

Impacts of Biofuels on the South



Dwi Susanto & Parr Rosson: Texas AgriLife Research &
Texas AgriLife Extension, respectively

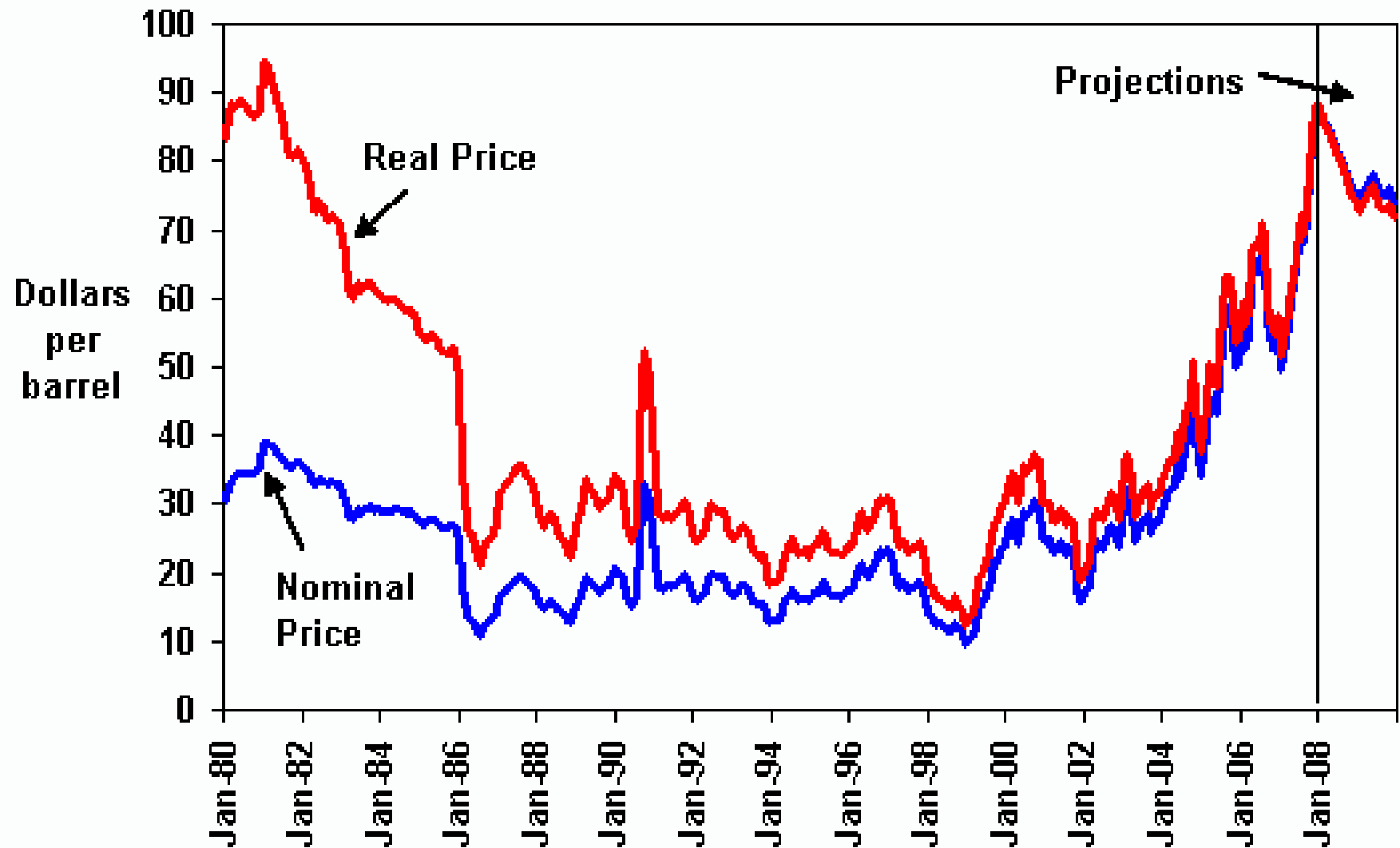
Darren Hudson: Mississippi State University

SAEA Annual Meeting 2008

Background

- ◆ High Oil Prices
- ◆ Rising Output & Demand for Ethanol
- ◆ Trends in production of crops & animals
- ◆ Southern States: Grain deficit region, but major producer of animals
- ◆ Energy Policy

