2007 Iowa State University Combined Research and Extension Plan of Work

Brief Summary about Plan of Work

Agriculture in the state of Iowa has grown from traditional production of crops and livestock to encompass the revolution in life sciences, food sciences, value-added products, environmental sciences, and social sciences. Iowa's world-class endowment of natural resources, its highly skilled and educated people, and its well-developed infrastructure supports a diverse and dynamic set of agricultural, food, value-added, environmental, and community endeavors.

Iowa's abundance is astonishing. The state consistently is the nation's first- or second-largest producer of corn, soybeans, pork and eggs. Iowa is the sixth largest producer of cattle and in the top ten for dairy production. Nearly 90 percent of Iowa's total land area is farmland. The power of that abundance stretches beyond Iowa's farms. It provides deep roots for a larger agri-food industry. In 2002, 8.2 percent of Iowa's gross state product came directly from the farm and food-processing sectors — the highest percentage of any state. The USDA credits 20.6 percent of Iowa's employment to a wide and diverse range of farm and food industries. Iowa's agri-food industries directly account for an estimated 19 percent of the value of Iowa's industrial output. Credit the value of Iowa-produced inputs to the value of final agri-food products and one finds that 25 percent of Iowa's overall industrial output goes into agri-food sector exports from Iowa.

While the population of Iowa has been stable over the past years, the population is shifting from rural communities to urban and suburban communities. The shift has resulted in needs and opportunities related to communities, families and youth. Likewise, Iowa's 956 cities and 99 counties continue to struggle with identifying and seizing economic and social opportunities and improving quality of life for their residents. Continuing demographic change and globalization create ongoing opportunities and challenges toward achieving socially beneficial, economically successful, and environmentally sound systems for food, feed, fiber, and other value-added products.

Effective management of natural resources, including water, land, and air, is required for sound environmental stewardship, enhancing communities and people, and creating economic vitality given the demands for the production and manufacturing associated with agricultural, food and horticultural systems.

Agriculture will continue to be a perennial base of economic, social, and cultural pride for the state. The reason is because Iowa agriculture is more than just a world-renowned mixture of soil and climate. It also is dedicated citizens, producers, scientists, educators, business people, and community and organizational leaders who believe in the future of Iowa. Iowa's current and future competitive advantage lies with the value-added areas of agricultural, food, horticultural, and natural resource-based products.

The Iowa Agriculture and Home Economic Experiment Station and Cooperative Extension Service work together to plan, discover, and deliver science-based knowledge for the benefit of the citizens and stakeholders of Iowa.

This Plan of Work represents an explicit statement on the planning, discovery, and delivery process. The Iowa State University (ISU) Combined Extension and Research Plan of Work is organized under seven themes:

Animal Systems
Economics & Sociology
Family, Youth, & Communities
Food & Nonfood Products
Human Nutrition & Health
Natural Resources
Plant Systems

This five-year, rolling Plan of Work represents a coordinated plan for the more than 300 scientists associated with the Iowa Agriculture and Home Economics Experiment Station (hereafter the Experiment Station) and the more than 150 extension educators with the ISU Cooperative Extension Service.

The Plan of Work reflects an integration of ISU extension and research programs, particularly in the animal systems and natural resources themes. The program areas under each theme show the uniqueness associated with both extension and research activities in terms of resources, existing organization structure, and faculty tenure. They also reflect the results of dialogues held among research and extension personnel. The result is a Plan of Work based on both research and extension goals and activities, rather than a single orientation toward one or the other area.

The Plan of Work has 19 program areas. Table 1 presents the specific programs areas under each of the seven themes. The research expressed in the program areas is the result of cooperation among researchers within and between departments and colleges at all levels of activity.

The Experiment Station's work represents the efforts of scientists in more than 35 departments, centers, and programs across the Iowa State University campus. Although the work primarily focuses on areas in the College of Agriculture, the Experiment Station also supports research in the College of Engineering, the College of Human Sciences, the College of Liberal Arts and Sciences, and the College of Veterinary Medicine. The Experiment Station cooperates with other states' agricultural experiment stations to ensure attention to critical problems, to share research results, and to avoid unnecessary duplication.

Likewise, as Iowa State's primary conduit for transferring the fruit of science and technology to Iowans, ISU Cooperative Extension Service is meeting critical needs through the teamwork of campus faculty, a statewide corps of local Extension

leaders and specialists, and thousands of trained volunteers. ISU Extension cooperates with similar units across the nation, but with particular focus on the North Central Region in terms of coordination of programs, activities, and metrics to measure impact. Extension staff are engaged on a daily basis with Iowans, receiving direct feedback from citizens, businesses, and communities that shape ISU research and help ISU develop innovative programs and efficient delivery mechanisms to meet the needs of an increasingly knowledge-based economy.

As demonstrated by this Plan of Work, Iowa State University is committed to creating, sharing, and applying knowledge to make Iowa, and the world, a better place. With its broad portfolio of science-based knowledge and its commitment to partnerships both internally and with external stakeholders, Iowa State's research and extension programs are providing the science and education to address new challenges and opportunities.

Table 1. ISU Program Areas by Theme

ThemeProgram Areas
Animal Systems
Iowa Beef Center
Dairy Team
Iowa Pork Industry Center
Economics & Sociology

Farm & Business Management
Community Resource Planning & Development
Econonics, Markets & Policy
Economic & Social Welfare
Family, Youth & Communities
Community Services & Institutions
4-H Youth Development
Families, Communities and Civic Engagement
Money for Life
Strengthening Families
Food & Nonfood Products
Food and Nonfood Products
Human Nutrition & Health
Food and Nutrition: Choices for Health
Human Nutrition, Food Safety, and Human Health and Well-being
Natural Resources
Natural Resources and the Environment and Agricultural and Biosystems Engineering
Plant Systems
Commercial and Consumer Horticulture
Corn and Soybean Production & Protection
Plants and Their Systems

Estimated number of professional FTEs/SYs to be budgeted for this plan.

