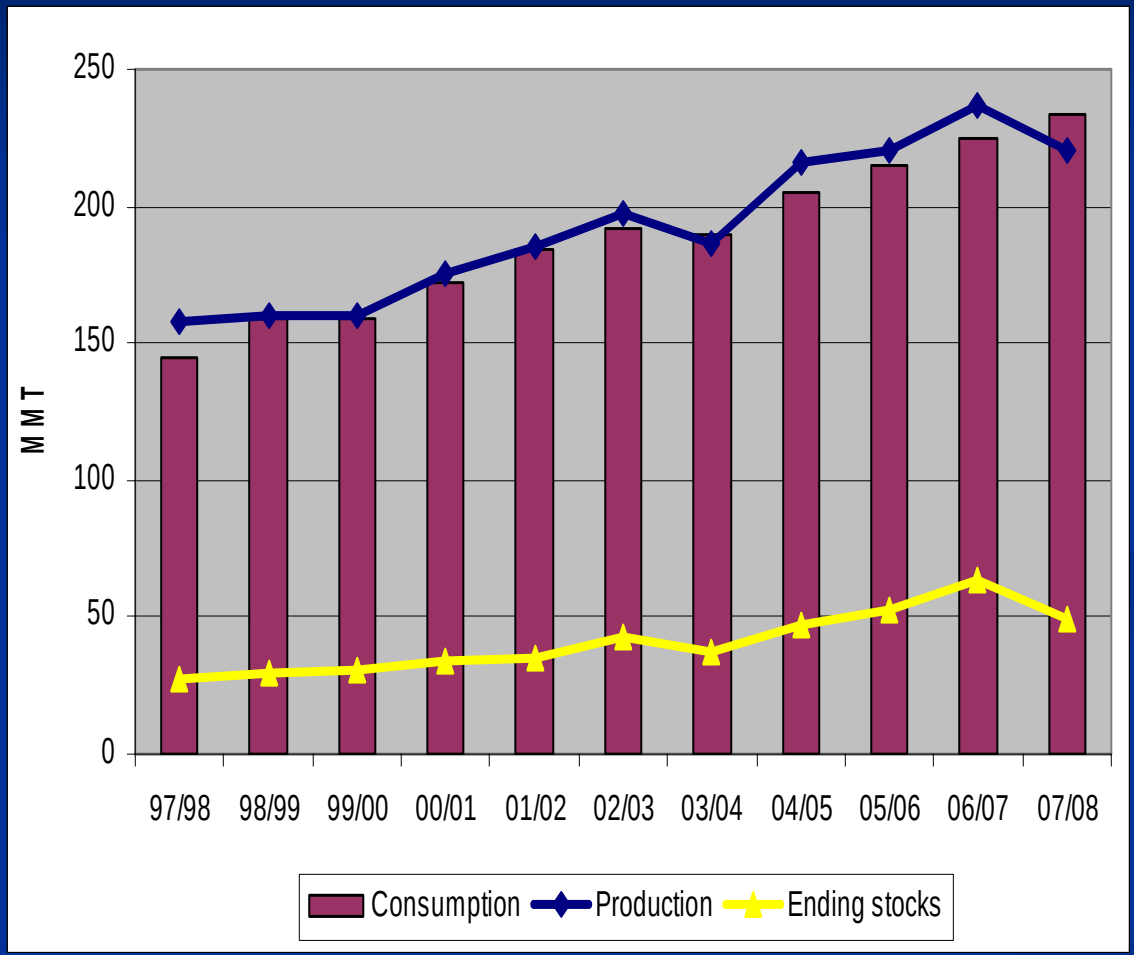
Corn: Strong U.S. Demand Factors



- Record exports
- Ethanol production overtakes exports
- Ethanol now uses one quarter of U.S. corn production
- U.S. is world price setter; produces over 40% of the world's corn and supplies over 60% of global import needs

