

20  years

Institute  
for  
Agriculture  
and  
Trade Policy

*Environment  
and  
Agriculture  
Program*



**Maximizing  
Conservation Benefits  
from the 2007 Farm Bill**

# Maximizing Agricultural Conservation

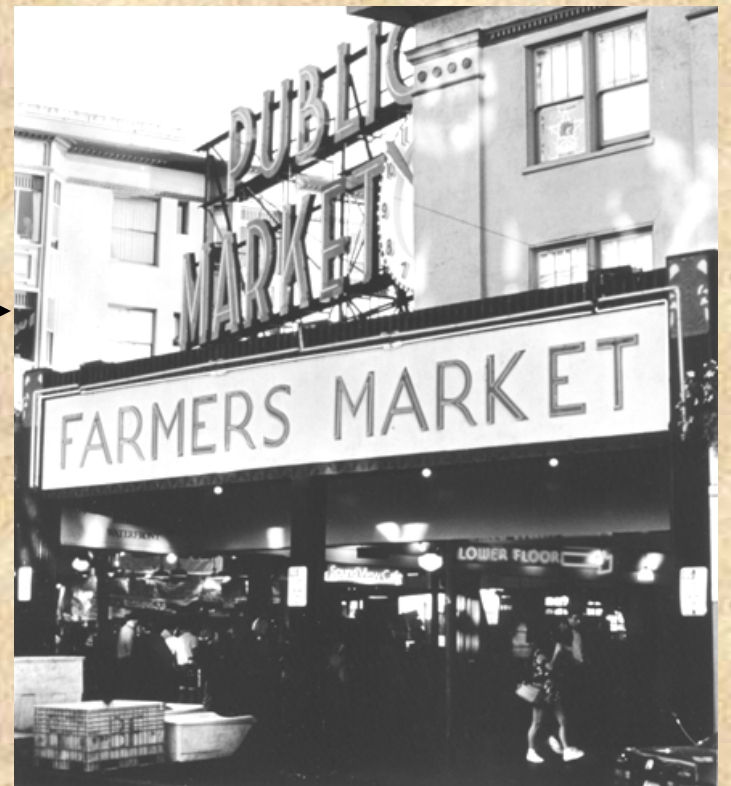
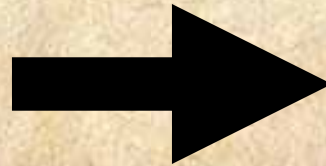
## Premise #1

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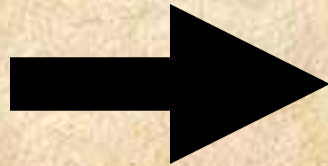
- Recognize that the agricultural system is the result of decades of policies and investments.
- Changing agricultural practices through policy is a long, slow process.



# From Many Crops Serving Primarily One Market...



# ...To a Few Crops Serving Multiple Uses



# Consequences of this Transition

## Native Ecosystems



## Perennial Systems



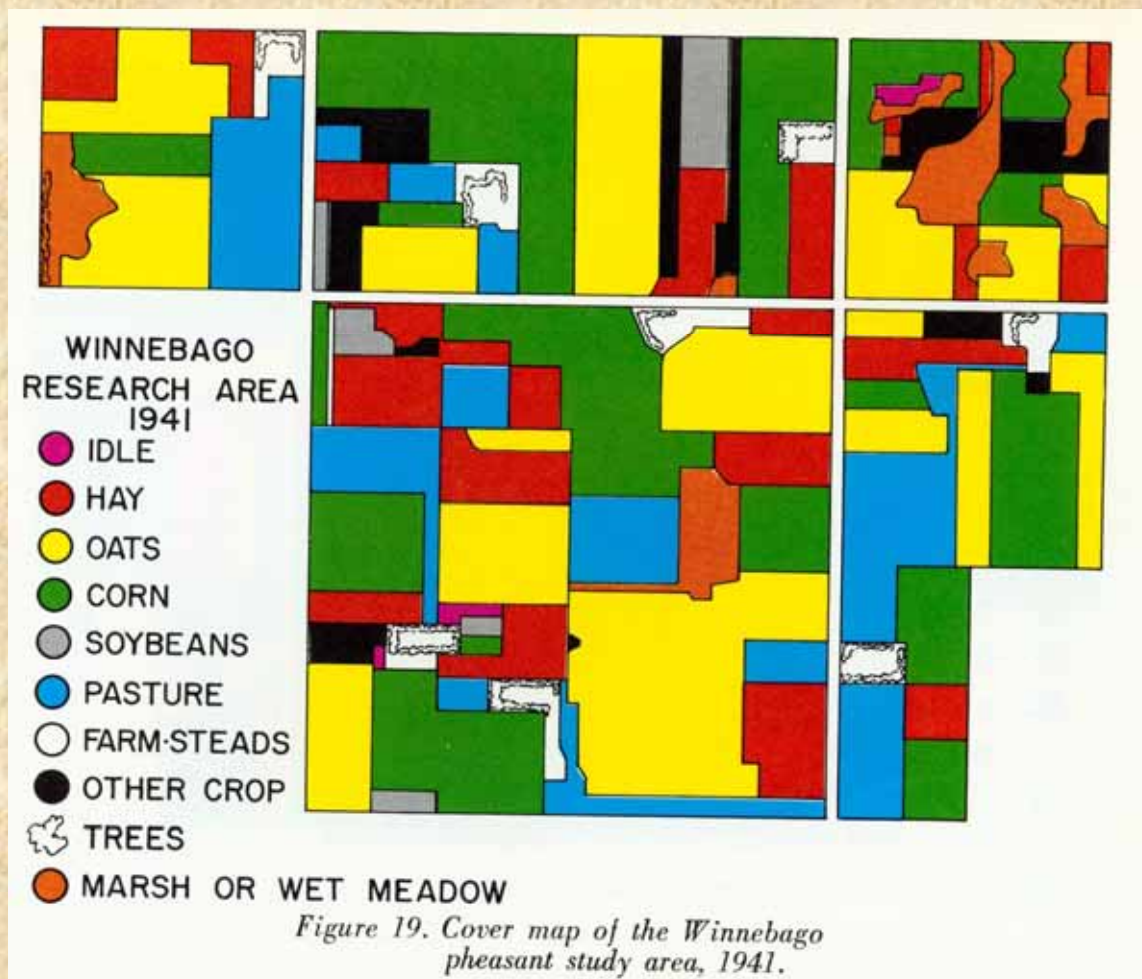
## Row Crop Systems



- More Nutrient Inputs
- More Months of Soil Exposure
- Less Soil Organic Carbon
- Fewer Wetlands to Capture and Utilize Nutrients

