

U.S. Agricultural & Biofuels Policy

Classifying Biofuel Subsidies: Farm Bill and WTO Considerations

12:00 - 1:30 pm, September 14, 2010
Rayburn Office Building, Room B - 340

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Presentation Overview

- **Govt Biofuels Policy Distorts Markets**

- ▶ Typically more expensive than petroleum counterparts, policy lowers the price gap to encourage greater production and use

↳ But biofuels policy is not presently limited under WTO rules

- **Are Biofuels part of U.S. farm policy?**

↳ Types of Biofuels Support:

- Non-Agricultural: Tax credit; mandate; tariff; R&D; infrastructure
- Agricultural: Biomass Crop Asst. Program (BCAP), biomass R&D

↳ Feedstock Linkage

- **What is the implication for Govt Outlays?**

↳ Indirect Price Support

- Raises crop prices; lowers traditional program outlays
- Tax credits are targeted to blenders, not biofuel producers

↳ How to measure the market effect?

↳ Notifications?

Biofuels Policy is Linked to Agriculture by the Feedstock

- **ETHANOL**– an alternative to gasoline, is made by fermenting sugar into alcohol

↳ **Corn (starch):** United States

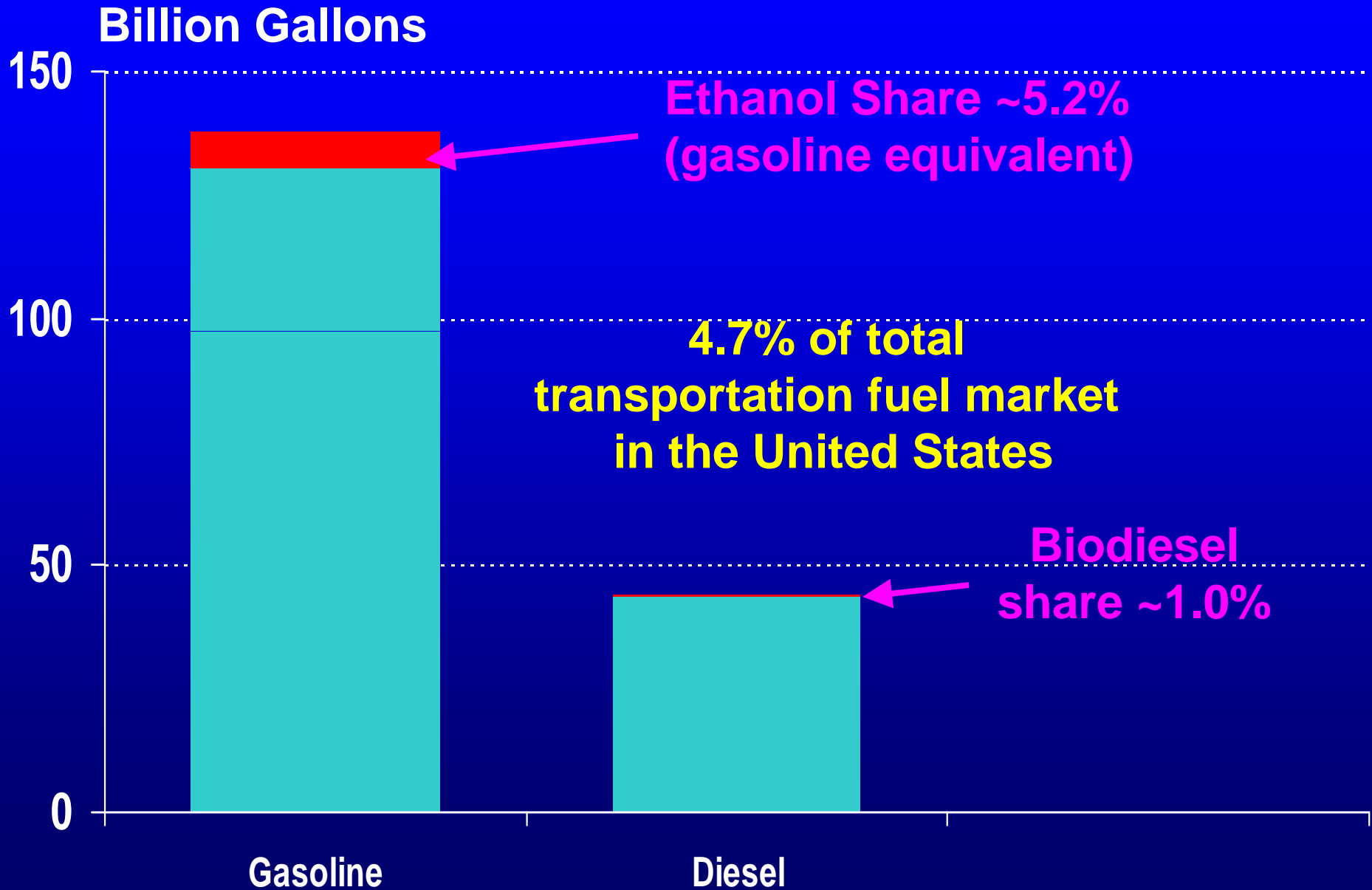
↳ **Sugarcane:** Brazil

- **BIODIESEL**– an alternative to diesel fuel, is made from vegetable oil

↳ **Rapeseed oil:** EU

↳ **Soybean oil:** United States

U.S. Motor Vehicle Fuel Use, 2009



Primary U.S. Biofuel Policies

- **Blenders Tax Credit (TC)**

- ↳ Lowers the cost of ethanol (versus gasoline) to blender
- ↳ Enhances the effect of high oil prices
- ↳ By increasing the demand for ethanol, the TC raises the demand for feedstocks... corn

- **Mandated (RFS) Minimum Usage Requirement**

- ↳ If NOT binding, its effect is null at the margin
- ↳ If binding,
 - guaranteed market reduces risk of investing in biofuel production
 - artificially increases demand and prices for biofuels & their feedstocks

- **Import Tariff on Foreign Ethanol**

- ↳ Raises the cost of acquiring lower-cost foreign-produced ethanol
- ↳ Allows less efficient U.S. biofuel producers to remain competitive