Prepared by OGA/FAS/USDA

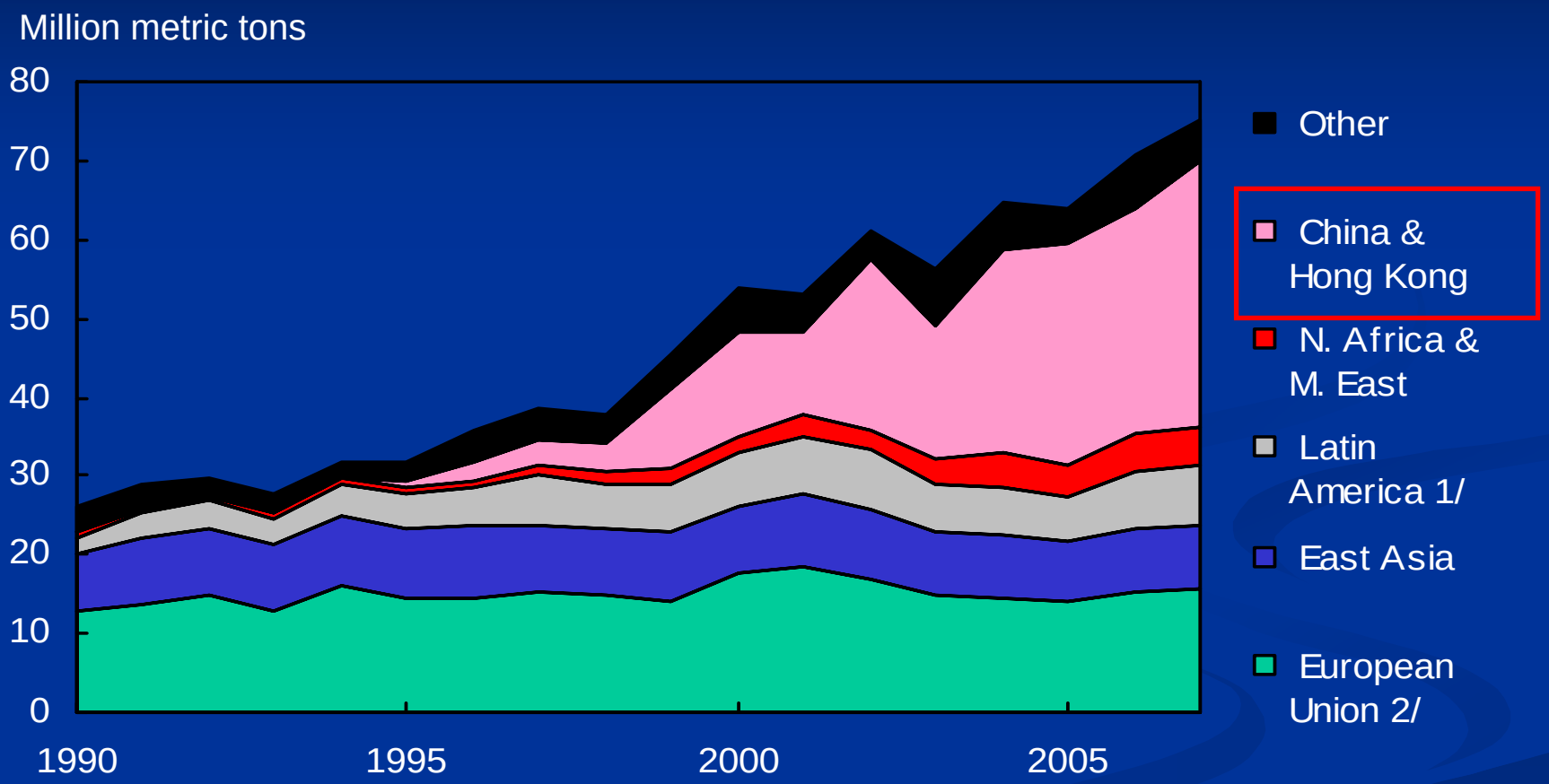
Soybeans: global demand exceeds supplies



- Strong demand from China
- Biodiesel production in EU boosts demand for all oilseeds and prices for soybeans
- Feed quality wheat shortfall in Europe due to drought pushes up demand for soybeans and soy meal
- U.S. soybean acreage lost to corn

Prepared by OGA/FAS/USDA

Global soybean import growth fueled by China



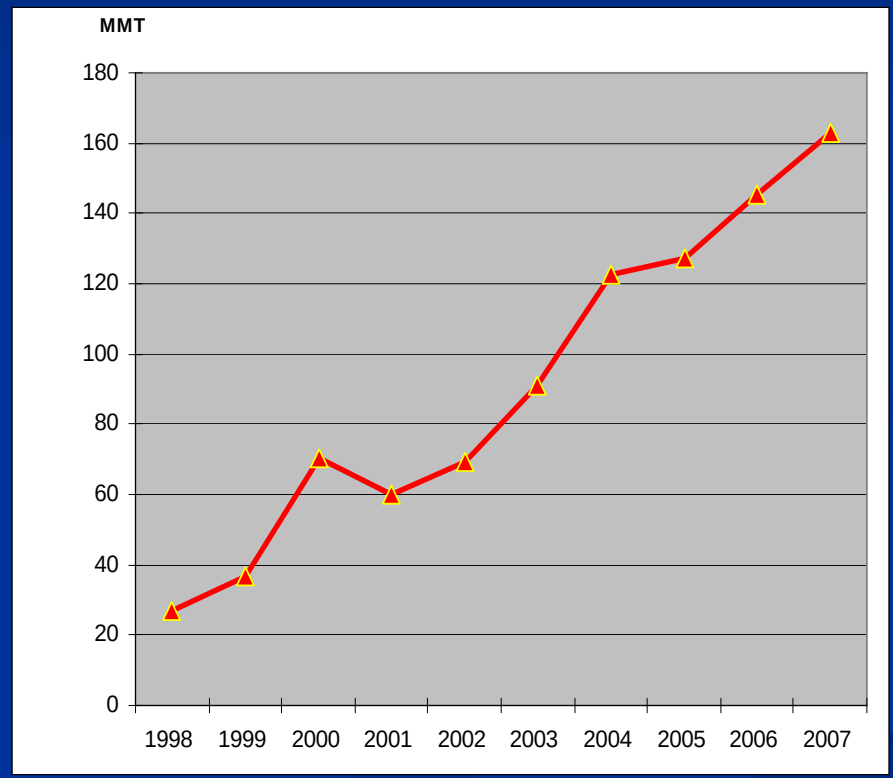
1/ Includes Mexico. 2/ EU-27 excludes intra-trade after 2002, EU-15 intra-trade before 2003, Slovenia before 1992.

