

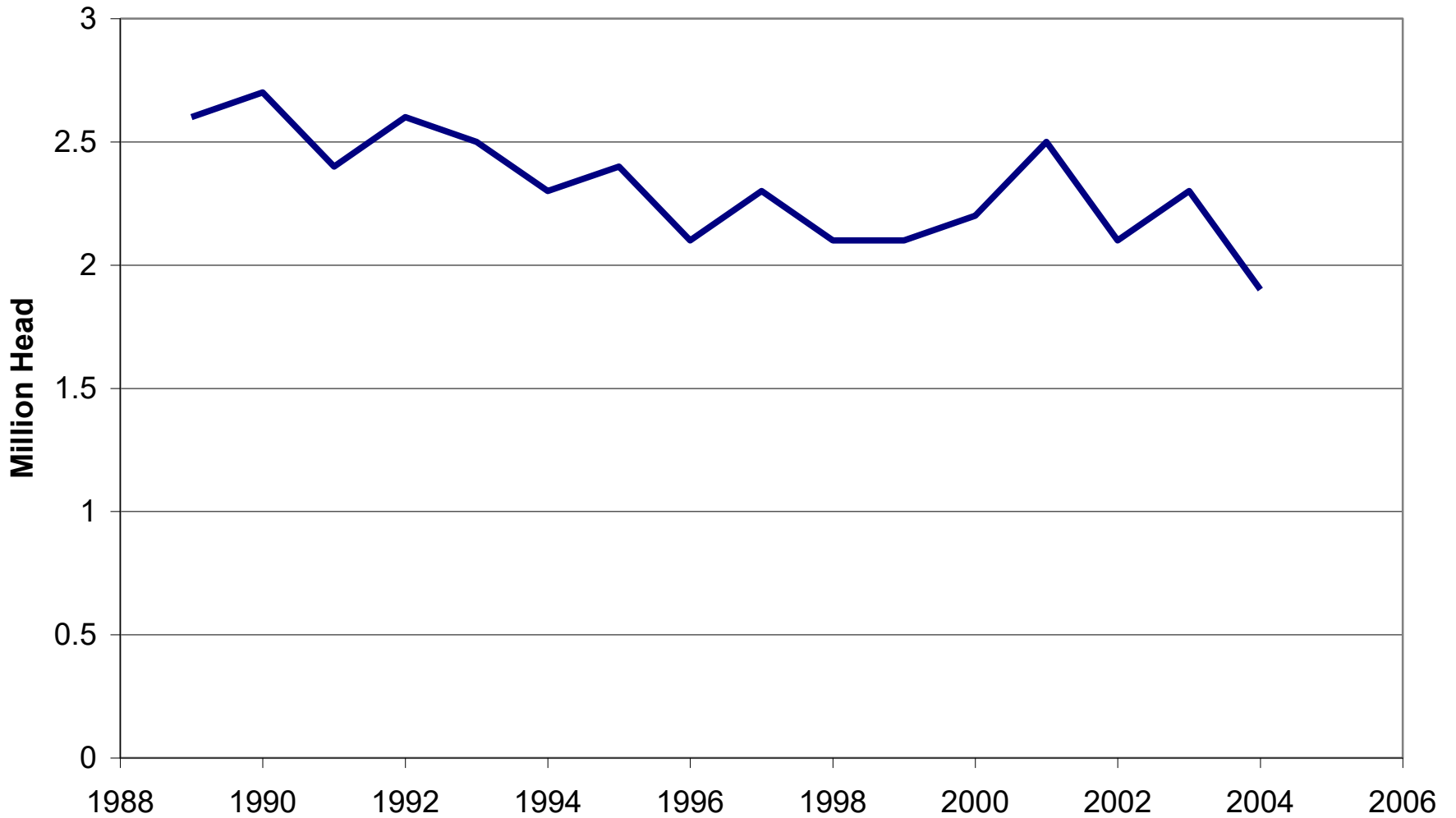
Is Now the Time to Raise Livestock?

Bruce A. Babcock

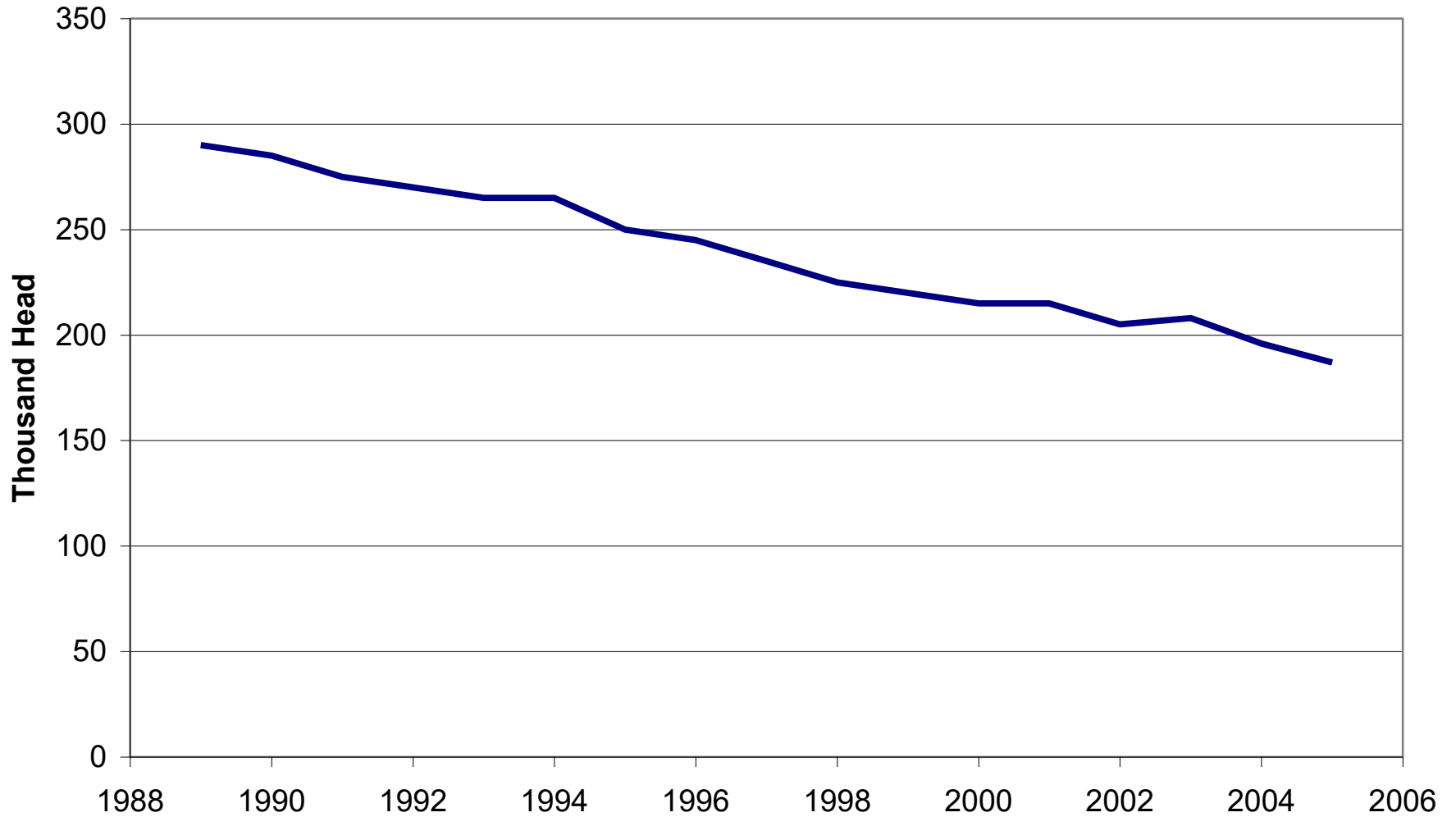
Center for Agricultural and Rural Development
Iowa State University