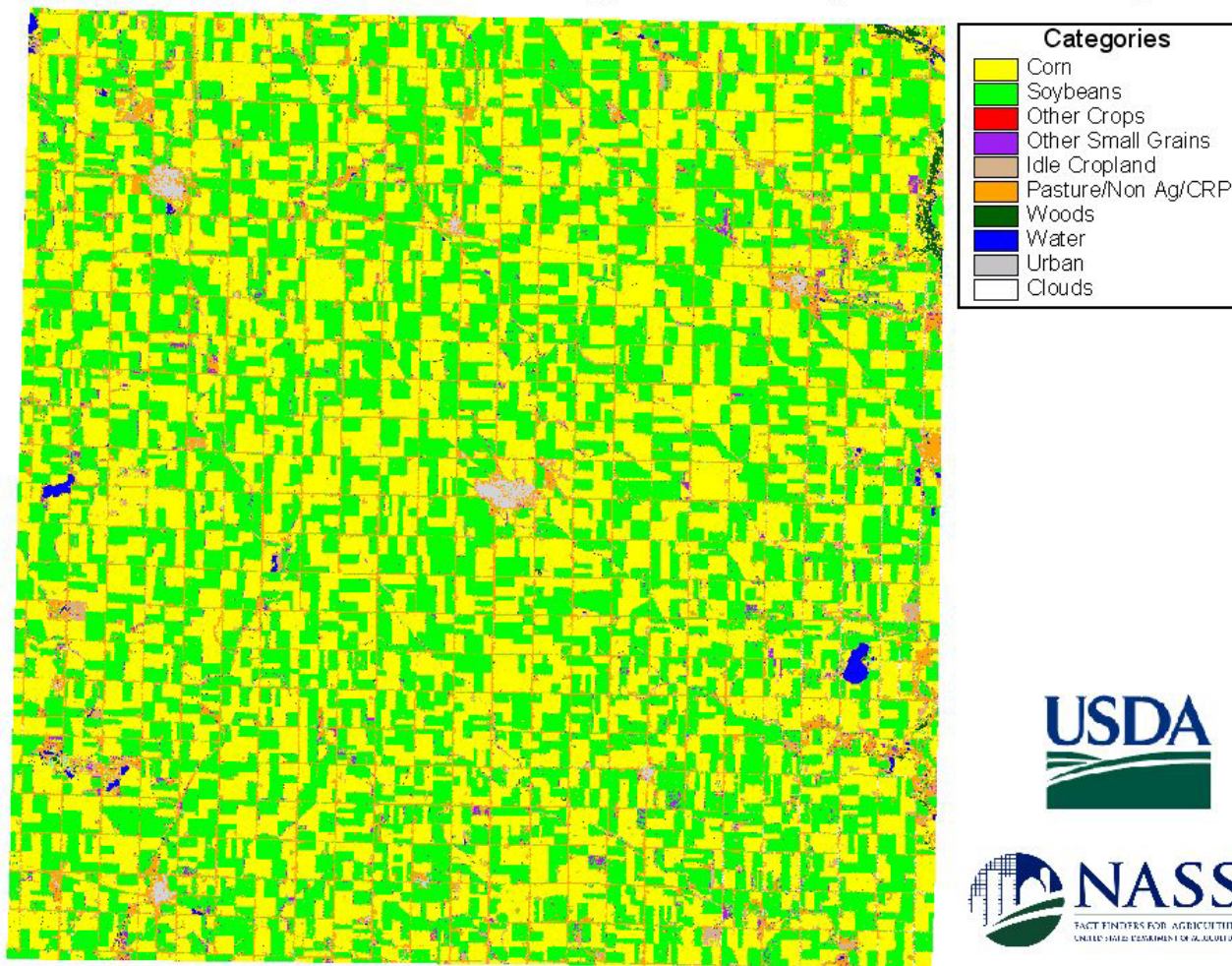


# Price supports, coupled with mandated conservation plans, supported diversified agricultural systems



# A Shift to Corn and Soybeans

2004 Pocahontas County, Iowa Cropland Data Layer



# Technology Drivers

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- **Railroads and barges** expanded markets for commodities and enhanced specialization.
- **Tile drainage** opened up millions of acres of wetlands and bottomlands to row crops.
- **Mechanization** greatly reduced labor and costs, allowing farms to expand.
- **Plant Genetics research** markedly increased yields, particularly of corn.
- **Low cost inputs** of fertilizer and pesticides enhanced yields.