Year	Extenion		Research	
	1862	1890	1862	1890
2007	247.5	0.0	119.4	0.0
2008	247.5	0.0	119.4	0.0
2009	247.5	0.0	119.4	0.0
2010	247.5	0.0	119.4	0.0
2011	247.5	0.0	119.4	0.0

Merit Review Process

The merit review process that will be employed during the 5-Year Plan of Work cycle

- Internal University Panel
- External Non-University Panel
- Expert Peer Review

Brief explanation

Merit Review:
Iowa's rapidly changing political, social, and economic environment demands a dynamic program development process that incorporates the following:
self directed work teams
continuous needs assessment
public and private partnerships
an incresed focus on outcomes
aggressive funding mechanisms to grow new programs
Needs Assessment:
ISU Extension will continue to follow this three-point approach:
Engagement of key statewide constituencies. Program Directors develop a plan to identify needs working with statewide constituencies. State level governmental agencies and non-governmental organizations will be involved.
Engagement of the general population. Surveys will be used to obtain input from a broad-base of Iowans
Engagement of local stakeholders. County Extension Councils and local stakeholder groups will participate in formal activities to confirm, prioritize, or regionalize the needs assessment.
State POW merit review:
North Central Regional Program Directors will review plans across the region and will continue to provide oversight, guidance, and course corrections on the logic models.
Scientific Peer Review:Project Proposals: Each project proposal will be endorsed by the department chair and Associate Director of the Experiment Station. The Assoc. Director will send the proposal to peers internal to ISU (typically 3 to 4 faculty) for a thorough review of the scientific merit, linkage with the POW, and the strategic plan of the college. Depending upon the reviews, the project is either approved, modified somewhat to significantly based on review comments, or rejected. Project proposals may be submitted by individuals, small groups, or a large group but must align with one or more programs under the POW.
Program Review Teams: Ad Hoc teams will be asked to periodically review all programs under the broad themes. The teams will be asked if the research activities, outputs and outcomes are in alignment with the POW and if there are emerging research programs that the Experiment Station should be incorporating into the POW within the five-year period.

Evaluation of Multis & Joint Activities

1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?

The planned programs were based on input from stakeholder groups and scientists who identified the most critical issues. In many cases, stakeholders are involved in the implementation of applied research efforts and educational/demonstration programs. In other situations, stakeholders through their commodity groups, provide additional funding to address issues of strategic importance.

2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?

In addition to people of color, our programs have been expanded to include members of other traditionally underrepresented audiences; physically challenged; mentally challenged; men in family service/care programs; women in agriculture, individuals and families in poverty, older Iowans and families of incarcerated adults.
Individuals from traditionally underserved and/or underrepresented groups were included in the initial identification process and in the program allocation process by a variety of means. All programs include activities that support efforts in underserved and under represented populations.

3. How will the planned programs describe the expected outcomes and impacts?

Some program areas are focused on extension activities and thus the expected outcomes are long-term. Some programs are focused on research activities and thus the outcomes are more short-term with the expectation that transference of the scientific knowledge will occur through extension programming. Goals for both outputs and impacts have been identified and will be closely monitored for correction.

4. How will the planned programs result in improved program effectiveness and/or efficiency?

Our POW and the process used to develop it and adjust it via merit and scientific reviews allows for closer coordination between researchers and extension. The program area teams have a better understanding of what citizens of the state believe to be the key issues. We continue to work on program effectiveness and efficiency. We are also constantly monitoring the outcomes in regard to inputs and outputs, as well as growing evidence based efforts, when possible.

Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation (Check all that apply)

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Survey of selected individuals from the general public

Brief explanation.

{NO DATA ENTERED}

2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

Brief explanation.

{NO DATA ENTERED}

2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Survey of the general public
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief explanation

Iowa Extension used a three prong approach in needs identification and assessment.
Engagement of key statewide constituencies. Collectively, Extension state staff initiated in a three month period more than 100 conversations with state level governmental agencies and non-governmental organizations that partner with various program units.
Engagement of the general population. 3,327 citizens self selected into a web based Extension needs identification process. 18% of respondents were non-Extension users; 60% current users; and 22% past users. 6% of respondents were under the age of 24; this was a first try at combining adult and youth. 72% were female, 28% male. Print copies were made available for citizens unable to access or use computers. Translators were available for those that need language or reading assistance. Results were shared back with all staff.
Engagement of local stakeholders (Future Talk). One-hundred County Extension Councils (900 elected officials) and an additional 25 local stakeholder and partner groups participated in a series of dialogues to confirm, prioritize, and localize the needs assessment results synthesized from the state conversations and web surveys.
Individuals from traditionally underserved and/or underrepresented groups were included in the initial identification process and in the program allocation process by a variety of means. All programs include activities that support efforts in underserved and under represented populations.
The experiment station conducted a comprehensive program review <http://www.ag.iastate.edu/aginfo/news/2004releases/review.html>. The subsequent report <http://www.ag.iastate.edu/agcoll/icn03/> was shared with stakeholders across the state and feedback solicited from them.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief explanation.

{NO DATA ENTERED}

1. Name of the Planned Program

Iowa Beef Center

2. Program knowledge areas

- 403 Waste Disposal, Recycling, and Reuse 20 %
- 604 Marketing and Distribution Practices 10 %
- 601 Economics of Agricultural Production and Farm Management 15 %
- 308 Improved Animal Products (Before Harvest) 10 %
- 315 Animal Welfare/Well-Being and Protection 5 %
- 307 Animal Management Systems 40 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The future of the cattle business in Iowa has tremendous potential for profitability and growth. While opportunity for increased profit margins exist with specialized production, good managers can produce beef cheaper in Iowa than any other region in North America because of our inherent advantage of low-cost feed inputs. Commodity beef production is a narrow profit margin business with inherently high risks. Capital requirements are significant and leverage is often substantial. As a result, capital often becomes a limiting factor when one thinks about bringing the next generation or new producers into the business, either to replace retiring producers or to grow the business. To approach the subject of growing the beef production business, these factors must be considered. Either profit margins must be larger or risks must be reduced to draw in new people and new capital into the Iowa beef industry. Iowa is competitive in the commodity beef business, but Iowa's true strength and brightest future lies beyond the commodity world in the high-quality specification products for the branded beef market.