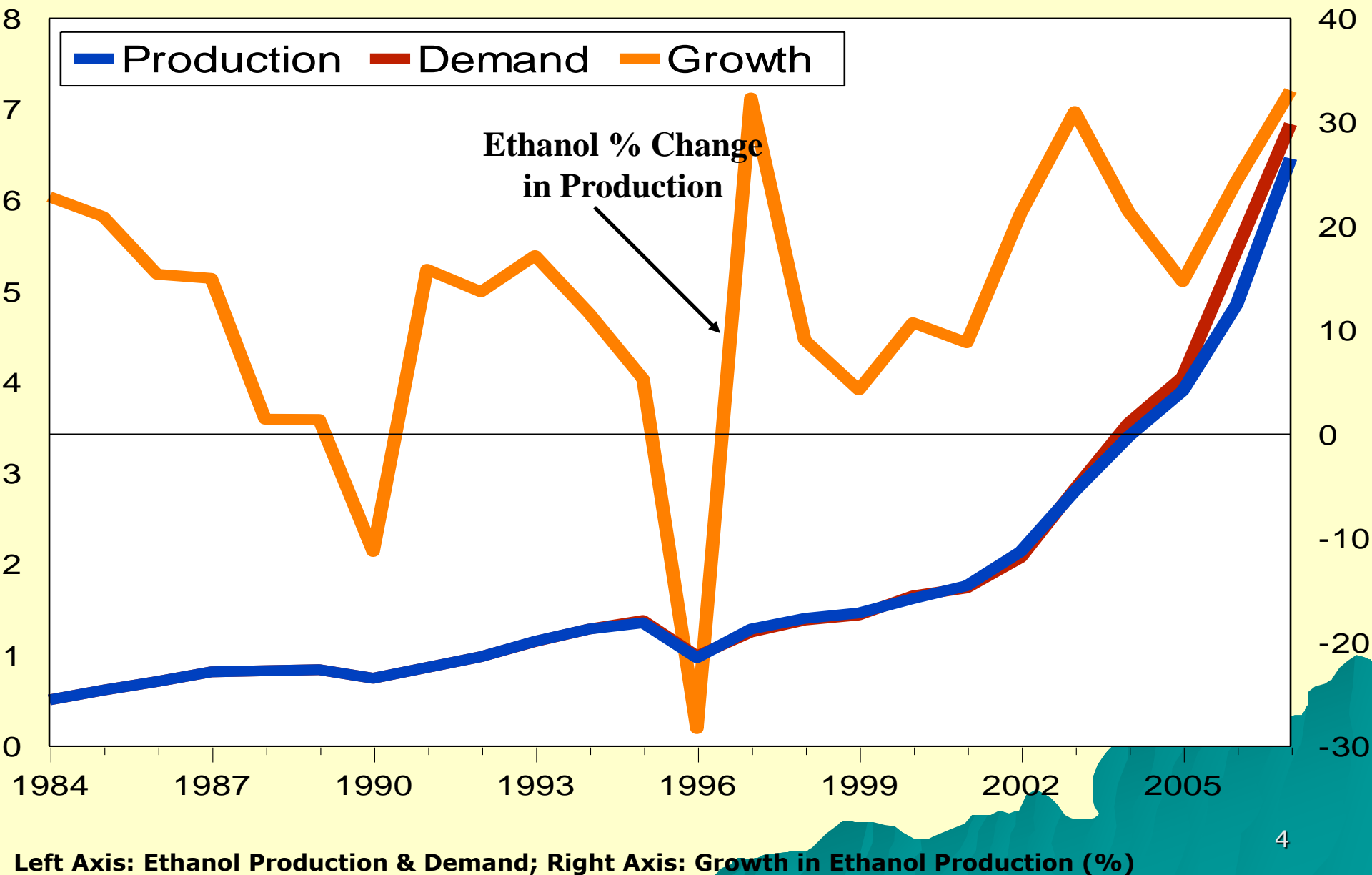
Imported Crude Oil Prices: Nominal and Real