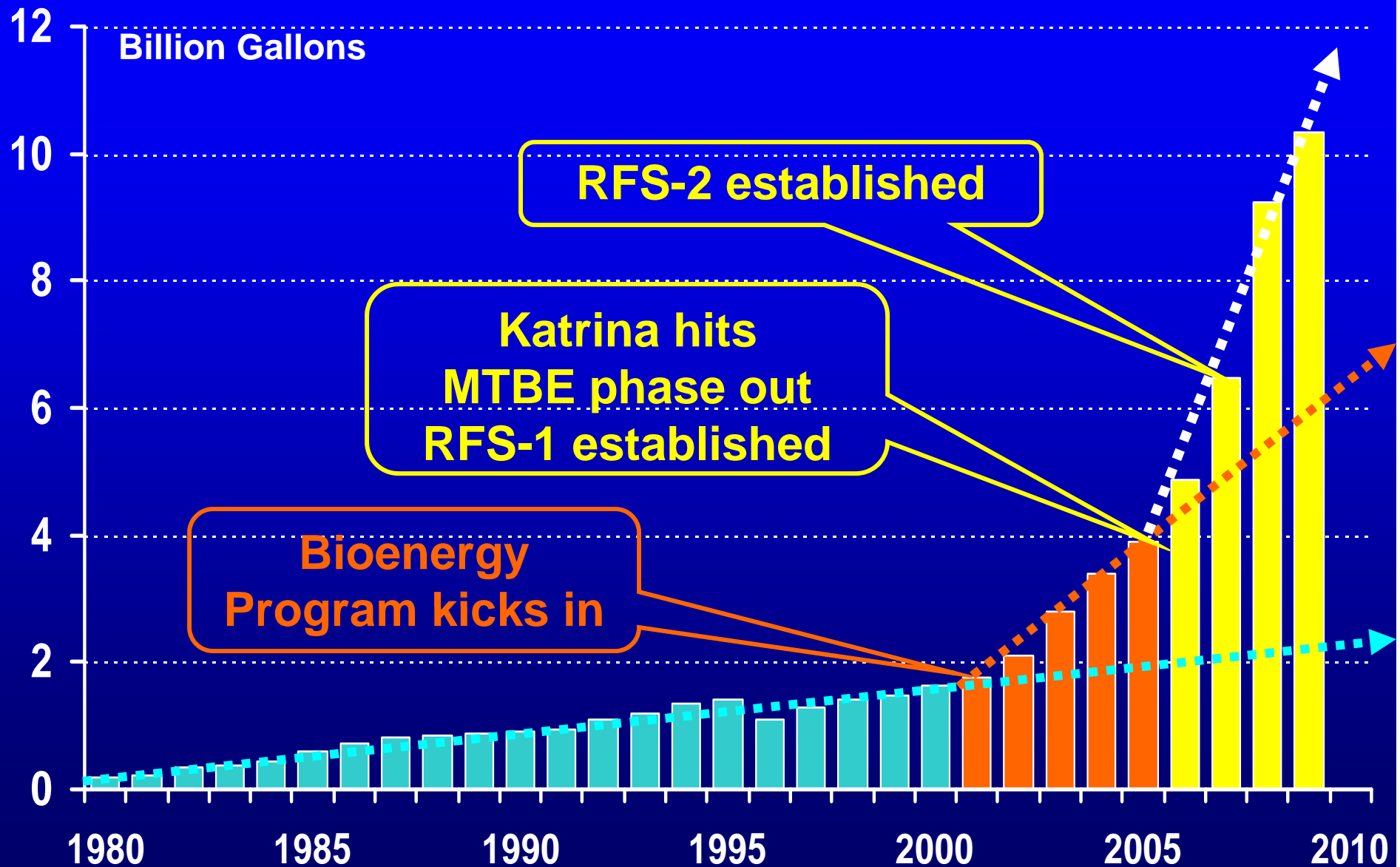
Secondary: U.S. Biofuels Policy

- **Loans, Loan Guarantees, and Grants**
 - ▶ **Research & Development Funds**
 - Feedstocks
 - Processing technology
 - ▶ **Physical Infrastructure**
 - Processing
 - Delivery & Distribution
- **Biomass Crop Assistance Program (BCAP)**
 - ▶ Cost-share payments for biomass crops
- **Farm Programs**
 - ▶ support production of biofuel feedstock crops– corn, soybeans
 - Price support: Marketing loan program
 - Income support: Counter-cyclical program + ACRE
 - Risk reduction: Crop Insurance + SURE provides
 - Additional support: Extension and research

Key Federal Legislation that Supports Biofuels... it's not just Farm Policy

- **2002 Farm Bill (P.L. 107-171)**
 - ▶ First Energy Title; funded Bioenergy Program
- **Energy Policy Act of 2005 (P.L. 109-58)**
 - ▶ Established first mandate (RFS-1) of 7.5 billion gallons by 2012
- **Energy Independence and Security Act of 2007 (EISA, P.L. 110-140)**
 - ▶ Expanded mandate (RFS-2) to 36 billion gallons by 2022.
- **2008 Farm Bill (P.L. 110-246)**
 - ▶ Several energy-related provisions– grants, loans, and loan guarantees

Rate of U.S. Ethanol Production



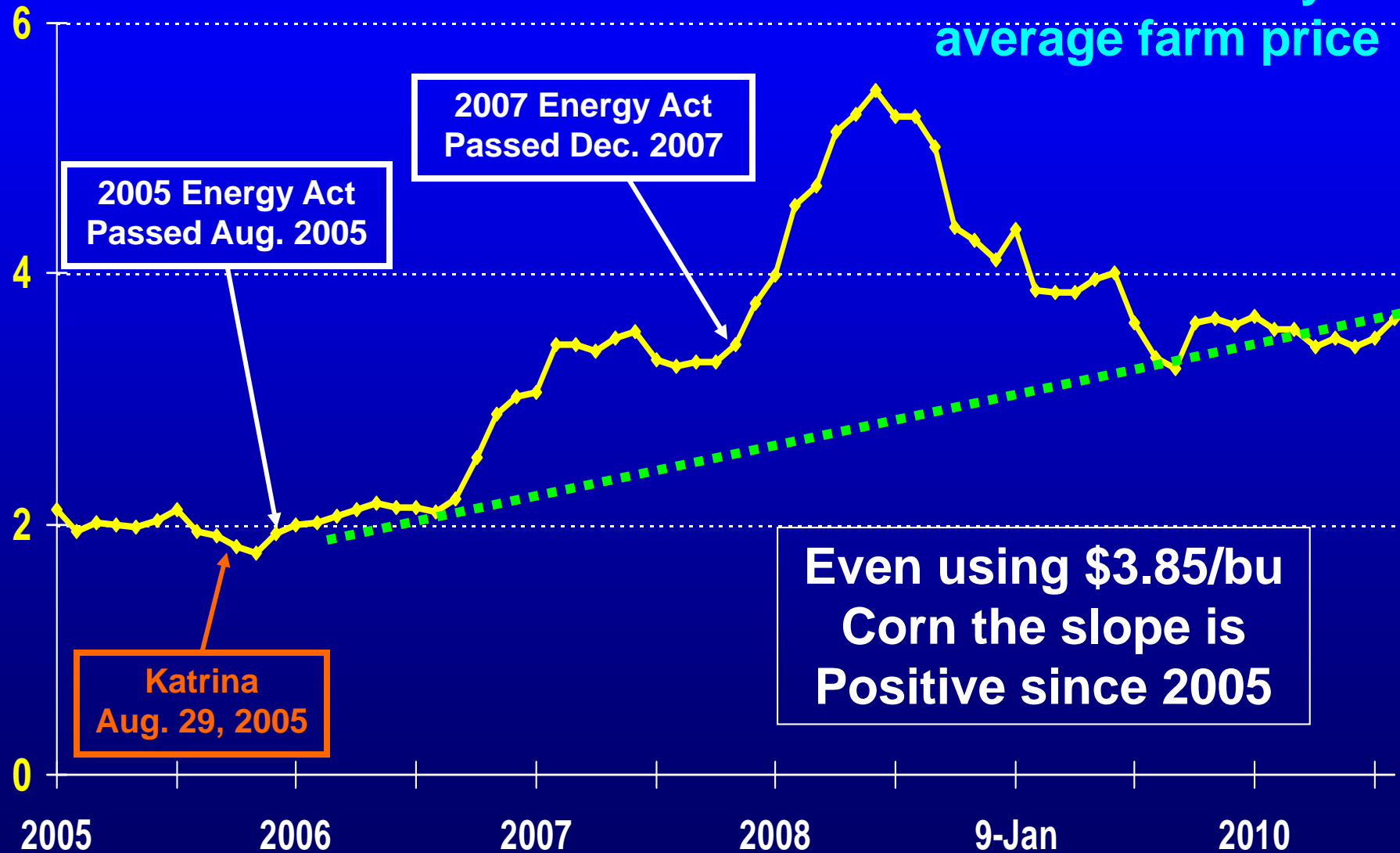
Source: Actual production data from Renewable Fuels Association.

