

# Illinois Agriculture and Global Trade – the Role of the River

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# **Drivers of Illinois agriculture 2002 -2012**

- **Chinese demand for Illinois soybeans increased due to income and population in China**
- **Illinois grain demand increased due to ethanol**
- **Asian demand for Illinois corn also increased**
- **corn production increased in response -> “2-year” and “3-year” ‘continuous corn’**
- **Corn yields also increased**
- **Competition from ROW increased as other countries also responded to high prices**

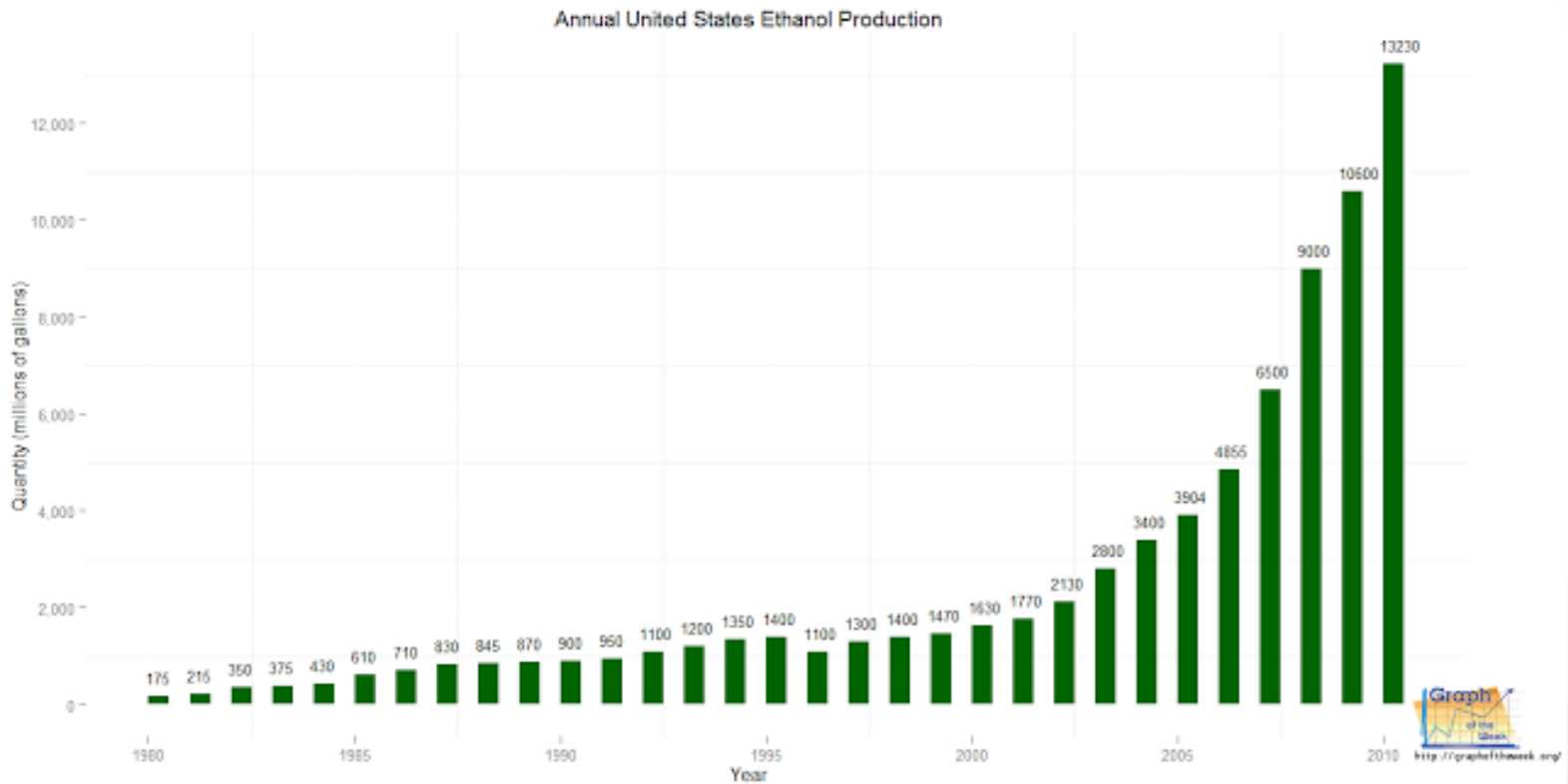