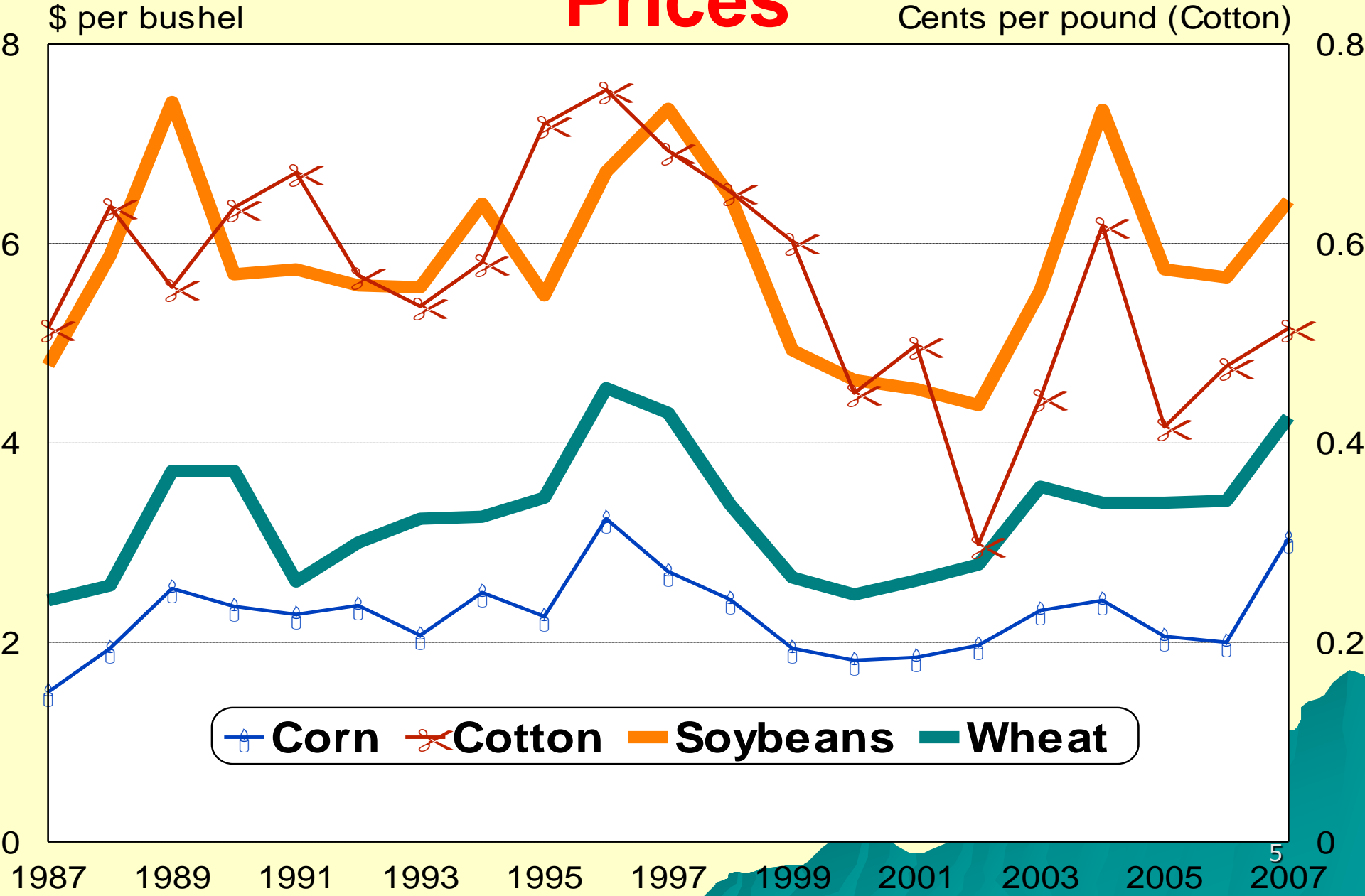
Short Term Energy Outlook-January 2008

Ethanol: Production, Demand, and Growth

(Billion Gallons & Percent)