Presented at "Farming Matters: An Iowa Crop and Livestock Forum."
Amana Colonies, IA March 28, 2006

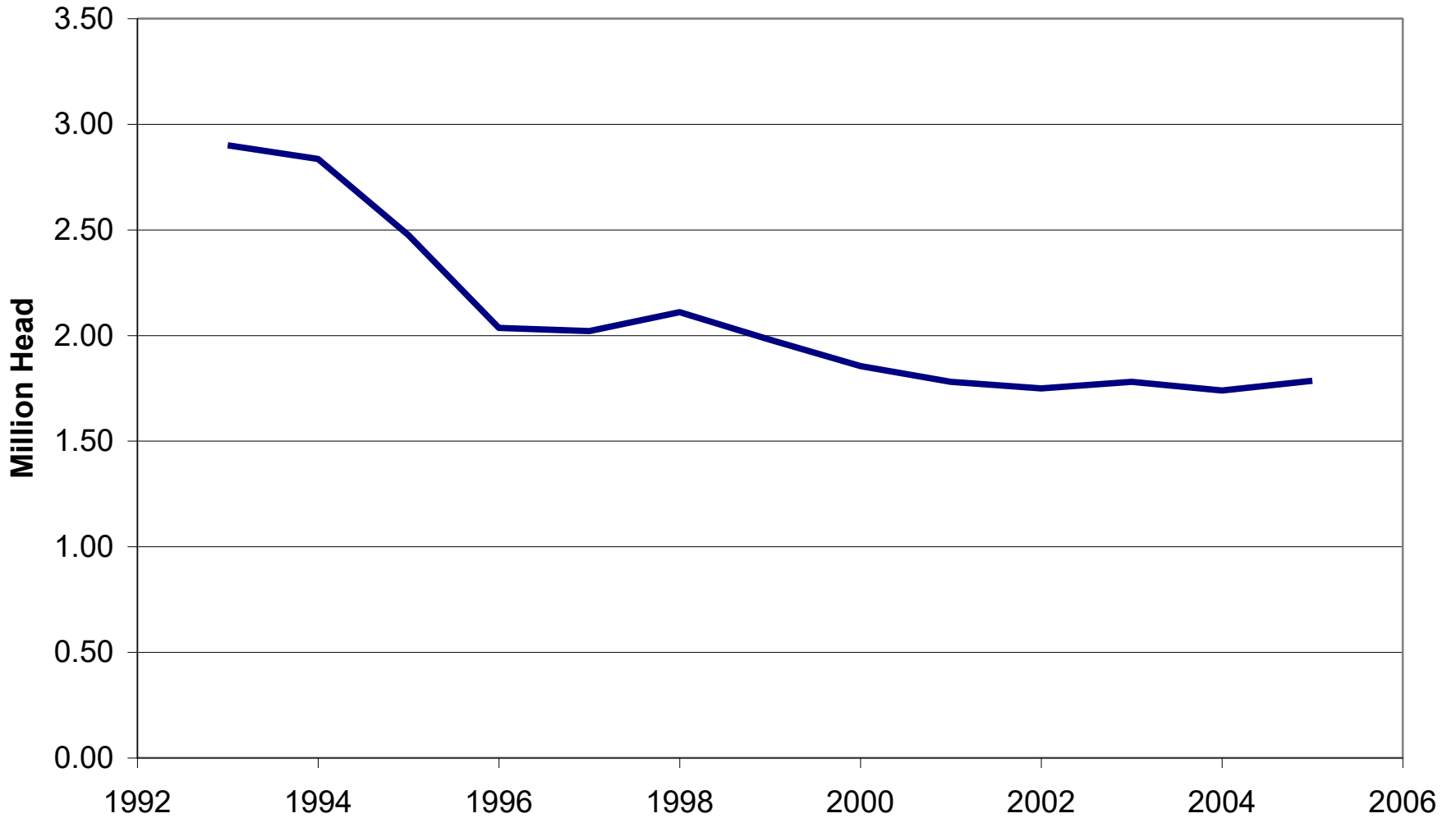