# Policies have guided research, development and investment



PL 480 - Food  
for Peace

Homestead  
Act of 1862

Agricultural  
Adjustment Act  
of 1933

Reclamation Act  
of 1902

1980 Soviet  
Grain Embargo

Get Big or  
Get Out

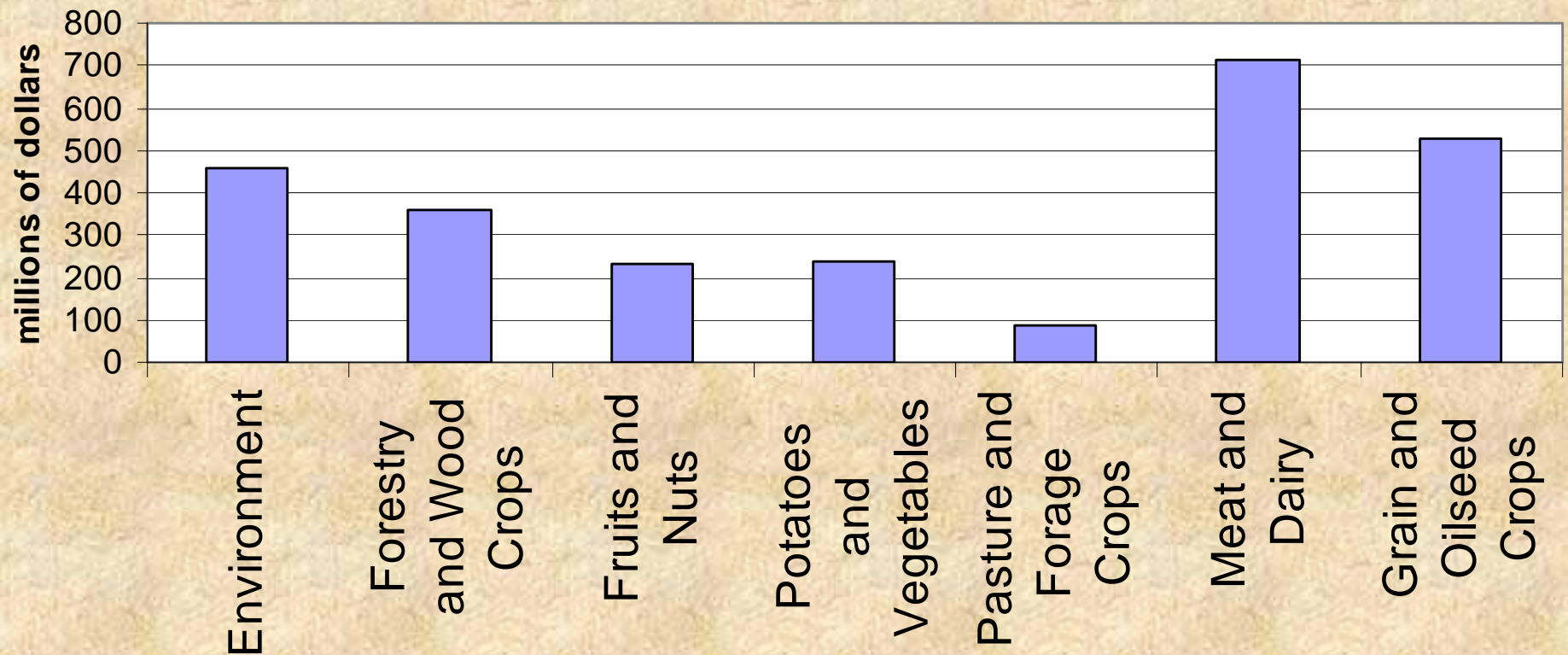
1996 Farm  
Bill

Federal Reserve  
Act of 1913

Transcontinental  
Railroad

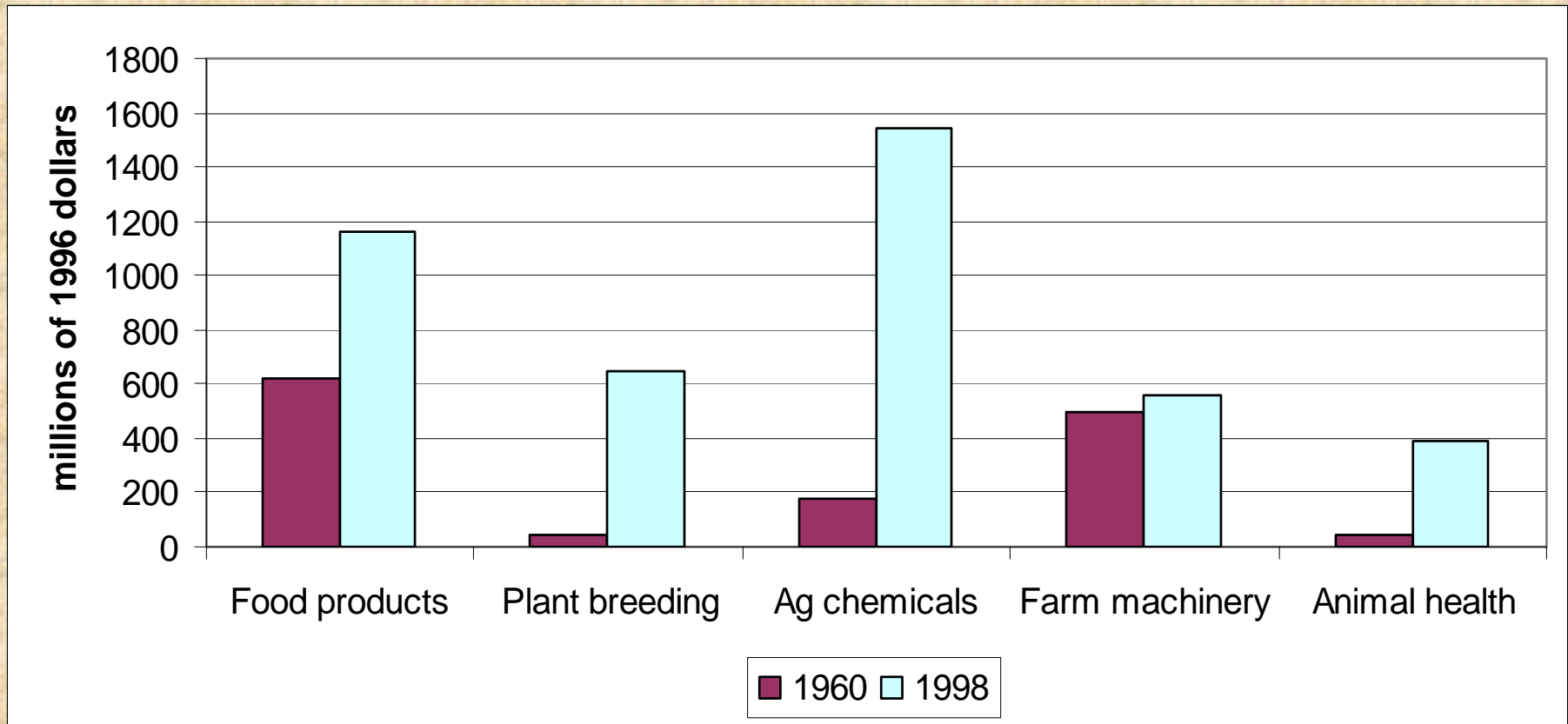
Tile Drainage Incentives

# Public research sets the playing field for agribusiness investment



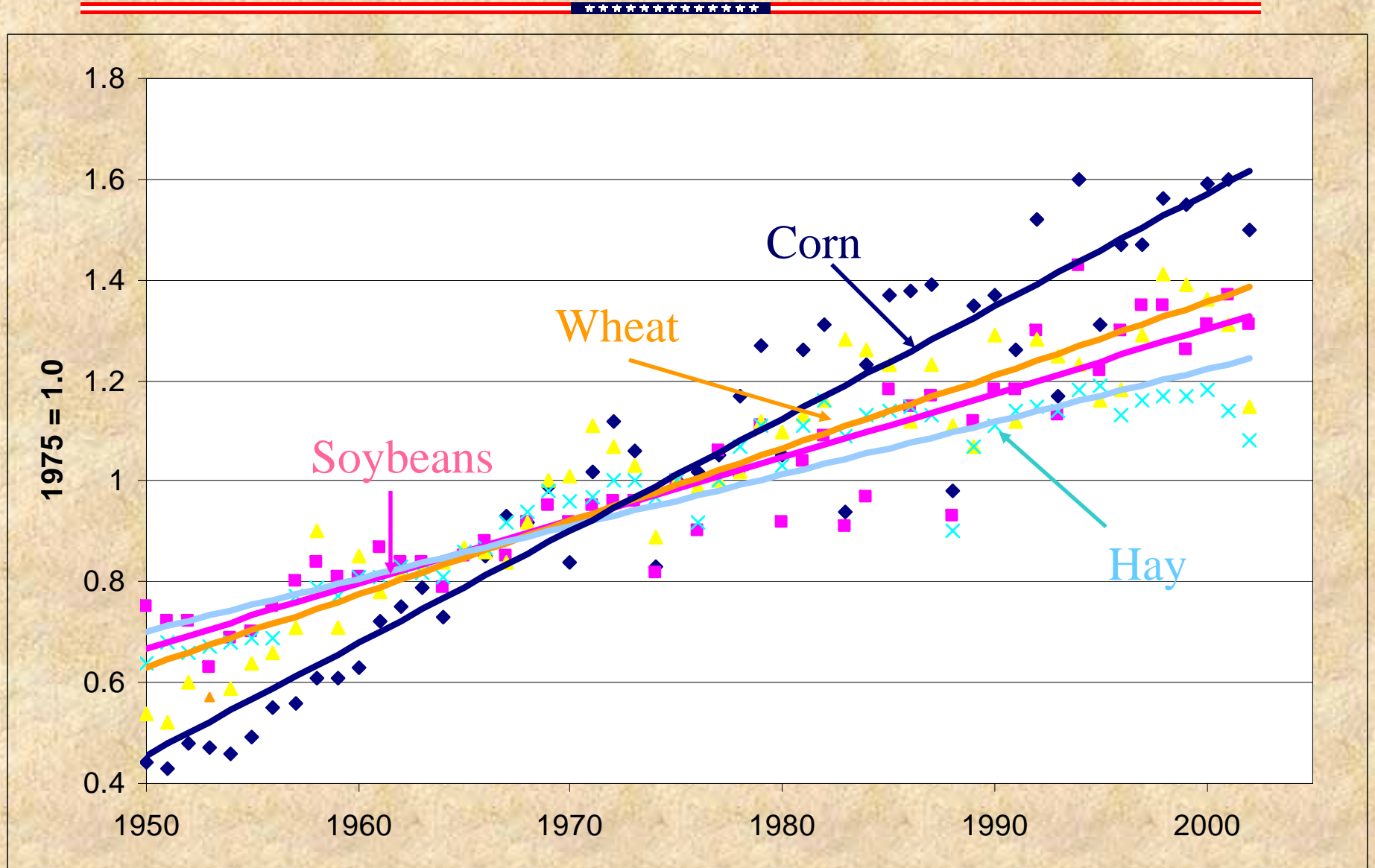
Source: National Research Council. Publicly Funded Agricultural Research and the Changing Structure of U.S. Agriculture

# Intellectual patenting rights and other policies have fostered a huge increase in private investment in agricultural R & D