# Illinois grain production 2000-2010

- Illinois corn production increased by 23 percent
- hogs increased 5 percent, but beef cattle declined 20 percent (10:1 ratio hogs/cattle on feed)
- Iowa/Nebraska retained their livestock
- Illinois became relatively more dependent on ethanol and also on shipping to export mkt.

# Gulf of Mexico drivers

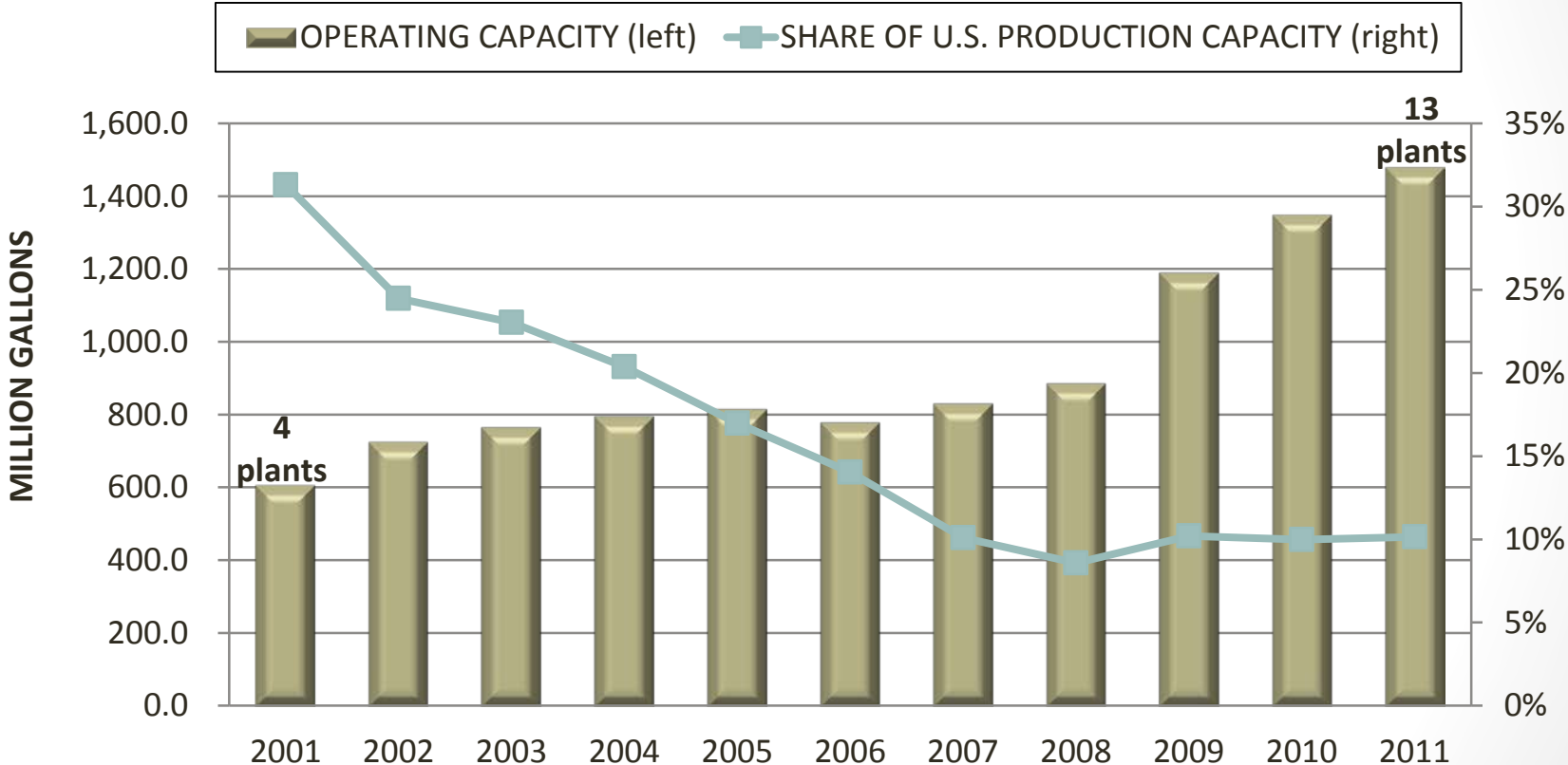
- **South American markets opening up**
- **Ethanol shipped to Brazil from US**
- **Poultry production increasing in Caribbean and South America (increasing corn sales)**
- **Panama canal capacity increasing**

