

Policy Considerations in Assessing Bioproduct Developments

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Introduction: Synergism of Agriculture and Energy Policy

- What important changes have occurred in the general direction of crop policy?
- Why are chronic price/income problems continuing in agriculture?
- Can bioenergy dedicated crop(s):
 - Solve a portion of the over-capacity problem in Ag?
 - Reduce government outlays to agriculture?
 - While supplying increased quantities of renewable, domestically-produced feedstock for utilities?

Traditional Policy Levers

- Government Stock Management
 - Loan rate/support price to set a floor price.
 - Limit price increases by Gov't & FOR released stocks
- Restrict supply
 - Short-term set-aside
 - Long-term Conservation Reserve Programs
- Expand demand
 - Domestic
 - Foreign
- Government payments
 - Coupled to production
 - Decoupled

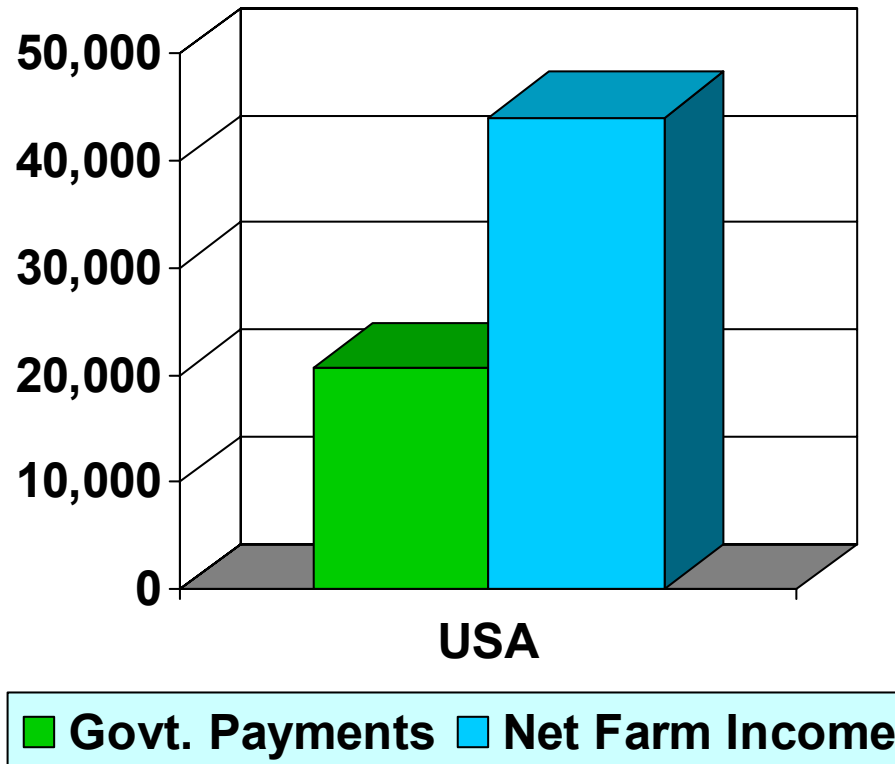
Policy Changes Beginning 1996 Act

- No price support
- No stocks to moderate price spikes
- No annual set-asides
- Government payments used to support farm incomes
 - Some decoupled from production
 - Some not

Influenced by 1996 Expectations

- Continued “High” Prices and Incomes of 1995/1996 was assumed...
- Because:
 - Rapid Per Capita Income Growth in China/Asia
 - With Planting Flexibility & Decoupled Payments
Farmers Would Plant for the Market – Reduce
Production When Needed
 - With No Brake on Prices, Importers Will Import More
From the U.S. When Prices Decline –Increase
Consumption & Reduce Production When Needed
 - With Marketing Loans, Competitors Would Not Be
Under U.S. Price Support Umbrella –Reduce
Production When Needed

1999 Net Farm Income and Government Payments



So, What is the Problem?

- Technology expands output faster than population expands demand
- Market failure: lower prices do not solve the problem
- No self-correction on the demand side
 - People will pay almost anything when food is short
 - Low prices do not induce people to eat more
- No self-correction on the supply side
 - Farmers tend to produce on all their acreage
 - No alternate use for land

The Bioenergy Connection

- Too many acres in crops to generate adequate market incomes
- Farmers do not like to set aside land; they like to farm
- Bioenergy Alternative: Transfer some land to a dedicated bioenergy crop