USDA ERS "Agricultural Resources and Environmental Indicators", 2003

# Tremendous yield improvements for a few crops



Source: USDA ERS

# Iowa Farmer Today

Vol. 19, No. 10

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## Family AFFAIR

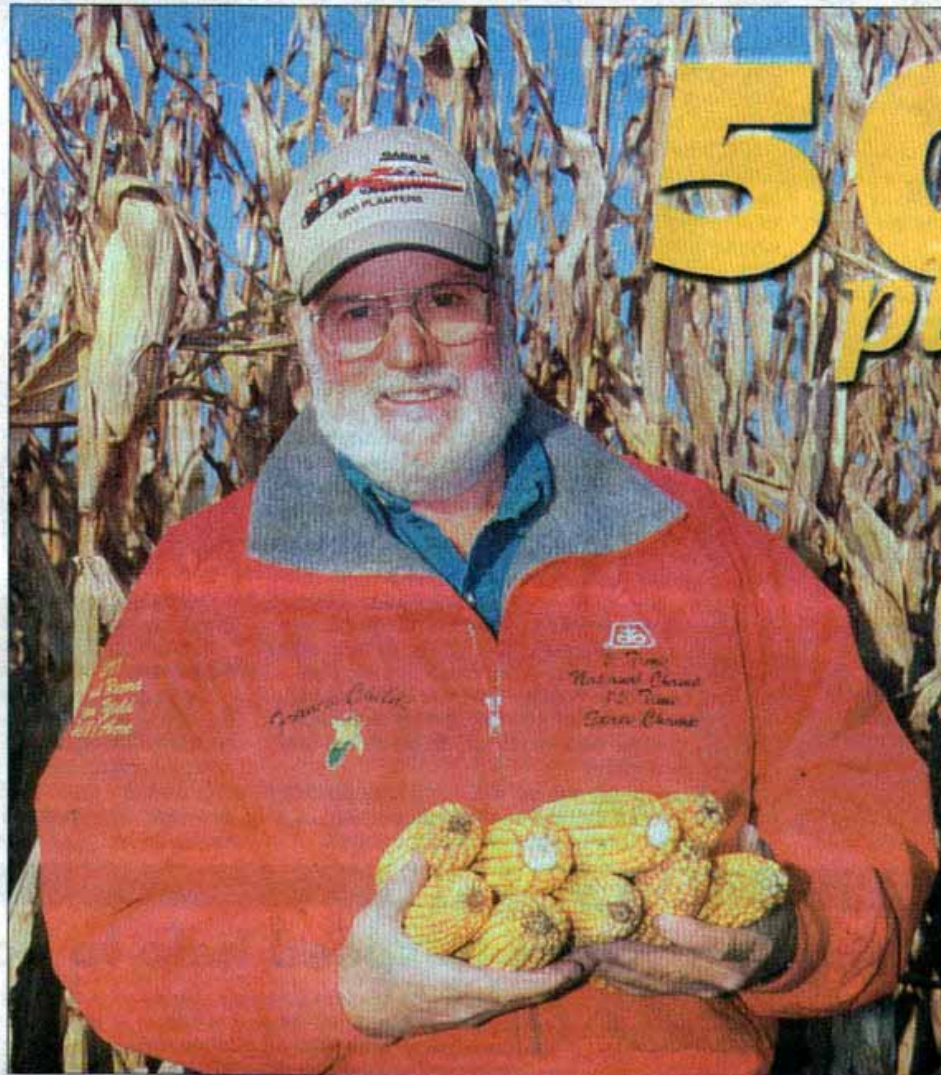
Daughter learns love of cooking on Southeast Iowa farm

page 8



## PRECISE placement

Farmers learning value of manure as



# 500 plus

## Visitors' plot yields top 500 bu.

By Dan Zinkand

Iowa Farmer Today

Copyright 2002

**M**ANCHESTER — World-record corn grower Francis Childs knows what his yield is in the National Corn Growers Association (NCGA) contest, but isn't saying.

In any case, he talks freely about results of the strip trials in his visitors' plot: "There were 11 of them all above 500. The highest was 577."

The NCGA will announce the contest results Dec. 16, says Gary Bradley of the NCGA, St. Louis, adding there were about 3,300 entries in this year's contest.

IFT photo by Dan Zinkand

# Maximizing Agricultural Conservation Premise #2

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- Policies that pertain to agriculture, energy, trade, taxes, food regulation, and other arenas will continue to have a tremendous influence on farmers and their conservation choices.