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Biofuels Policy Have Clearly Supported Corn Price

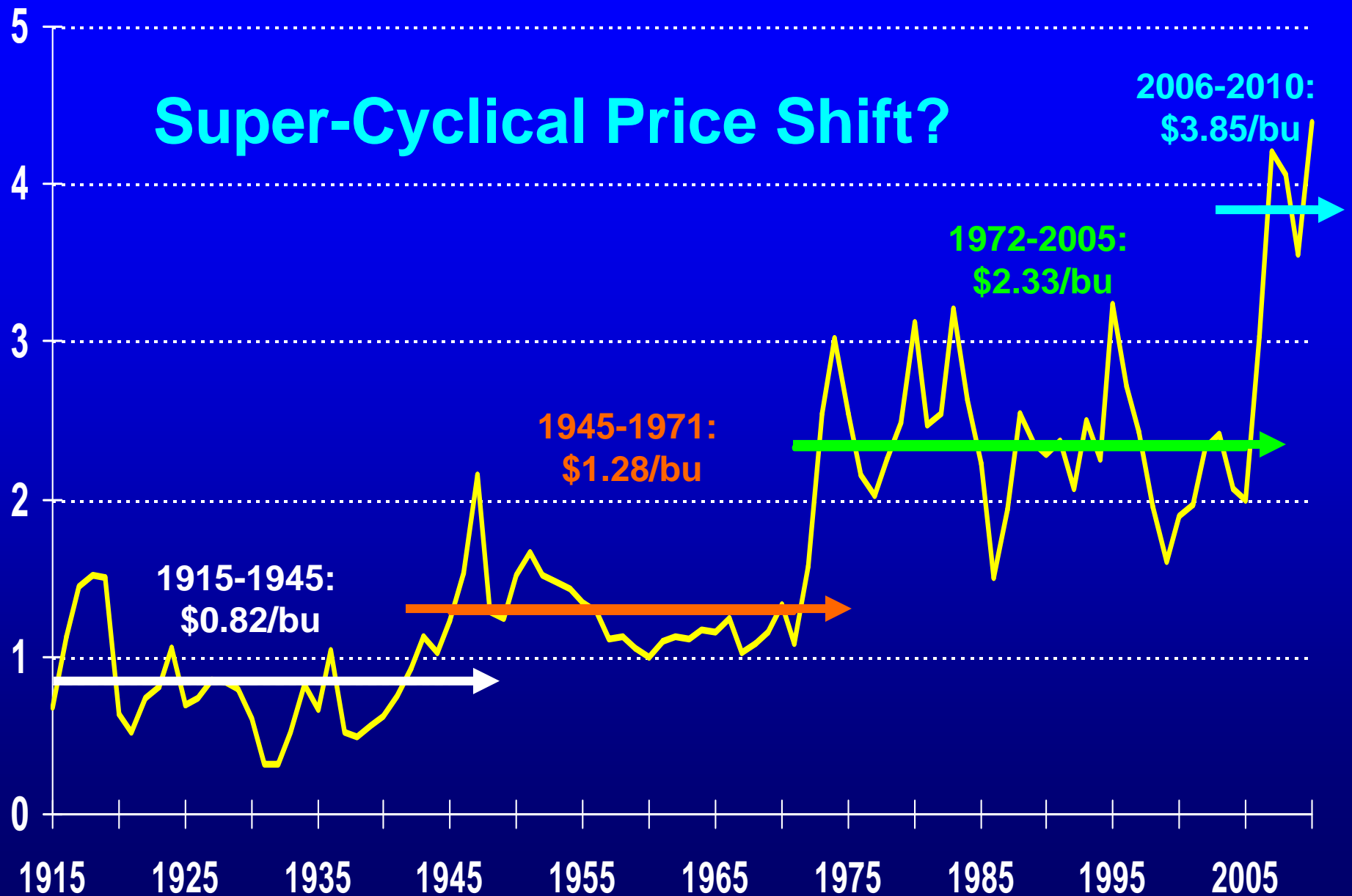
\$ per bushel

Corn: monthly average farm price



Source: USDA, NASS; regular, unleaded U.S. city average gasoline prices, EIA, DOE.

\$ per bu. Have Corn Prices Moved to a New Plateau?



Ethanol Production Capacity Expands due to Profit Outlook...

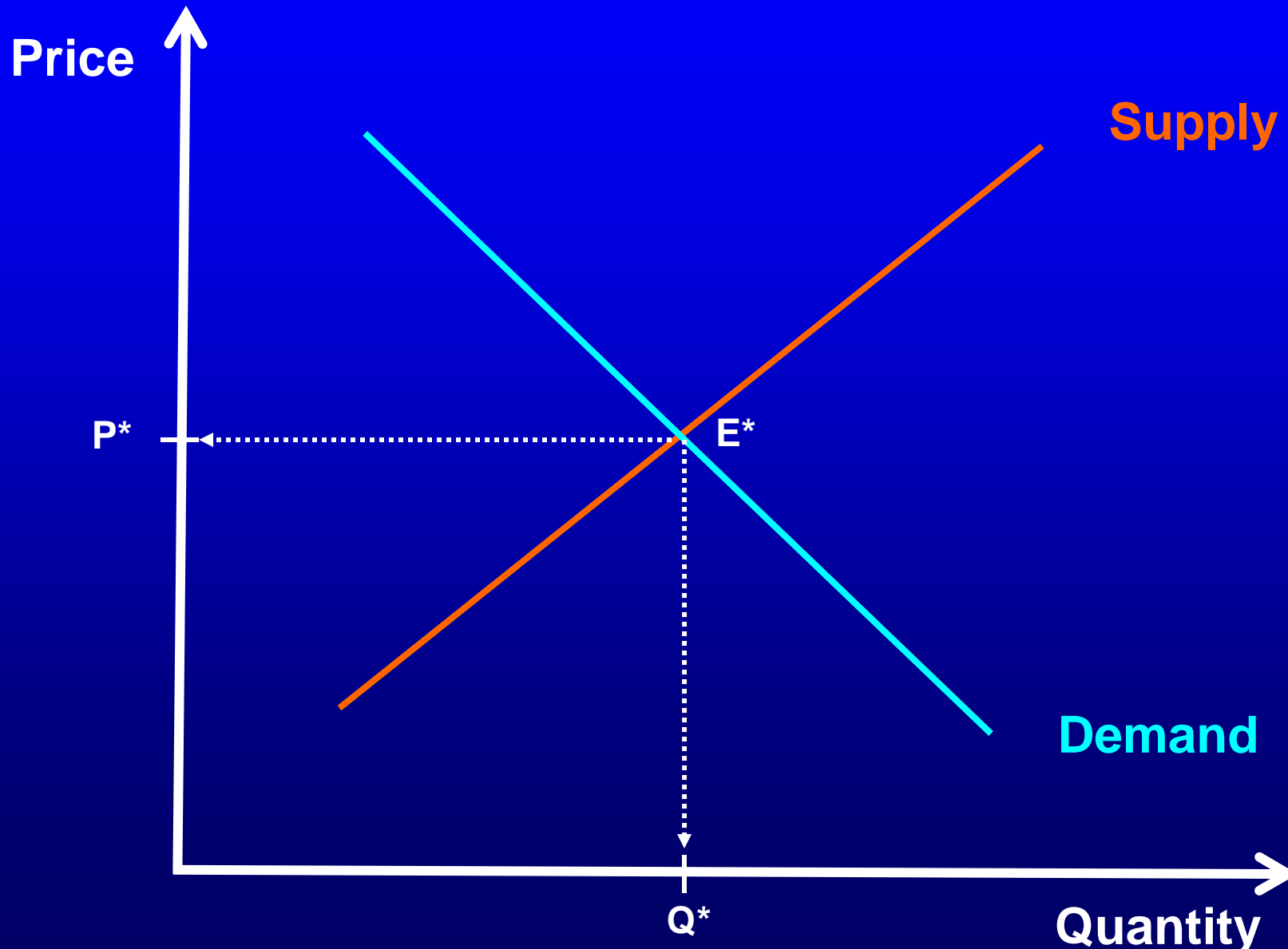
- **Market forces Impact biofuel feedstocks indirectly by changing demand for biofuels**
 - ▶ **U.S. Govt Biofuel Incentives + High oil prices**
 - ↳ high ethanol price → new prod. Capacity
 - ↳ more corn demand → higher corn prices
- **Once built, ethanol capacity will continue to operate if: revenue > operating costs**