# US Ethanol Production 1980-2010



# Ethanol Production Growth in Illinois

## Operating Capacity for Illinois Ethanol Plants



\* As of January of each year

Source: Renewable Fuels Association

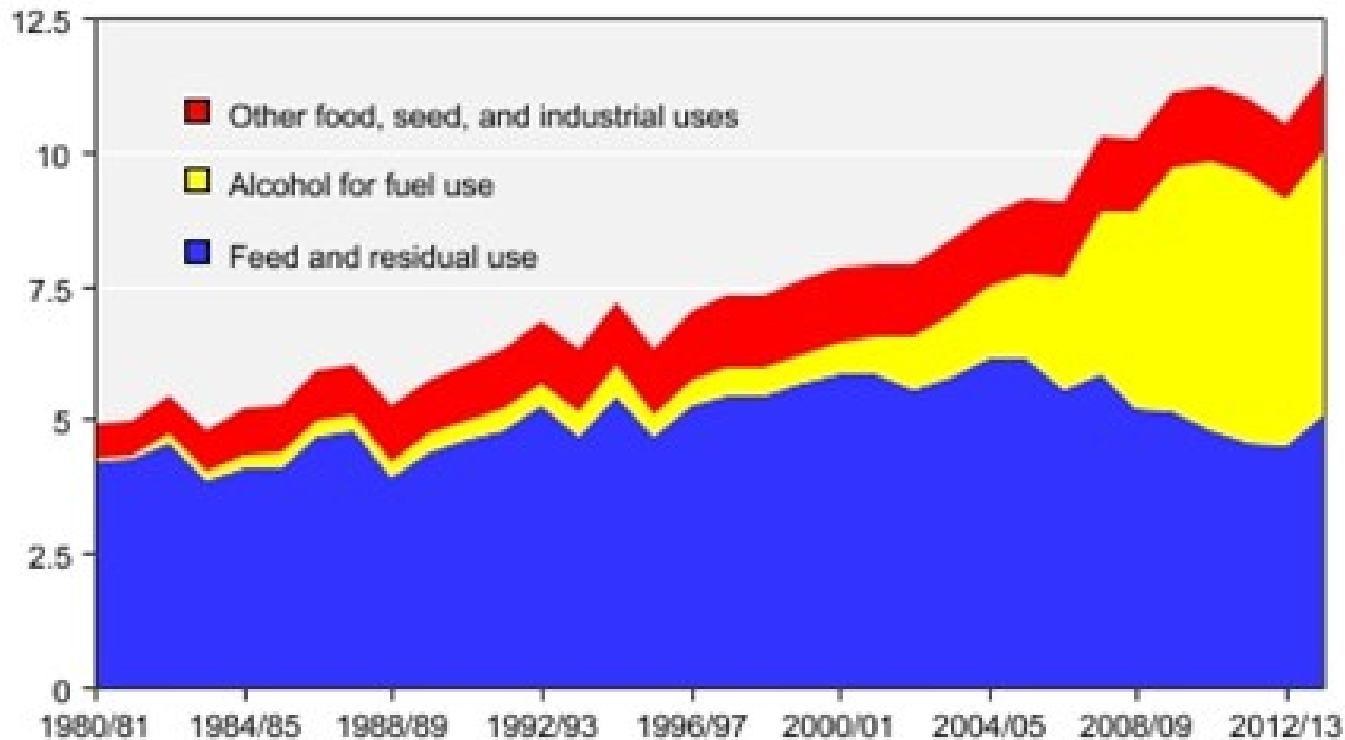
# Ethanol production impacts

- **Transportation – now the third-highest expense for ethanol producers after feedstock and energy costs**
- **Corn procurement is #1 cost**
- **Initially, ethanol diverted corn from export markets due to pricing – but now ROW and high yields -> increased corn**