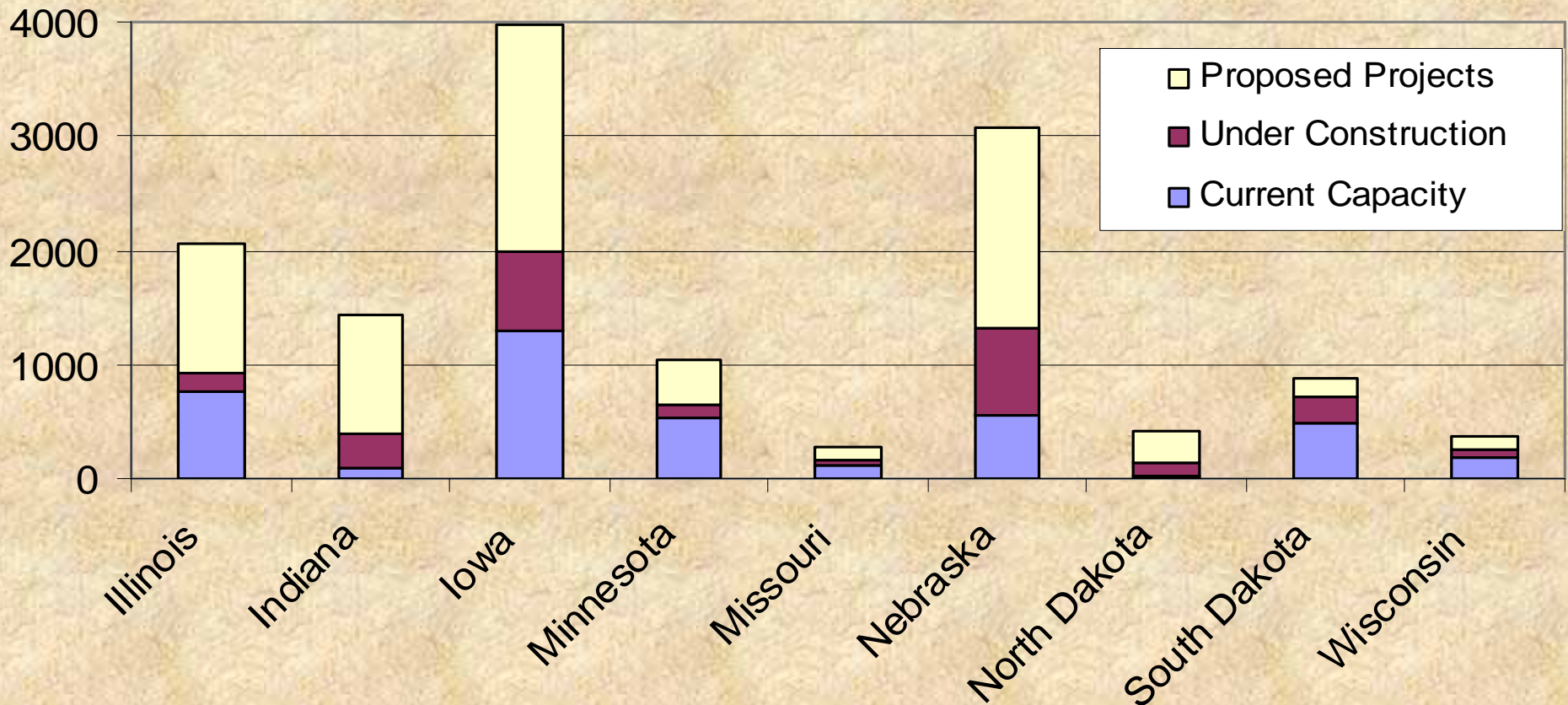


# Growth in Midwest Ethanol

Dramatic Changes in Scale and Ownership

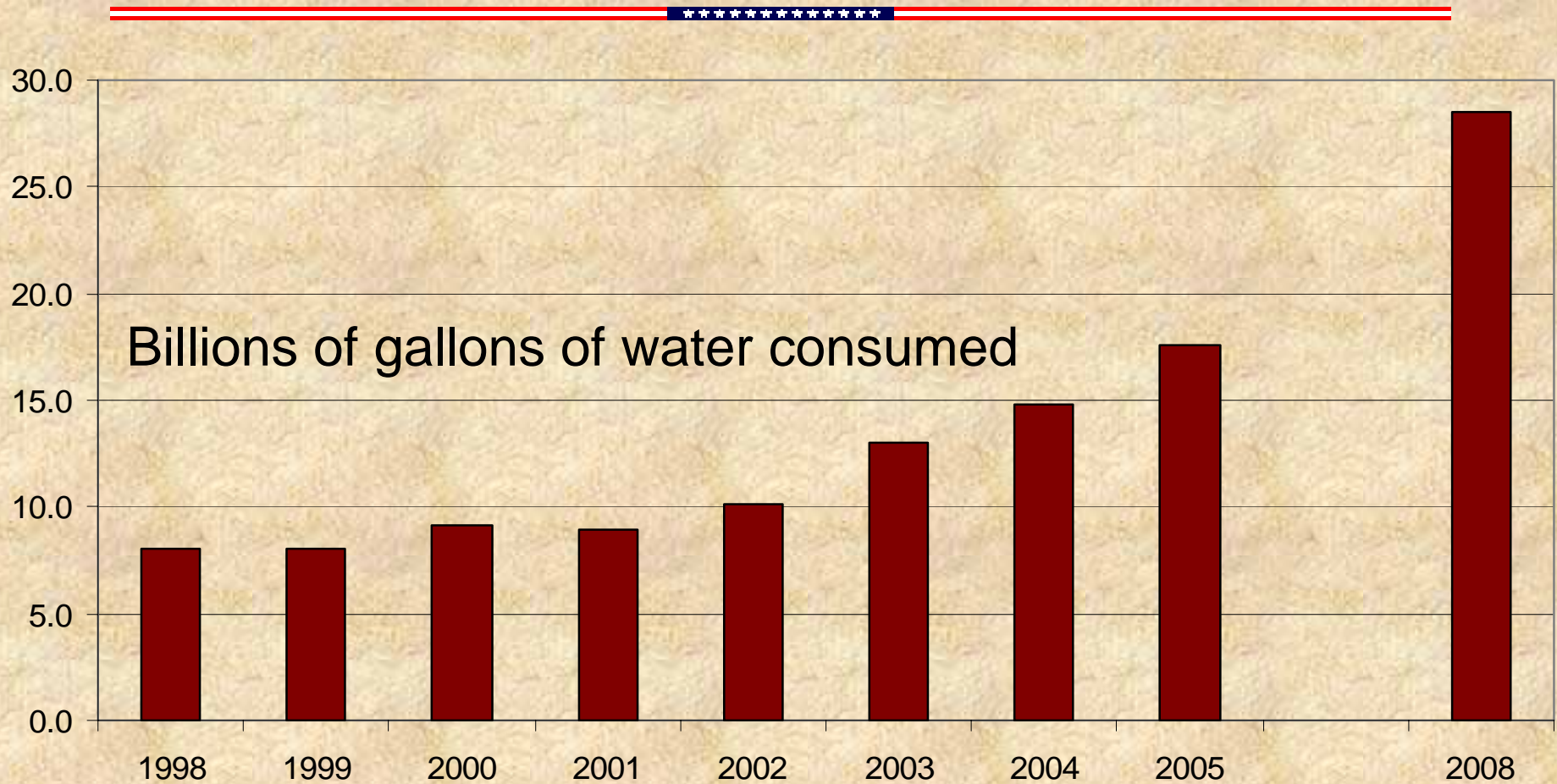


Millions of gallons per year



Source: Unpublished IATP document, compiled from RFA, BBI, and plant announcements

# Estimated Volume of Water Used in Ethanol Production



Source: Unpublished IATP document, water consumption forecast developed based on Minnesota DNR data on ethanol's water use

# US Sweetener Policy

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- Import quotas and marketing allotments used to maintain fair price
- No government payments to sugar growers
- Food industry would prefer cheap imports





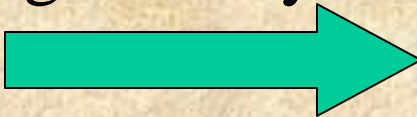
High Fructose Corn Syrup proliferated in the 1970s after the development of a low-cost method of using three enzymes to convert corn starch to fructose.



alpha-amylase

**polysaccharides**

glucoamylase



**glucose**



glucose-isomerase

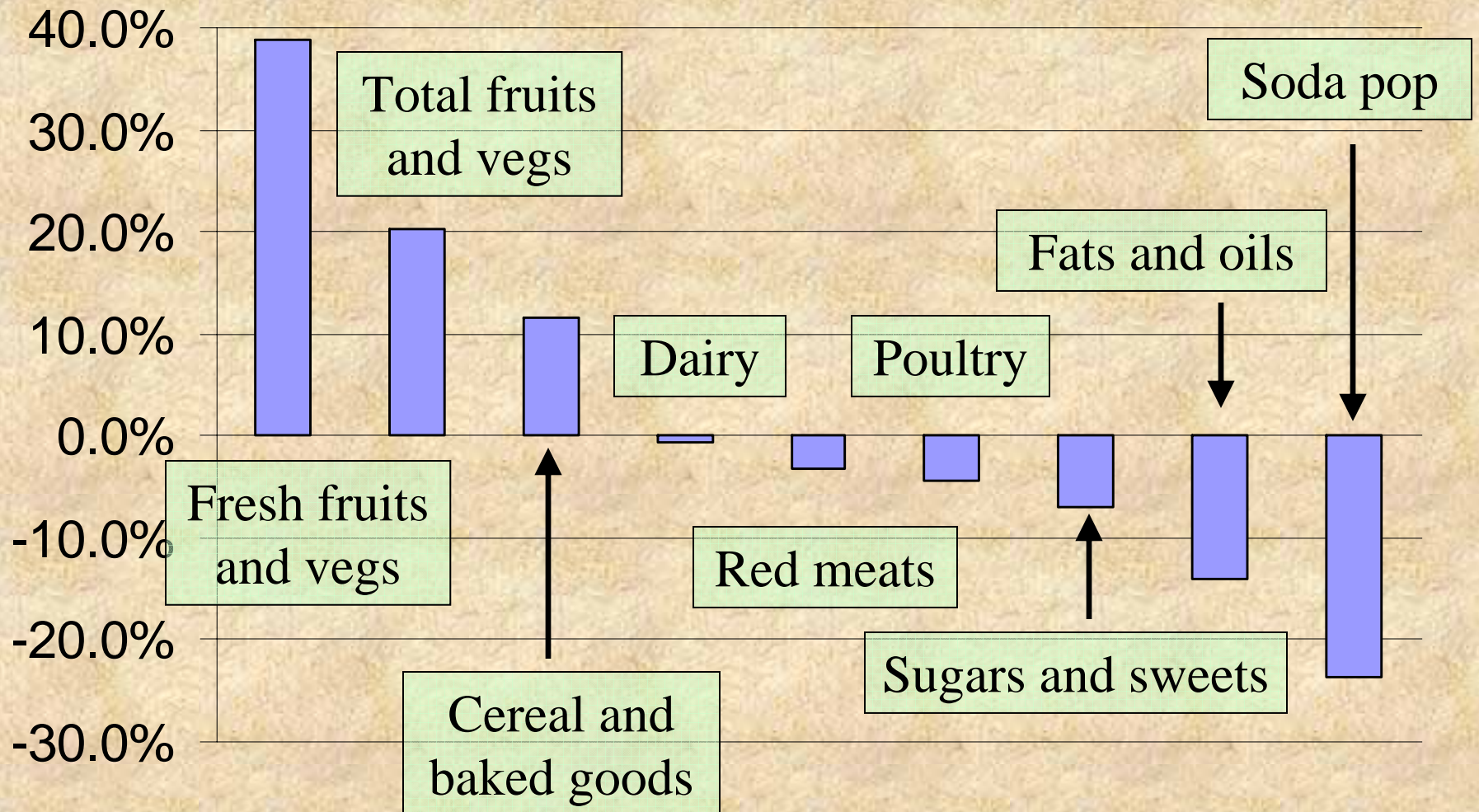


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# Increase in Food Prices, 1985 –2000, Real \$

Junk food cheaper, fruits and veggies more expensive!