Iowa Cattle Marketed



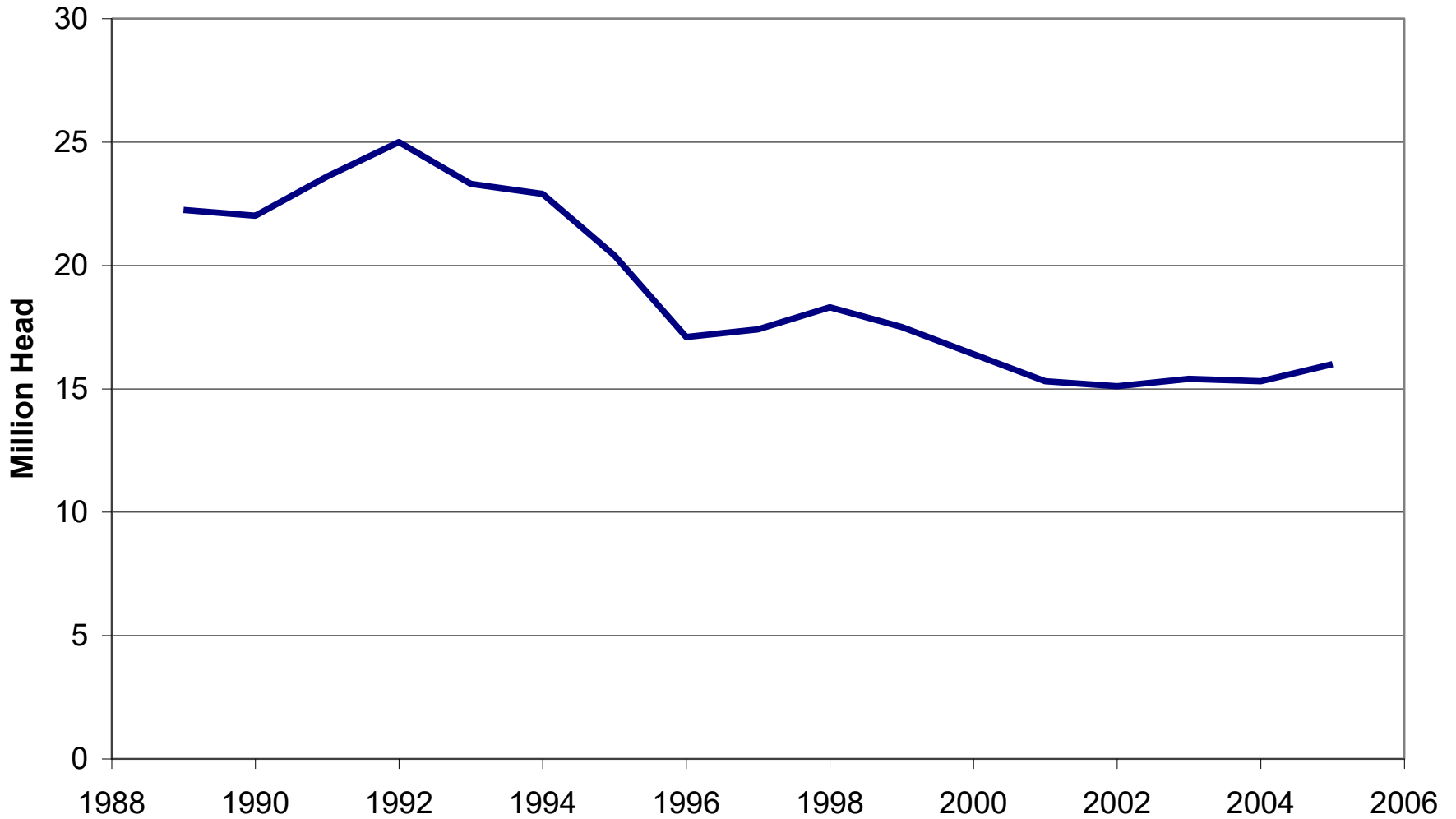
Iowa Milking Cows



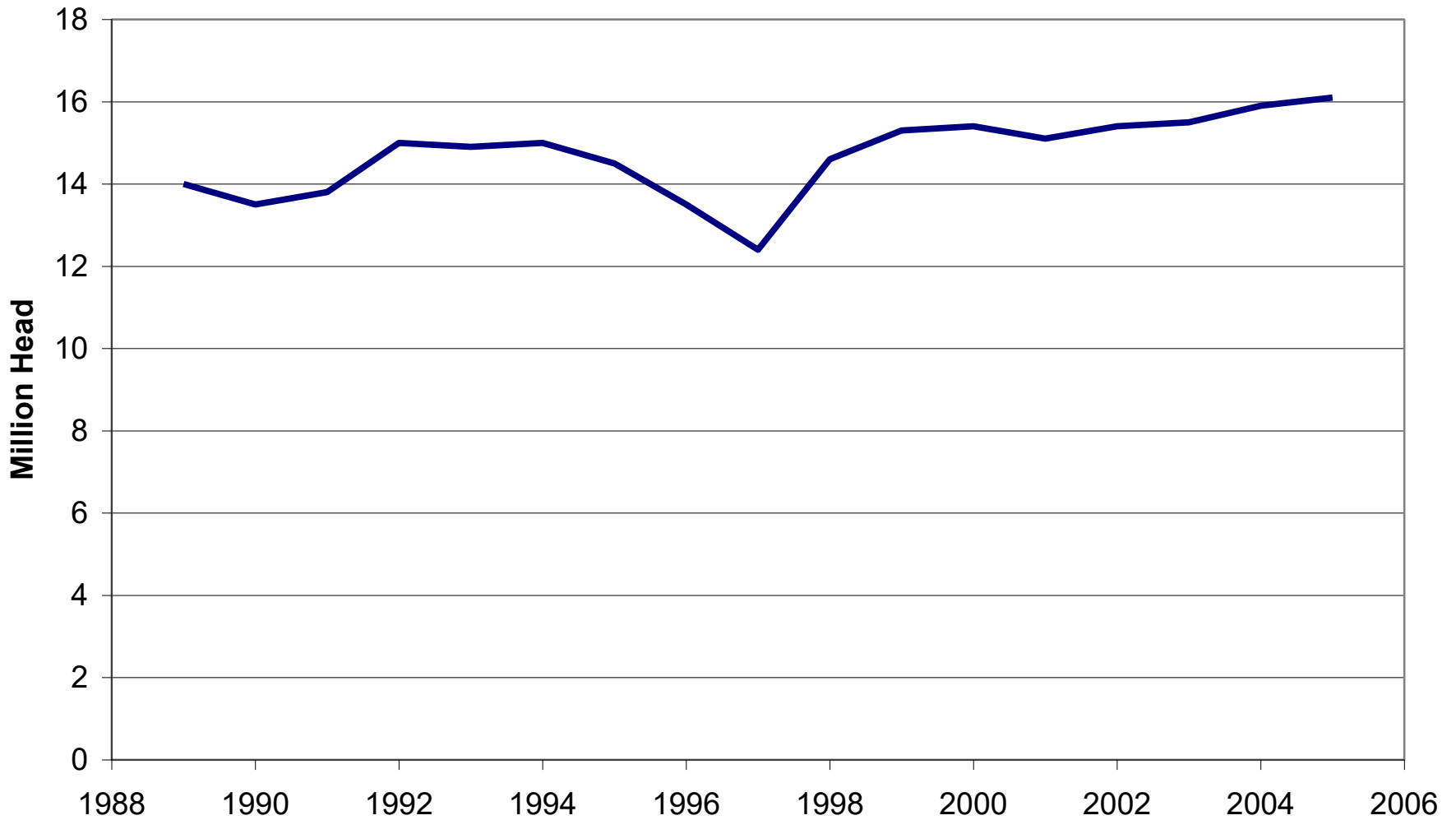
