

Contact: Diana Gonzalez

REQUEST TO CREATE NEW CENTER AT IOWA STATE UNIVERSITY:
IOWA SOYBEAN RESEARCH CENTER

Action Requested: Consider recommending approval of the request by Iowa State University to establish the Iowa Soybean Research Center in the College of Agriculture and Life Sciences.

Executive Summary: The purpose of the proposed center is to facilitate collaboration between public and private entities regarding research and education needs related to soybean production in Iowa. This proposal was reviewed by the Board Office and the Council of Provosts and is recommended for approval. Board of Regents Policy §6.08 requires that all centers and institutes be approved by the Board. This request addresses the Board of Regents Strategic Plan priorities to provide “educational excellence and impact” and “economic development and vitality,” Goal #7 - “Iowa’s public universities shall contribute to the expansion and diversification of the Iowa economy,” and Goal #8 - “Iowa’s public universities and special schools shall be increasingly efficient and productive.”

Background:

- ◇ **Description of proposed center.** The proposed center will be a public-private partnership aimed at meeting the needs of Iowa soybean farmers. The center will build upon the mutual synergies and strengths of Iowa farmers represented by the Iowa Soybean Association (ISA), Iowa technology providers (seed, chemical, and equipment companies), Iowa service providers (cooperatives, grain elevators, crop advisors, and farm management companies), and Iowa State University. The center will involve and help coordinate research, teaching, and extension faculty and staff who work in the areas of soybean biology, breeding, economics, precision agriculture, production, and pest management at ISU and the Iowa Soybean Association. The center will also involve personnel from private industry (seed, chemical, equipment, and technology companies, and input and service providers) working on soybean production in Iowa. The center will focus on increasing collaboration, coordination, and integration among ISU, ISA, industry, and farmers to align the soybean-related activities at ISU with the needs of Iowa soybean farmers and the industry that supports production of the crop.

- ◇ **Need for proposed center.** Iowa is the nation’s leading producer of soybeans. In 2012, the U.S. Department of Agriculture estimated that Iowa produced 408 million bushels of soybeans, valued at \$5.6 - \$6.4 billion. Soybean farming also contributes to the economy of Iowa through the businesses and enterprises related to production of the crop. ISU is home to many organizations and companies that strive to improve the plant health, yield, and profitability of soybean production for farmers, including Iowa State University; Iowa Soybean Association; multinational and Iowa-based seed, chemical, and technology companies; and local farm cooperatives, grain elevators, and others who provide crop inputs and services to farmers. However, no mechanism exists in Iowa to foster collaboration and exchange of information among the various entities conducting research and education activities to serve Iowa’s soybean farmers. The proposed center is needed to bring together scientists and educators from public and private entities to discuss research and education needs; share research and education experiences, ideas, and technologies; and offer opportunities to sponsor efforts, either exclusively or jointly with others, to advance the science and business of growing soybeans in Iowa.