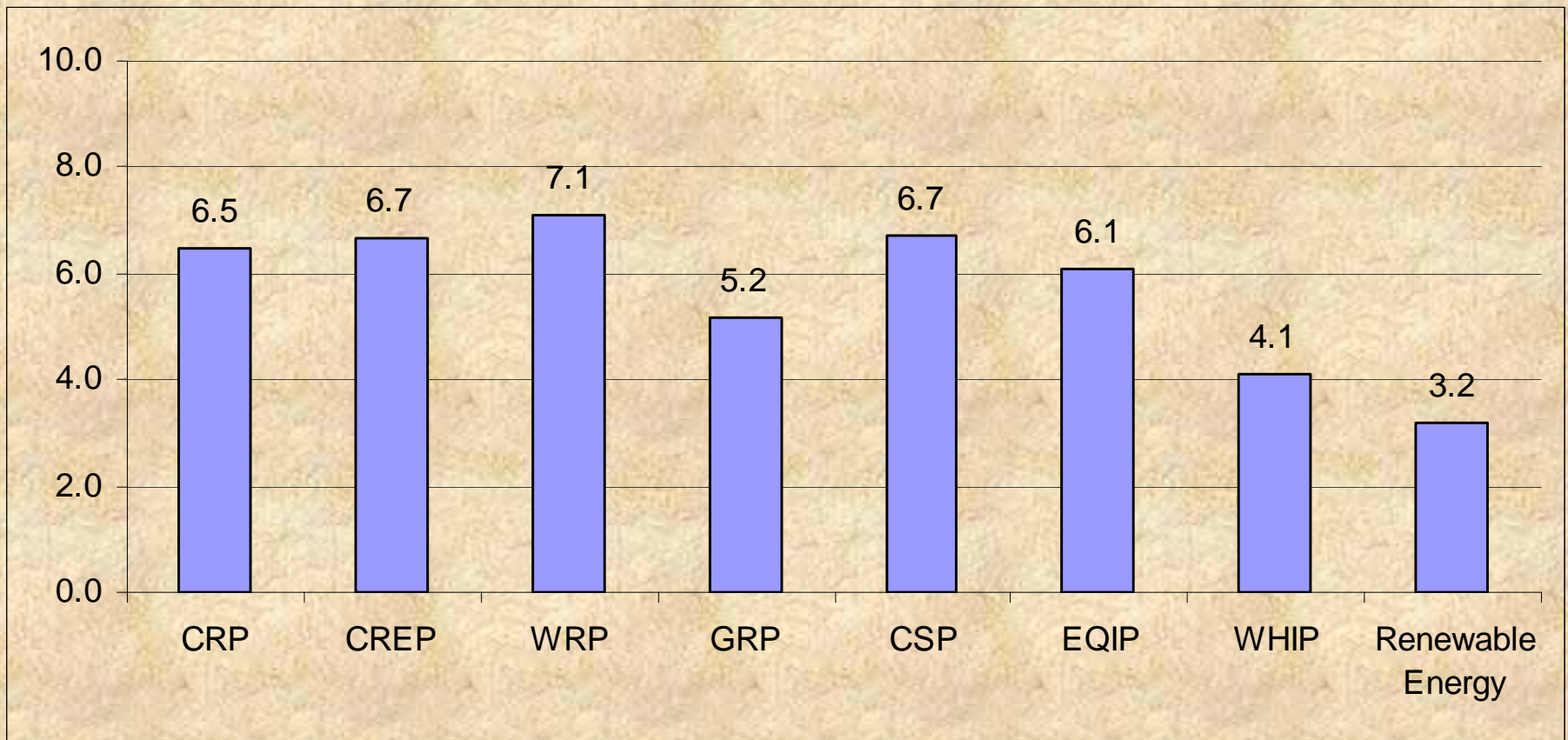
# Maximizing Agricultural Conservation

## Premise #3

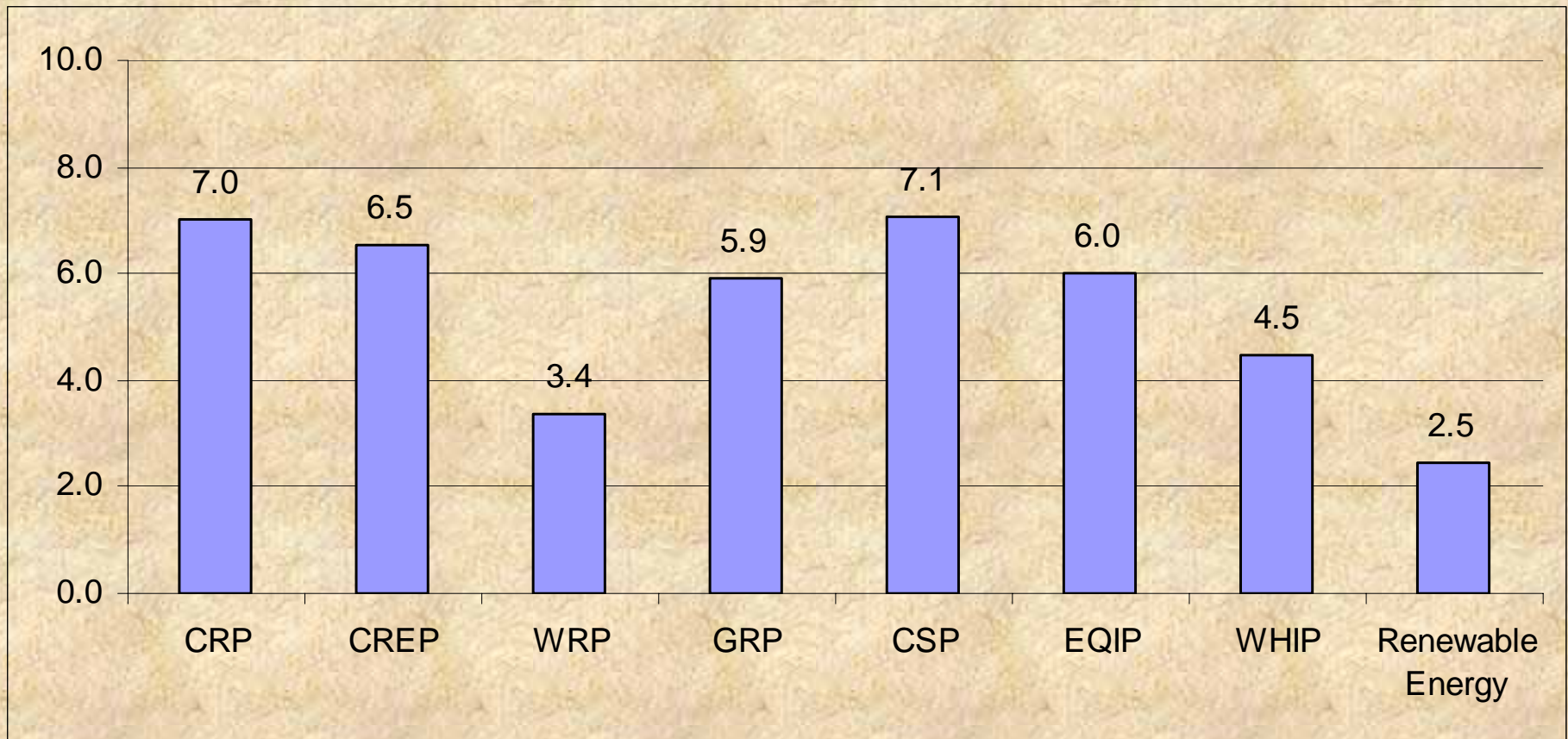
- 
- Each conservation program has strengths and weaknesses. Different political interests will throw their weight behind different programs.



