

# ***The Bioeconomy in Iowa: Local Conversations***

*Iowans Speak on the Bioeconomy*

*An Iowa State University Extension Report*

## **Executive Summary**

In late March and early April 2007 Iowa State University Extension convened discussion groups throughout the state that gave Iowans a chance to voice their hopes and concerns about the bioeconomy. ISU Extension staff in 96 counties facilitated group discussions that included more than 950 participants. Extension's objective was to create a safe environment and elicit candid responses about the bioeconomy and what it means. Attendees watched an informative ISU Extension Web cast presentation of basic bioeconomy issues at the start of the meetings.

The meetings were structured so that the community participants led their discussions. Extension facilitators worked with a common list of general questions as needed to ensure that each county discussed similar issues. Participants offered opinions ranging from optimism to concerns about the future of the bioeconomy. The goal of this ISU Extension project was to gather an objective set of opinions on the bioeconomy from Iowans. This information will serve as a baseline for future studies. The report also may serve to support decisions on public policy, ISU research initiatives, and ISU Extension outreach activities. To that end this summary divides the analysis of results into general categories.



# Executive Summary (continued)

## Consistent Themes

- Infrastructure
- Environment/natural resources
- Water quality/quantity
- Livestock
- Sustainability
- Who benefits financially (ownership issues)
- Structural change (e.g., higher land prices further squeezing out beginning farmers)

## Optimism

- Jobs
- Livestock expansion
- Improving infrastructure
- Iowa pride
- Increased tax base
- Economic development
  - Value adding
  - Rural revitalization
- Potential for keeping young people in Iowa

## Concerns

- Soil erosion
- Loss of soil health due to stover removal
- Loss of wetlands and habitat
- Quality of life issues degraded by industrial growth
- Water quality and quantity
- Strains on physical infrastructure
- Food versus feed versus fuel
- More consolidation in farming due to higher land prices

## General Expectations

- Jobs will be high paying and “quality”
- Increased tax base
- Iowa will be a world leader in biofuels
  - Big role in reducing dependence on foreign oil
- Feeling that this is a historic turning point for the state
  - “Biggest change in agriculture since the plow”
- New businesses will develop along with the bioeconomy
- Government and researchers will just forget about livestock

## Discoveries

- Discussions seemed past the so-called “gold rush” mentality
- Balanced approach between guarded optimism and solid concerns
- Controversy was extremely muted
- Ambivalent on livestock growth
- Saw infrastructure needs as both a concern and opportunity
- Environmental category of concern was a universal theme
- High level of concern for long term sustainability of biofuels

## Action Needed from ISU and Extension

- Community planning help
  - Comprehensive water plans
  - Projections for sustainable growth
- Study employment tradeoffs and realities
- Research broader gamut of alternative energy
- Conservation research
  - Conserve natural resources
  - Make basic energy conservation part of the plan
- Strategic planning activities for communities
- Transportation and storage system modeling (biomass systems)
- Review and model sustainability factors for biofuels
- Convene more informational/public feedback meetings

## Key Quotes

- “Biggest change in agriculture since the plow”
- “Will we see more farm managers vs. owners?”
- “Stay objective; don’t sell out to politically correct pressure from the public and politicians.”
- “Cautious optimism”

# The Report

## Methodology

Not all counties asked all questions, but all chose from a specific set of questions developed by the Extension Bioeconomy Task Force. The questions each county asked were selected based on that specific county's most critical issues. Each county selected a recorder to keep a written report of the consensus response to each question. The responses then were collected via a third-party (Zoomerang.com) online form that allowed counties to cut and paste their answers into open ended question boxes. The answers were collected and compiled by ISU Extension Communications and Marketing. Word and phrase frequencies were compiled through a software package called Textenz and a Web-based text analyzer available on usingenglish.com. Further content analysis was hand coded.

## Scope

Over a two week period Iowa State University Extension engaged 945 Iowans representing 96 counties in frank conversations about the bioeconomy. From the last week of March through the first week of April, county Extension directors facilitated discussions with small groups of county stakeholders. The participants represented a wide range of main street business owners, farmers, county government officials, agency representatives, and local opinion leaders. Each group discussed a similar set of questions designed to identify their hopes, concerns, and needs related to the bioeconomy.

Though the discussion groups represented a wide range of occupations and ages, gender was unbalanced. A few counties didn't keep track of gender, but of those that did, the number averaged more than 80 percent male.