Iowa Sow Inventory



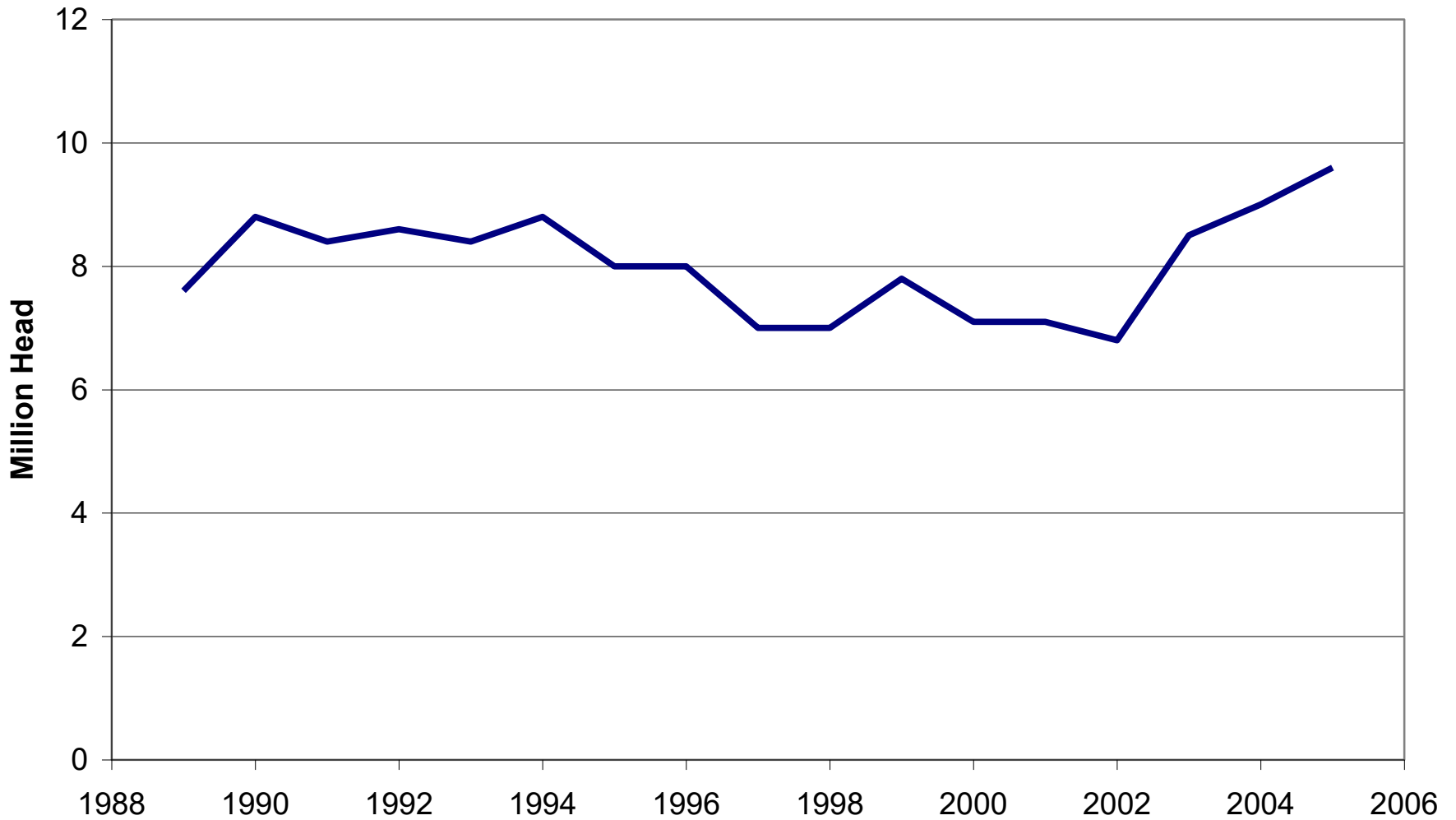
Iowa Feeder Pig Production: 1989 to 2005