6. Situation and priorities

The beef industry is dynamic and evolving and Iowa is positioned to take advantage of emerging external factors to grow the production of high quality beef. Changing energy costs and production are a significant turning point for cattle feeding. The High Plains cattle feedlot industry is energy dependent and faces higher cost of production, as it is costly to irrigate or import corn and to steam flake grain to make the diet more efficient. The U.S. Energy Bill has also resulted in more ethanol plants in Iowa, producing wet distiller grains that reduce the cost of gain for cattle fed near an ethanol plant even further. As of January 2006, Iowa had a total of 1.18 billion gallons per year of ethanol production capacity from the 21 plants, with an additional 515 million gallons under construction. When this additional production is on-line, Iowa will produce nearly 11 billion pounds of DDGs per year. Rising energy prices are driving a wedge between cost of gain in the High Plains and Iowa and it is creating opportunities that didn't exist in the state five years ago.
Iowa feedlots do face higher environmental compliance costs per head compared to feedlots in drier regions. The larger operation size spreads the initial cost over more head and the lower rainfall requires smaller runoff storage structures. Higher environmental expectations by society and regulators are resulting in higher environmental compliance challenges and costs for many Iowa feedlots. These producers need practical procedures for implementing environmental stewardship practices that protect the water and air quality and keep them out of regulatory problems.
A significant positive change that has occurred in beef demand since its low in 1998; demand has increased over 20%, driven in large part by consumer preferences for high-quality beef. Their preferences are reflected in a Choice–Select spread that has nearly doubled in 15 years and the dramatic growth of Certified Angus Beef which represents the upper two-thirds of Choice quality grade. These changes are accompanied by increased branding of beef products to separate them from commodity beef in the consumer's eye.
Much like the feedlot sector, feed supplies and costs are an advantage for Iowa

7. Assumptions made for the Program

External environment
Beef producer clients will be motivated to improve efficiency, quality, and sustainability of their product and operation.
Cattle cycle economics will continue and prices will trend lower for 3-5 years before moving higher again.

Acres in Conservation Reserve Program (CRP) will decline, making this land eligible for grazing. Pasture acres will face competition from crop production and recreational land owners.
Ethanol production will continue and grow in Iowa, making distillers grains plentiful and competitively-priced relative to corn in locations near ethanol plants.
Environmental regulations will not decrease, but will be manageable for well managed open feedlot and pasture operations.
Beef demand will remain above 2003 levels, and demand for high quality grade cattle will increase relative to lower quality grade cattle.
Demand for natural beef, while small, will continue to grow.
Demand for source-verified cattle by feedlots and packers will increase.
National animal identification will implemented by 2009.
Internal environment
Iowa State University will maintain an active research program is beef production and marketing to provide research-based information in extension programs.
Field staff numbers will remain stable.
Campus retirements will be replaced in a timely manner and the IBC will have input on the skills of the person hired.
External funding levels will grow modestly to support targeted efforts
External funding activities will be consistent with IBC goals to serve Iowa beef producers.
IBC staff positions will leverage faculty and specialist resources.
IBC will continue to exploit technology for program delivery.

8. Ultimate goal(s) of this Program

Increase effective use of grain co-products by 2011
Improved environmental stewardship by beef feedlots by 2011
Adopt quality management systems to improve cost control and market access by 2011
Improved beef cowherd production efficiency by 2011
Expand intergenerational transfer by 2011

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	15.0	0.0	10.3	0.0
2008	15.0	0.0	10.3	0.0
2009	15.0	0.0	10.3	0.0
2010	15.0	0.0	10.3	0.0
2011	15.0	0.0	10.3	0.0

Outputs for the Program

13. Activity (What will be done?)

Goal: Increase effective use of grain co-products by 2011
Research to find the most efficient ways to feed DGS to ruminant animals and to maximize the amount that can be fed as part of the diet.
Conduct applied research and demonstrations and educational efforts on feeding DGS.
Partner with new ethanol plants producing DGS to educate producers on storage and feeding of DGS.
Conduct in-service training and materials to feed industry staff that service producers.
Goal: Improved environmental stewardship by beef feedlots by 2011
Work with state agencies to develop practical and effective feedlot structures that protect water quality and are cost-effective to build and maintain.
Document the cost to install and maintain these systems and prepare communications.
Host field days showcasing effective control systems and management.
Develop and train producers in procedures to assess, operate, and document management in these systems.
Provide technical assistance to producers installing these practical systems.
Goal: Adopt quality management systems to improve cost control and market access by 2011
Provide training and templates in a functional EMS for feedlot operators.
Provide training, practical templates, and pre-verification audits to help producers qualify for special marketing programs that require PVP approval.
Partner with companies that have existing PVPs but have concerns about producer implementation.
Work with industry and agency partners to educate producers about national animal ID and encourage them to meet the deadlines for premise registration and animal tracking.
Develop decision support tools and education programs that allow producers to quickly and easily utilize individual animal identification.
Have certified auditor on staff keep up-to-date on Animal Care Guideline procedures and to train producers when the guidelines become official.
Goal: Improved beef cowherd production efficiency by 2011
Develop economic analysis education materials and decision support tools to help pr

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • Demonstrations • Other 1 (In-service)	• Web sites • Other 1 (Publications) • Other 2 (Software)

15. Description of targeted audience

Beef feedlot producers and managers Cowherd producers and managers Allied industries and service providers Ethanol plants and managers State agencies Beginning farmers

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	8000	90000	0	0
2008	8200	95000	0	0
2009	8400	100000	0	0
2010	8500	105000	0	0
2011	8500	110000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	1
2008	0
2009	1
2010	0
2011	1

18. Output measures

Output Text

Number of applied research and demonstration studies on feeding DGS.