Biofuels Market Dynamics can be Very Complex

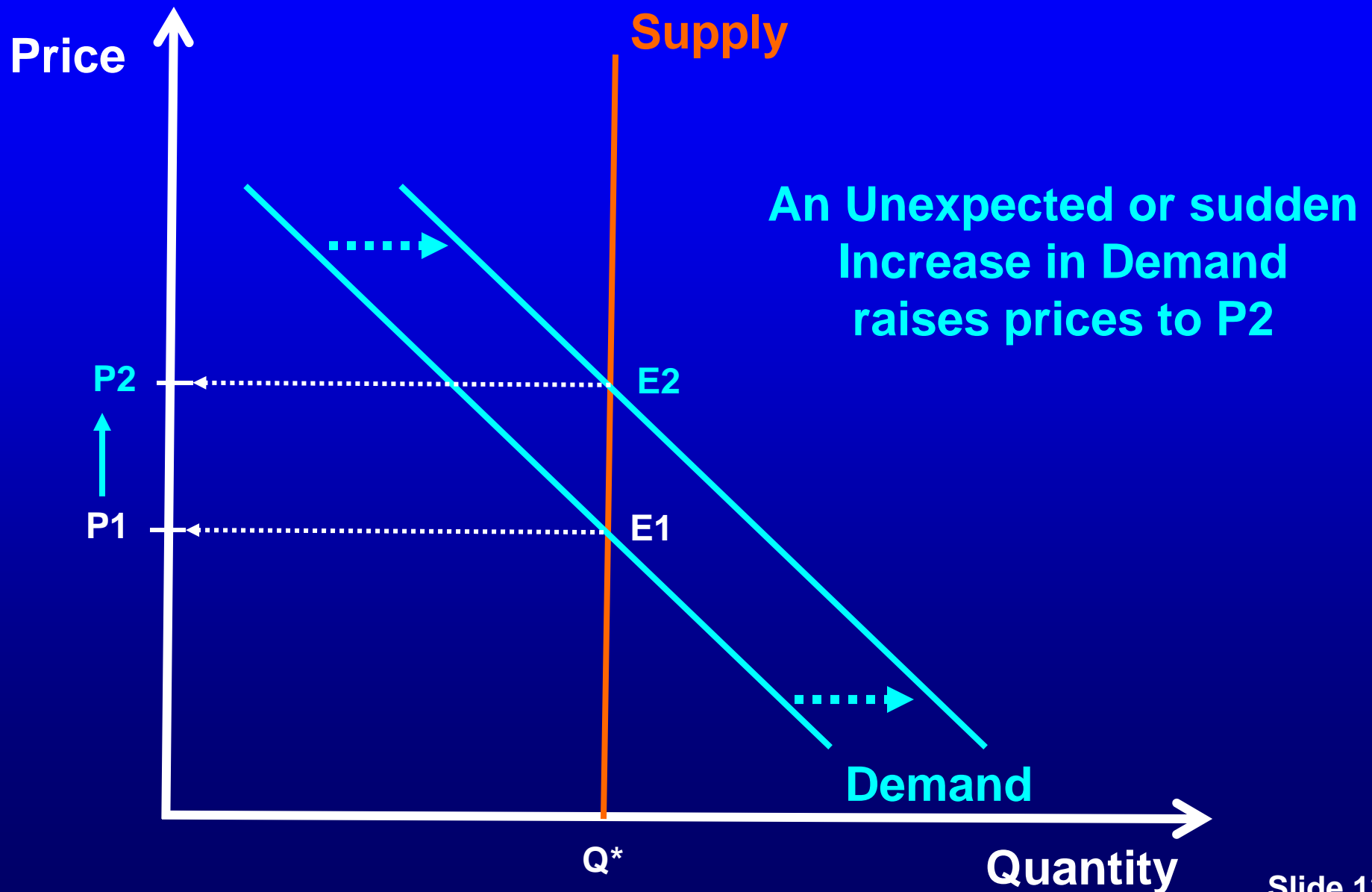
↳ High corn prices → high production costs

↳ High protein feed by-product → advantageous to local livestock

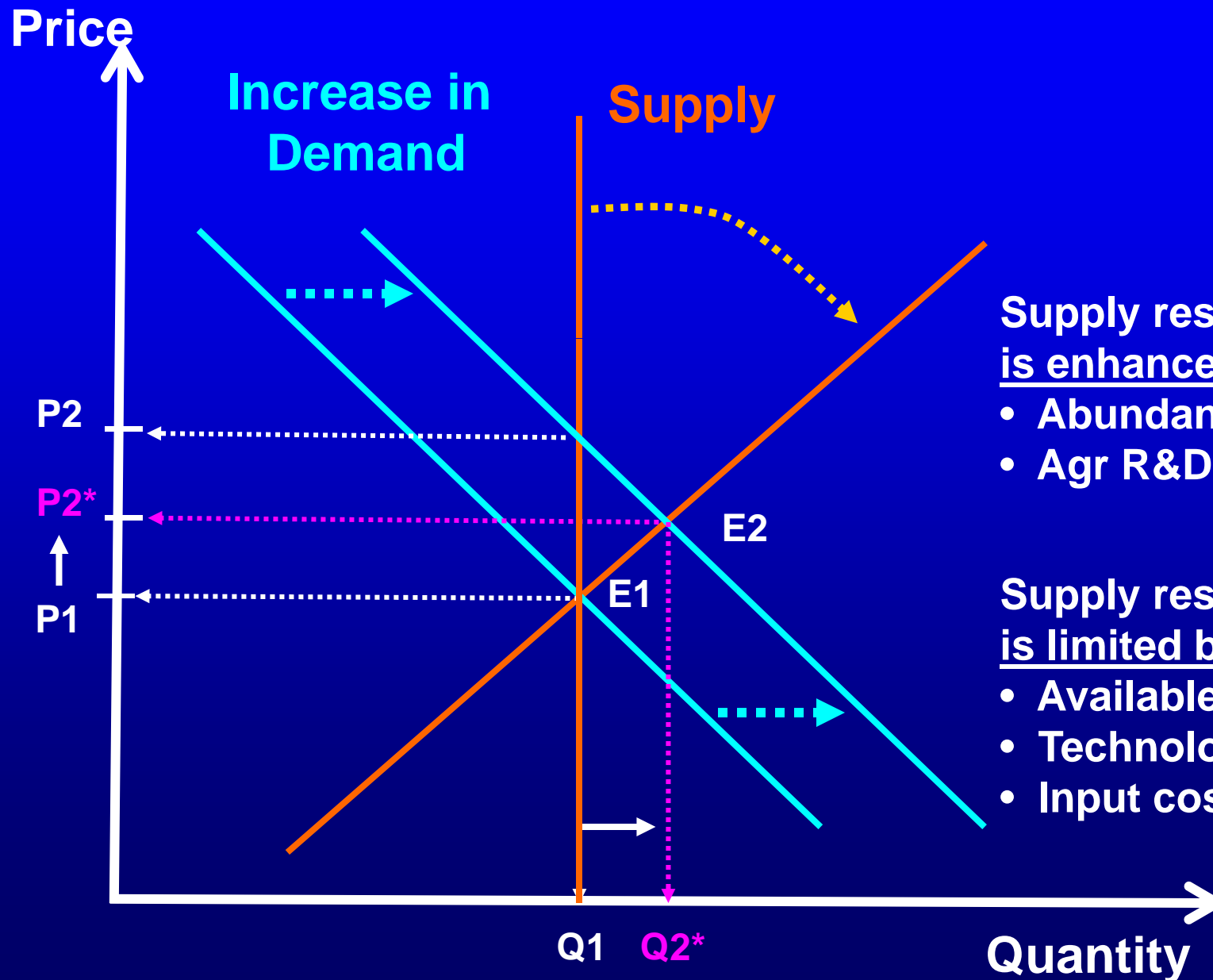
Consider Traditional Supply & Demand Intersection at Equilibrium P^* and Q^*



In the Very Short-Term Supply is Fixed



Over longer time period Supply responds to market incentives and policy, lowering price impact



