

North Central States Are Driving Economic Growth and Job Creation in Agriculture and Agbioscience

Land-grant Universities Essential in Helping Nation Capture Value in Emerging Biobased Economy

Agriculture and agbioscience are at the core of addressing key challenges and opportunities that face our nation—and our planet. Providing food for a growing world population. Creating renewable energy sources to replace fossil fuels. Preserving and protecting valuable natural resources. Improving human health and the human condition across the globe. Generating jobs and economic growth across all sectors of the economy.

It follows that the region of the U.S. that leads the nation in agriculture production is also at the forefront of innovation and economic growth in agbioscience. According to a 2011 report by the Battelle Institute, the Land-grant Universities in the 12 North Central States are essential in not only driving agbioscience research and agricultural technology, but also in getting these findings into the hands and minds of those who can transform that information and innovation into greater production, economic vitality and new "green" jobs across the United States.

Why here? Because, while the North Central States represent just 21% of the land mass of the U.S., these 12 states are home to:

- An agriculture industry valued at \$125 billion with more than 2.4 million jobs
- 45% of the nation's ag export production
- 80% of U.S. soybean and feed grain production
- 45% of U.S. livestock exports
- Ten of the top 25 U.S. food manufacturers
- Two of the five largest seed genetics companies
- Two of the world's largest ag equipment manufacturers
- 90% of the nation's ethanol production
- More than 800,000 farms and more than 88,000 companies (2009)

This is where agriculture and forestry thrive in abundance. Where agricultural commodities and biomass are already being transformed into renewable fuel, green chemicals, functional foods, and the next generation of plastics. Where responsible animal agriculture is feeding emerging nations hungry for protein. Where research, innovation and technology are helping producers grow more—with less land, less energy, and less water.

This is where the biobased economy has already taken root—and where the potential for global leadership and economic vitality for America is already proven.

This growth and innovation are being driven by the Land Grant Universities in the 12 North Central States—institutions pivotal to continuing this momentum, capturing the value of the biobased economy for our nation, and providing leadership for agricultural development worldwide.

The North Central Region Leads in Agricultural Science and Innovation



According to Battelle, a uniquely American system created in the late 1800's is driving discovery, innovation and the deployment of new technologies in agbioscience productivity—the Land-grant University.

"Land-grant" is the term used to identify a public university in each state that was originally established as a land-grant college of agriculture pursuant to the Morrill Act of 1862. While these institutions serve individual states, they also represent a trusted multistate resource for scientific knowledge that responds when communities, citizens and agricultural producers need information, assistance and solutions.

Today, these institutions stand among the world's premier research and educational institutions—and their agbioscience expertise is especially and uniquely relevant to today's market opportunities and global challenges.

- University of Illinois
- Iowa State University
- Kansas State University
- Lincoln University, Missouri
- Michigan State University
- University of Minnesota
- University of Missouri
- University of Nebraska
- North Dakota State University
- Ohio State University
- Purdue University
- South Dakota State University
- University of Wisconsin

The Battelle Institute is the world's largest independent research and development organization.

The North Central Region's Agricultural Extension Services and Experiment Stations are critical components in America's ability to capitalize on economic growth and job creation in the biobased economy. They are a source of unbiased information, scientific breakthroughs and game-changing technologies, thanks to a network of more than 7,600 extension personnel and 6,700 experiment station faculty. Through these professionals, groundbreaking research quickly becomes shared, adopted and applied. Challenges are identified and rapidly overcome. Innovation and opportunity are born and nurtured.

Here's the challenge:

The potential for economic vitality and job growth in agriculture, agbioscience and the 21st Century biobased economy is matched only by the speed with which discovery, demand and opportunity are growing—and we simply must keep pace.

The North Central Region is uniquely positioned to be home to intensive innovation, early adoption of new technologies and to become the "go to" location for economic activity in the biobased economy. It's where agriculture happens—and where the promise and potential of agbioscience will be fully realized.

Worldwide population is projected to increase from 7 billion in 2010 to 9.3 billion by 2030 (an increase of 2.3 billion, equivalent to doubling the entire current populations of China and India).

To meet the rising demand for food (driven both by rising population and increasing income levels) it is anticipated that by 2030 we may actually need to double global food production, yet most cultivatable land is already in production.



There is no other arena of economic activity, or field of science and innovation, that so directly addresses human survival and quality of life, global economic development, and prospects for an environmentally sustainable future as agriculture and agbioscience.

According to the Battelle Report, sustained or expanded federal, state and local support for these important Universities and their experiment stations and extension services is critical.

The Land-grant Universities in the North Central States are the catalyst for success in the biobased economy. They work across the entire value chain—developing new technologies, reducing the gap between research and commercialization, educating knowledgeable workers, supplying unbiased information, and supporting farmers and ranchers as they work to expand market opportunities.

America is seeking strategies for job creation and economic growth—and we must invest in areas with the greatest potential for return and rapid yet sustainable results. The Land-grant Universities in the 12 North Central states are leveraging America's preeminence and global leadership in agriculture and food production into solutions to significant challenges—and into real economic strength over the long term.

For more information about the Battelle Report and how our Land-grant Universities are collaborating on agbioscience in the North Central Region, contact:

Arlen Leholm, Executive Director – North Central Regional Association (NCRA), 1450 Linden Drive, Madison, WI 53706 Tel. (608) 262-2349; or

Robin Shepard, Executive Director – North Central Cooperative Extension Association (NCCEA), 432 North Lake Street, Madison, WI 53706 Tel. (608) 890-2688.

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