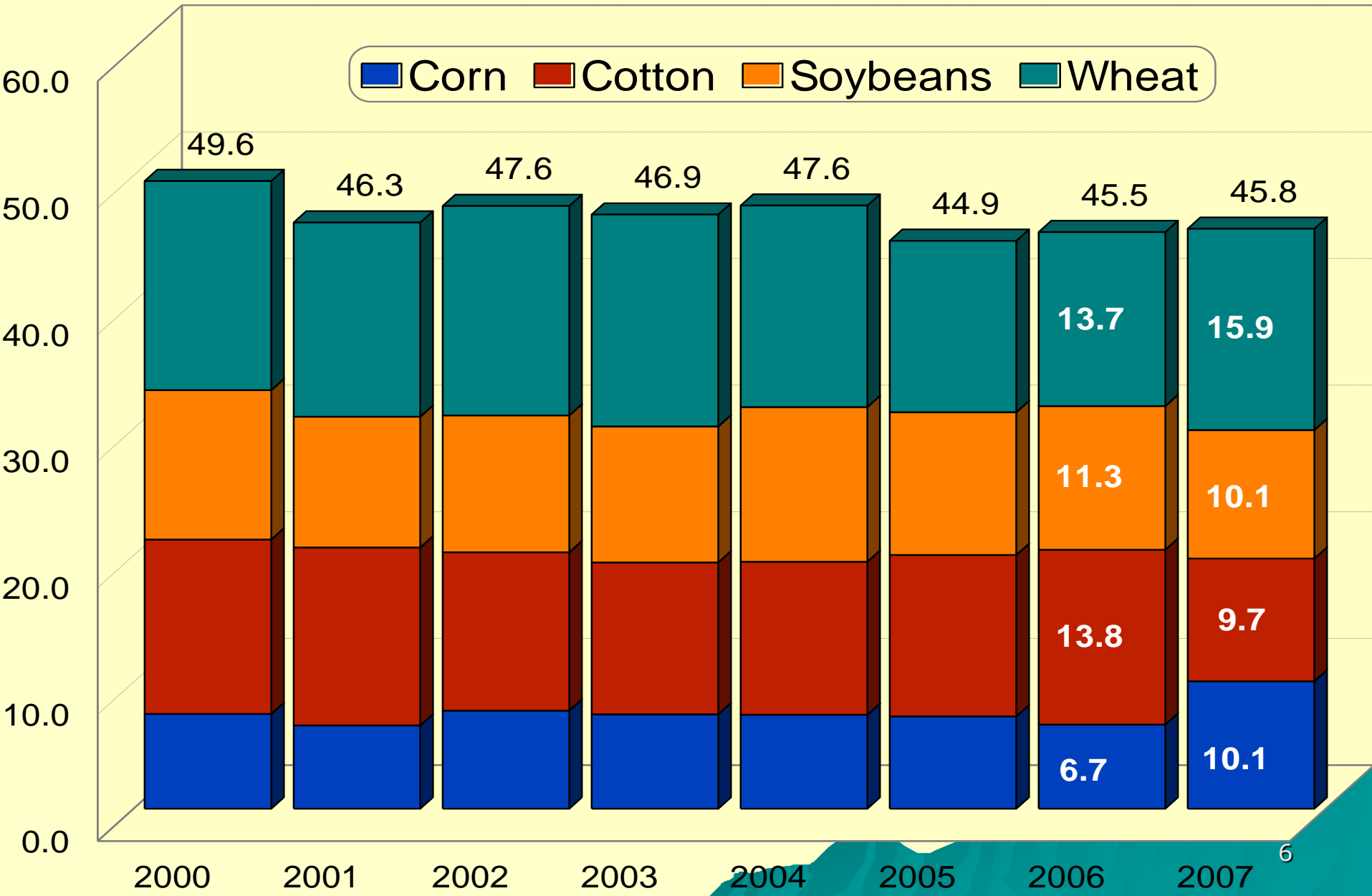


Nominal Crop Prices

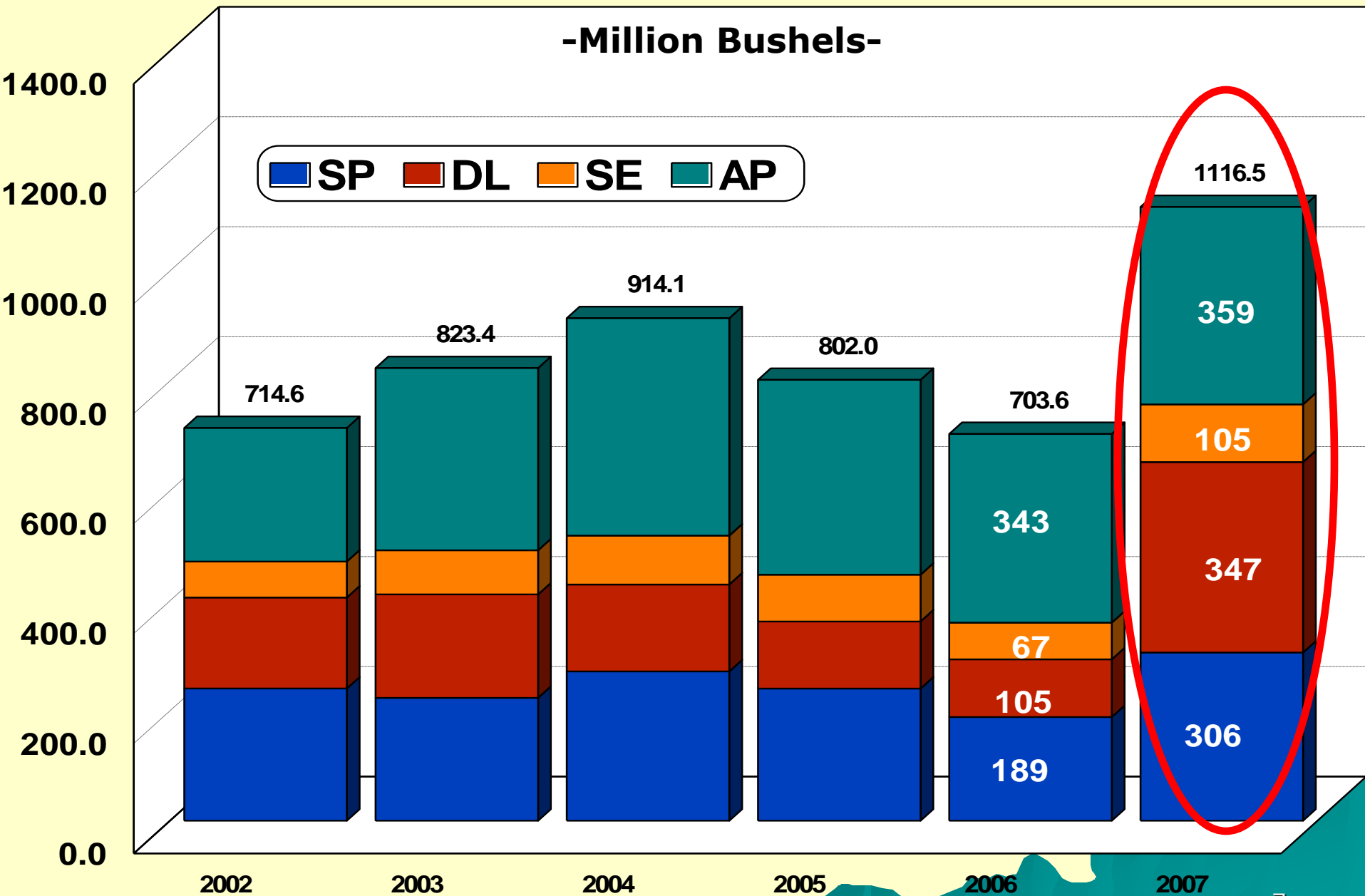


Area Planted in Main Crops: South

-Million Acres-



Corn Production: South



South's Share of US Animals Units

100

Dairy Cattle Cattle on feed Hogs Broilers Turkeys

80

80

80

83

82

82

60

40

20

0

2002

2003

2004

2005