# US Corn Usage 1980 - 2012

## U.S. domestic corn use

Billion bushels

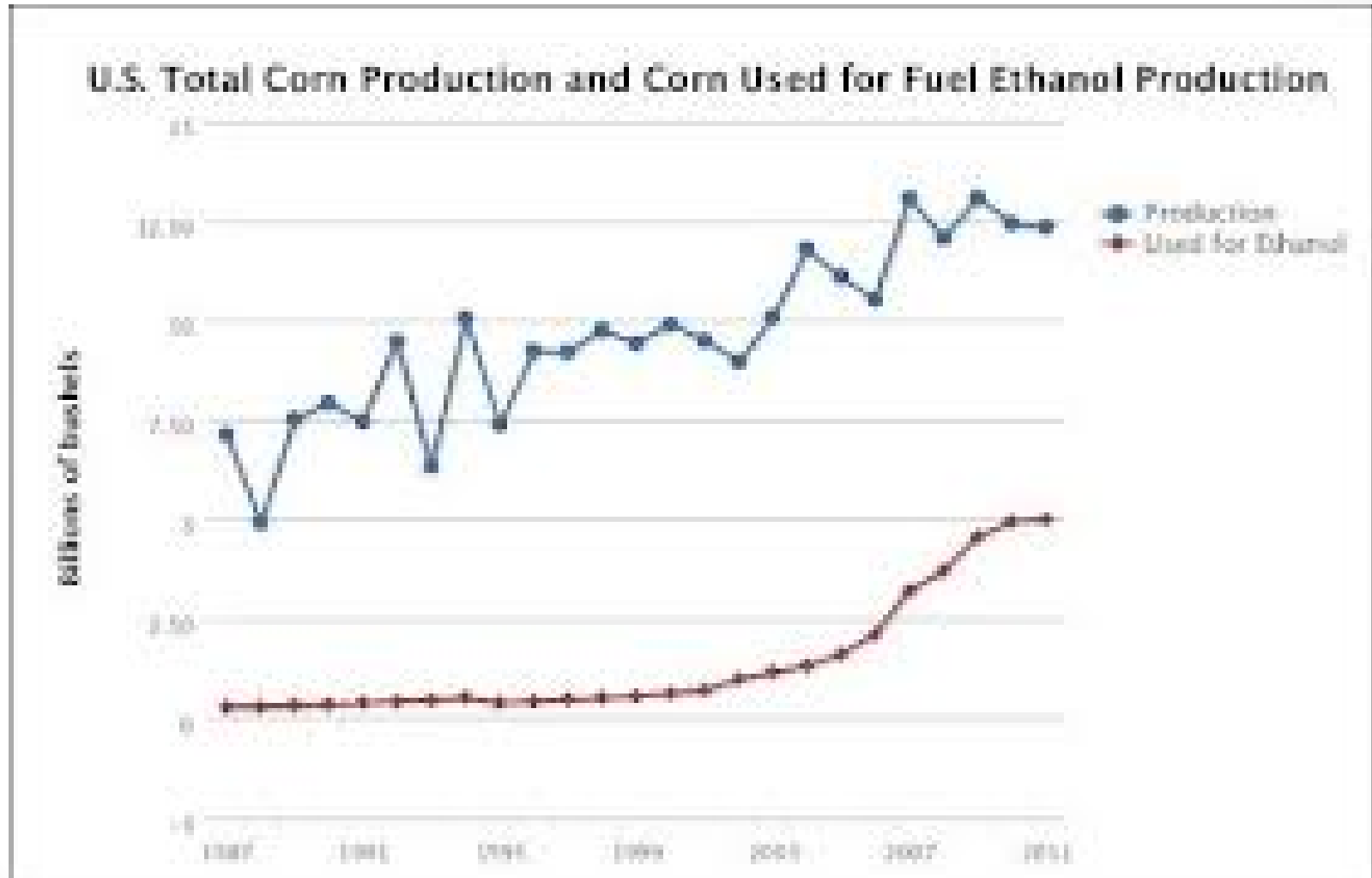


Source: Calculated by USDA, Economic Research Service.  
Updated: September 2013.





# US corn production and ethanol



# Grain shipments on Illinois rivers

- **55 grain elevators are located along Illinois waterways**