Source: ERS/USDA

The China Factor

- **Soaring import demand**
  - Ag: soybeans, poultry, among others
  - Non-Ag: oil and raw materials.
  - Causes rising ocean freight rates
- **Production fails to keep up**
  - Industrialization and urbanization competes with arable land
  - Falling water tables in Northern China Plain
  - Low efficiencies
  - No GM corn or soybean commercialization
  - Shift from bulk commodities to cash crops
- **Exports fall**
  - Retreats from exports of wheat, corn, rice, grain products, and fertilizers

China's Crude Oil Imports



Source: GTA/WTA

Prepared by OGA/FAS/USDA

Why world ag commodity prices are high

- **POLICY MEASURES:**
  - **Export restrictions** limit world market supply
  - Exacerbate global price surge
  - Disrupt price signals to local producers
  - **Case study: Rice** supplies ample; government policies distort prices

Foreign Countries' Policy Moves Exacerbate Rising Prices

Exporters

- **Eliminated export subsidies:**
  - China (grains & products)
- **Imposed or raised export taxes:**
  - China (grains & products)
  - Argentina (wheat, corn, soybeans, soymeal, soyoil)
  - Russia (wheat, barley)
  - Indonesia (palm oil)
- **Restricted export quantities:**
  - Argentina, Ukraine (wheat)
  - Vietnam (rice)
- **Imposed export bans:**
  - Serbia, India (wheat)
  - India, Egypt (rice)
  - Kazakhstan (wheat, oilseeds & veg oils)

Source: ERS, FAS/USDA

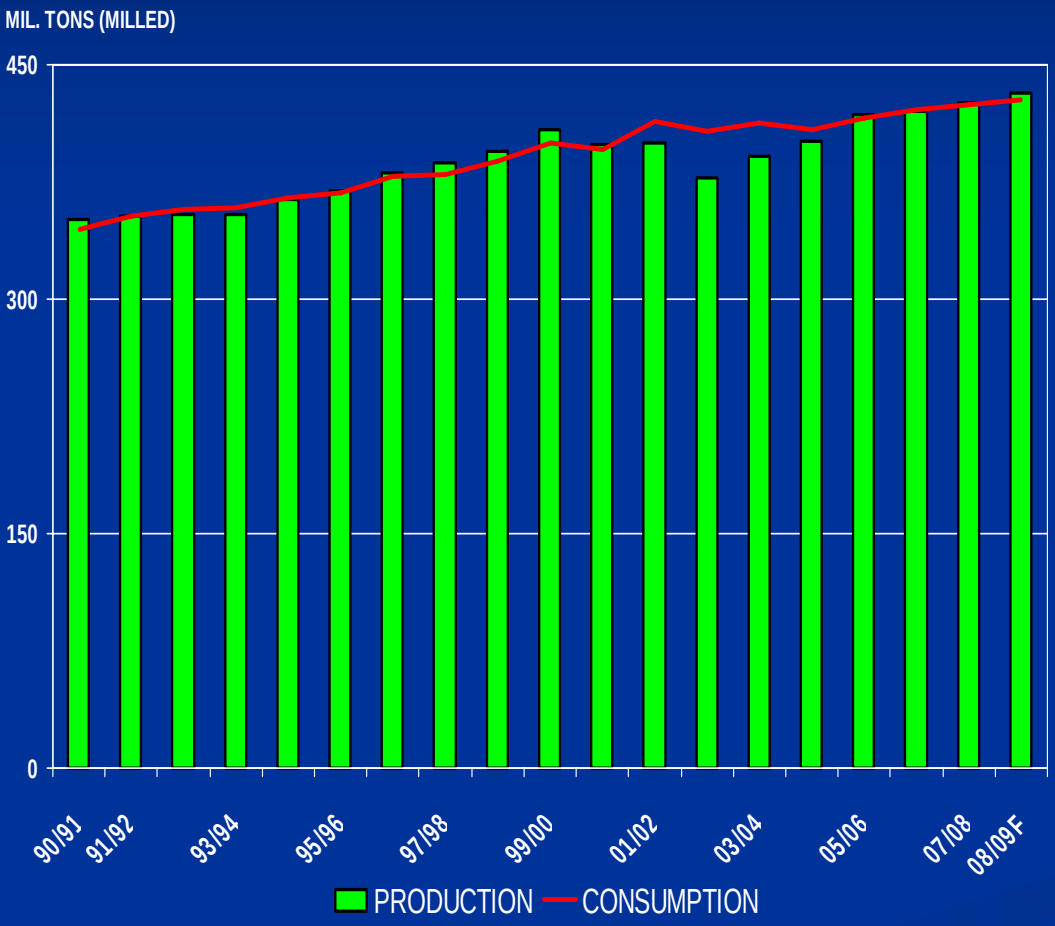
Policy Moves . . . (continued)

