Is Now the Time to Raise Livestock?

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Iowa Cattle Marketed

Million Head

Iowa Hog Inventory

[Graph showing the number of million head of hogs in Iowa from 1988 to 2006. The number of hogs fluctuates between 12 and 18 million, with a notable dip around 1996 followed by a steady increase towards the end of the period.]
Iowa Turkey Production

Million Head


0 2 4 6 8 10 12
Iowa Egg Production

Billion

Snapshot of where we are

• Iowa remains the place to buy low-cost feed
• Iowa finishing hog numbers are up, egg production is up
  – All other livestock activities are flat to declining
• Increased corn use from ethanol offset somewhat by increased byproduct availability
• Total feed availability likely still increasing notwithstanding the ethanol boom
• Adopt livestock-friendly policies:
  – Confined dairy and beef production increases dramatically
  – Share of U.S. and Canadian feeder pigs finished in Iowa continues to increase
  – Broiler production migrates back to Iowa
  – Rural populations reverse decline
  – Agriculture’s share of state product increases
  – Iowa becomes home to greater immigrant population
  – Iowa becomes home to greater PhD population
  – Iowa imports of fertilizer decline dramatically
A Second Path for Iowa Agriculture

- Iowa clamps down in siting new livestock facilities and adopts weaker nuisance protection
  - Dairy and beef production continue decline
  - Share of hog finishing declines slowly
  - Acceleration of trend towards urbanization
  - Rural populations continue to decline (Iowa becomes older and whiter)
  - Recreational opportunities (scenery, hunting, and agro-tourism) increase for some.
What About Ethanol and Biodiesel?

• A Holy Grail?
  – Excess demand for corn and soybean oil
  – Feed supply from byproducts
  – No more need for Federal farm subsidies
  – No need to worry about trade agreements or export cutoffs (Japan and beef)
  – Patriotic
  – Value-added agriculture (jobs, income, investment, state revenue)
Are Corn and Soybean Oil the Long-Run Least Cost Feedstocks?

- Renessen
  - Corn oil instead of soy oil?
- Ethanol from cellulose
  - Take low value land and create high value feedstock
- Synthetic fuels from oils sands and waste products?
- Ethanol imports from Brazil?
All Eggs in the Biofuels Basket?

• What would happen to corn demand if cellulose became low-cost ethanol feedstock?
• Would Congress grant corn ethanol special treatment?
• Livestock feed demand will continue to grow as China and India demand more protein.
• Food will out-compete fuel if necessary.
Iowa Ag History in One Slide

• Income from livestock vs crops
• Now a separation
  – Technology-induced economies of scale
  – Finishing vs breeding
  – Specialization increases labor efficiency
  – Farm programs/crop insurance took the risk out of crop farming
• Crop farmers that are also livestock producers are rare (% of production)
New Competitive Advantage?

• Land rent $125 - $175 per acre
• Value of manure between $40 (corn-soybean) and $72 (corn-corn)
• Will incentive create new diversified producers?
  – With some exceptions, cannot rewind history
• Will incentive create siting invitations from crop producers?
<table>
<thead>
<tr>
<th>Crop Rotation</th>
<th>Finishing Hogs</th>
<th>Fed Cattle</th>
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Sioux County Example

• Assumptions
  – 660 Sections of crop land
  – Under a corn-corn-bean rotation, 430 sections fertilized with hogs, 230 sections with cattle
  – Phosphorus standard
  – 2.45 turns for hogs and 2 turns for cattle

➢ Capacity to use manure from 2.5 million hogs and 264,000 fed cattle

➢ In 2003, 2.5 million hogs and 228,000 cattle generate manure worth $17 million
Potential Manure Use in Iowa

• Assumptions
  – 36,000 sections of corn and soybeans
  – Corn-corn-soybean rotation, P standard

• Requirements
  – 104 million hogs
  – 21.1 fed cattle

• In 2004, the United States produced 104 million fed hogs and 26 million fed cattle

• Iowa would still have to import N, but would produce enough corn and soybeans to feed all U.S. hogs and beef cattle
AFOs in Hamilton and Hardin Counties
Zooming in High Density Location
AFO Density in Pocahontas County
Realistic?

• No, unless:
  – Iowa imports 150 million bu of corn to produce 1.62 billion gallons of existing or planned ethanol capacity
  – County residents leave, or
  – County residents have a stake in livestock production

• Is $60 per acre to crop farmers enough of an incentive?
Some calculations

• $60 per acre times 600 acres = $36,000
• Livestock facilities may decrease property values by perhaps 15% if ½ mile away (Secchi, Herriges, and Babcock)
• $36,000 annual value from manure can compensate for damage from a $1.6 million home at a discount rate of 15%
• How many rural residents does it take to generate $1.6 million in property damage?
Two Paths to More Livestock

• Brute-force
  – Deny any environmental damage
  – Characterize all anti-livestock groups as ICCI-crazies
  – Preempt all local control
  – Create legal immunity from nuisance lawsuits
An Alternative

• Seek to neutralize opponents or make them better off
  – Strict runoff controls
  – More measures of odor levels and damage
  – Compensation to affected residents
  – Adoption of first-in-time first-in-right rules
  – Obtain buy-in from greater rural populations
  – Explore creative land use policies (zoning?) that increase siting certainty
How to Achieve?

• Requires visionary leadership
  – Farm groups
  – Political parties
  – Livestock opponents
  – Rural residents