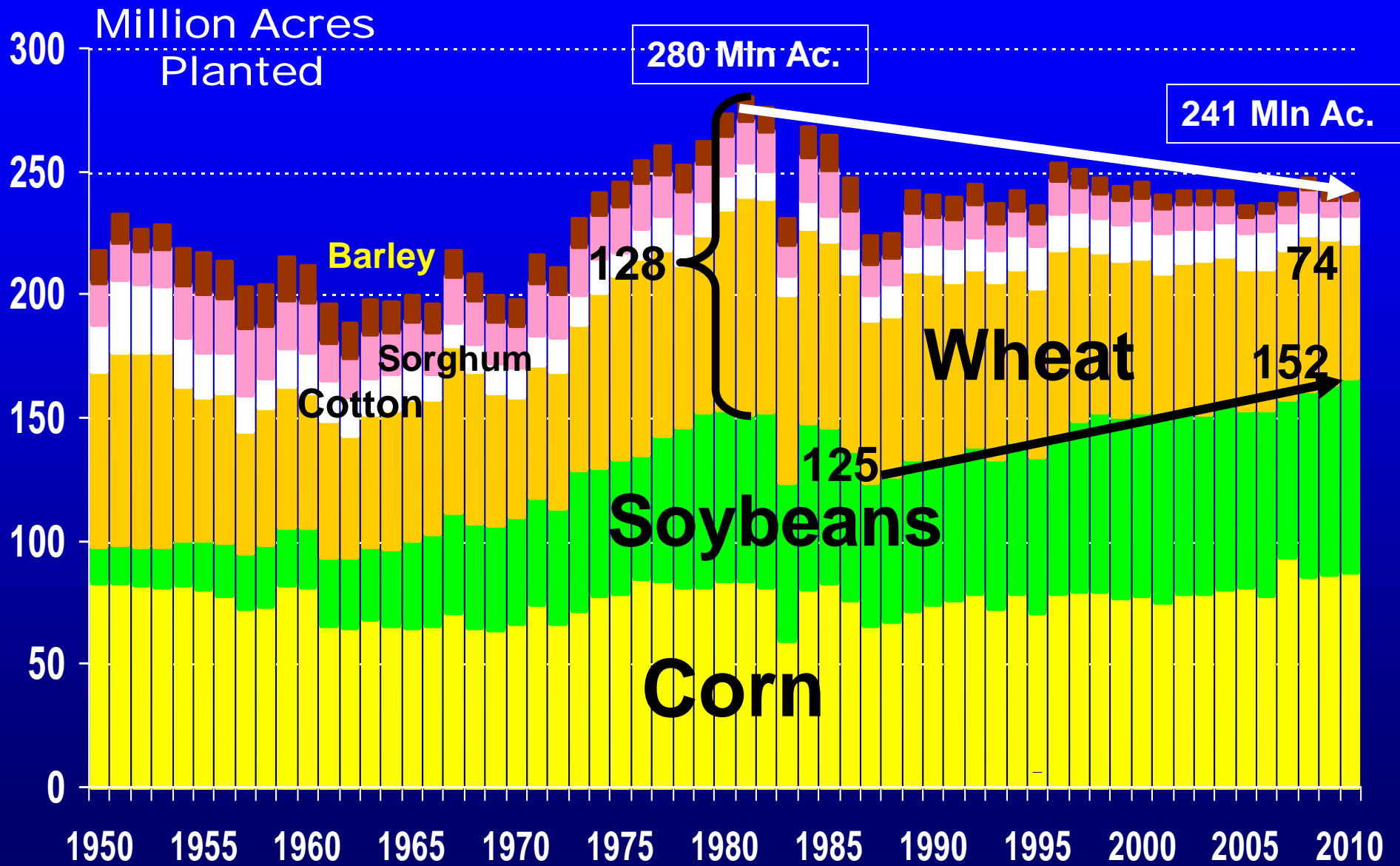
Supply responsiveness is enhanced by _____:

- Abundant substitutes
- Agr R&D Policy

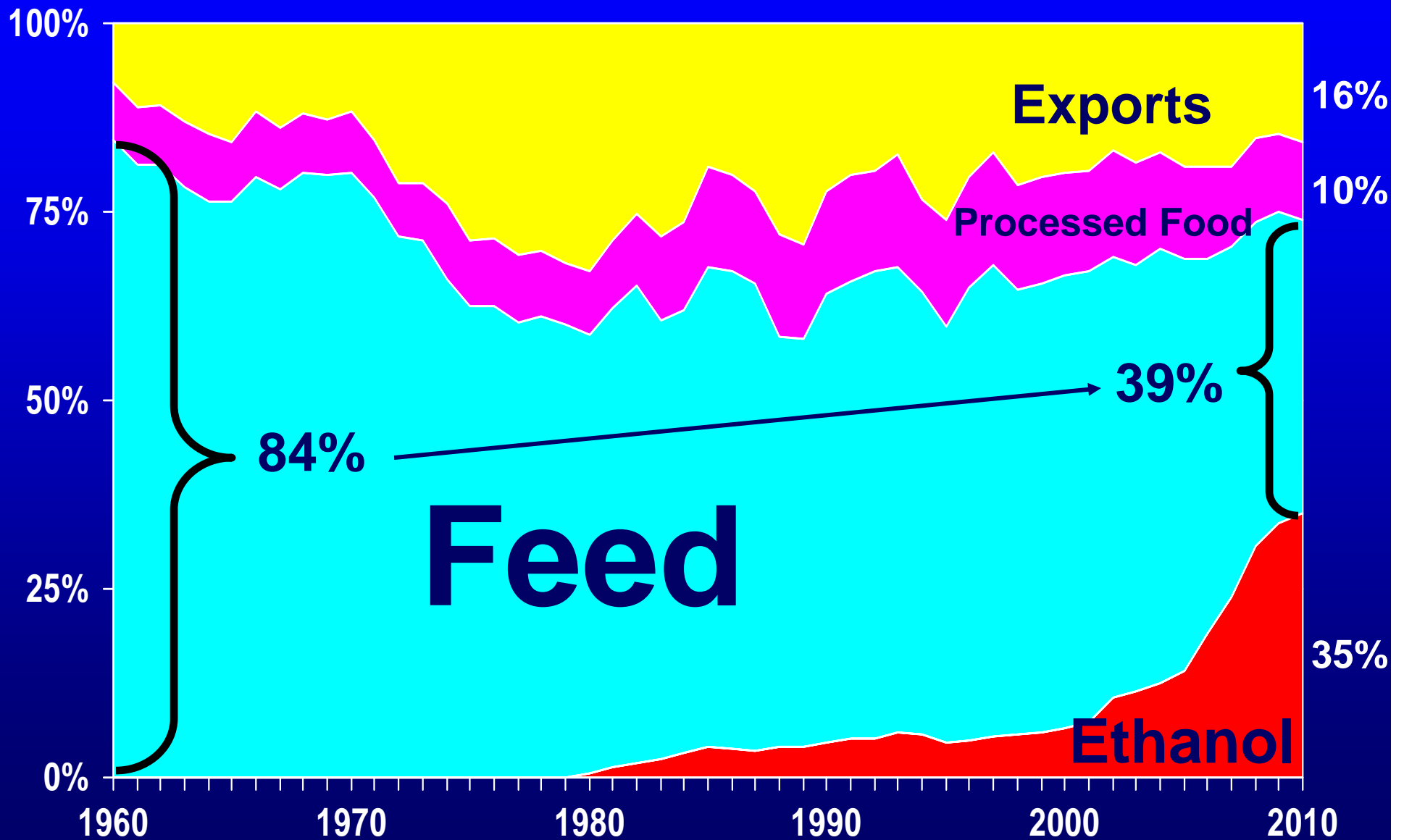
Supply responsiveness is limited by _____:

- Available land
- Technology
- Input costs

U.S. Planted Area: 6 Major Crops



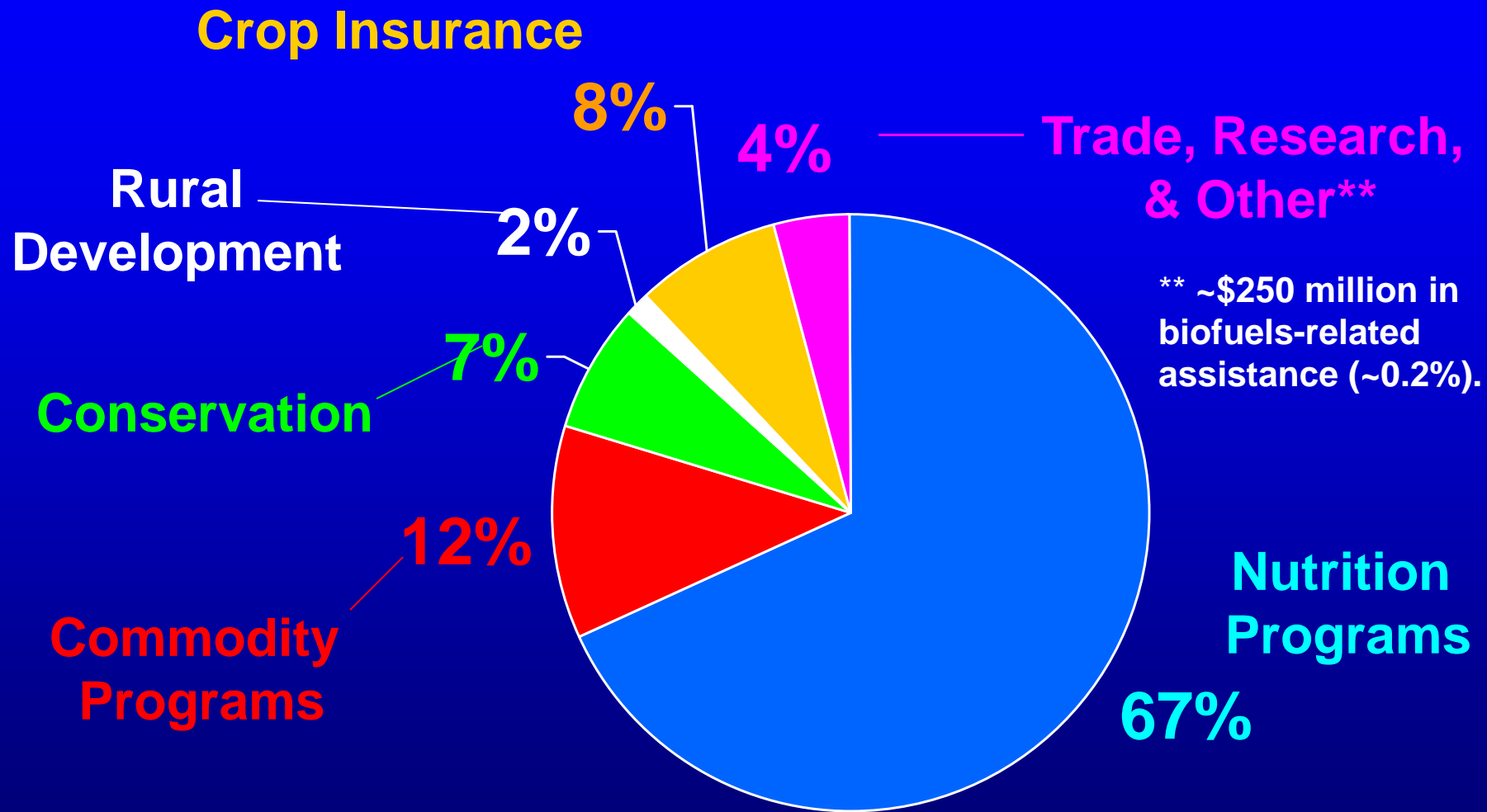
Ethanol Uses an Increasing Share of U.S. Corn Production



Source: USDA, Sept. 10, 2010.

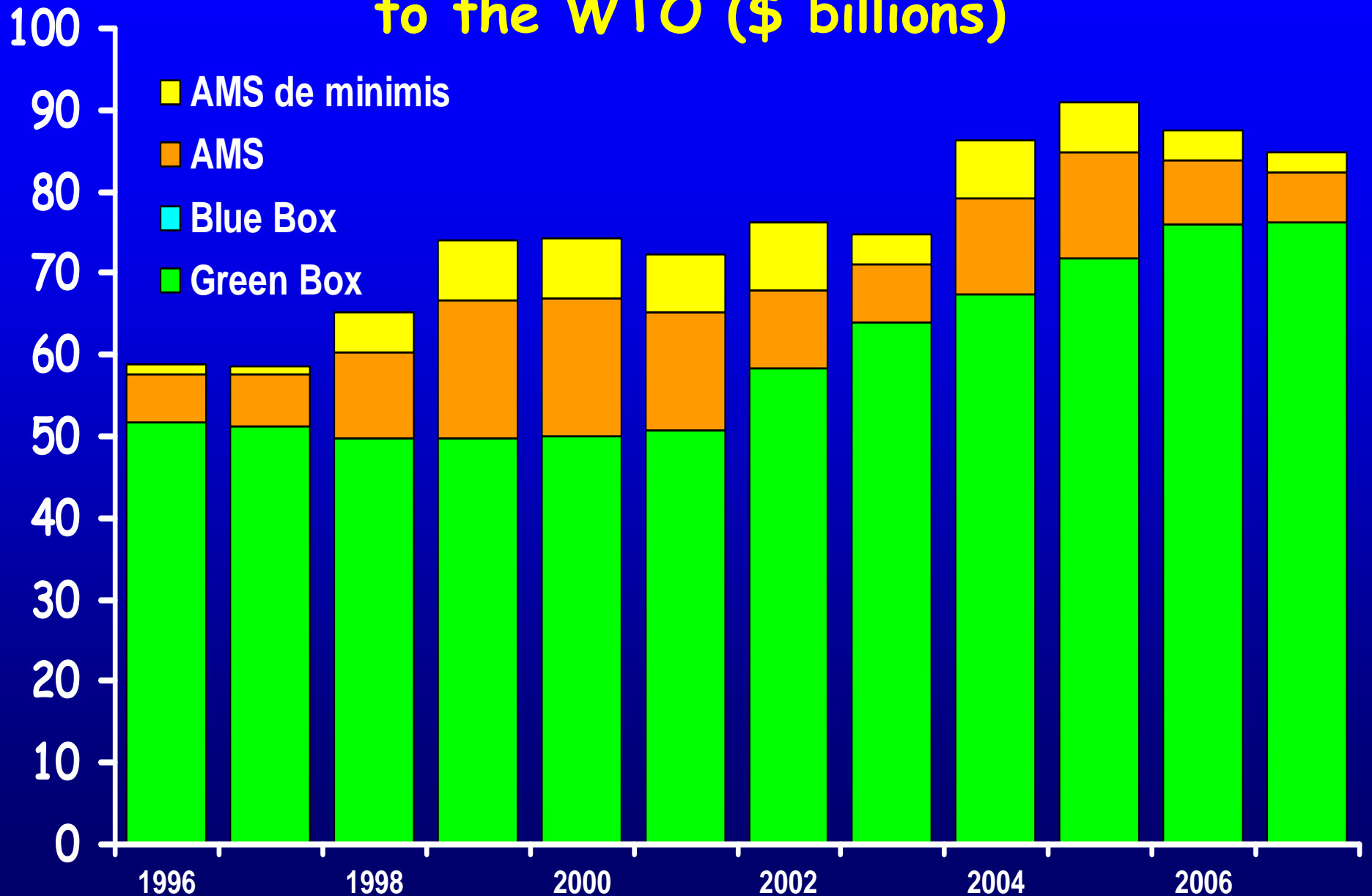
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USDA's Spent \$114.4 Billion in 2009*