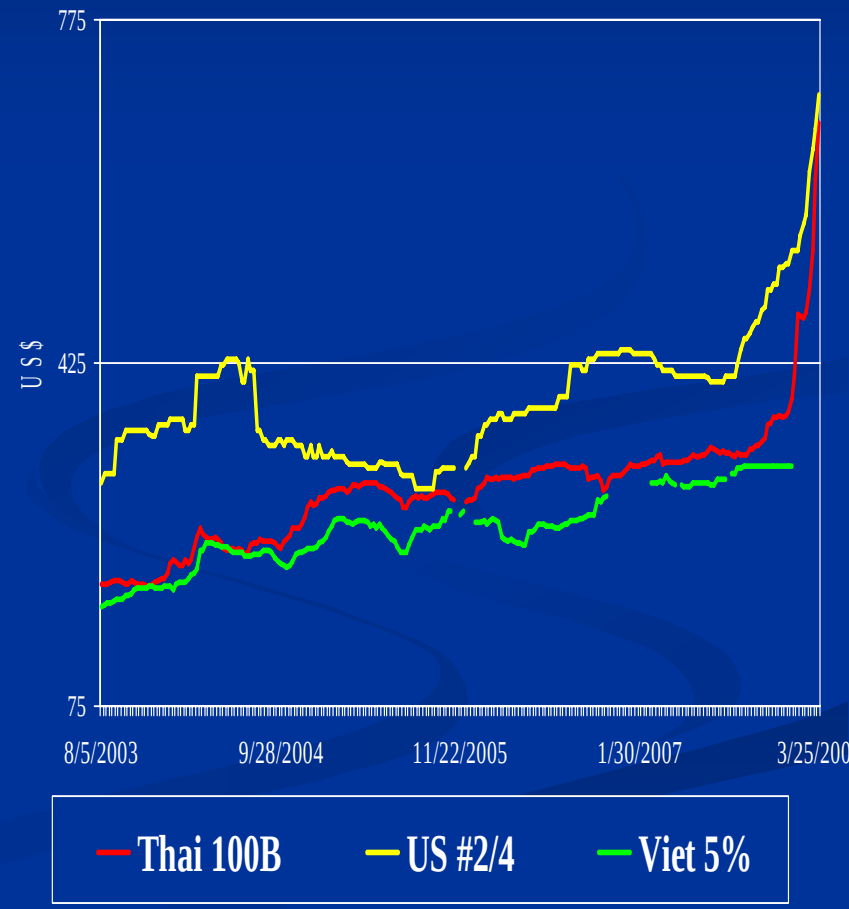
Importers

- **Reduced Import tariffs:**
  - India (wheat flour)
  - Indonesia (wheat, soybeans)
  - Serbia (wheat)
  - Costa Rica (rice)
  - EU (grains)
  - Turkey (grains and oilseeds)
  - Korea (milling wheat, corn for processing, soybeans)
- **Subsidized distribution of imported staples**
  - Egypt, Syria (wheat and bread)
- **Aggressive stockpiling:**
  - Philippines (rice)

Source: ERS, FAS/USDA

World rice supplies adequate to meet demand; Prices surge due to policy moves and hoarding





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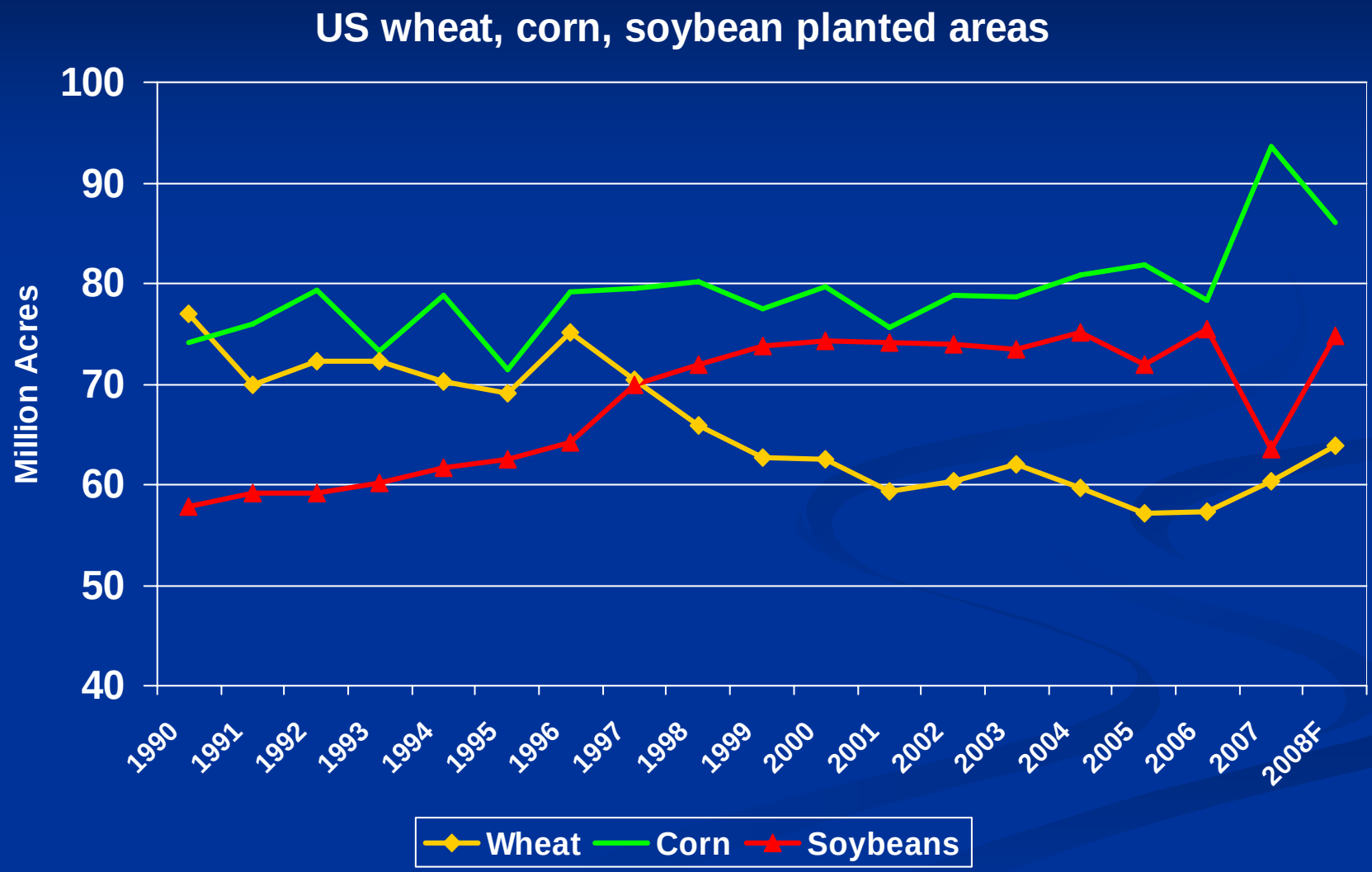
Outlook