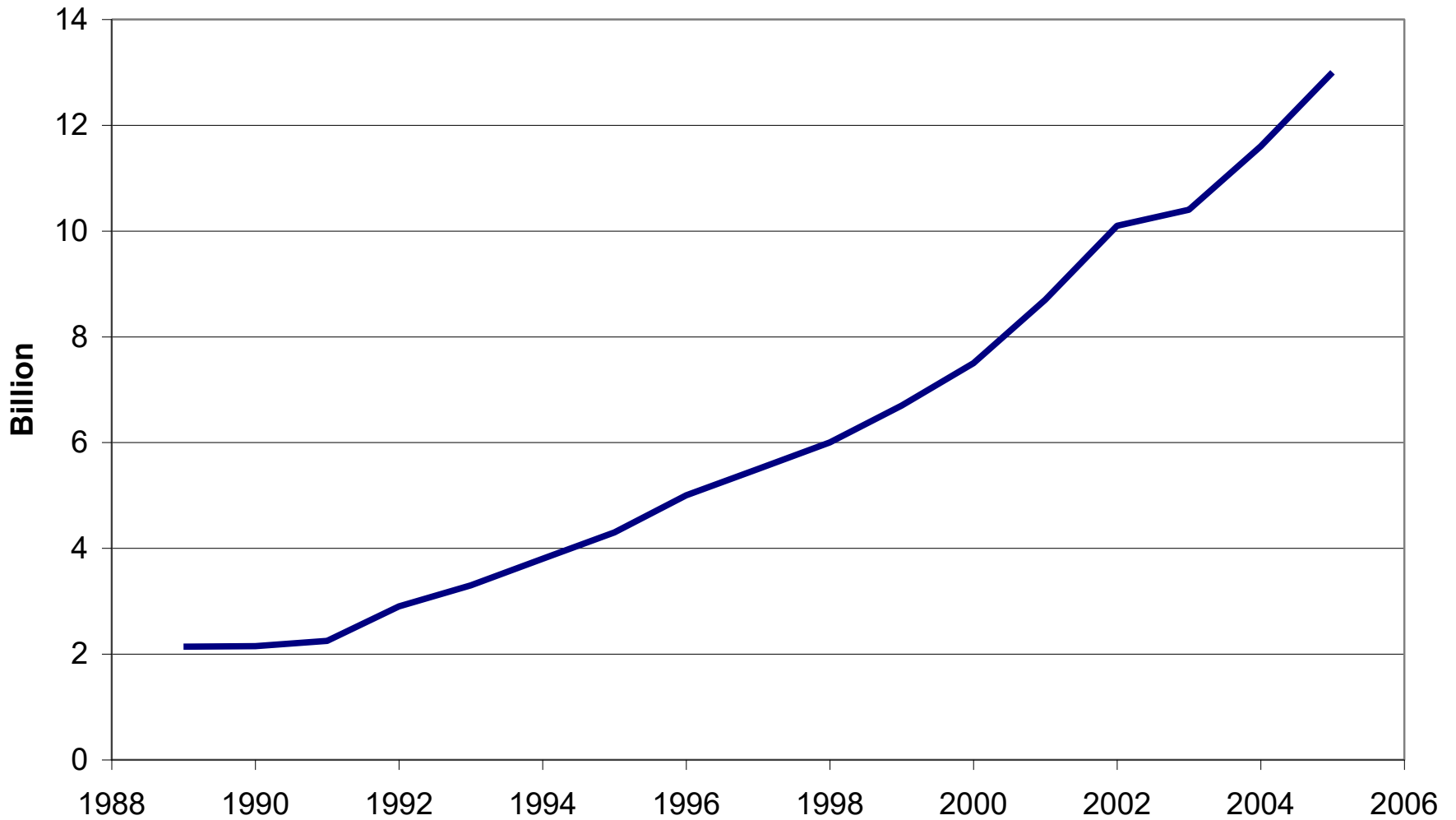
Iowa Hog Inventory



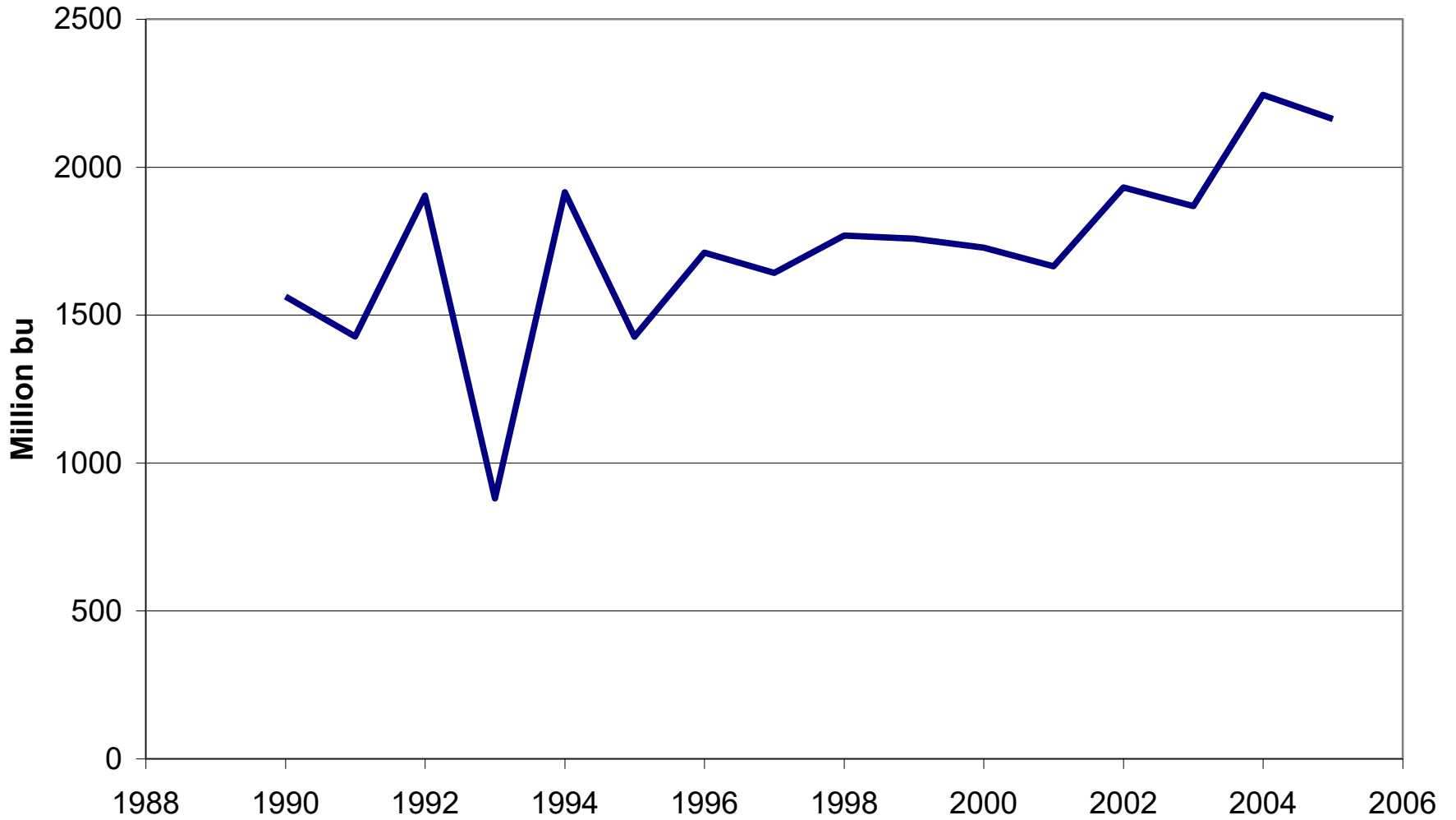
Iowa Turkey Production



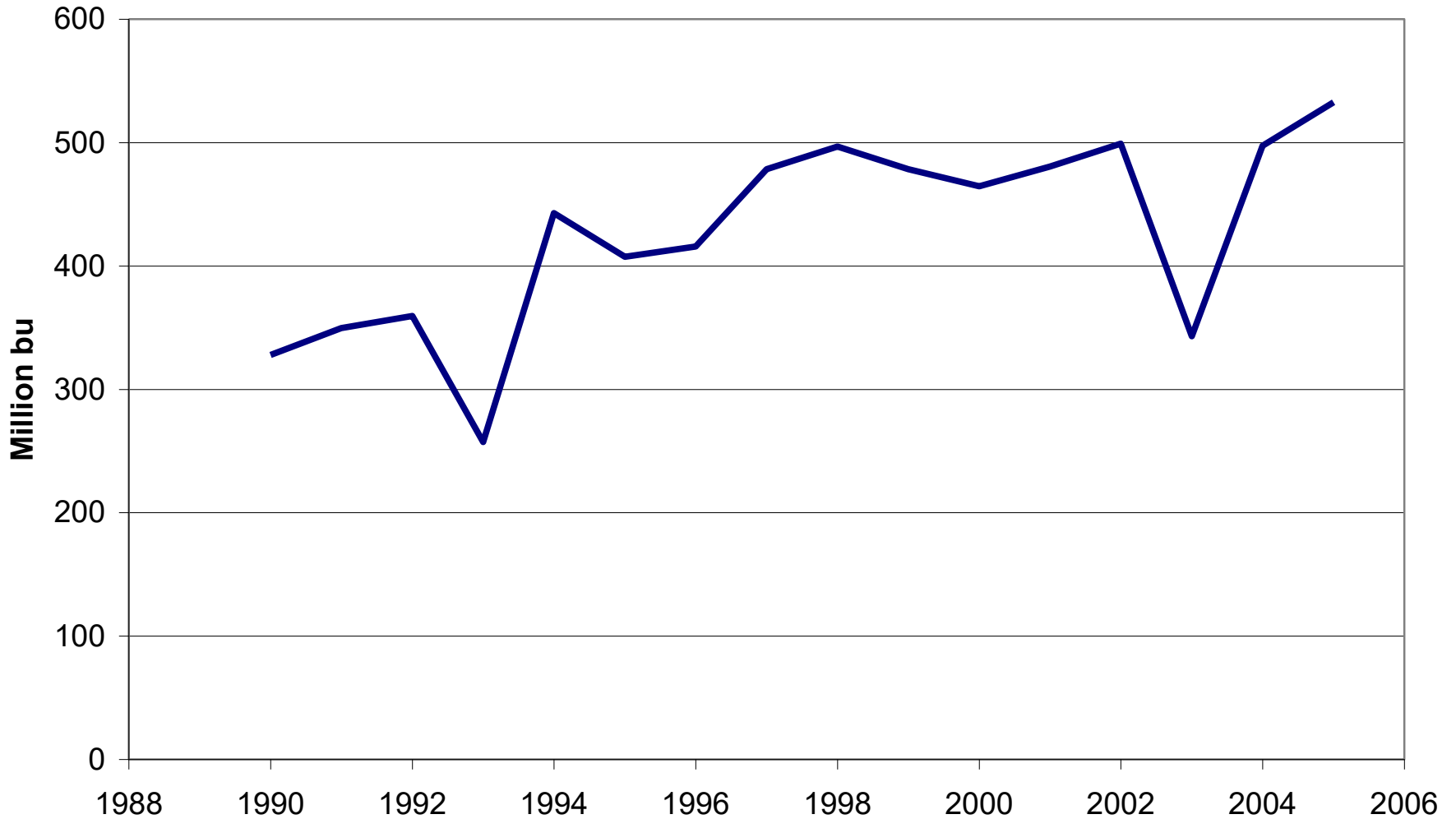
Iowa Egg Production



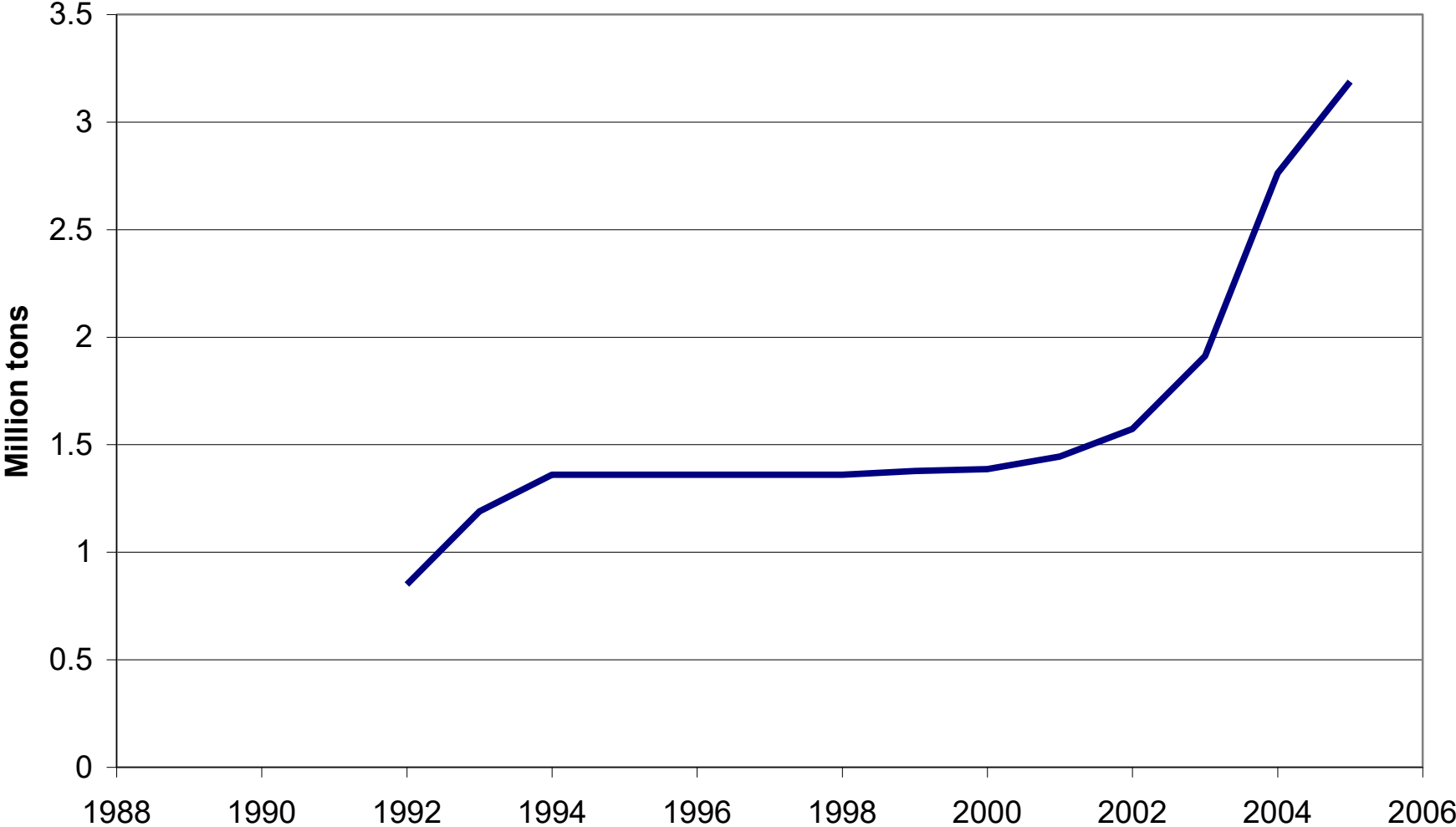
Iowa Corn Production



Iowa Soybean Production



Iowa DDG Production



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

One Path for Iowa Agriculture

- 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?

