

### Committee Members:

BIGMAP has a coordinating committee made up of faculty and staff members in departments across campus, including Agronomy, Agricultural and Biosystems Engineering, Animal Science, Economics, Statistics, Genetics, Food Science and Human Nutrition, and Seed Science, as well as members from the USDA's National Animal Disease Center, University of Iowa and Montana State University.

### Advisory Board:

BIGMAP will have an advisory board made up of officials representing state and federal regulatory agencies, agribusinesses, consumer groups, Iowa State University and other universities.

### Partners:

College of Agriculture  
Plant Sciences Institute  
College of Veterinary Medicine  
Office of Vice Provost  
University Extension  
University of Iowa  
Montana State University  
National Animal Disease Center  
Associations & the Private Sector



### Contact Information:

Manjit Misra (Director)  
102 Seed Science Center  
Iowa State University  
Ames, IA 50011  
515-294-3597  
Email: [mkmisra@iastate.edu](mailto:mkmisra@iastate.edu)



### The BIGMAP Vision:

BIGMAP will be recognized as an unbiased and credible source of information on biosafety issues for genetically modified products nationally and internationally.

The institute will provide guidance and recommendations to appropriate policy and regulatory groups, private entities and the public so that the best decisions can be made about genetically modified agricultural products (GMAPs) to safeguard the public and the environment. One outcome will be a widely disseminated annual report that will serve as an informative analysis and outlook on current and upcoming GMAP issues. The institute will be the developer and the clearing-house of credible information on GMAPs worldwide. A number of activities of the bio-safety institute will also provide strong countermeasures to Agro-terrorism.

The institute will examine societal impact by including social, economic, and environmental issues of GMAPs. BIGMAP will enhance the education of students in risk and benefit analysis for successful careers in agricultural and food systems and the bioeconomy.

IOWA STATE UNIVERSITY

# BIGMAP

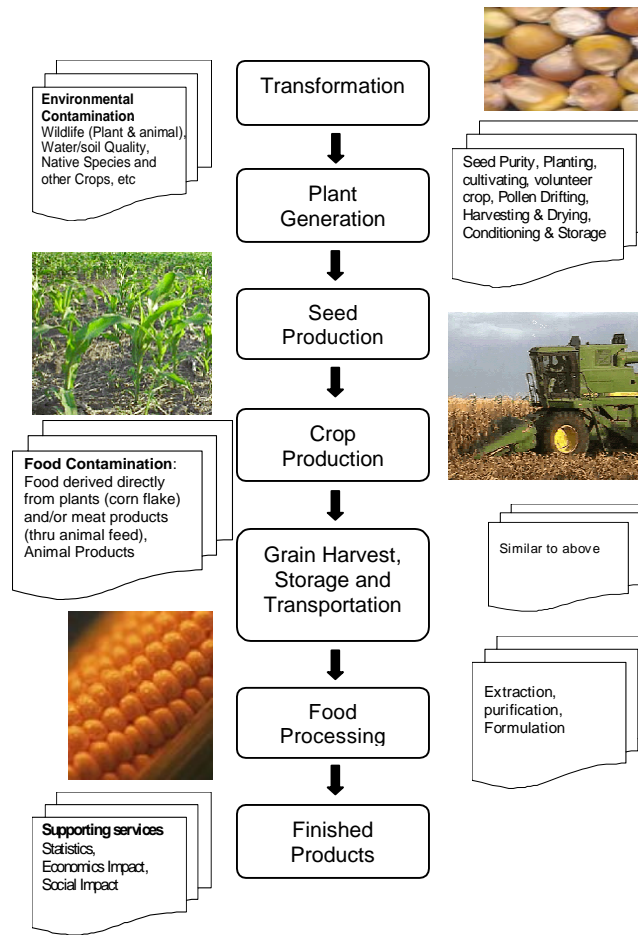
Biosafety Institute for Genetically Modified Agricultural Products



The Biosafety Institute for Genetically Modified Agricultural Products (BIGMAP) will provide science-based analysis of the risks and benefits of genetically modified plant and animal products. It will provide guidance and education to help safeguard consumers and the environment.

## BIGMAP Objectives:

- Form multi-university and industry interdisciplinary teams to review and/or conduct research on scientific, social, economic, and ethical issues during the preapproval process and answer questions raised by the release of new genetically modified agricultural products (GMAPs).
- Conduct fundamental studies on the health and environmental safety of GMAPs, including quantitative risk assessment, threshold of tolerance, effect of specific GMAPs on human health, gene-flow studies, and ethical issues.
- Develop novel rapid biosensing and testing technologies crucial to monitoring and regulating GMAPs.
- Develop best management practices for field-confined biogenic production in crop systems.
- Develop an "identity preserved" system for genetically modified or GM-free plant and animal products based on the ISO platform.
- Recommend standards to facilitate transboundary movement of modified plant and animal products.
- Examine consequences of GMAP adoption on social, economic, and political well-being of people, both here and abroad.
- Establish national and international partnerships for research and education on biosafety and bioethical issues.
- Communicate the risk and benefits of GMAPs through extension and education programs and engage the public and industry in relevant issues.
- Enhance undergraduate and graduate education by developing new courses in biosafety, biosensing, risk analysis and process management and through institute research experiences.



## Potential of Pharmaceutical Crops

The adoption of effective, science-based methods will help to ensure pharmaceutical crops are produced in a safe, responsible, well-managed and environmentally friendly manner. These methods can help growers take advantage of new products to spur economic growth, while safeguarding valuable agricultural resources.

## Objectives

- ◆ Develop tools and approaches for conducting science-based risk assessment to predict the likelihood and extent of human health risks under selected production scenarios.
- ◆ Provide a template that can be used to comply with a risk-assessment based policy.

## Biosensing

New developments in sensing technology and information technology have created a unique opportunity for an integrated focus for national food security and safety. Iowa State seeks to implement a quantitative PCR instrumentation and research program that would be used to detect seed borne pathogens.

Results of biosensing research would allow scientists to:

- Discover novel rapid biosensing and testing technologies crucial to monitoring and regulating GM agricultural products.
- Develop an "identity preserved" system for genetically modified or GM-free plant and animal products based on the ISO platform.
- Recommend standards to facilitate transboundary movement of modified plant and animal products.



## Governance of BIGMAP