This is not survey sampling but rather a distillation of focus group discussions throughout the state; each conducted by county Extension staff who selected group participants that they felt best represented their respective counties. This report is a compilation of the consensus responses to these questions.



## The Upside

### What are the major opportunities of the bioeconomy for Iowa?

This was the only question that specifically addressed the “upside” of the bioeconomy. It’s particularly interesting that some of the issues listed as opportunities also show up as concerns in other questions.

The opportunities mentioned are overwhelmingly economic. The number one word that was reported throughout the responses to this question was “jobs.” Some added to this by describing the jobs specifically as “higher paying” or “quality.” Other words and phrases related to the economy that appeared often were increased tax revenue, tax base, new businesses, economic development, and value-added agriculture.

Employment as it relates to keeping young people in Iowa and providing for a new generation of farmers also came up several times.

Perhaps most interesting is the number of times increased livestock production and improved infrastructure came up as positive opportunities. In all the questions that deal with concerns and downsides to the bioeconomy, infrastructure and loss of livestock due to high prices comes up often. An educated guess would be that in regard to positive effects on the infrastructure, respondents expect the increased tax base to help

fund long needed projects. As for livestock increasing, this is likely based on the foreseen increased availability of coproducts from ethanol production that could be used to attract livestock producers.

Though it is not mentioned often, a theme of Iowa pride is reflected in response to this question. Some respondents made favorable comments about the idea of Iowa becoming a world leader in biofuels and the state’s role in reducing dependence on foreign oil.

“The biggest change in agriculture since the plow” seems to sum this question and the bioeconomy in general.

## The Downside

### What are the major challenges and drawbacks of the bioeconomy for Iowa?

This question asks directly what the challenges and drawbacks are, but several of the other questions ask the same thing in only slightly different ways. This redundancy may actually be a strength in that it reinforces that the themes that float to the top are more valid than if they had only appeared in response to one question.

No matter how the question is framed the themes that come to the top of the list are always infrastructure, environment/natural resources, water quality/quantity, livestock, and sustainability. These themes overlap and are



described in a lot of different ways throughout the responses.

The word “infrastructure” is used hundreds of times throughout the discussions, but it also is reflected in specifics such as biomass storage, railroads, bridges, roads, trucking, logistics, pipelines, transportation, and traffic.

Water is mentioned hundreds of times both as an agricultural input and as a natural resource. The underlying question seems to be “is there enough water to support this new industry while sustaining agriculture and natural resources?” Concerns about pollution from ethanol production also are mentioned.

The environment/natural resources often is reported as a concern in terms of loss of CRP land, soil erosion and soil health due to stover removal, and loss of wetlands and wildlife habitat. Moving livestock to new locations so they can be near ethanol plants also came up as an environment/quality of life issue. There is concern about odor and the usual urban/rural interface issues that go along with new livestock facilities.

Livestock is continually mentioned and it may be the most contentious issue. As mentioned in the question regarding opportunity, the bioeconomy is seen by some as a positive for the livestock industry.

It shows up as a concern and drawback in most other question responses because respondents believe the competition for feedstocks and ensuing higher prices will force livestock producers to leave Iowa. Others voice concern that jobs created by the ethanol industry will be far fewer than the jobs eliminated in the livestock industry. There also appears to be a general feeling that government and researchers will just forget about the livestock industry in their rush to pursue ethanol projects and funding.

Sustainability is related to natural resources, infrastructure, and water supply, but also manifests itself in the responses as “what comes next?” The respondents voiced concern over how long the ethanol boom would last and “then what?” Can ethanol production facilities be used for anything else? There also were concerns over ethanol’s viability if subsidies were removed.

A less prominent, but consistent thread that runs through the discussions is “where will the money go?” There is concern that out-of-state or foreign investors will reap the benefits of the bioeconomy. The high land prices are cited as deterrents to young farmers being able to get started. A key quote is “Will we see more farm managers vs. farm owners?”

## Questions to Answer/Research

1. Explain what the 51 cent subsidy/blenders credit is and what will happen if it goes away.
2. Is there a net job gain from the bioeconomy or will it just be a job shift? If one new ethanol plant job means six livestock jobs are lost, is it worth it?
3. How much water is needed? How much can be recovered or recycled?