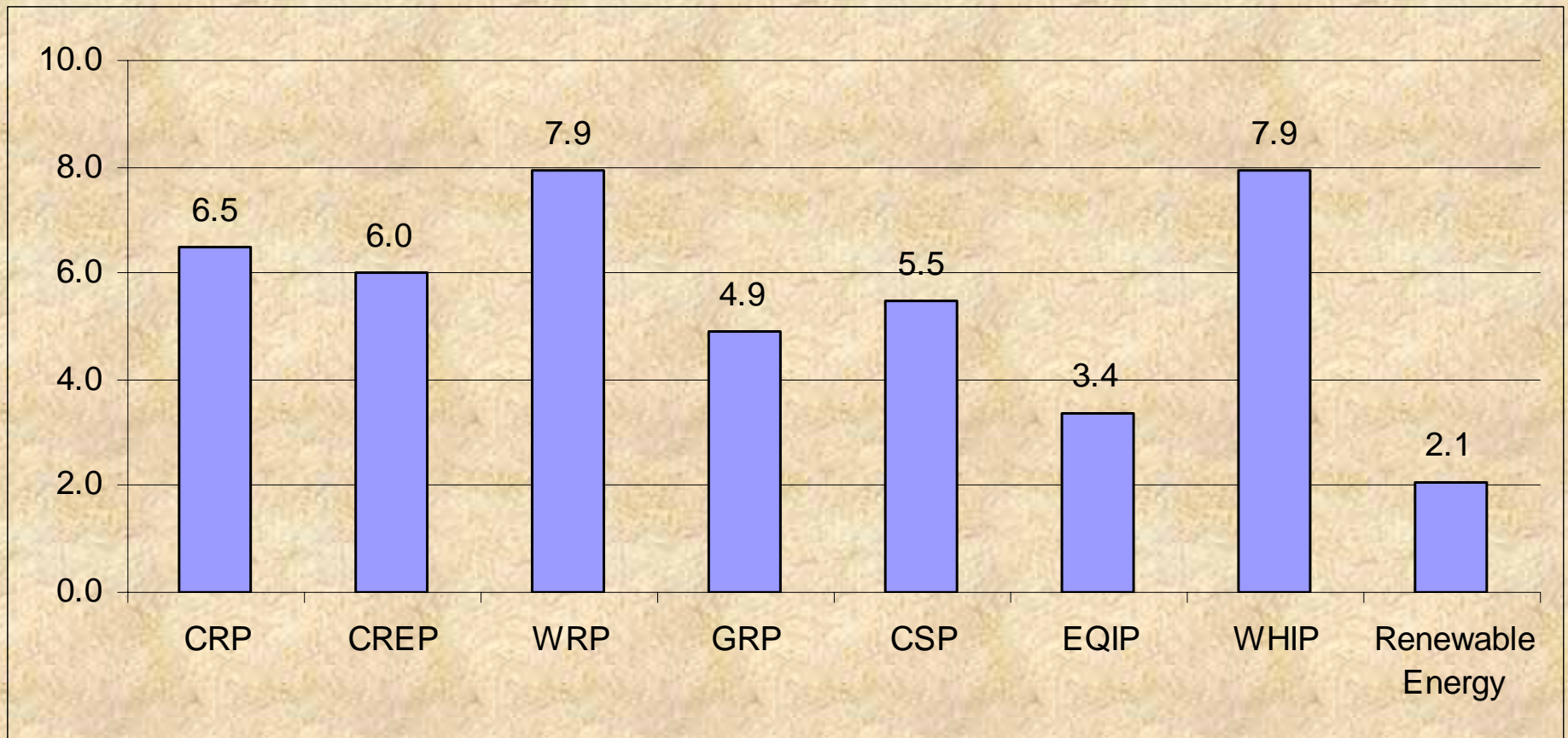
# Perceptions on Conservation Programs Benefits to Water Quality



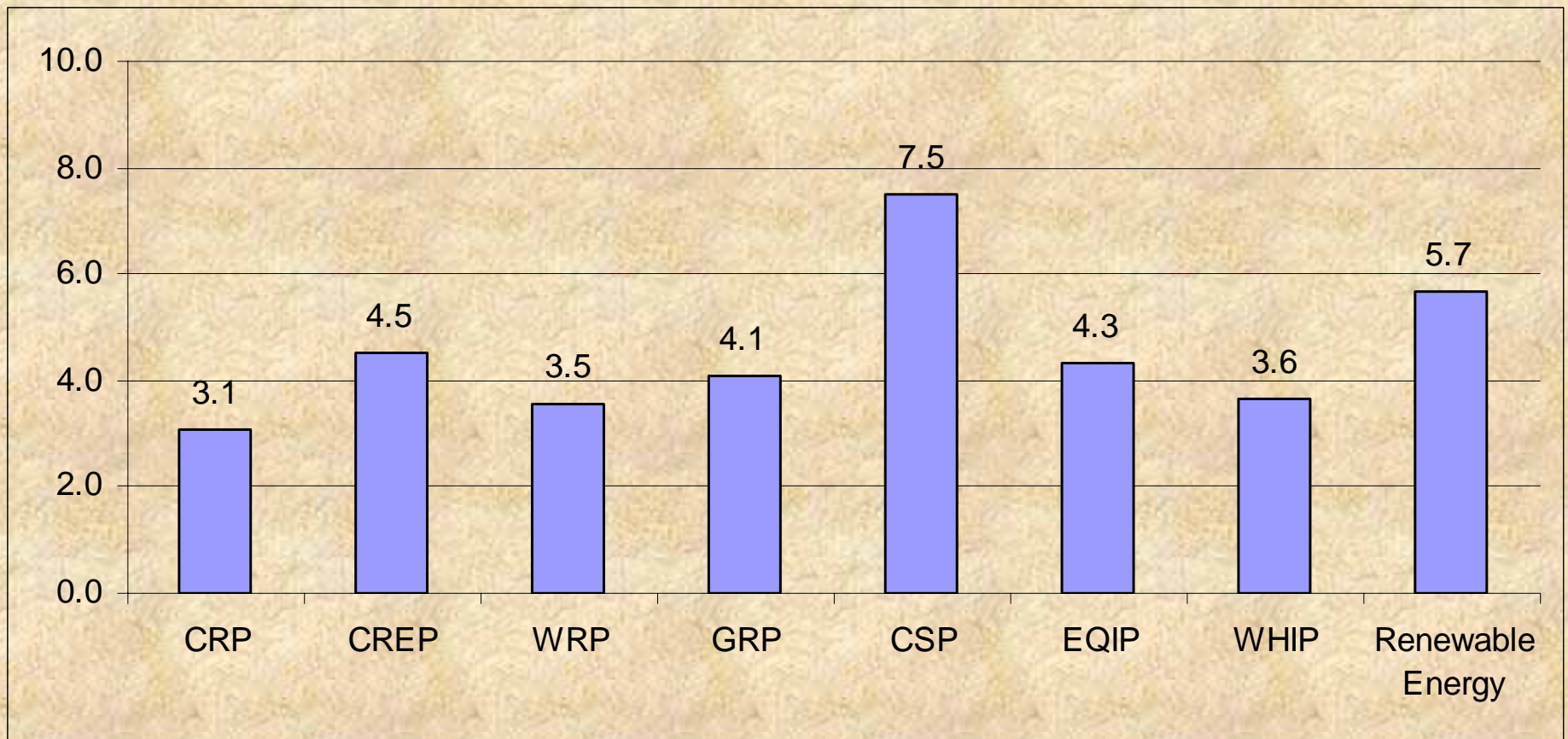
# Perceptions on Conservation Programs Prevention of Soil Erosion