2007 Target: 3
2008 Target: 5
2009 Target: 5
2010 Target: 4
2011 Target: 3

Output Text

Number of applied research and demonstration studies to extend forage resources using ethanol co-products for beef cows and grazing cattle.

2007 Target: 3
2008 Target: 5
2009 Target: 7
2010 Target: 7
2011 Target: 5

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Percent of Iowa feedlots that regularly feed DGS to reduce cost of gain.

Outcome Type: Medium

2007 Target: 70
2008 Target: 73
2009 Target: 75
2010 Target: 80
2011 Target: 85

Outcome Text

Percent of feedlots over 100 head capacity that utilize solid manure settling structures or alternative technology treatment systems.

Outcome Type: Medium

2007 Target: 20
2008 Target: 30
2009 Target: 40
2010 Target: 60
2011 Target: 80

Outcome Text

Percent of producers who adopt management systems to improve cost control and market access.

Outcome Type: Medium

2007 Target: 10
2008 Target: 15
2009 Target: 20
2010 Target: 25
2011 Target: 30

Outcome Text

Percent of cowherd producers who utilize technologies to improve enterprise efficiency.

Outcome Type: Medium

2007 Target: 10
2008 Target: 15
2009 Target: 20
2010 Target: 25
2011 Target: 30

Outcome Text

Number of intergenerational transfers.

Outcome Type: Medium

2007 Target: 10
2008 Target: 12
2009 Target: 15
2010 Target: 18
2011 Target: 20

20. External factors which may affect outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Other (Change in stakeholder priorities)

Description

The beef production sector is conservative and very independent. Adoption of management practices is slow. Environmental issues and changing regulations have been a hot button for 6-7 years and producers are torn between fighting regulations and investing in environmental controls for their feedlot. The Iowa Cattlemen's Association has a long-range plan that is consistent with the objectives identified and is a partner in program implementation. ISU has had retirements that have worked in applied beef research and more research and extension retirements are expected during this POW. How these campus and field retirements are handled will greatly impact the IBC.

21. Evaluation studies planned

- Retrospective (post program)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

The IBC surveyed Iowa cattle producers in early 2005, and the results will serve as a benchmark for comparison. It is anticipated that producers will be surveyed again in 2010 to assess change in key variables. Some measures will require documentation of actions taken by the producer due in part IBC staff involvement. Still other measures will be estimated from existing secondary data such as Census of Ag and USDA reports.
Goal: Increase effective use of grain co-products by 2011
Survey and documentation of those assisted.
Goal: Improved environmental stewardship by beef feedlots by 2011
Documentation of those assisted
Goal: Adopt quality management systems to improve cost control and market access by 2011
Documentation of adoption by participants and survey.
Goal: Improved beef cowherd production efficiency by 2011
Survey of producers and documentation actions taken by participants.
Goal: Expand intergenerational transfer by 2011
Survey and secondary data.

22. Data Collection Methods

- Sampling
- Mail
- On-Site
- Structured
- Case Study
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Dairy Team

2. Program knowledge areas

- 401 Structures, Facilities, and General Purpose Farm Supplies 20 %
- 315 Animal Welfare/Well-Being and Protection 20 %
- 802 Human Development and Family Well-Being 20 %
- 601 Economics of Agricultural Production and Farm Management 20 %
- 307 Animal Management Systems 20 %

3. Program existence

- Intermediate (One to five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Growth and development of Iowa's dairy industry provides significant program opportunities. Programs and projects related to dairy business development will enable the industry to remain a viable player in the national milk market. Moreover, program will focus on modernizing dairy facilities, integrated herd and health management, human resource management, and environmental and energy resource stewardship. These complex issues will be addressed by the ISU Extension Dairy Team with rural economic and social development as the intended outcomes.

6. Situation and priorities

Dairy is a large industry in Iowa. Iowa is home to 200,000 dairy cows and 2250 dairy farms. Iowa Dairy cows produce an average of 20,722 pounds of milk per cow for a total milk production of 3.85 billion pounds. But, Iowa processes 4.8 billion pounds with milk imported from other states. Using the above figures, the Iowa dairy industry generates $1.306 billion of economic activity in the state. Iowa dairy production has remained relatively stable, but continues to lose dairy herds while herd size and production per cow continue to increase.
The Iowa dairy industry provides economic development for rural communities and value-added benefits for Iowa grain and forage producers. Dairy is a great economic development engine providing profitable jobs and land use. A Cornell study puts the Total Income multiplier (TI) at 2.29 for dairy production, only dairy product manufacturing exceeds this at 2.61. No other economic sector exceeded these numbers (the next highest among all sectors was construction with a TI of 1.66, which is heavily used in dairy as well). Employment effects of dairy production are near the top of the list as well at 1.52. Dairy product manufacturing was the highest at 3.53 — double the employment of the highest non-agricultural economic sector. Each 100 cow dairy would provide an estimated 2.5 jobs with off-farm employment increasing an estimated one half that due to dairy production's labor intensity.
Capital requirements, quality of life and current capital infrastructure often inhibit newer, younger producers or other new entrants into the industry in order to maintain or grow Iowa dairy production base. Business planning and development of new, sustainable models are necessary. The Iowa dairy industry is in need of modernizing facilities to accommodate labor and energy efficient technology to become more competitive. Human resource skills need further development and use. Proper manure and crop nutrient utilization can further protect the environment.