- **Illinois ranks 6th in total waterway freight tonnage – (more than 7 other coastal states)**
- **Illinois has over 1100 miles of navigable waterways within or alongside its borders.**
- **23.4 million tons of grain were shipped via inland waterways.**

# Illinois soybean shipments - 2012

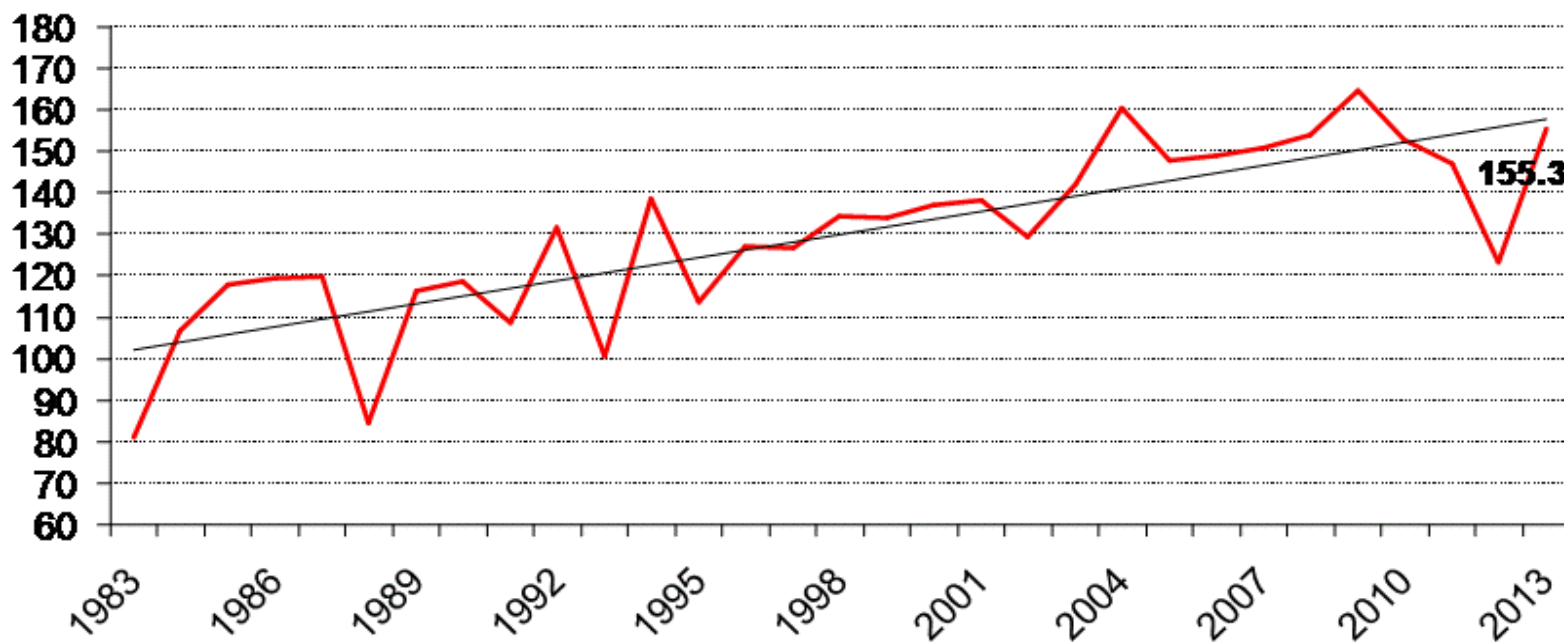
- 35% by barge
- 35% by rail
- 29% by container
  
