

MEMORANDUM

To: Board of Regents
From: Board Office
Subject: Proposal for a New Biosafety Institute for Genetically Modified Agricultural Products
Date: September 8, 2003

Recommended Action: Approve Iowa State University's proposal to establish a new Biosafety Institute for Genetically Modified Agricultural Products.

Executive Summary: Iowa State University is requesting approval for a new Biosafety Institute for Genetically Modified Agricultural Products.

Purpose of Institute The purpose of the Institute is to provide science-based and socially-relevant analyses of the risks and benefits of genetically modified plant and animal products (GMAPs). The Institute will be the developer, depositor, and clearinghouse of credible information on GMAPs worldwide. It will provide guidance and recommendations to policy and regulatory groups, private entities, and the public so that the best decisions can be made about GMAPs to safeguard the public and the environment.

Program Objectives The proposed Institute will use multi-university and industry interdisciplinary teams to accomplish the following objectives:

- ▣ Conduct fundamental studies on the health and environmental safety of GMAPs, including quantitative risk assessment, threshold of tolerance, and gene flow studies.
- ▣ Review and/or conduct research on scientific, economic, and social issues during the pre-approval process and answer questions raised by the release of new GMAPs.
- ▣ Enhance undergraduate education, including the development of a new minor in "Risk Analysis and Management" and graduate education through research and training.
- ▣ Develop novel rapid biosensing and testing technologies crucial to monitoring and regulating GMAPs.
- ▣ Develop an "Identity Preserved" system for GMAPs based on the International Organization for Standardization (ISO) platform.

- ▣ Recommend standards for transboundary movement of modified plant and animal products.
 - ▣ Examine consequences of GMAP adoption on economic and social well-being of people, here and abroad.
 - ▣ Establish national and international partnerships (e.g., biosafety commissions in other countries) for research and education on biosafety issues.
 - ▣ Communicate the risks and benefits of GMAPs through extension and education programs and engage the public and industry in relevant issues.
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Participating
Colleges

The proposed Institute will be administered by the College of Agriculture and will involve faculty and staff from the College of Veterinary Medicine, University Extension, Plant Science Institute, and Vice Provost's Office for Research.

Unique Concept

According to the University, the Biosafety Institute for Genetically Modified Agricultural Products will be the first such entity in the nation.

**Link to Strategic
Plan:**

This effort is part of the institutional activities which help the Board of Regents achieve its objective to improve access to research opportunities at the Regent institutions as stated in its current Strategic Plan:

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|---------------------|--|
| KRA 2.0.0.0 | Provide access to educational, research, and service opportunities within the missions of the Regent institutions. |
| Strategy 1.1.4.0 | Strengthen research, creative work, and service by the Regent institutions. |
| Action Step 1.1.4.1 | Each university enhance its research efforts consistent with its mission. |
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Background:

The Biosafety Institute for Genetically Modified Agricultural Products is a targeted program in ISU's current strategic plan. A critical aspect of this initiative is establishing a nationally-recognized center of excellence to examine risks and benefits associated with biotechnology.

Analysis:

Requires Board
Approval

Board of Regents' policy requires Board approval for proposed centers and institutes that cost more than \$25,000 to implement. The projected cost of the Institute in FY 2004 is \$702,000. Of that amount:

- ▣ The President's Enhancement Program will fund \$200,000.
 - ▣ The Vice Provost's Office for Research will provide \$31,000.
 - ▣ The Iowa Department of Economic Development will provide \$246,000.
 - ▣ The Iowa Cooperative will provide \$296,000.
 - ▣ The Colleges of Agriculture and Veterinary Medicine and University Extension will provide approximately \$150,000.
 - ▣ The Plant Science Institute will provide \$25,000.
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Future Funding

Enhancement funds and reallocations from colleges will provide permanent funding. Other sources of funds are from 1-3 years. However, the University believes that the Institute will be in a strong position to attract external grants to support projects and to grow the operation.

Regent Questions
for New Centers

The University's responses to the Regent questions on new centers and institutes are attached (pages 4-6).


Diana Gonzalez

Approved:


Gregory S. Nichols

BIOSAFETY INSTITUTE FOR GENETICALLY MODIFIED AGRICULTURAL PRODUCTS (BIGMAP)

1. What is the title of the proposed center or institute?

Biosafety Institute for Genetically Modified Agricultural Products (BIGMAP)

2. What is the administrative relationship of the proposed unit to other entities on campus, such as departments or colleges?

It will be a multi-college unit with the College of Agriculture as the lead college and administrative unit. Other colleges/units involved are the College of Veterinary Medicine, University Extension, the Vice Provost's Office for Research, and the Plant Sciences Institute (PSI).