7. Assumptions made for the Program

The Iowa dairy industry has tremendous room for growth in milk production. Feed by-products from a growing ethanol industry will need to be utilized by livestock. Rural communities need dairy for economic growth. Beginning and transition dairy producers need opportunities for entry and expansion. Business planning will be pertinent to their success. The dairy facility infrastructure needs modernizing. Worker health and safety improvements will make milking easier and more attractive. Improvements in nutrient intake need to be balance will nutrient excretion for efficiency and environmental sustainability. Farm owners will need to develop interpersonal skills and organizational skills as farms expand and require the work of hired employees.
The Dairy (extension) Team has approximately1.25 FTE campus staff, and has 2.60 field staff specifically working on dairy along with 1 FTE in farm management; 1 FTE in Crops and 1 FTE in Ag Engineering working on dairy. Thus, staff time is limited across the state in dairy.
Many underutilized dairy resources such as publications need to be updated, and website further created. Staff members need continued professional improvement on current research in their respective disciplines. Producers, lenders, nutritionists,

veterinarians and other agri-business personnel need continued professional improvement on profitable dairy production systems.
Internally the Dairy Team needs cooperation with County Extension Education Directors, other field staff and administration. Externally the dairy team is a major stakeholder in the Iowa State Dairy Association, the NE Iowa Dairy Foundation, and the Western Iowa Dairy Alliance. Cooperation with these and other industry players is pertinent to the dairy team's success.
Communities will form coalitions to address dairy development as an economic development strategy. The Dairy Team will play a key role in educating new and prospective producers and partners as to the importance of the dairy industry to the economic well-being of Iowa.
At the same time, efforts must be continued to help keep Iowa dairy producers and dairy consultants informed about Best Management Practices, and about profitable models of production and risk management. Many avenues will be used to disseminate information, ranging from individual farm visits or phone calls to group meetings to using internet technology.
To accomplish program goals, external funds must be obtained from partners, grant and contract agreements, and the participants who attend educational programs.

8. Ultimate goal(s) of this Program

Increase dairy farm business planning and establish new sustainable dairy farms.
Increase the adoption of more competitive dairy production systems and practices.
Adopt, apply and evaluate approaches to integrated dairy herd and health management practices that result in improved profitability, enhanced food quality and safety, and improved environmental stewardship.
Increase the awareness and use of interpersonal and organizational skills by dairy personnel.
Increase efficiency of manure and crop nutrient utilization while minimizing surface run-off and preserving ground water and air quality. Conserve current energy resources, and implement alternate energy resources where appropriate.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	7.0	0.0	5.1	0.0
2008	7.0	0.0	5.1	0.0
2009	7.0	0.0	5.1	0.0
2010	7.0	0.0	5.1	0.0
2011	7.0	0.0	5.1	0.0

Outputs for the Program

13. Activity (What will be done?)

Goal: Increase dairy farm business planning and establish new sustainable dairy farms.
Dairy producers will implement business planning to accommodate intergenerational transfers, new enterprises, value-added processing and/or marketing, risk management strategies, and long-term sustainability.

Goal: Increase the adoption of more competitive dairy production systems and practices.
Producers will implement cost efficient milking, feeding, housing and manure handling systems designed to increase labor efficiency along with improved animal (cow comfort) and worker well-being (safety, ergonomics, air quality, stress).
Goal: Adopt, apply, and evaluate approaches to integrated dairy herd and health management practices that result in improved profitability, enhanced food quality and safety, and improved environmental stewardship.
Dairy producers will make improvements by setting goals through the use of records that identify herd production problems/opportunities for improvement in milk and food quality, nutrition, biosecurity and herd health, reproduction, and productive life.
Goal: Increase the awareness and use of interpersonal and organizational skills by dairy personnel.
Dairy producers will optimize human resources by acquiring and improving human resource management skills.
Goal: Increase efficiency of manure and crop nutrient utilization while minimizing surface run-off and preserving ground water and air quality. Conserve current energy resources, and implement alternate energy resources where appropriate.
Dairy producers will adopt energy conserving measures on dairy farms. Dairy producers will adopt nutrient [manure and waste water] management systems that reduce risk to surface and groundwater environmental quality.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Demonstrations	• Newsletters • Web sites • Other 1 (Publications)

15. Description of targeted audience

Dairy producersBeginning farmersAgricultural lendersDairy nutritionistsOther agri-business personnelBuilders and contractorsDairy veterinariansEconomic development partners

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
2007	10000	2500	2300	1050
2008	10000	2500	2300	1050
2009	10000	2500	2300	1050
2010	10000	2500	2300	1050
2011	10000	2500	2300	1050

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Research/demonstration studies

2007	Target:	3
2008	Target:	3
2009	Target:	3
2010	Target:	3
2011	Target:	3

Output Text

Publications

2007	Target:	6
2008	Target:	6
2009	Target:	6
2010	Target:	6
2011	Target:	6

Output Text

Workshops

2007	Target:	42
2008	Target:	32
2009	Target:	32
2010	Target:	32
2011	Target:	32

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of new dairy farms established.

Outcome Type: Medium

2007	Target:	8
2008	Target:	8
2009	Target:	8
2010	Target:	8
2011	Target:	8

Outcome Text

Percent of dairy producers who adopt more competitive dairy production systems and practices.

Outcome Type: Medium

2007 Target: 20
2008 Target: 20
2009 Target: 20
2010 Target: 15
2011 Target: 15

Outcome Text

Percent of Iowa producers who adopt integrated dairy herd and health management practices that result in improved profitability, enhanced food quality and safety, and improved environmental stewardship.

Outcome Type: Medium

2007 Target: 20
2008 Target: 20
2009 Target: 20
2010 Target: 20
2011 Target: 20

Outcome Text

Percent of producers who will increase the awareness and use of interpersonal and organizational skills when managing family or non-family personnel.

Outcome Type: Medium

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text

Percent of producers increasing the efficiency of manure and crop nutrient utilization while minimizing surface run-off and preserving ground water and air quality.