# Perceptions on Conservation Programs Benefits to Wildlife

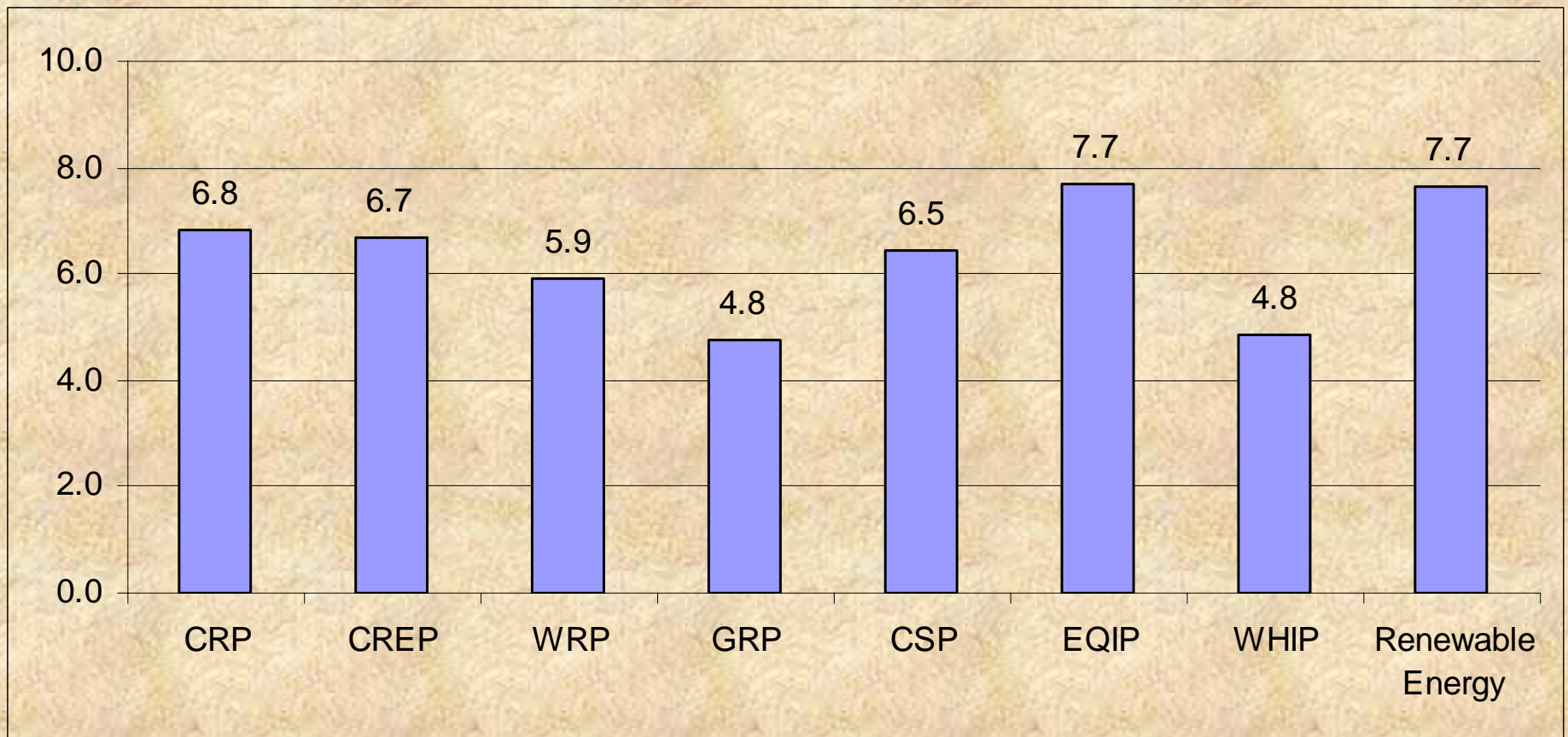


# Perceptions on Conservation Programs Benefits to Rural Economies

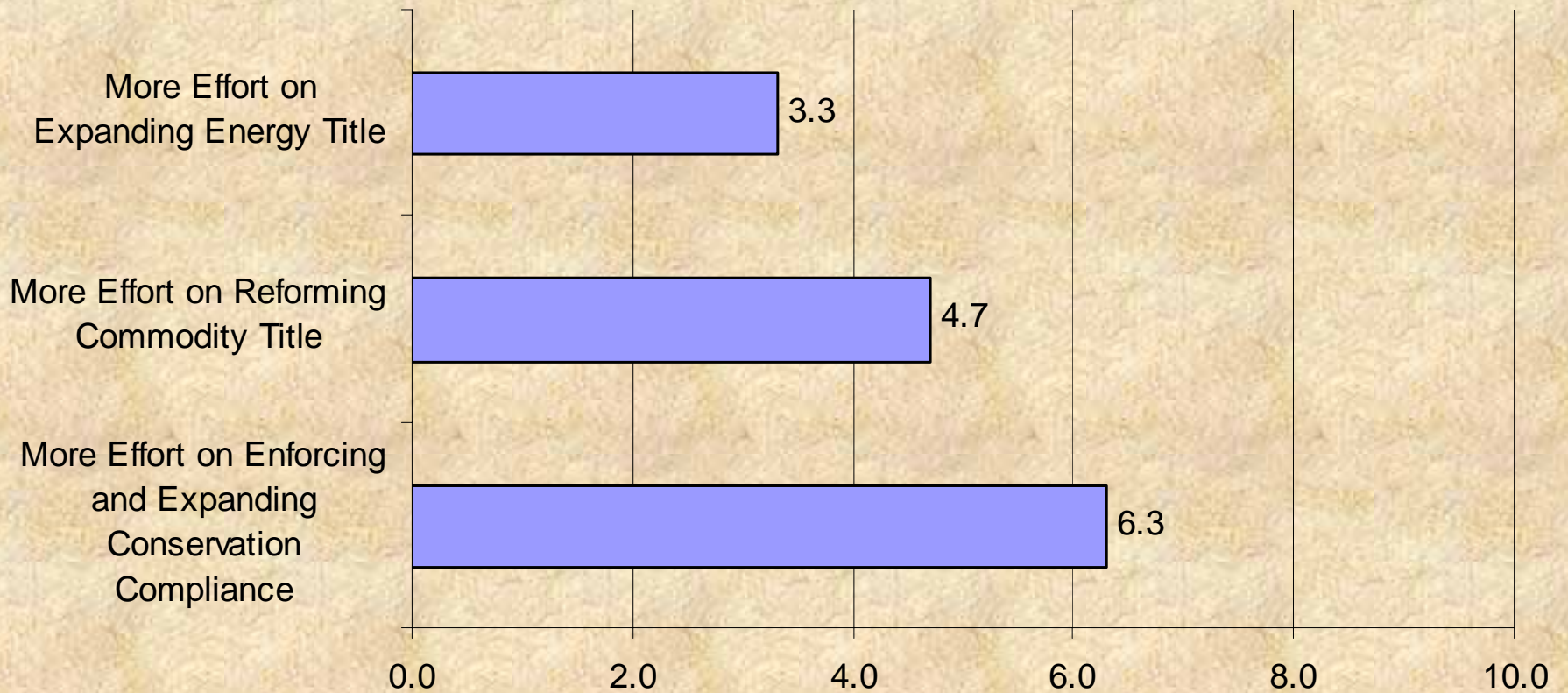


# Perceptions on Conservation Programs

## Political Feasibility



# Lackluster Support for Shifting Emphasis of Conservation Policy



# Maximizing Agricultural Conservation Premise #4

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- Supporters of greater agricultural conservation cannot achieve their goals in isolation.



# To Change Agricultural Policy,

## Get the Eaters!

- More than Farmers
- More than Environmentalists
- More than Taxpayers
- More than Trade Unions
- More than Anti-Hunger Orgs



# The Institute for Agriculture and Trade Policy

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Mark Muller, Dennis Keeney & Heather Schoonover

(612) 870-3420

[mmuller@iatp.org](mailto:mmuller@iatp.org)

<http://www.iatp.org>