2006

12

24

26

80

38

12

23

26

80

39

11

24

26

83

38

11

23

25

82

37

11

24

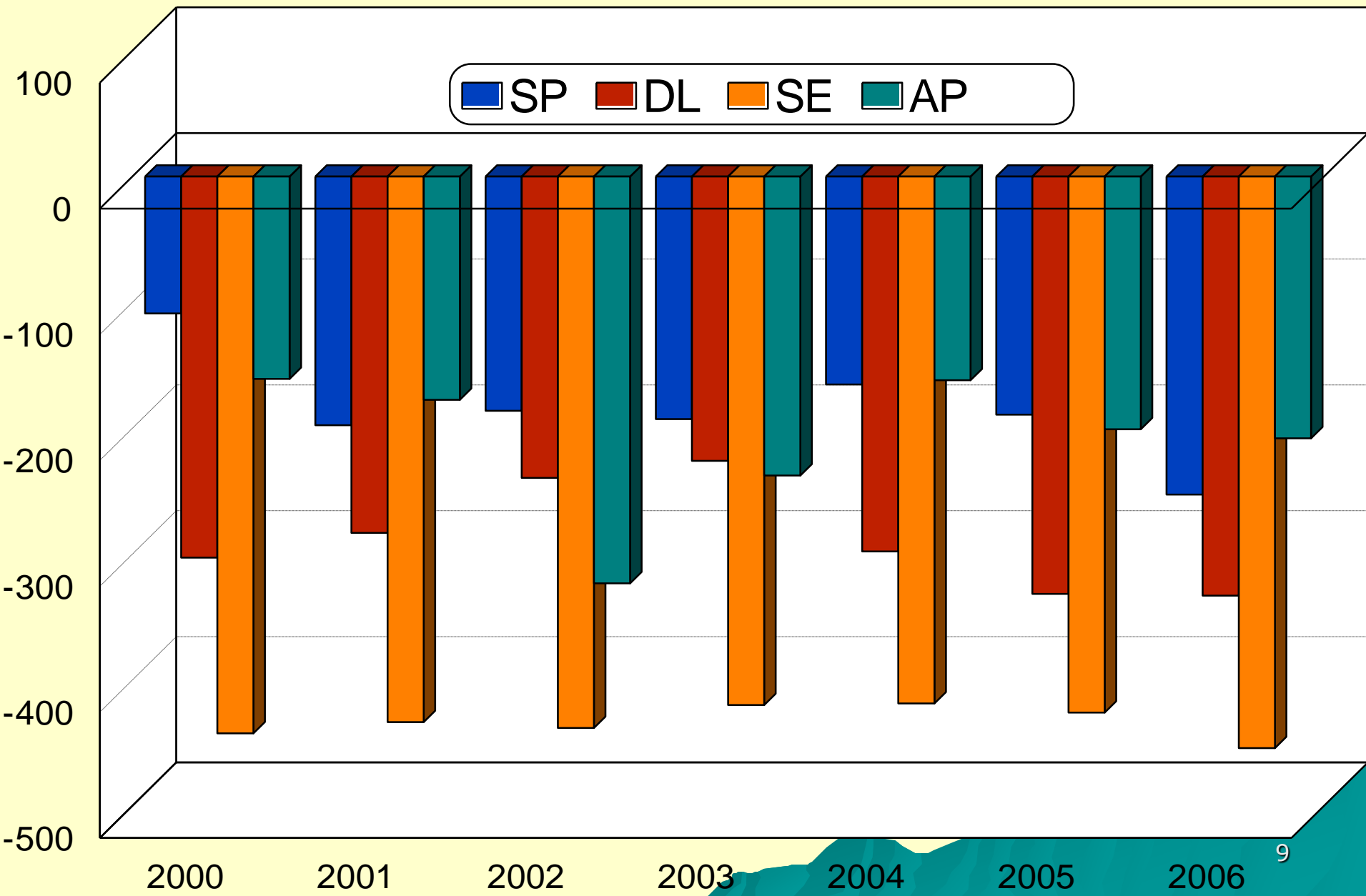
24

82

38

8

Grain Deficit, South



Energy Policy

◆ Energy Policy Act of 2005

Established Renewable Fuel Standard

Requires use of 7.5 billion gallons of biofuels (including ethanol and biodiesel) by 2012