Animal Spaces Needed to Fertilizer a Section

Crop Rotation	Finishing Hogs	Fed Cattle
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Continuous Corn

N-Standard	5,734	1,213
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P-Standard	2,731	651
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Corn-Corn-Beans

N-Standard	3,186	674
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P-Standard	2,412	575
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Corn-Beans

N-Standard	1,911	404
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P-Standard	2,275	542
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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

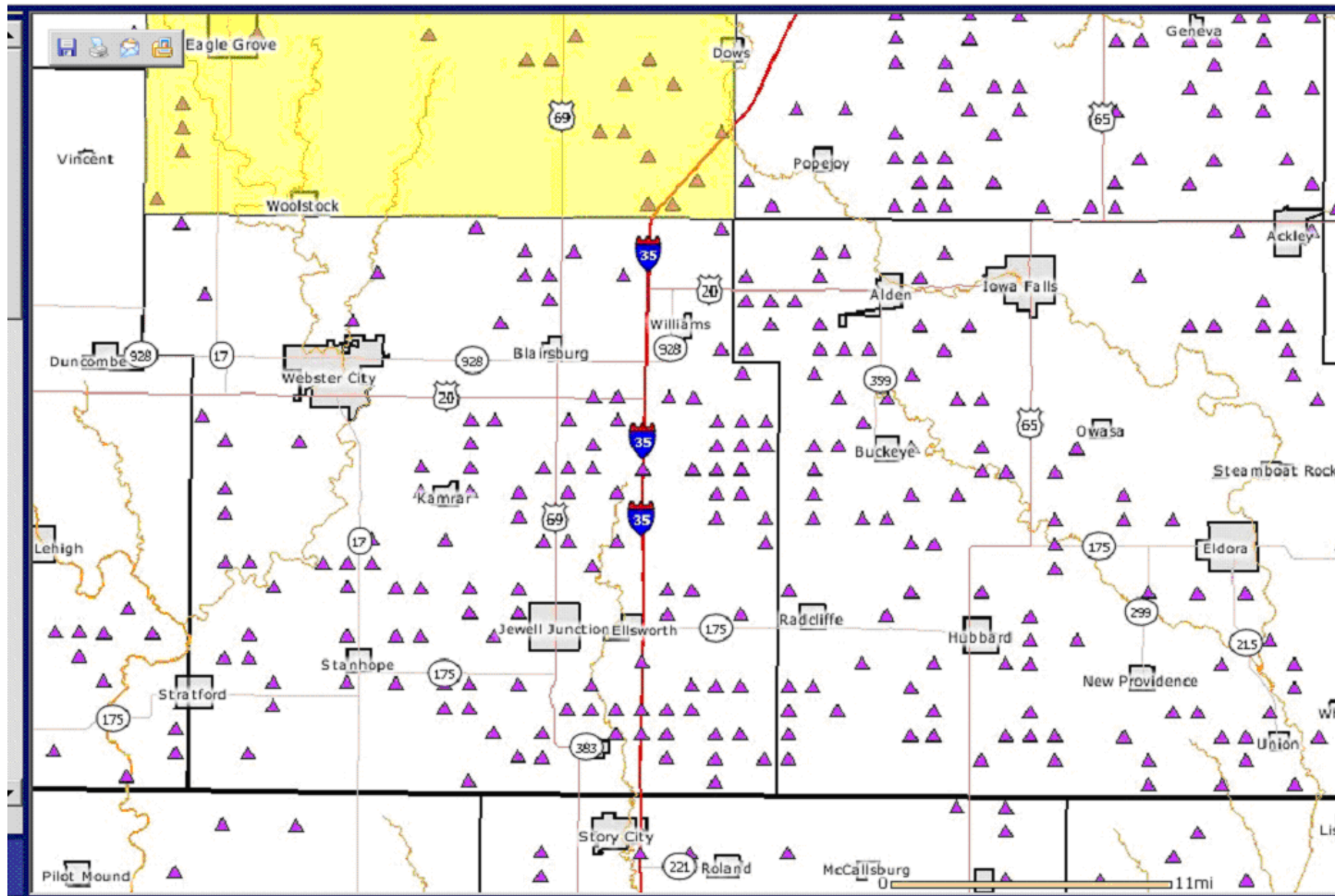