- 55% of Illinois soybean meal is shipped more than 800 miles
- value of Illinois soybean exports alone => \$2.4 billion/year

# **DDGS market has evolved**

- **1/3 of every bushel of corn to ethanol returns as Dried Distiller Grains (DDGS)**
- **22 percent of DDGS are exported (increasing)**
- **DDGS exports = \$1.9 billion in 2011, \$200 million above 2010.**
- **One Panamax vessel uses up 37 barges or 555 rail cars of DDGS**
- **Mexico is becoming #1 market of our DDGS**

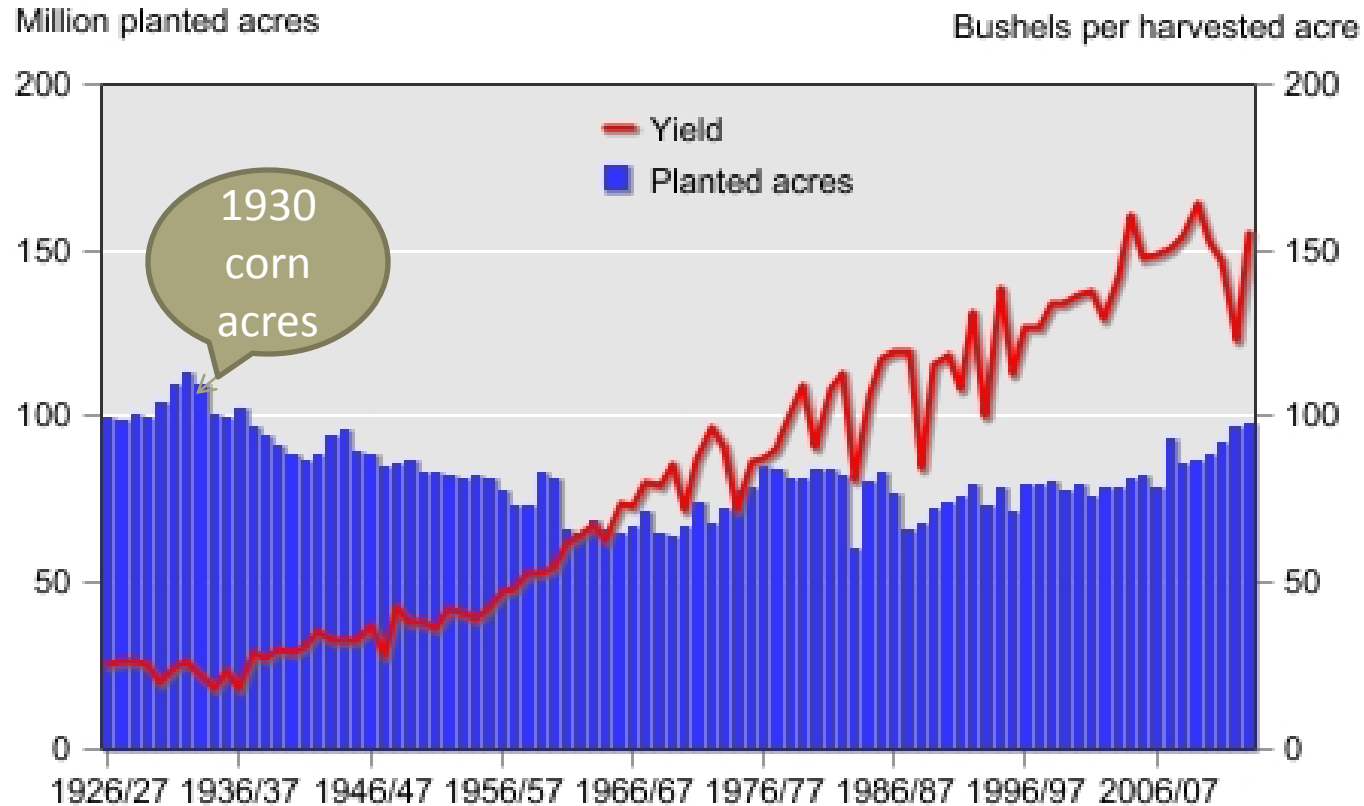
# U.S. Corn Yield

Bushels/Acre



# Corn yields vs acres 1926-2012

## U.S. corn acreage and yield



Source: USDA, World Agricultural Outlook Board, World Agricultural Supply and Demand Estimates.  
Updated: September 2013.



# Peoria Lock – Grain tonnage (million tons)(% of total)

- 2006/07 -> 7.0 (26%)
- 2007/08 -> 6.1 (24%)
- 2008/09 -> 7.1 (30%)
- 2009/2010->6.6 (30%)

# Agricultural fertilizer

- **Corn converts nitrogen fertilizer**
- **Anhydrous ammonia – traditional source of nitrogen for Illinois corn**
- **Liability issues plus convenience is driving producers to use urea, produced from ammonia in Gulf zone plants**
- **Increasing shipping of urea fertilizer upriver, shipping corn down river**



# **Fertilizer shipments impacted**

**Fall of 2012, lower river levels and barge rates impacted fertilizer prices, shipping from Gulf of Mexico to Illinois**

- **Half of all Illinois and Midwest is imported**