## What Should We Be Doing?

**Of the challenges ranked as significant, what can be done in the form of research?**

**Of the challenges ranked as significant, what can be done in the form of public policy to minimize impact?**

**Of the challenges ranked as significant, what can be done in the form of changing public opinion?**

**What did your group see as the highest priority research needs to access the bioeconomy?**

**What should ISU Extension be doing right now?**

These questions are grouped together because they all address needs and what can or should be done.

There aren't many surprises here, but the responses do reinforce the urgent need for education and information to help Iowans make informed decisions about the bioeconomy. The top responses all involve education, information, research, and communications. This is what Extension is known for and is expected to provide. Subject matter that needs to be addressed follows the challenges and drawbacks responses closely (infrastructure, livestock, water/natural resources, and sustainability). Some of the other topics that come up prominently in these responses are community planning/development and risk management.

The specifics that go along with the call for education are wide ranging. They include consumers, the public, the media, and on-farm. This might indicate that everyone is a little confused about the specifics and direction of the bioeconomy right now. To reinforce this, quite a few respondents emphasized that education needs to come right now or as quickly as possible. Several suggested more open discussion sessions like the one they just completed.

**Of the challenges ranked as significant, what can be done in the form of research?**

**What did your group see as the highest priority research needs to access the bioeconomy?**

When given a chance to be more specific in these questions, the most frequent responses revolved around feedstocks, dried distillers grains and general issues of making livestock production compatible with ethanol production. Many also mentioned the potential odor problem that might come from locating livestock facilities in new communities near ethanol plants. The next most frequent need was education and research on other specifics of the ethanol production process; how to use water efficiently and reduce impact on the environment, effects of harvesting stover on the soil, and switchgrass and other biomass alternatives. Though infrastructure is mentioned prominently throughout the

discussions it is not as frequently mentioned in this set of questions. It could be that discussion participants don't perceive this as an area of expertise for Iowa State University.

Key quote: "Stay objective; don't sell out to politically correct pressure from the public and politicians."

**Of the challenges ranked as significant, what can be done in the form of public policy to minimize impact?**

**Of the challenges ranked as significant, what can be done in the form of changing public opinion?**

These questions each only had about 50 percent response rate. Discussion respondents may have felt that they already answered these earlier in the discussion questions. One of the overriding issues that rose to the top was "food vs. fuel" and how to effectively communicate the tradeoffs to the public. Another public policy and public opinion issue mentioned was the need to present an overall conservation program that included things other than ethanol (wind, biodiesel, hydro power, energy conservation). Infrastructure in terms of roads and general transportation was an often mentioned topic related to getting the urban public and legislature to support rural roads and transportation projects.

## Future Needs and Concerns

Looking ahead to 2010, what actions should our communities take to maximize the benefits and minimize potential drawbacks of the bioeconomy?

What should ISU Extension be doing in the future?

These two questions directed the discussion groups to look into the future for both their communities and Extension. A couple participants pointed out that 2010 is probably not looking far enough in the future. A theme running through all the questions is “what’s next after ethanol?”

As in most of the questions, infrastructure rises to the top of needs and concerns. This manifested itself in responses that mentioned planning, raising money and building in preparation for what was perceived as big changes in their communities. This includes

comprehensive water plans and projections for sustainable growth.

The discussion groups want help from Iowa State University on all these issues. They asked for more informational meetings as well as more information available online. They asked that Iowa State keep researching other energy alternatives such as wind, solar, and basic conservation. They also want to see real numbers on the employment tradeoff and strategic planning that will help their communities make decisions. They specifically mentioned the Center for Industrial Research and Service (CIRAS) several times. The overall tone regarding what ISU Extension should be doing was that Iowa State should be thinking long range; beyond corn ethanol and even beyond biofuels in general. One participant summarized the group’s feeling as “cautious optimism.”

What issues were overlooked in the presentations that need to be discussed in the future?

This question was directed at the presentation that preceded the discussion, but it also served as an outlet to identify other information needed to make informed decisions about the bioeconomy. Water and conservation were the most mentioned omissions from the presentation. There also were a lot of comments about the long-term sustainability of biofuels. Many zeroed in on the transportation and storage problems that the biomass for cellulosic ethanol presents. Other big picture questions raised by the discussion groups included: What if there is a drought? What if the subsidies go away? What are other countries doing? What is the long term risk to the land? How will the public react to food vs. fuel tradeoffs?



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