- **2008/09:**
  - **Wheat:** global production rebounds
  - **Corn:** tight U.S. balance
  - **Rice:** no change in global S&D
  - **Soybeans:** higher U.S. production largely offset by low carry-in stocks
- **Long-term:**
  - Strong demand factors
  - Prices expected to stay higher than previous decade

2008/09: U.S. producers respond to global price signals



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Long Term Outlook:
Factors Influencing Global Agricultural Markets and Prices Over the Next Decade

- **Global economic growth –** *slowdown expected but no recession -- expanding middle class in emerging markets is key. However, a sharp correction or recession could have profound implications for demand and prices.*
- **Value of the U.S. dollar –** *down further through 2011 which will put additional upward pressure on commodity prices before rising modestly through 2017*
- **Energy prices –** *higher oil prices underpins rising production and transportation costs; support biofuels prices which boost profitability and hence demand for their feedstocks such as corn, oilseeds, and sugar*
- **Biofuels production –** *mandates in U.S. and EU are demand stimulants. Output set to rise in other countries too such as Brazil, Canada and Argentina.*
- **Additional crop land –** *how will producers react to high prices, especially in Brazil? Increase in area harvested would boost production which could lower prices*
- **Technological developments –** *could be a key factor in boosting yields which would boost production and help reduce prices*

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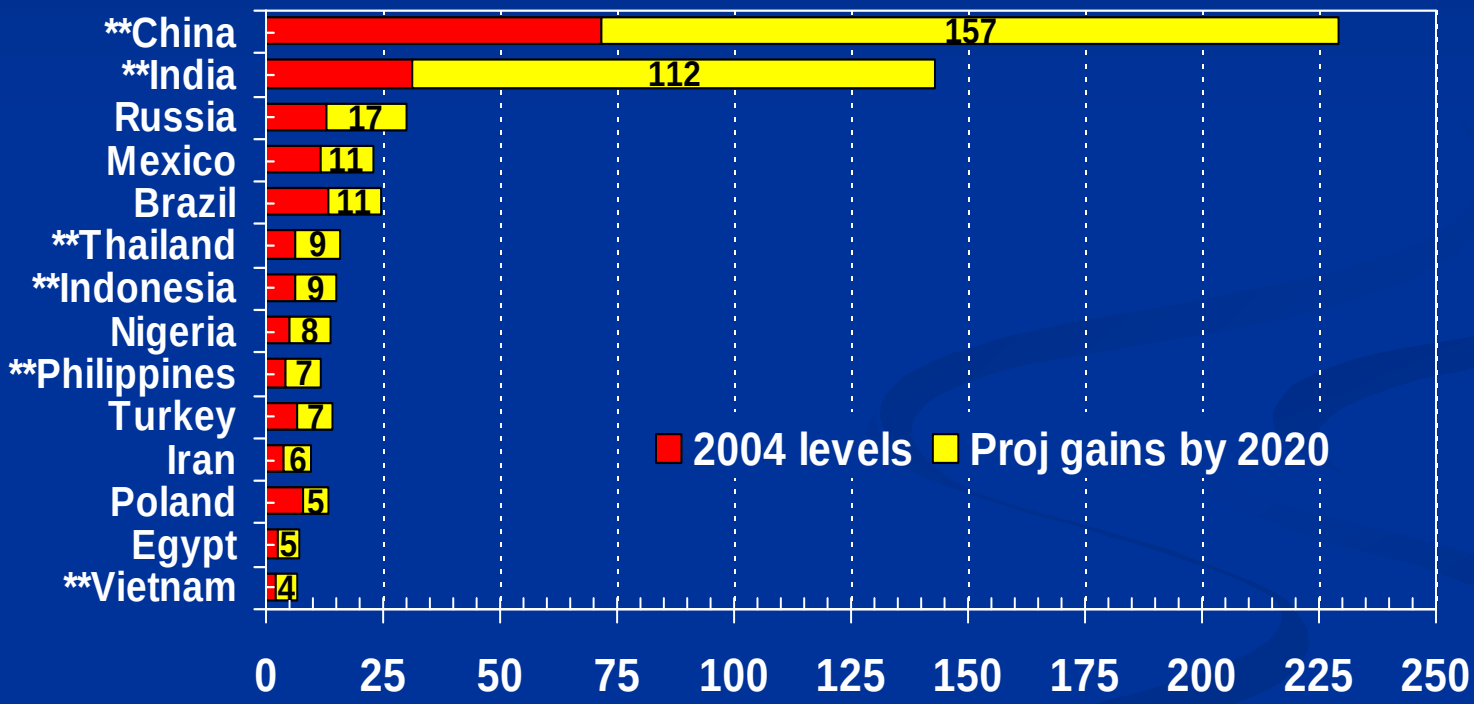
"Middle Class" *Outside the U.S.* Expected to Double By 2020 – supporting strong demand for commodities