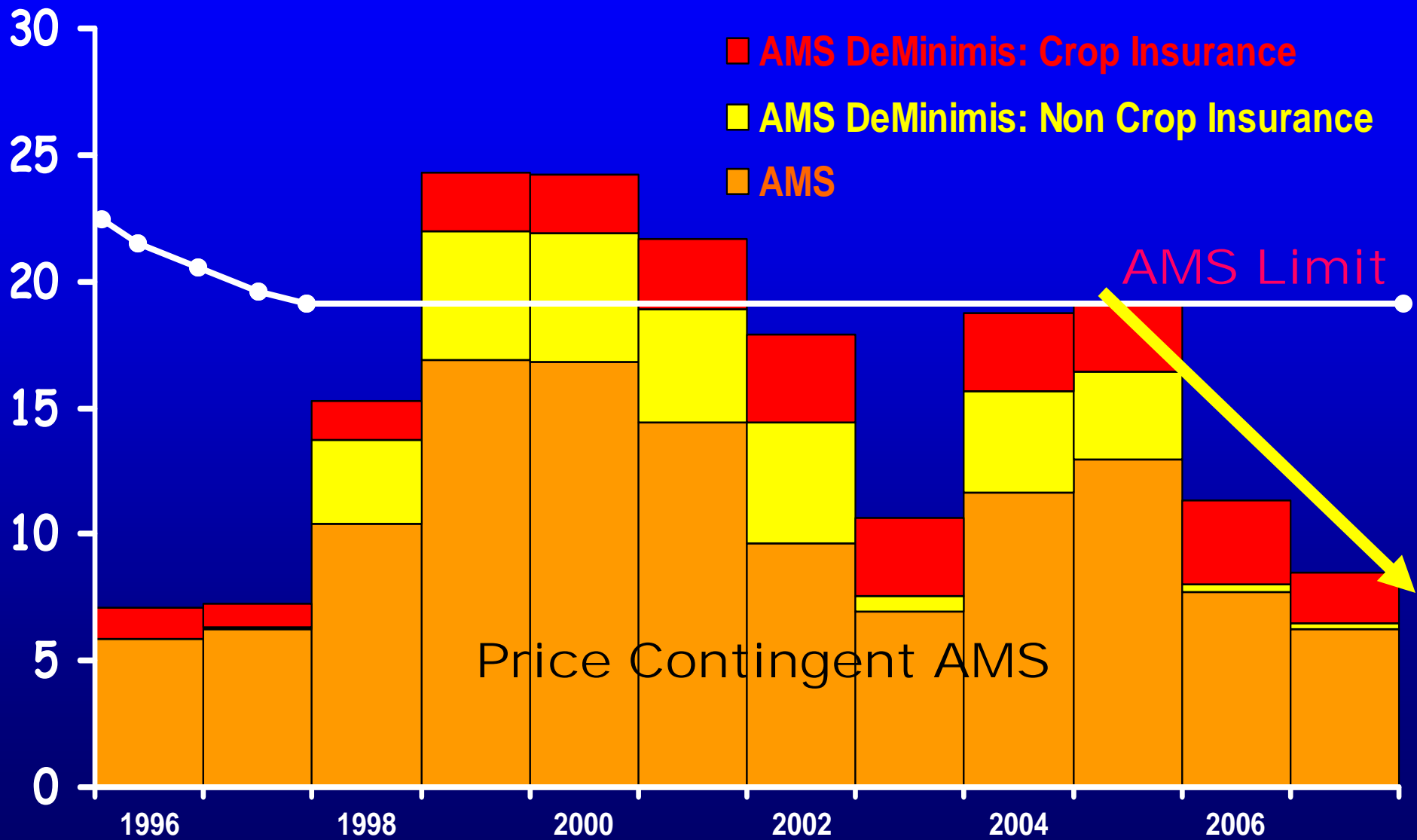
*Includes \$3.6 billion in offsetting receipts; \$108.3 billion was initially authorized. Conservation includes Forestry Outlays. Source: USDA, FY2011 Budget Summary.

U.S. Farm Program Outlays as Notified to the WTO (\$ billions)



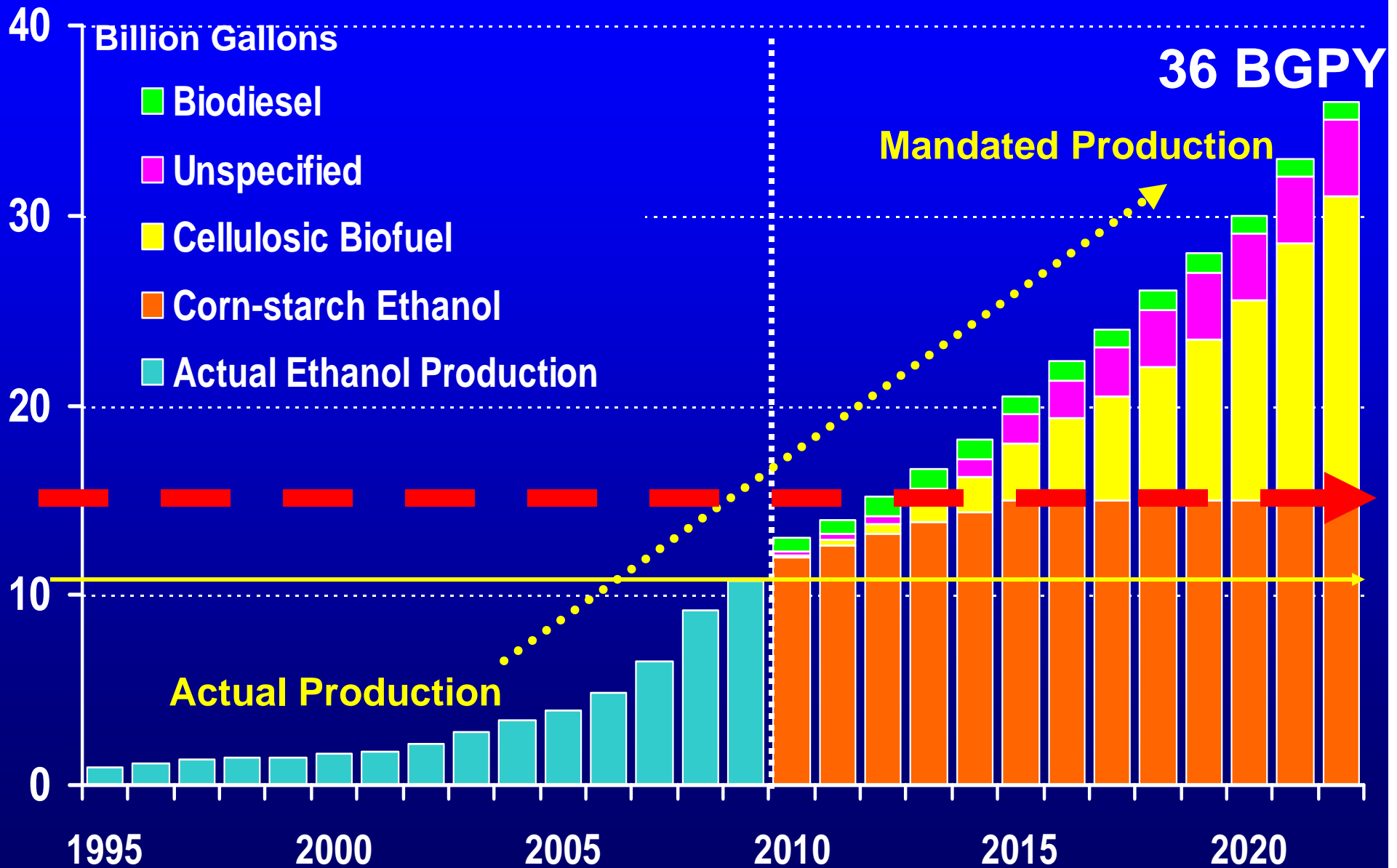
*Source: WTO notifications.

U.S. Farm Program Outlays (non-Green Box) as Notified to the WTO (\$ billions)