Outcome Type: Medium

2007 Target: 20
2008 Target: 20
2009 Target: 20
2010 Target: 15
2011 Target: 15

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Description

The dairy production sector runs the spectrum of state-of-the-art facilities, low-cost but effective facilities and out-of-date facilities that lack competitiveness in production, labor efficiency and profitability. Adoption of management practices is slow. Integrated herd and health management practices need cooperation with veterinarians. Beginning and expanding producers have financial, business management and consulting needs that often are not readily available in the market place. Many dairy owners and workers need to develop or improve interpersonal and organizational skills. Environmental issues and changing

regulations have been a hot button for 6-7 years and producers are torn between fighting regulations and investing in environmental controls for their dairies. Other dairy industry partners have long-range dairy development plans consistent with the objectives identified and are needed as partners in program implementation. The dairy team continues to lose FTE staff in critical areas that affect teaching, research and program implementation in the field. How the future staffing needs are met will impact greatly the degree to which program goals are met.

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

ISU surveyed Iowa dairy producers in early 2005 that will serve as a benchmark for comparison. It is anticipated that producers will be surveyed again in 2010 to assess change in key variables. Some measures will require documentation of actions taken by the producer due in part to dairy team involvement. Still other measures will be estimated from existing secondary data such as Census of Ag and USDA reports.
Goal: Increase dairy farm business planning and establish new sustainable dairy farms.
Evaluation: Documentation of those assisted
Goal: Increase the adoption of more competitive dairy production systems and practices.
Evaluation: Documentation of those assisted with selected post-pre surveys regarding learning and impact.
Goal: Adopt, apply, and evaluate approaches to integrated dairy herd and health management practices that result in improved profitability, enhanced food quality and safety, and improved environmental stewardship.
Evaluation: Documentation of those assisted with selected post-pre surveys regarding learning and impact.
Goal: Increase the awareness and use of interpersonal and organizational skills by dairy personnel.
Evaluation: Documentation of those assisted with selected post-pre surveys regarding learning and impact.
Goal: Increase efficiency of manure and crop nutrient utilization while minimizing surface run-off and preserving ground water and air quality. Conserve current energy resources, and implement alternate energy resources where appropriate.
Evaluation: Documentation of those assisted with selected post-pre surveys regarding learning and impact.

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Tests

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Iowa Pork Industry Center

2. Program knowledge areas

- 601 Economics of Agricultural Production and Farm Management 10 %
- 403 Waste Disposal, Recycling, and Reuse 10 %
- 302 Nutrient Utilization in Animals 10 %
- 307 Animal Management Systems 10 %
- 402 Engineering Systems and Equipment 10 %
- 301 Reproductive Performance of Animals 10 %
- 308 Improved Animal Products (Before Harvest) 10 %
- 315 Animal Welfare/Well-Being and Protection 10 %
- 306 Environmental Stress in Animals 10 %
- 311 Animal Diseases 10 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

In Iowa, swine production is the major animal agriculture commodity. Iowa has a long history of leading the nation in swine production as the number one swine producing state. We need to take action now in planning the growth of the pork industry in Iowa to meet the long term needs of the pork production industry and our rural economies while being considerate of the environmental and social concerns shared by all residents of Iowa. As we look to the future, the primary use for Iowa farmland will still be to grow crops such as corn and soybeans. These crops will need even more fertilization as yields will continue to be pushed higher. The primary products used for fertilizers have been petroleum based. The cost of these petroleum based fertilizers will most likely rise, which will then drive the value of swine manure as a crop nutrient even higher. The synergy between crop production and pork production is unique and it is logical to consider this avenue to enhance our rural economies by capitalizing on these opportunities.
The critical swine health issues within Iowa are largely those that have been identified within the multistate / multi-institutional project in existence that can be found at www.porkboard.org/prrs/. Iowa's major health priority issue is porcine respiratory and reproductive syndrome (PRRS).

6. Situation and priorities

The pork industry in Iowa is broad in its scope, diverse in its components and essential to the economy of the state. Over the past 50 years the pork industry in Iowa has maintained its position as the number one state for pork production and processing in the country. However, there has been a massive structural change in the pork industry that mandates an organized and planned approach to maintain and further evolve the industry. The industry must strive to be sustainable from three different perspectives: economic, environment and social. While the population of Iowa has been stable over the past years, the population is shifting from rural communities to urban and suburban communities. This shift has resulted in a decline in the rural economies as businesses and industries have moved to the city. There is a real need to assist rural communities to "grow back" their economies and offer opportunities for people to locate businesses in rural areas. As we have seen these demographic changes, the need for the development of the next generation of the pork industry in Iowa also has emerged. Accomplishing these goals can only be achieved through a team approach.
Pork production has added value to Iowa's corn and soybean industries for many years. While the number of hogs on farms in Iowa has been steady over the past years (13 million to 16 million at any one time,) the number of farms with hogs has declined from 100,000 in 1967 to 9900 in 2004. Correspondingly, the average size of an Iowa hog farm has increased. The primary reason for this is that the average profit per pig has declined to the point where the farm must be larger if an acceptable income is to be realized for the producer. The pork processing capacity of Iowa has always been very important to the needs of the industry and the rural economies of Iowa. The percent of the nation's pigs that are harvested in Iowa packing plants has stayed around the 30% mark, with only a small increase over the past five years. The industry has also evolved into different segments:

commodity pork, attribute based niche market pork,

7. Assumptions made for the Program

The long term outlook for fresh and further processed pork demand is excellent. Domestically, our population continues to grow at a rate of 13% per decade while per capita pork consumption has remained relatively stable at 51 pounds/person. The trend towards Americans eating more meals outside the home, requiring a greater amount of further processed product, has continued to grow. Internationally, the demand for pork continues to escalate as developing economies increase their demand for pork. This is reflected in pork exports growing by 400% over the past decade.
While the future demand for U.S. pork looks promising, the location of where this pork will be produced is not so clear. Currently about 20% of the U.S. pigs are farrowed on the east coast of the U.S. These facilities are aging rapidly and the potential to maintain or grow the pig industry on the east coast is more limited than other areas. If demand continues to increase, there will be need to expand pig production in other places. Iowa has the most inherent advantages for pork production: abundant and affordable feedstuffs, crop production that needs high quality and affordable nutrients, a large and growing pork processing industry, a history of pork production excellence, and rural economies that are in need of development.
As we look to the future, the primary use for Iowa farmland will still be to grow crops such as corn and soybeans. These crops will need even more fertilization as yields will continue to be pushed higher. The primary products used for fertilizers have been petroleum based. The cost of these petroleum based fertilizers will most likely rise, which will then drive the value of swine manure as a crop nutrient even higher. The synergy between crop production and pork production is unique and it is logical to consider this avenue to enhance our rural economies by capitalizing on these opportunities.
We believe that communities can work together to responsibly grow the pork industry of Iowa. A key to this will be the development of and access to unbiased, scientifically sound information relating to the environmental, economic and social aspects of pork production and processing. Iowa State

8. Ultimate goal(s) of this Program

Environmental, economic and social sustainability of the pork industry in Iowa
Rural economic development for Iowa
Development of the next generation of the pork industry in Iowa
Either eradicate PRRS or develop methodologies to minimize economic consequences of PRRS.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	14.0	0.0	10.3	0.0
2008	14.0	0.0	10.3	0.0
2009	14.0	0.0	10.3	0.0
2010	14.0	0.0	10.3	0.0
2011	14.0	0.0	10.3	0.0

Outputs for the Program

13. Activity (What will be done?)

Goal: Environmental, economic and social sustainability of the pork industry in Iowa
Have 10,000 premises registered in the national animal ID program
Expose 500 pork producers to large pen gestation systems and their management
Educate Iowa producers on the value of transport and aerosol transmission of disease pathogens
Have 60% of pork producers use manure testing information to manage their manure
Inform the industry building new production facilities in the state on the advantages of “low density” systems
Work with scientific and industry efforts to delineate the causation of odor from swine facilities
Install BLUP Sow Indexing systems at more than ten Iowa swine farms each year
Cooperate with more than 100 Iowa sow farms in their efforts to extend sow longevity
Create a benchmarking program of post-weaning performance from more than 50 Iowa swine farms
Work with more than 500 Iowa swine farms in their manure management programs
Conduct EMS training sessions for more than 1000 Iowa swine farms
Maintain and expand the cooperative work with at least five producer peer groups
Goal: Rural economic development for Iowa
Work with 100 producers on siting questions, business plans, production practices for the construction of new swine facilities in rural areas of Iowa
Cooperate with DNR in interpreting the rules and regulations pertaining to confinement animal units in rural Iowa
Work with five AI studs in rural Iowa on their expansion and biosecurity issues
Goal: Development of the next generation of the pork industry in Iowa
Coordinate the Iowa State Fair Derby swine show with over 500 youth participating annually
Work with the Iowa State University Animal Science Department staff in their Roundup program for student recruitment
Cooperate with appropriate state staff and ISU Extension field staff to offer three pork-related workshops during the annual Iowa State 4-H Youth Conference
Have ten students complete the Swine Fellows program annually at ISU
Work with the IPPA in its Youth Ambassador Program with at least ten youth completing the program each year
Scan over 2,000 pigs at 30 county fairs around Iowa each year
Judge youth swine shows at more than 25 youth events annually
Work with 50 crop producers to broaden their agricultural enterprise to include swine production facilities in order to bring another family member into the business
Goal: Either eradicate PRRS or develop methodology to minimize economic consequences
Quantify the Cost of PRRS to the U.S. and Iowa Pork Industry
Development of New and Improved PRRSV Vaccines
Understanding the Persistently Infected Pig
Immune Therapy
Development of a PRRS Virus “Typing” System
PRRS Virus Genomic Sequencing and Creation of a National PRRS Database
National Epidemiologic Investigations and Risk Factor Analysis
Mechanisms of Between-Farm Viral Transmission
Regional PRRS Elimination Demonstration Projects
Development of a Real-Time PRRS Information/Education System

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Demonstrations • Other 1 (In-service)	• Newsletters • Web sites • Other 1 (Publications)

15. Description of targeted audience

Independent farmsCorporate farmsAttribute based farmsPeer support groupsYouth and next generationCommodity groupsVeterinariansCommunity collegesGeneral populationPolicy makers

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	8000	16000	3000	3000
2008	8000	16000	3000	3000
2009	8000	16000	3000	3000
2010	8000	16000	3000	3000
2011	8000	16000	3000	3000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	1
2008	0
2009	1
2010	0
2011	1

18. Output measures

Output Text

Number of research studies completed.

2007 Target: 12
2008 Target: 12
2009 Target: 12
2010 Target: 12
2011 Target: 12

Output Text

Number of porcine respiratory and reproductive syndrome (PRRS) epidemiologic studies.

2007 Target: 3
2008 Target: 3
2009 Target: 3
2010 Target: 3
2011 Target: 3

Output Text

Number of producer surveys related to porcine respiratory and reproductive syndrome (PRRS) management and impact.

2007 Target: 3
2008 Target: 3
2009 Target: 3
2010 Target: 3
2011 Target: 3

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text
Number of premises registered in the national animal ID program (cumulative).

Outcome Type: Medium
2007 Target: 2500
2008 Target: 4500
2009 Target: 6500
2010 Target: 8500
2011 Target: 10000

Outcome Text
Number of pork producers exposed to large pen gestation systems and their management (cumulative).

Outcome Type: Medium
2007 Target: 125
2008 Target: 250
2009 Target: 350
2010 Target: 425
2011 Target: 500

Outcome Text
Percent of pork producers using manure testing information to manage swine manure application (cumulative).