- ◇ Proposed center activities and objectives. The focus of the proposed center will include all university activities related to soybean biology, breeding, economics, precision agriculture, production, and pest management in the state. The ultimate, long-term goal of the proposed center will be to advance understanding of soybean plant biology, increase soybean production, and make production more profitable and environmentally sustainable in the future. Specific goals of the proposed center will include the following:
- ⇒ Forge strong public-private partnerships.
 - ⇒ Sustain communication and collaboration with soybean farmers and the agricultural industry about needs for soybean research and education activities by ISU and ISA and increase the coordination of those activities among the industry, ISA, and ISU.
 - ⇒ Increase training of undergraduate and graduate students and other personnel for soybean-related research, education, and production activities.
 - ⇒ Increase public and private funding of soybean-related research and education activities.
 - ⇒ Deliver research-based information to benefit the Iowa soybean industry.
 - ⇒ Increase communication with farmers and industry about soybean-related research and education activities at ISU and ISA.
 - ⇒ Increase active engagement of farmers and align others in the soybean value chain to accelerate dividends from investments in leadership, research, and education integration.
- ◇ Relationship of proposed center to University's Strategic Plan. The proposed center will support the University's goal of building public-private partnerships. The College of Agriculture and Life Sciences' strategic plan mission is to "Educate future leaders, conduct mission-oriented basic and applied research, and share new knowledge for the betterment of Iowa and the world." The College's vision is "to lead the world in 'science with practice' that shapes the future and improves lives and livelihoods." The proposed center will support the College's mission and help achieve its vision by fostering innovative, collaborative research and education related to soybean improvement, production, and pest management.
- As stated in its 2010-2015 strategic plan, the University's mission is to "Create, share, and apply knowledge to make Iowa and the world a better place." The intent of the proposed center is closely aligned with the University's mission. Soybeans are a critical crop in Iowa, the United States, and the world. The proposed center will improve the production of this vital protein source for the world by increasing collaborations and diversifying production and pest management research. The latest discoveries will be communicated to ISU students, Iowa farmers, and agribusiness personnel. The University's vision is "to lead the world in advancing the land-grant ideals of putting science, technology, and human creativity to work." The proposed center will bring faculty, staff, and students together using the latest technology in creative scientific research to discover how to develop and grow soybeans more productively and profitably in a manner that conserves the natural resources of the state.

A priority for the university and the college is to attract outstanding students and to prepare them for industry leadership to make a difference in the world. Through its innovative research programs and industry internships, the proposed center activities will focus on critical and contemporary research and training needs and attract outstanding students into agricultural studies focused on soybeans. The proposed center will support exceptional faculty and staff through increased, innovative research opportunities, increasing the national and international reputation of the college and university for addressing global challenges of the 21st century. The proposed center will thereby support another priority by assisting the college and university to continue to be valued as a treasured resource for Iowans and people of the world.

- ◇ Relationship of proposed center to existing centers/institutes at ISU. The proposed center will be unique, focusing exclusively on soybeans; no other entity at ISU has such a focus. The functions of the proposed center will be complementary to and synergistic with activities of the ISU Seed Science Center and the ISU Plant Sciences Institute. Creating the center will enhance other activities at the university by strengthening a partnership with a key commodity group in Iowa – the Iowa Soybean Association. Iowa leads the nation in soybean production annually, and establishing the proposed center will enhance ISU's partnership with the industry. As the proposed center becomes established, it will likely expand in scope to the entire Midwest (which grows more than 88% of the soybeans in the nation) and will likely become a nationally recognized program through partnerships with the industry and selected academic institutions nationally.
- ◇ Existence of proposed center at other Iowa institutions. There is no other center or institute at other colleges and universities in Iowa that focuses on the production and protection of soybeans. In the future, there will likely be only a few "hubs" of soybean research in the nation. The proposed center will position ISU to be the regional and national leader of soybean research capable of garnering large grants from the national United Soybean Board, the North Central Soybean Research Program, and the U.S. Department of Agriculture's AFRI (Agriculture and Food Research Initiative) grants program. Although there is no relevant expertise at the University of Iowa or the University of Northern Iowa, the proposed center will enable bidirectional collaboration with academic institutions in other states.
- ◇ Unique features of Iowa State University to support the proposed center. The proposed center will be transformational for ISU because it will bring together, for the first time, soybean scientists and educators from public and private entities to discuss research and education needs; share research and education experiences, ideas and technologies; and offer opportunities to sponsor efforts, either exclusively or jointly with others, to advance the science and business of growing soybeans in Iowa. Furthermore, ISU research and extension personnel may benefit from the use of facilities and technologies available from industry. Such industry involvement, cooperation, direction, and support will be beneficial to ISU scientists seeking significant federal funding of their soybean research.

The long-term research goals and intellectual areas of focus of the center will be defined by the organizations that participate in the center. The center will serve to foster research collaborations among ISU and ISA personnel. Industry collaborations and financial contributions to the proposed center will be in the forms of gifts, research contracts, and grants. Analogous collaborative educational projects and programs will also stem from the proposed center's activities.