24% of households in these countries are middle class. By 2020, this could exceed 50% and the impact on food consumption will be huge

Developing countries with fastest growing "middle class"



Households with real PPP incomes greater than $20,000 (in millions)

Source: Global Insight's Global Consumer Markets data as analyzed by OGA

Responding to Global Food Price Crisis

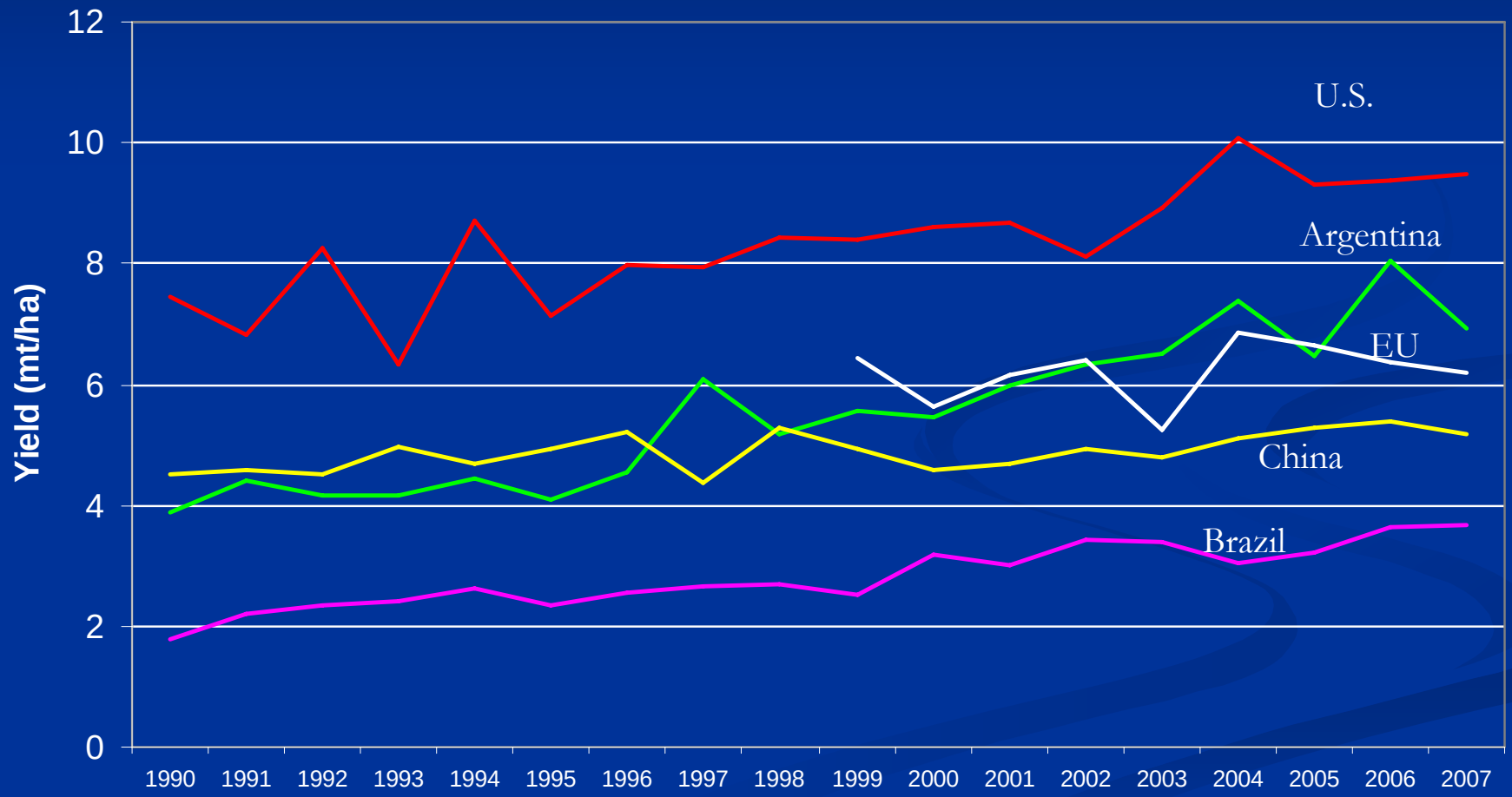
Short-to-medium-term Response

- **Immediate humanitarian assistance**
  - **$200 million drawdown in Bill Emerson Humanitarian Trust**
  - **$395 million in P.L. 480 Title II for emergency food aid**
  - **$225 million in International Disaster Assistance (IDA)**
- **Medium-term response**
  - **$150 million in Development Assistance**
- **Total U.S. international aid = $5 billion in FYs 08 and 09**