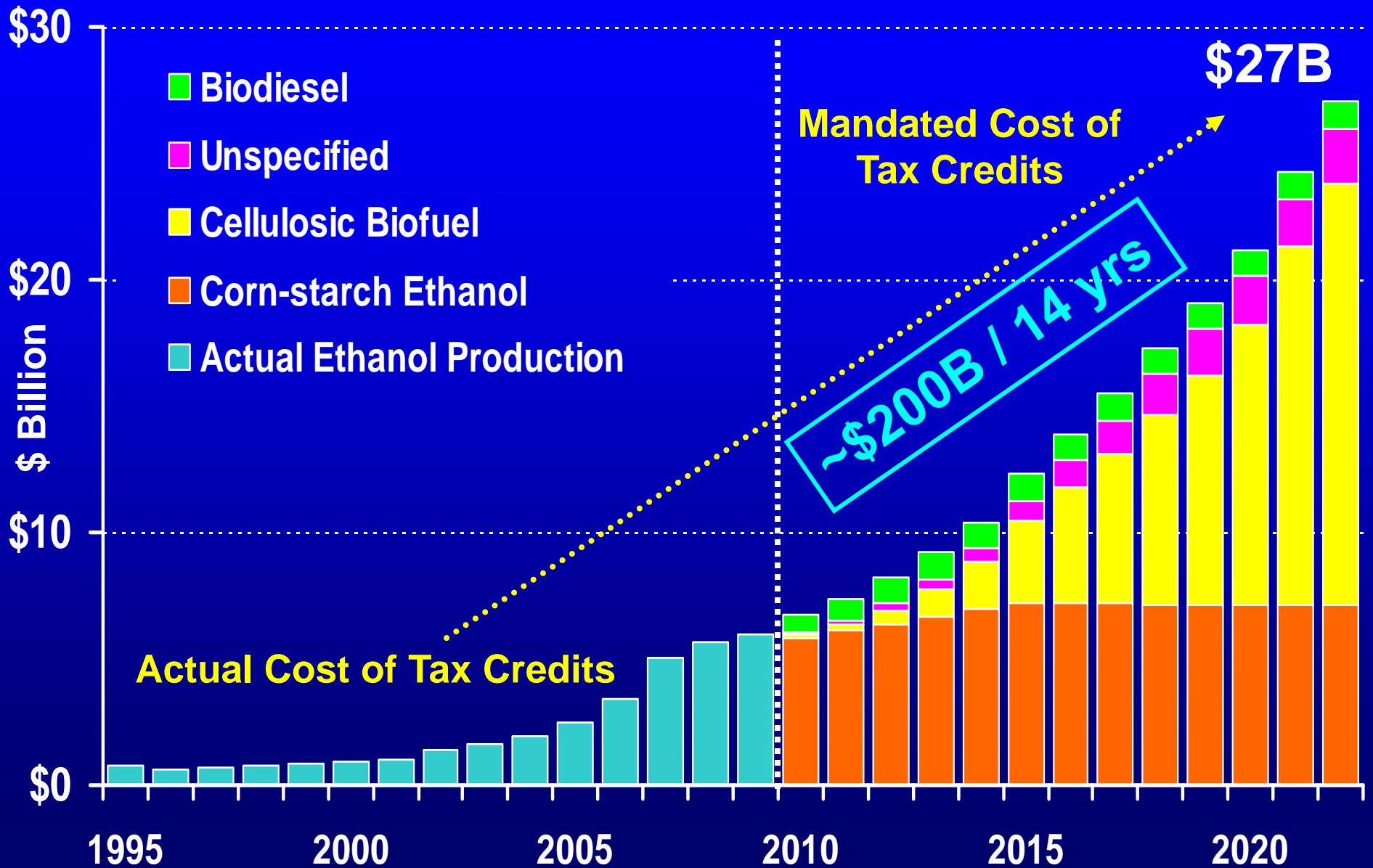
*Source: WTO notifications; and USDA, RMA, Summary of Business data.

Biofuel Prod-- Renewable Fuel Standard (RFS-2)*



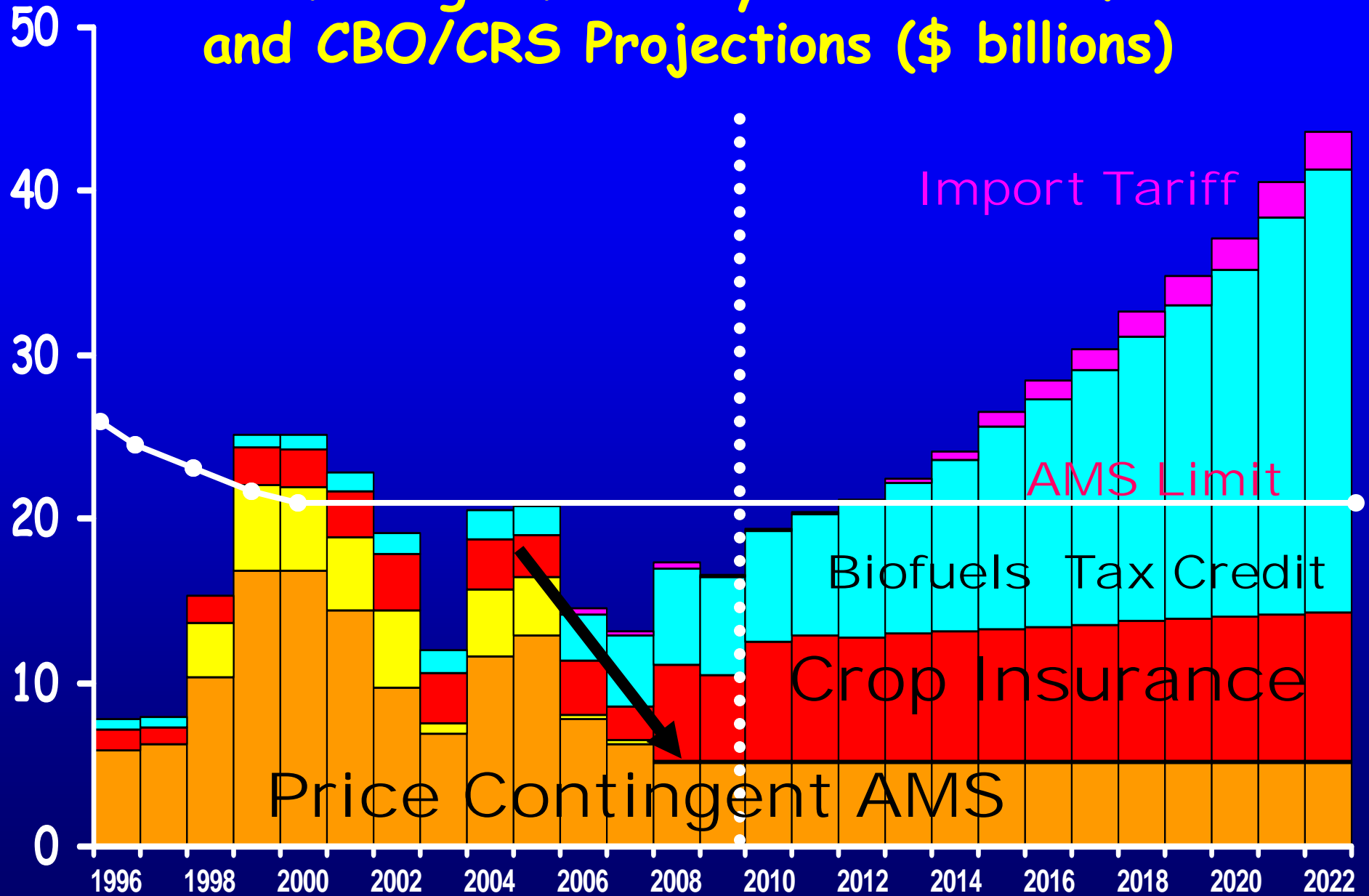
*Under the EISA of 2007 (PL 110-140) the enlarged and extended RFS starts in 2008 with 9 billion gallons. Slide 20

Annual Cost of RFS-2 Mandated Tax Credits*



*Assumes that all expiring tax credits are extended through 2022.

U.S. Farm Program Outlays: WTO Notifications and CBO/CRS Projections (\$ billions)



Summary: U.S. Biofuels Policy

- **Higher commodity prices →**
 - ▶ lower farm program payments as biofuels subsidies substitute for traditional price supports
 - ▶ Distort commodity, land, & environmental markets
- **How do WTO Members want to treat biofuels subsidies?**
 - ▶ Exclude from AMS entirely
 - ▶ Green with no limits?
 - ▶ Blue with some limits?
 - ▶ AMS with hard limits?

For More Information on U.S. Farm and Biofuel Programs...

- Contact me directly at:
 - ▶ Randy Schnepf, 7-4277, rschnepf@crs.loc.gov
- CRS Reports
 - ▶ RL41282— Agriculture-Based Biofuels: Overview+Emerging Issue
 - ▶ R40110 — Biofuels Incentives: A Summary of Federal Programs
 - ▶ R40155 — Renewable Fuel Standard (RFS): Overview & Issues
 - ▶ RL34130— Renewable Energy Programs in the 2008 Farm Bill
 - ▶ R41296 — Biomass Crop Assistance Program (BCAP): Status and Issues
 - ▶ R41317 — Farm Safety Net Programs: Issues for the Next Farm Bill
 - ▶ RL34394— Farm Commodity Programs in the 2008 Farm Bill