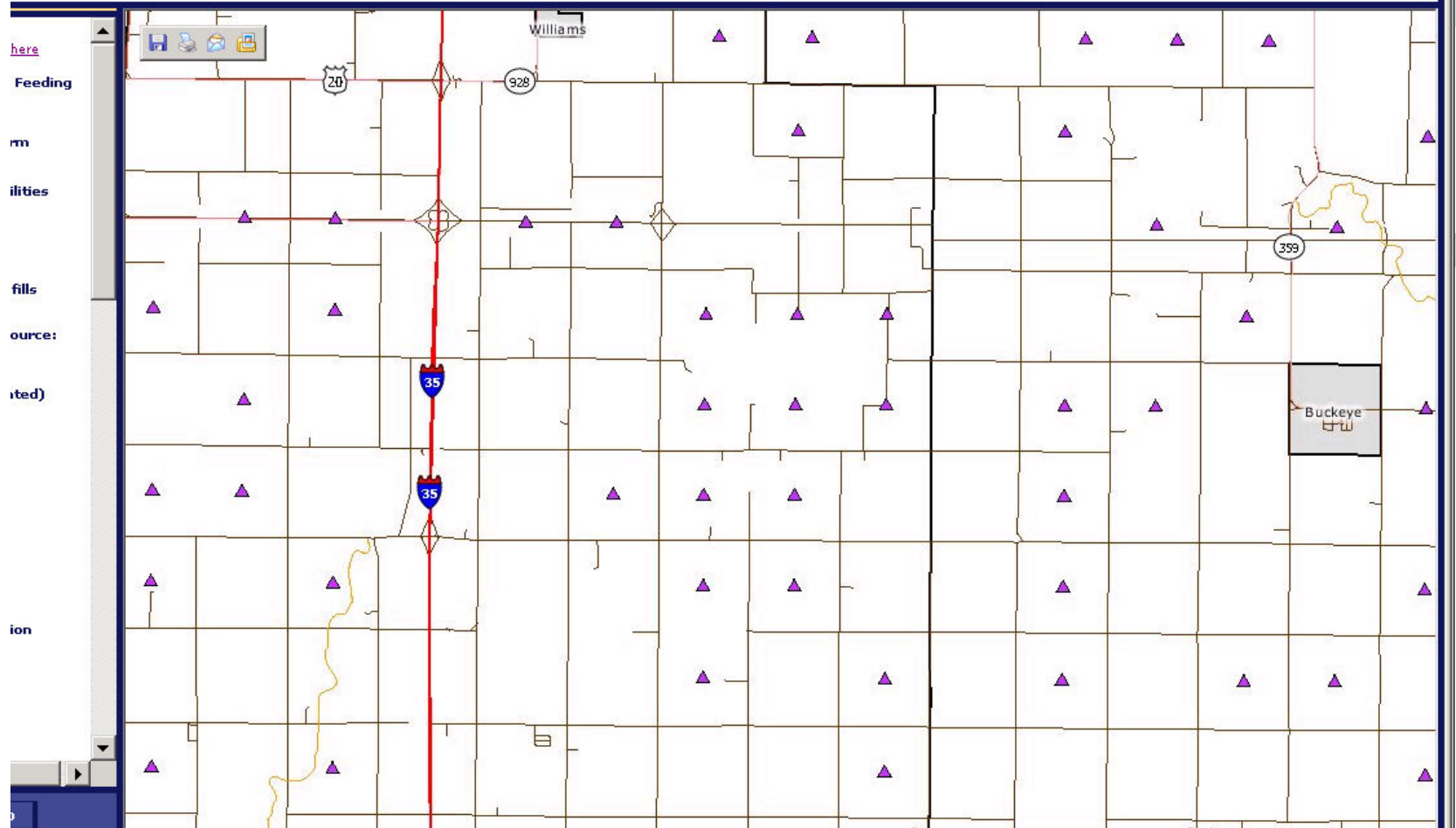
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Internet

Zooming in High Density Location

ta, which contains a description of the columns in the table below [click here](#).

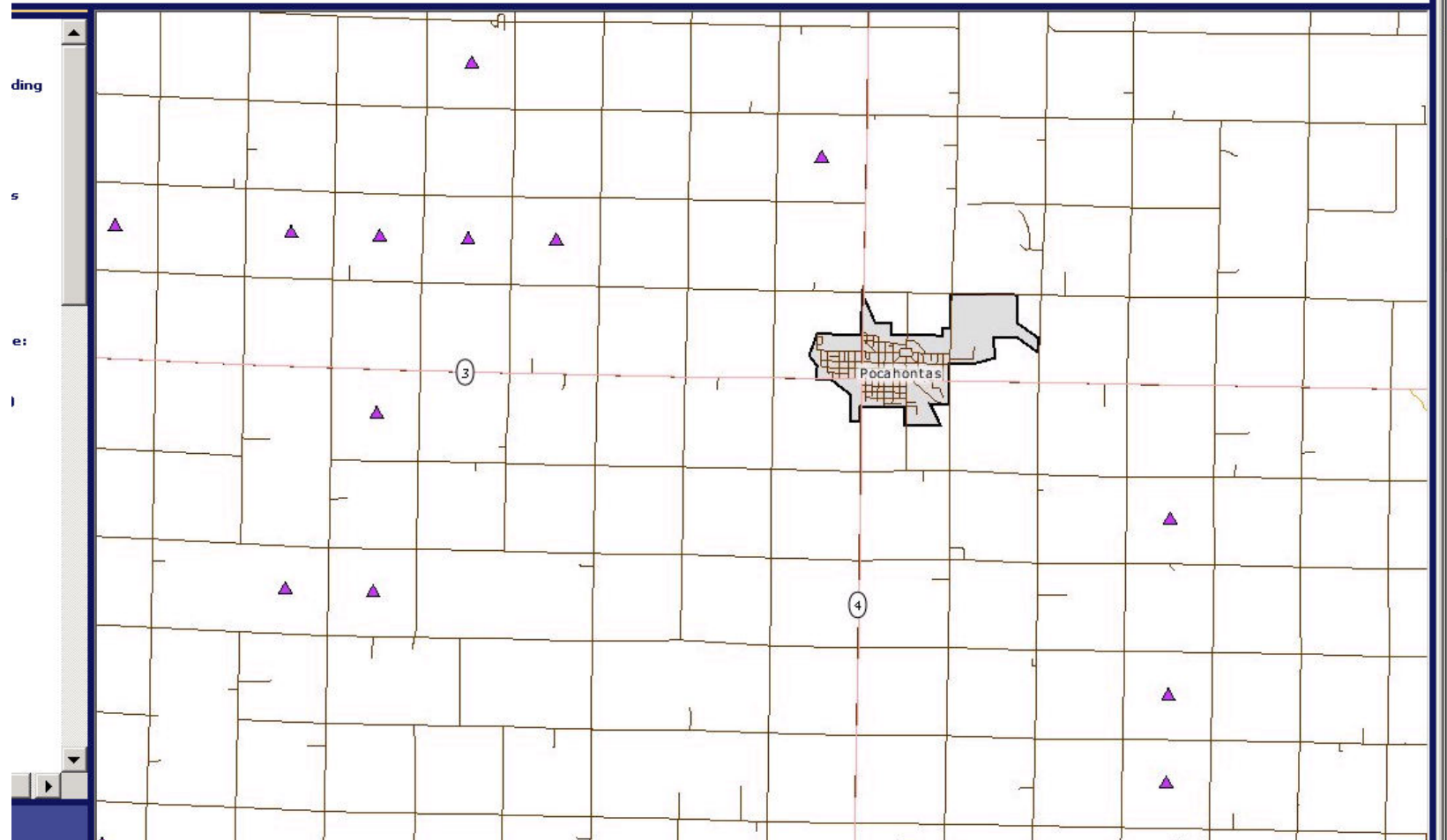
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197	372186.1	372187.7	19197	WRIGHT	IA	



AFO Density in Pocahontas County

which contains a description of the columns in the table below [click here](#).

CO_NUMBER	NRGIS.SDE.county.CO_FIPS	NRGIS.SDE.county.ACRES_SF	NRGIS.SDE.county.ACRES	NRGIS.SDE.county.FIPS	NRGIS.SDE.county.COUNTY	NRGIS.SDE.county.ST
197	372186.1	372186.1	372187.7	19197	WRIGHT	IA



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