Long-term Response

- **Create Efficient Global Market for Agricultural Products**
  - Successful Doha completion is priority
  - Discontinue export restrictions
- **Invest in Agricultural Development**
  - Technological innovations: key to boosting production without constraining limited resources
  - Improve infrastructure and efficiency
  - Ensure credit availability

Corn yields of major producing countries: Huge untapped potential



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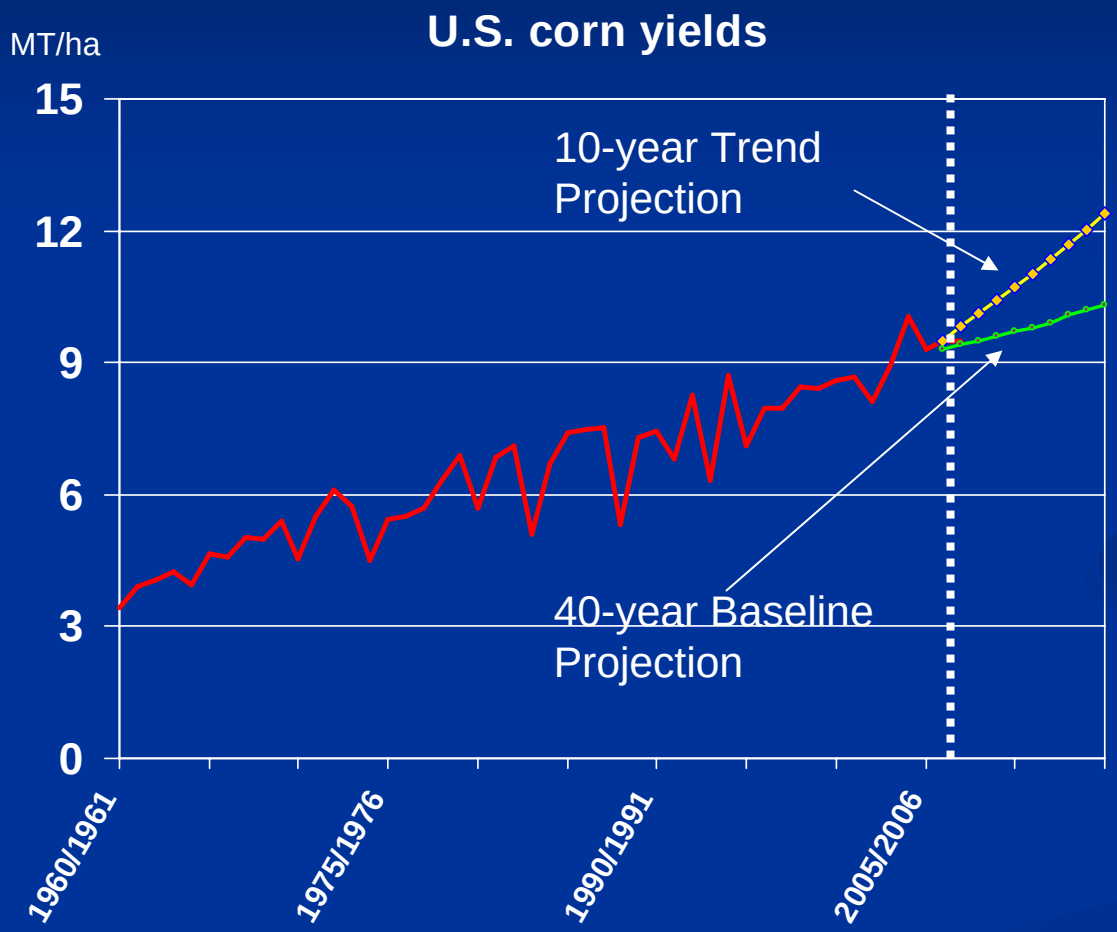
Innovations Has Profoundly Impacted Yields



2008 – 2016 data from USDA Agricultural Baseline Projections; 10-year trend analysis from FAS

- **Technological innovations have *accelerated* the historic yield trend over the last 10 years.**
- **Strong market demand will continue to drive production growth.**

