

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-Extension

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.

{August 1, 2011}

FOR IMMEDIATE RELEASE

No. 40-2011

Aug. 1, 2011

Battelle Study Describes Importance of Agriculture and Agbiosciences

Both are keys for economic growth, job creation and other key quality of life indicators in the United States

COLUMBUS, OH – A newly released [Battelle](#) study, “Power and Promise: Agbioscience in the North Central United States,” finds that agriculture and agricultural bioscience – “agbioscience” – are providing crucial wide ranging opportunities for economic growth and job creation in the United States.

The study also notes that agbioscience professionals at U.S. land-grant universities are leveraging advancements in modern science and technology to address crucial national and global needs, including agricultural productivity and food security, improved human health, renewable resource development (such as bio-energy and bio-based materials) and environmental sustainability.

“In our science and technology-based economic development practice at Battelle, we have observed the consistent rise of agbioscience as a core driver of economic growth and business expansion opportunities for the U.S.,” said Simon Tripp, lead author of the study. “This is an extremely dynamic sector, leveraging sustainable biobased resources to produce goods that meet large-scale market needs.”

The North Central region of the U.S. is well-positioned to fulfill the promise of new product development and job growth around modern agbioscience, Tripp said. He also said that it’s the support of America’s unique base of land-grant universities, in concert with world-leading agricultural productivity and a substantial base of world-class agricultural value-chain companies, that helps make this a reality.

According to the report, many of the most pressing challenges facing humankind have solutions rooted in modern agriculture and agbioscience. 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, Tripp said.

Power and Promise notes that the land-grant system has played a central role in the rise of American agriculture to global preeminence, and the tremendous scale of opportunities contained in a fast-expanding bio-based 21st century economy warrant considerably more attention be paid to these core institutions. Sustained or expanded federal, state and local support will help this important land-grant, experiment station and extension education system to continue to perform its multi-faceted functions in cutting edge research for commercialization, education of knowledge workers for industry across the value chain, supply of trusted information and support for farmers and processors, and pursuit of opportunities for new collaborations and networks to grow the industry.

Underscoring the importance of the tie between land grant universities and agriculture's significant contribution to the U.S. economy and other quality of life factors, are the following facts:

- Comprising just 6.1 percent of global land area, the United States in 2009-10 produced 18.7 percent of the world's grains, 22.4 percent of global oilseeds and is the worldwide leader in beef and poultry production, with 20.8 percent and 23.2 percent of global production respectively. "The U.S. truly is an agricultural and agbioscience powerhouse," Tripp said.
- The North Central region – comprising the twelve states of North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Indiana, Michigan and Ohio – lead the way for the U.S. Containing 21 percent of U.S. land, the North Central region produces 45 percent of U.S. agricultural exports, and over 80 percent of key exports such as soybeans and feed grains, and more than 60 percent of meat and livestock exports.
- In addition to the more than 800,000 farms in the region, the report finds that North Central states contained more than 88,000 companies participating in the agribusiness value-added chain through the manufacturing of products and the provision of services. Taken together these farms and industries employ almost 2.4 million people with an economic output of \$125 billion and pay, on average, \$2,600 more per job than the average pay level for other private sector workers in the region.

The report concludes by noting that agbiosciences represent an opportunity for the United States to expand on U.S. leadership in a bio-based, sustainable resource-driven economy with wide ranging innovation and technology-based development opportunities. The North Central region of the U.S. is a clear leader in agbiosciences and production within the agricultural value-chain, a position that is supported by the R&D and education activities of agricultural experiment stations, extension systems and their twelve land-grant universities. "These institutions should be considered priorities for further strategic investment and development given their importance in realizing the intrinsic growth potential of agbiosciences for the U.S. and regional economies," said Tripp.

The full report is available online at
<http://nccea.org/documents/powerandpromiseweb.pdf>

About Battelle

As the world's largest independent research and development organization, Battelle provides innovative solutions to the world's most pressing needs through its four global businesses: Laboratory Management; National Security; Health and Life Sciences; and Energy, Environment and Material Sciences. It advances scientific discovery and application by conducting \$6.5 billion in global R&D annually through contract research, laboratory management and technology commercialization. Headquartered in Columbus, Ohio, Battelle oversees 22,000 employees in more than 130 locations worldwide, including seven national laboratories which Battelle manages or co-manages for the U.S. Department of Energy and the U.S. Department of Homeland Security and a nuclear energy lab in the United Kingdom.

Battelle also is one of the nation's leading charitable trusts focusing on societal and economic impact and actively supporting and promoting science, technology, engineering and mathematics (STEM) education.

For more information, contact Katy Delaney at (614) 424-7208 or delaneyk@battelle.org, or T.R. Massey at (614) 424-5544 or masseytr@battelle.org.