Iowa State University has the relevant faculty expertise in the College of Agriculture and Life Sciences to deliver cutting-edge research in the areas of soybean biology, breeding, economics, precision agriculture, and production and pest management. ISU faculty and administrators have established a close collaboration with the Iowa Soybean Association as evidenced by the commitment of funding for the proposed center.

- ◇ Inter-institutional and collaborative efforts with other entities. Inter-institutional cooperation and collaboration will be strongly encouraged by the proposed center leadership.
- ◇ Resources. The proposed center will be administered by a director appointed by and reporting to the Dean of the College of Agriculture and Life Sciences. The duties of the director will be to develop strategic direction for the center in close collaboration with the ISA; develop and manage the annual operating budget; oversee the implementation of the research, education, and extension/outreach programs; identify and develop external funding opportunities; coordinate with key units on campus, including the Departments of Agricultural and Biosystems Engineering, Agronomy, Biochemistry, Economics, Entomology, and Plant Pathology and Microbiology; and manage the collaborative partnerships with the ISA and the soybean industry.

The director will be an existing ISU faculty member who will be reassigned 25% of the time to the proposed center. The other center staff members will include a half-time communications specialist, half of whose time will be funded by the Iowa Soybean Association; and a full-time administrative/program specialist.

No equipment will be required to establish and maintain the proposed center.

- ◇ Expected need. The proposed center is expected to be a long-term effort, existing for as long as Iowa is a major producer of soybeans. The proposed center will be reviewed every five years.
- ◇ Communication with existing campus structures. The concept of the proposed center was reviewed and approved by the appropriate departments in the College of Agriculture and Life Sciences, the deans of the other ISU colleges, the Senior Vice President and Provost, and the President.
- ◇ Costs and funding sources. The total cost to operate the proposed center will be \$148,164 in Year One, increasing to \$228,232 by Year Seven. The proposed center will be supported by a mix of internal and external funds. The center's long-term success will be based on the ability to receive external funding from competitive grants. The center will also be supported financially by industry gifts, contracts, and research grants in accordance with existing university policies.

The full-time equivalent of an administrative/program specialist will be supported for two years by the \$100,000 in funding from the ISU Department of Agronomy Baker Endowment for Excellence in Agronomy and a grant for \$100,000 from the Iowa Soybean Association; remaining funds will pay for general operating expenses of the proposed center main office. Additional soybean checkoff funding from the Iowa Soybean Association and industry funding through gifts, research contracts, and grants will support the center's costs in years three and four. It is expected that the proposed center will have sufficient extramural funding beginning in Year Five and continuing through Year Seven to add a half-time professional grant writer (starting cost in Year Five = \$53,688) to assist ISU faculty to compete for large federal grants, thus the increase in total costs in Years Five, Six, and Seven.

PROPOSED CENTER COSTS AND FUNDING SOURCES

	SOURCES OF FUNDS	TOTAL COSTS	TOTAL NEW COSTS
Year 1	ISU Department of Agronomy Baker Endowment for Excellence in Agronomy and Iowa Soybean Association	\$148,164	\$148,164
Year 2	ISU Department of Agronomy Baker Endowment for Excellence in Agronomy and Iowa Soybean Association	\$151,868	\$3,704
Year 3	Iowa Soybean Association, industry contracts and gifts, ISA College of Agriculture and Life Sciences royalties	\$155,665	\$3,797
Year 4	Iowa Soybean Association, industry contracts and gifts, ISA College of Agriculture and Life Sciences royalties	\$159,557	\$3,892
Year 5	Iowa Soybean Association, industry contracts and gifts, ISA College of Agriculture and Life Sciences royalties	\$217,234	\$57,677
Year 6	Iowa Soybean Association, industry contracts and gifts, ISA College of Agriculture and Life Sciences royalties	\$222,665	\$5,431
Year 7	Iowa Soybean Association, industry contracts and gifts, ISA College of Agriculture and Life Sciences royalties	\$228,232	\$5,567

- ◆ Implementation. After obtaining Board approval, the College of Agriculture and Life Sciences will be prepared to implement the Iowa Soybean Center immediately.