◆ Energy Independence and Security Act of 2007

Increases supply of alternative fuels by increasing mandatory Renewable Fuel Standard

36 billion gallons of biofuels by 2022

Objectives

1. Project ethanol production in US and South
2. Project future corn supply and utilization, focus on
Feed Use & Exports resulting from 2007 Act
3. Discuss Implications for Agriculture, focusing on
Animal Industries

Methodology

- ◆ Project Ethanol Production-used 12% growth rate (actual), 1990-2007 for US
 - South based on current & expected capacity expansion (RFA)
- ◆ Projected Corn Production- used harvested area (exponential growth function with dummy) & yield (geometric average), 1987-2006
- ◆ Consumption based on GCAU by animal type, then allocated by animal shares in each state (dairy, cattle, hogs, chickens, turkeys)

Regions & Data

❖ Southern States Include:

- Southern Plains: Texas and Oklahoma
- Delta: Arkansas, Louisiana, and Mississippi
- South East: Georgia, Alabama, Florida, and South Carolina
- Appalachian: Tennessee, Kentucky, North Carolina, and Virginia

❖ Data Sources:

- Ethanol production: Renewable Fuels Association (RFA)
- Acreage planted, Prices, Animal Units, and other Related Data are mostly obtained from USDA publications

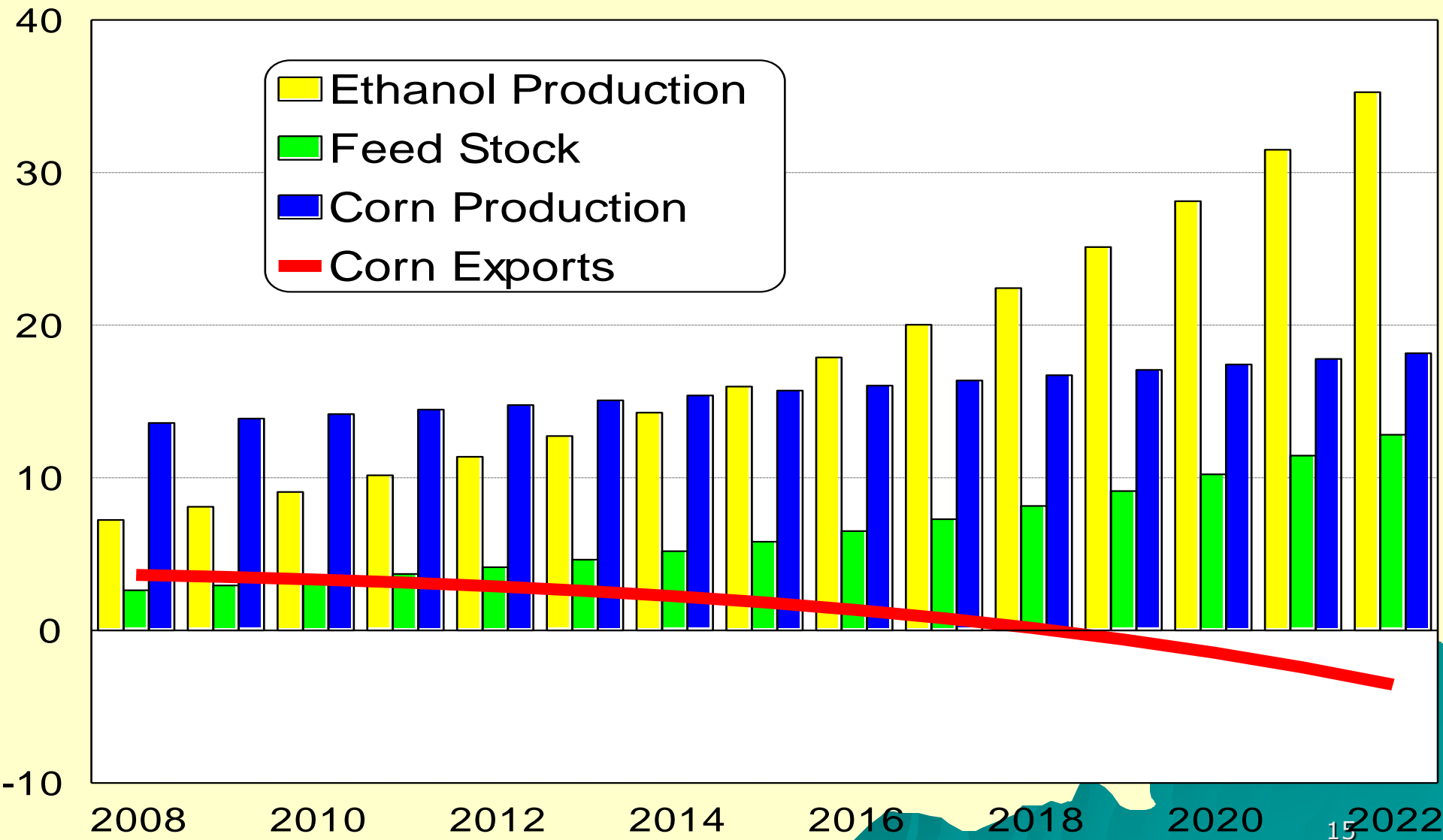
Projections

Ethanol Production and Corn Supply and Utilization

Corn Production and Use, Ethanol Output, United States: Projections

Corn in Million Bushels

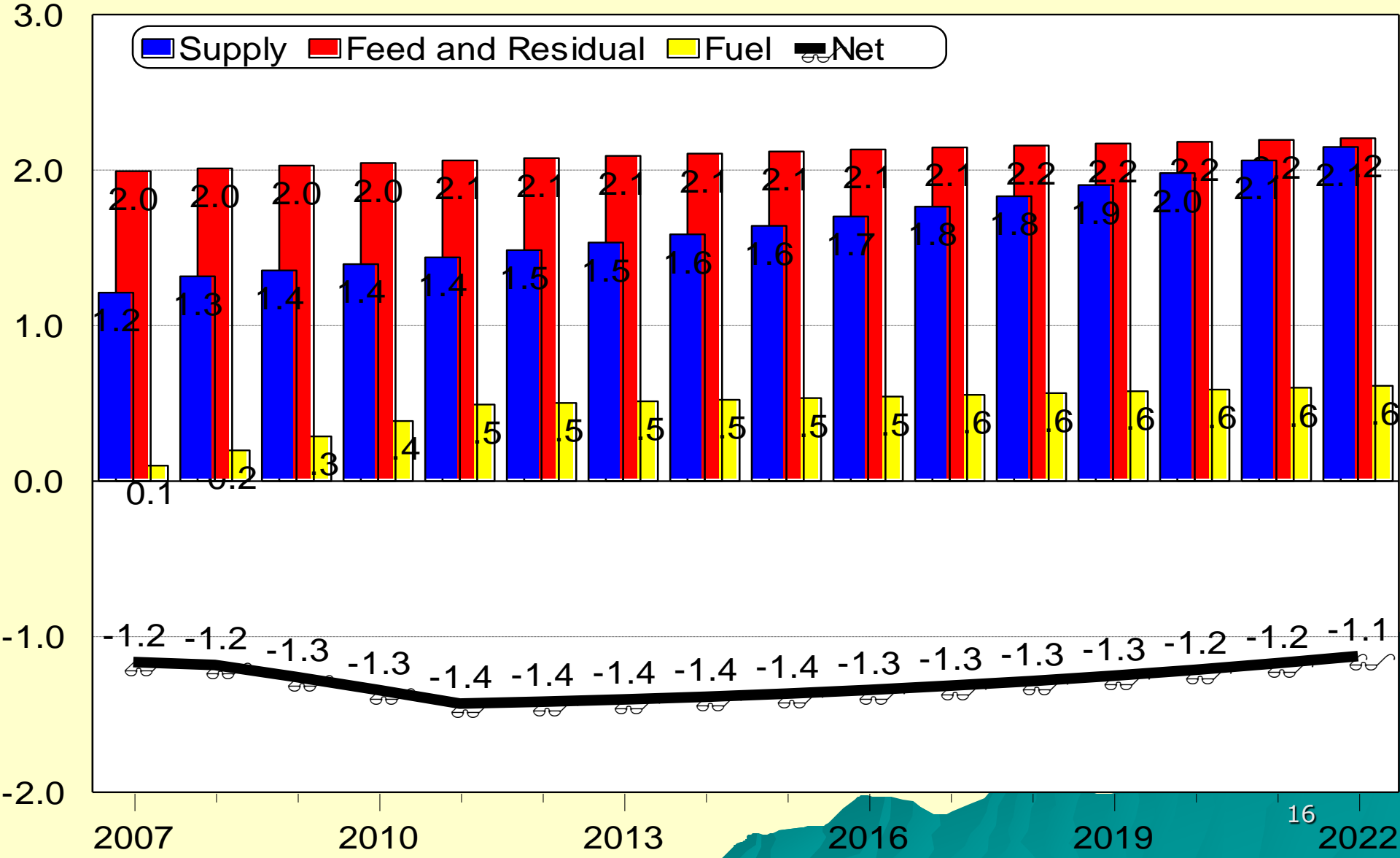
Ethanol in Billion Gallons



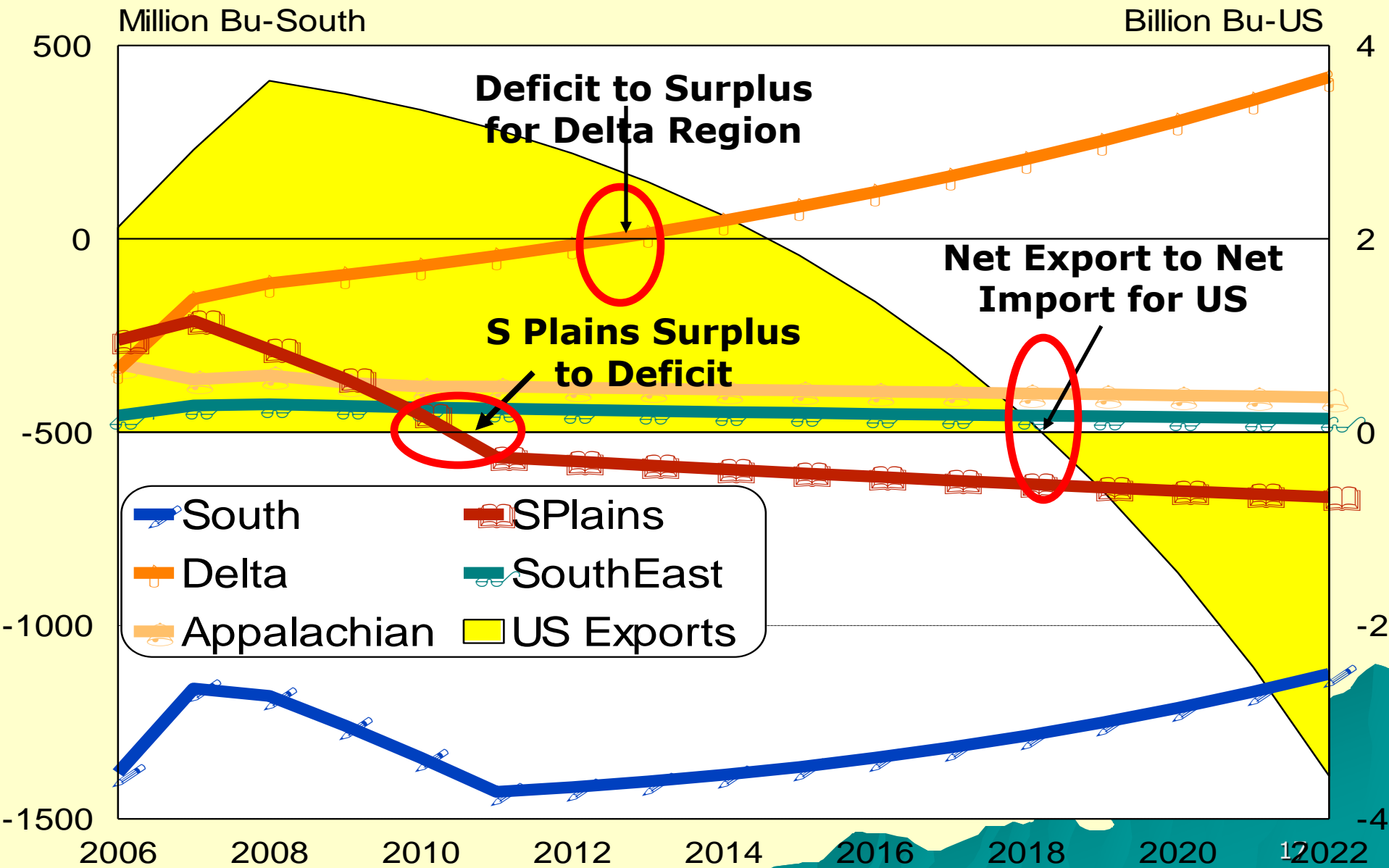
Corn Production and Use, Ethanol Output: Projected for Southern States

Billion Bu

Million Gallons



Projected US Corn Exports and Regional Disposition in South



Key Points

- US corn meets domestic demand for ethanol and feed until 2018
 - After then, US becomes a Net Importer of Corn, Up to 3.7 Billion Bu in early years
 - Assumes all ethanol needs met with corn
- Delta increases corn output, but S Plains becomes deficit, forcing South's deficit to increase
 - Supplies from other US regions & imports increase
- Impacts of ethanol production on animal industries reflect higher prices, but corn remains available in near term
 - Longer term, may strain infrastructure

Key Points (cont.)

- ◆ Acreage Shifts difficult to predict with any degree of confidence
 - A work in progress
- ◆ Specialized Infrastructure likely a major constraint
- ◆ Objectives of 2007 Energy Independence Act Difficult to Achieve
 - Technical Feasibility Positive
- ◆ Economics Pose Difficulties
 - Energy & Commodity Price Uncertainty
 - Import Tariff Changes & Tax Credit Expiration
 - Requirements for Specialized Infrastructure