3. To whom will the administrative director of the unit report?

The Institute director will report to the Dean of Agriculture. There will also be an advisory council consisting of other deans, PSI director, Vice Provost for Research, Vice Provost for University Extension, and external stakeholders to advise the Institute director.

4. Succinctly describe the basic purposes and objectives of the unit.

The Institute will provide science-based, unbiased and socially relevant analysis of the risks and benefits of genetically modified plant and animal products (GMAPs). The Institute will be the developer, depositor, and the clearinghouse of credible information on GMAPs worldwide. It will provide guidance and recommendations to policy and regulatory groups, private entities, and the public so that the best decisions can be made about GMAPs to safeguard the public and the environment.

It is envisioned that BIGMAP will be similar to the formation of the UL Laboratory, which was founded to restore public confidence in the safety of electricity when this new source of energy was harnessed. ISU has the scientific ability and is strategically poised to become the birthplace of a new visionary idea – that of a UL laboratory for the GM products and technology and build public trust. Further, BIGMAP will take the idea to a new level by addressing economic, environmental, and social issues of plant and animal biotechnology.

The Institute will form multi-university and industry interdisciplinary teams to accomplish the following objectives:

- Conduct fundamental studies on the health and environmental safety of GMAPs, including quantitative risk assessment, threshold of tolerance, and gene flow studies.
- Review and/or conduct research on scientific, economic and social issues during the preapproval process and answer questions raised by the release of new GMAPs.

- Enhance undergraduate education, including the development of a new minor in “Risk Analysis and Management,” and graduate education through research and training.
 - Develop novel rapid biosensing and testing technologies crucial to monitoring and regulating GMAPs.
 - Develop an “Identity Preserved” system for GMAPs based on the ISO platform.
 - Recommend standards for transboundary movement of modified plant and animal products.
 - Examine consequences of GMAP adoption on economic and social well-being of people both here and abroad.
 - Establish national and international boundaries (i.e., biosafety commissions in other countries) for research and education on biosafety issues.
 - Communicate the risk and benefits of GMAPs through extension and education programs and engage the public and industry in relevant issues.
- a. How will the activities of the unit relate to the general mission and teaching programs of the university?**

The Institute's activities will be consistent with ISU's land-grant mission. The Institute will carry out basic and applied research that leads to development and diffusion of safe, socially relevant GM products. It will serve as a valuable resource to assist policymakers and public and private leaders in understanding complex science for solving important societal issues. A special 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 enhance the education of graduate and undergraduate students in risk analysis and management and prepare them for successful careers in new food systems and the bio-based economy.

b. How do they relate to the strategic plan of the department and/or university?

The Institute is aligned with the College of Agriculture strategic plan in goal 8.2 strategy b (Establish an undergraduate minor in risk assessment related to plants and animals) and in goal 8.1 strategy b which calls for establishing BIGMAP as a nationally recognized center of excellence for examining risks and benefits associated with biotechnology. It is aligned with the University strategic plan by providing a unique opportunity for students to learn the role of a revolutionizing new technology and its safe use in addressing human needs. It will engage the people of Iowa and the nation to better understand the changing directions of food production and natural resource management. Finally, it will spur economic development activities related to biotechnology in Iowa and for maintaining and enhancing U.S. agricultural exports.

5. Do similar units exist at other public or private colleges or universities in Iowa? If so, how does the proposed unit relate to them?

No, this will be the first such unit in the country.

6. What are the proposed sources and annual amounts of funding for the unit? Please itemize. (Include faculty, staff, and clerical salaries; supplies; equipment; travel; other costs.)

Budgetary Item	Source of Funds	Annual Amount
Faculty Positions (2)	President's Enhancement	\$150,000*
Administrative Services	President's Enhancement	50,000
Program Assistant	Vice Provost's Office	31,000
Risk Assessment	IDED	246,000
Risk Assessment	Iowa Cooperative	50,000
Faculty Recruitment	Colleges of Agriculture and Veterinary Medicine; University Extension	150,000
Start-up Costs	Plant Science Institute	25,000
Total		\$702,000

The \$150,000 (estimated) will be contributed by the College of Agriculture, College of Veterinary Medicine, University Extension to recruit for 2 faculty positions, the funds provided by the Plant Science Institute will cover start-up costs for the faculty position in risk analysis for plants.

7. Which of the costs in item 6 represent new financial obligations to the general fund of the university?

The Institute is funded from President's enhancement funds, funds from colleges, the PSI, vice provost's office and from external grants and contracts.