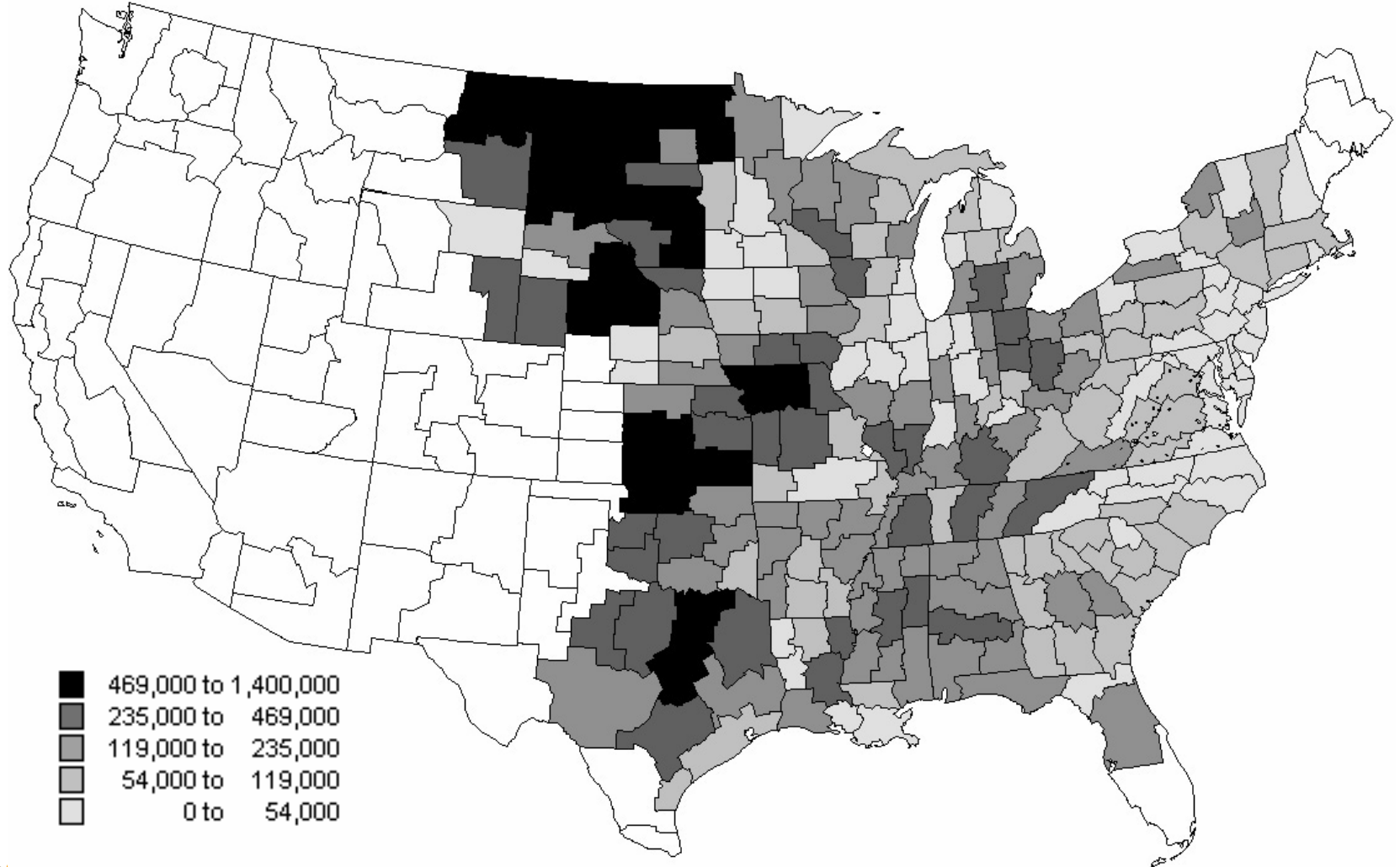
Questions:

- Could a bioenergy crop “buy” acreage away from traditional crops?
- If so, could agricultural prices and market returns be significantly enhanced?
- If so, could saved government farm payments be used instead to make the bioenergy crop a cost-effective fuel for utilities?

So, Let's Suppose:

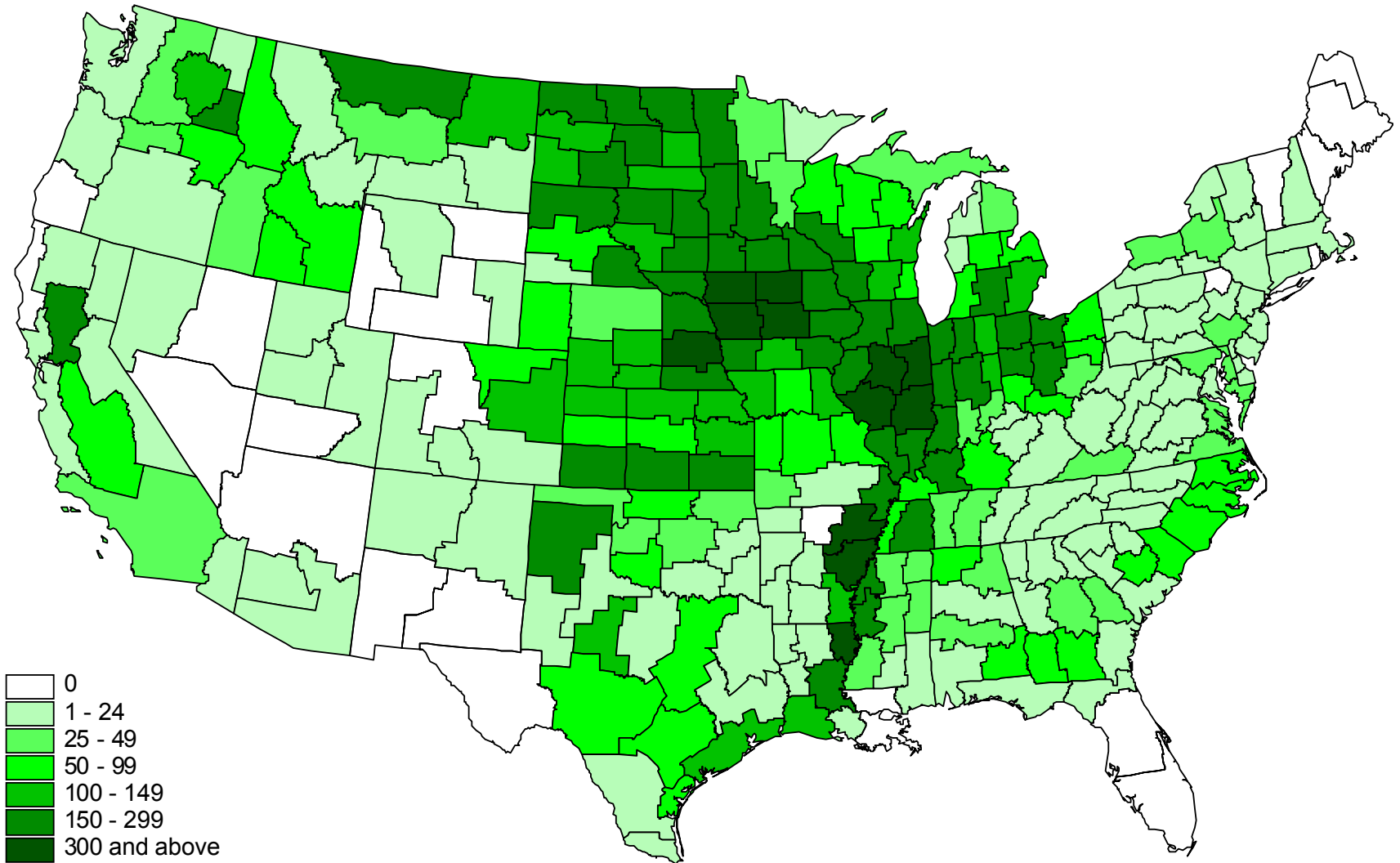
- Farmers could receive \$40 per dry ton for switchgrass
- Switchgrass production was initiated in 1996 and achieved full production in 1998
 - Switchgrass is a perennial. It takes three years to reach full production
- Make net returns comparisons for the average of the five year period 1996-2000