- **much is shipped upriver**
- **fertilizer industry is scaling back their planned expansion – Illinois remains dependent on fertilizer from Gulf**

# Fertilizer shipping impacted

- **Time delay moving fertilizer from the Gulf to St. Louis increased from 9 days to 15 days and to St. Paul increased 23 days to 40 days**
- **Fertilizer shipments transferred to using unit trains at an additional freight cost of 15% per ton.**

# River-level: impacts on agriculture

- **2012 drought > 19- to 21-day grain barge trips from St. Paul, MN, to New Orleans, LA, increased by 10 days**
- **Every foot of draft reduction cuts cargo capacity by 5,500 to 6,500 bushels. (Soy Transportation Coalition)``**
- **Switching to rail created a 45 cent/bushel premium to barge rates (Informa Economics)**

# River-level impacts on ag

- **2012 fall drought > For every 6 inches below 8.6 feet, the shipper paid the same freight rate but loaded 108 fewer tons, resulting in a net freight rate per ton increase of 8%.**
- **dry barge configuration limited to 19 barges, then dropped to 12 in Jan.**

# Barge equivalents

- **If there were a 90-day closure at LaGrange Lock during peak soybean harvest movement**
- **341 barge loadings diverted as 5,000 rail carloads**
- **One 15-barge tow on Illinois River is equivalent to 216 rail cars or 1,050 semi-trucks**

**THANK YOU FOR YOUR  
ATTENTION!**