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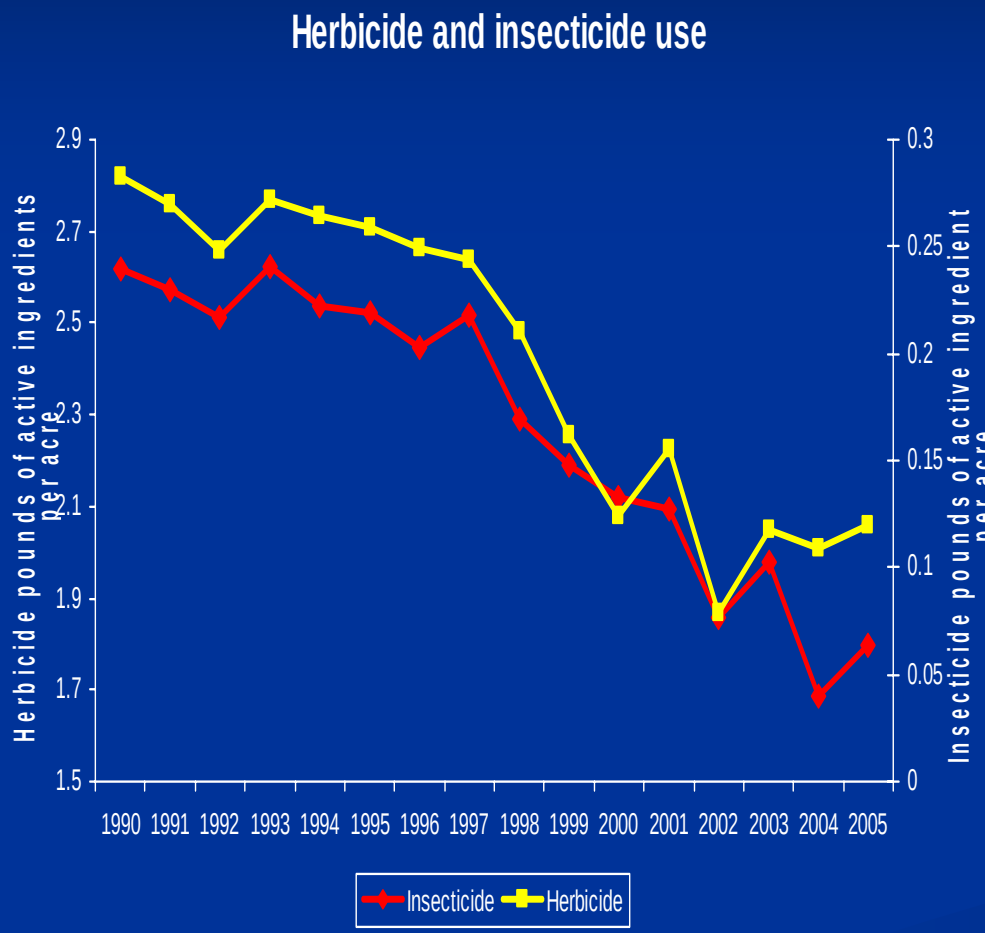
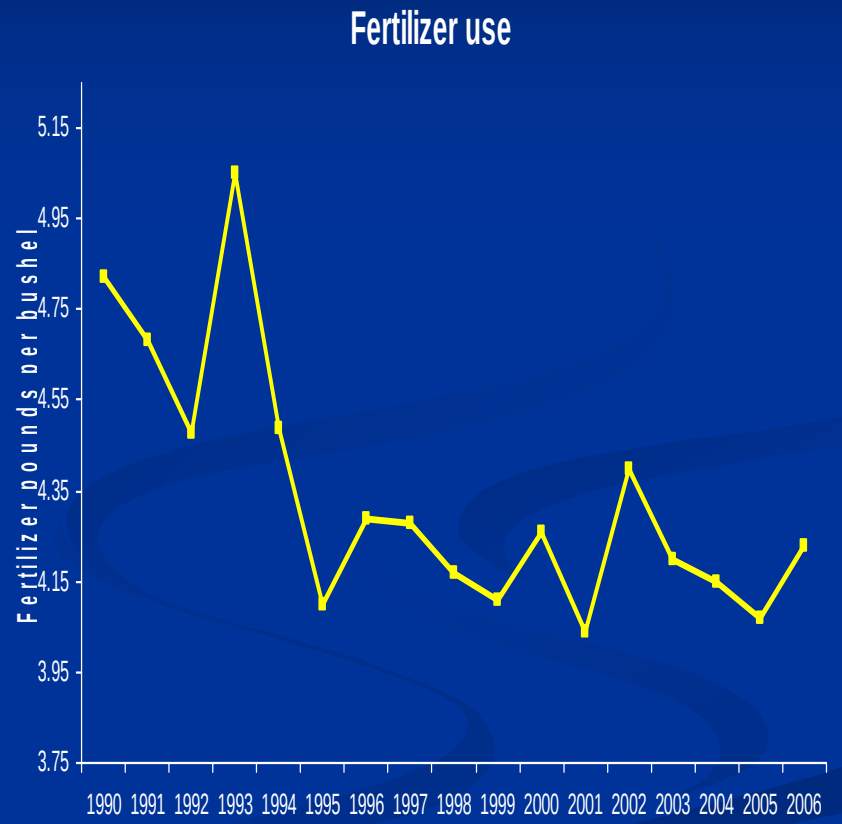
Herbicide, insecticide, and fertilizer usage in U.S. corn production drop significantly



Source: USDA/NASS, Agricultural Chemical Usage Report



Source: USDA/ERS

Prepared by OGA/FAS/USDA

Yield Growth Slows in Developing Countries

- Spending on farming as a share of total public spending in developing countries fell by half between 1980 and 2004
- Yields of main cereal crops increased by 3-6% a year between the 1960s and 1980s
- Annual yield growth now down to 1-2%, below the increase in demand

Source: Economist

Conclusion

- It's not a food crisis—it's a price crisis
- There is no shortage of food, only a shortage of good governance
- Technological innovations boost productivity—key to meeting expanding global demand…
- …while reducing inputs (and pollution)
  - Labor and fuel
  - Insecticides
  - Herbicides
  - Fertilizers