Result: 22.23 Mil. Ac. Go Into Switchgrass

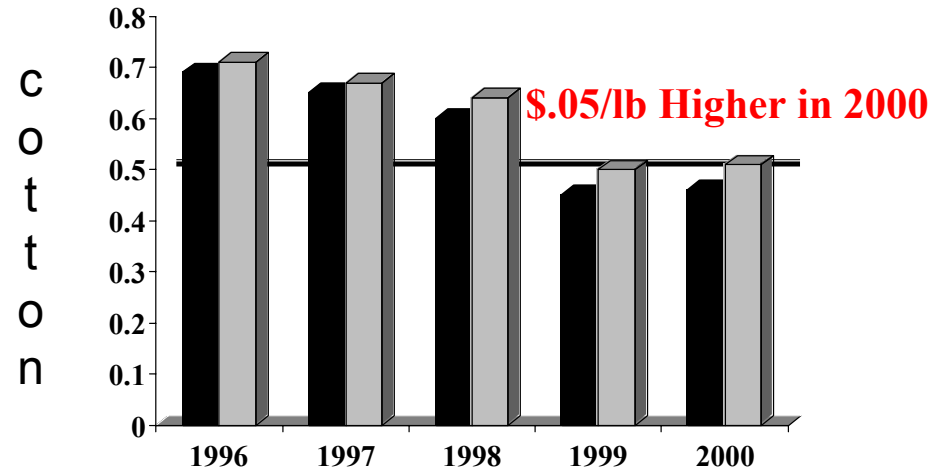
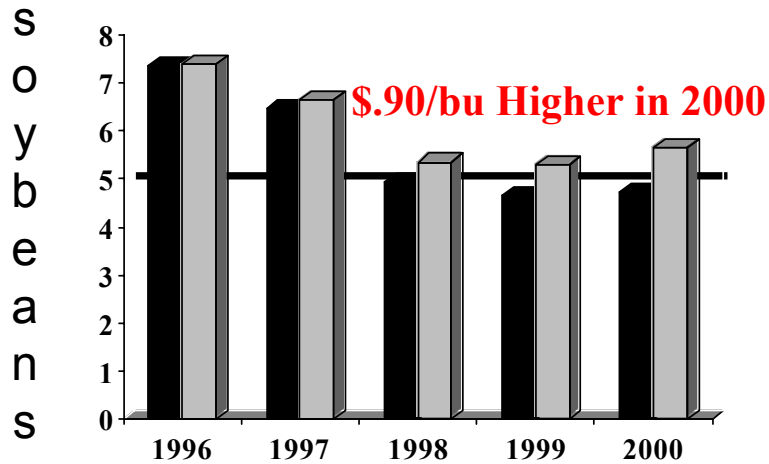
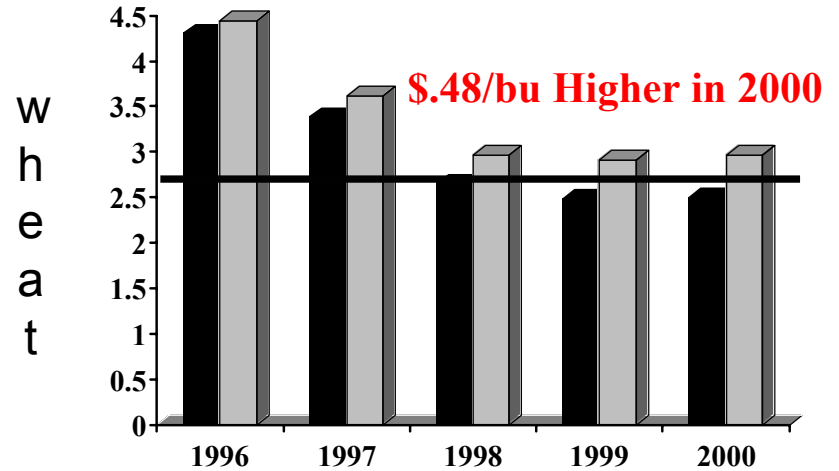
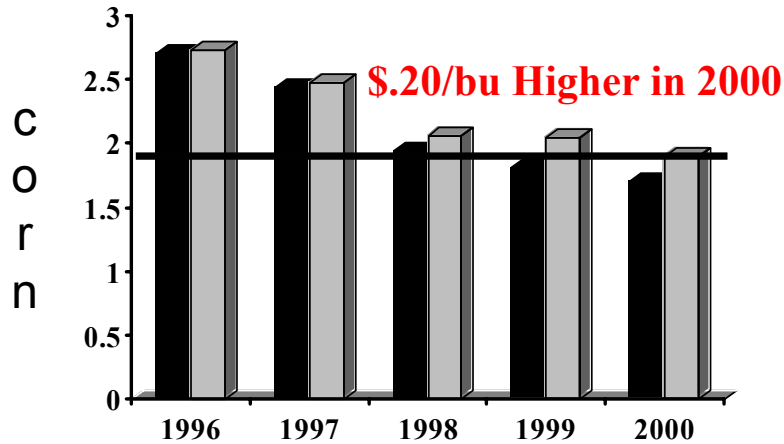


Change in Market Returns, 1996-2000

(million \$)



Results: Higher Crop Prices



Results: Increased Net Returns

**Annual Average 1996 -2000
(million dollars)**

	Actual	With Switch- grass
Market Net Returns for Eight Major Crops	21,547	25,102
Increased Market Net Returns from Switchgrass		657
Loan Deficiency Payments	1,888	39
Total of Above	23,435	25,798

Could Subsidize Switchgrass Cost to Utilities AND Reduce Overall Government Outlays

- With the farm program savings of \$9 Bil (1.8 ave. x 5 yrs)
 - Government could have purchased the switchgrass from farms and GIVEN it the utilities and still saved \$1 billion dollars over the five years
- More realistically...
 - With, say, a \$18 per dry ton subsidy, the remaining \$22 per dry ton cost to the utility would be about \$1.40 per Mbtu (plus transportation and storage costs)
 - This compares with a natural gas cost that typically ranges from \$2 to \$4 per Mbtu
 - Then the government's five year savings would have exceeded \$5 billion

Concluding Remarks

Dedicated Bioenergy Crops Can Provide:

- Additional market returns for farmers
 - Without set aside
 - Land can be converted back to major crops
 - Competes at the land level; not the use level
- Reduced government outlays
- Increased reliance on domestic sources of renewable energy and most likely
- Environmental benefits

For More Information ...

www.agpolicy.org

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