Outcome Type: Medium
2007 Target: 25
2008 Target: 35
2009 Target: 45
2010 Target: 55
2011 Target: 60

Outcome Text
Number of niche market farms with accurate cost of production records.

Outcome Type: Medium
2007 Target: 30
2008 Target: 40
2009 Target: 50
2010 Target: 60
2011 Target: 70

Outcome Text
Number of swine farms to participate in EMS training sessions (cumulative).

Outcome Type: Short

2007 Target:	400
2008 Target:	600
2009 Target:	750
2010 Target:	900
2011 Target:	1000

Outcome Text
Number of youth participating in the Iowa State Fair swine programs (annually).

Outcome Type: Short

2007 Target:	500
2008 Target:	500
2009 Target:	500
2010 Target:	500
2011 Target:	500

Outcome Text
Number of crop producers who broaden their agricultural enterprise to include swine production facilities in order to bring another family member into the business (annually).

Outcome Type: Medium

2007 Target:	25
2008 Target:	25
2009 Target:	25
2010 Target:	25
2011 Target:	25

20. External factors which may affect outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Description
The traditional pork industry structure in Iowa has been the production of pigs to consume the locally grown corn and soybean meal and turn this into a higher valued product. The pigs were processed in Iowa pork processing facilities and the pork was then shipped to all parts of the nation for further processing and sale as commodity pork in grocery stores. The retailing sector has seen more concentration over the past few years. For 2004, the top five food retailers in the U.S. controlled 60% of the market share. With this concentration has come more pressure on the suppliers to reduce their margins. As the margin per pig sold for commodity pork has dropped, the necessity for larger production units has emerged. This then creates a need for the pork industry to broaden its product line and expand into non-commodity based pork markets.
Public awareness and sensitivity to environmental issues, animal welfare concerns, and a growing awareness of agricultural consolidation need to be addressed. The climate for state and federal funding of programs that support the pork industry of Iowa has not been favorable over the past years. These declines in funding for unbiased, science based programs are a factor that has already had a negative impact on our programs and results. ISUE has responded by increasing the amount of support funding from our clients and moving first to cost recovery programs and more recently towards income generation programs. Another factor that could negatively impact the development and delivery of successful programs is the declining political influence of the agricultural industries on the state legislature. As the population shifts from rural to urban and suburban, the funding of programs to assist the pork producers of Iowa will most likely be harder to procure. In addition, the implementation of

rules and laws that impede the development and profitability of the pork industry in Iowa becomes more likely.

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

Surveys of meeting participants in IPIC technology transfer events
Evaluate manure management plans as to practices being implemented by producers
Examination of specific technology implementation from IPIC educational programs
Feedback from advisory groups about successes/failure of IPIC educational programs
Examine the Group Tracker benchmark database for level of usage and changes in performance
Monitor results from reproductive management software programs for client changes in performance that have adopted technology due to extension recommendations
Evaluate the effectiveness of the “regional” resource sharing programs using survey information

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Tests
- Journals

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Farm and Business Management

2. Program knowledge areas

- 605 Natural Resource and Environmental Economics 10 %
- 601 Economics of Agricultural Production and Farm Management 60 %
- 602 Business Management, Finance, and Taxation 10 %
- 603 Market Economics 20 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The Farm and Business Management team proposes to extend information and build skills of farm operators, farm families, related agribusiness managers and agricultural educators. Four areas of knowledge will be emphasized: farm profitability and financial management; legal and business planning; economics of environmental management; new business development.

6. Situation and priorities

Agricultural technologies are appearing today that just a few years ago weren't even considered. Farmers are no longer buying just seed, but bundles of traits. Specialty traits, pesticide resistance, etc. are all a part of the package being offered. Machinery options have increased substantially over the past few years, as well. Global positioning, automatic guidance and other technologies all offer improved efficiencies, but all come with a cost.
Changes in farmland ownership and farmland use have been equally dramatic. The percent of farmland owned by people over 75 years old has doubled since 1982. Today almost one-half of the land is owned by people over the age of 65. The percent of land owned by people who do not live in Iowa has more than tripled in the past few decades. Almost one in every five acres is owned by a non-Iowa resident.
The average age of Iowa farmers is increasing. There are more farmers over the age of 65 (25 percent) than there are under the age of 35 (7 percent). Young people who aspire to a career in farming, but do not have a family operation to fit into, find it very hard to acquire the necessary resources.
Another change that has significant implications for younger farmers is the shift from crop share to cash rent. In 1982, the amount of leased land was about equally divided between crop share and cash rent. By 2002, 72 percent of the leased land was cash rented. This hampers the ability of the beginning farmer to share risk, and it requires more capital for them to gain access to the land.
Land values and cash rents have steadily increased in the last decade. Commodity payments from the USDA and record crop yields have been the primary drivers. Benefits have accrued mostly to land owners (including owner-operators). If USDA program benefits are reduced, land values and rents may fall and relatively more income will come from operating the land rather than owning it, a trend that should favor beginning farmers and tenants.
Agricultural practices utilize a considerable amount of fossil fuel. The price of energy has become higher and more volatile over the past few years. Nitrogen fertilizer has risen by over 15 percent the past year. In addition, the refining capacity of this country is becoming more concentrated in geographic areas. This concentration increases the likelihood for supply disruptions and more price volatility.
Another trend that has turned attention towards alternative production has been the concern over food safety and bio-security. Threats of livestock diseases, soybean rust, and other events have led people to question the vulnerability of our food system, and have created increased interest in traceability and producer identification.
Rapid expansion in ethanol production is making agriculture a major producer of energy as well as food. This trend sets the stage for significant future changes in crop rotations, fertilizer demand, infrastructure needs for fertilizer, grain drying, storage, and handling, as well as changes in livestock rations and exposure to risk of major changes in feed costs with adverse weather and relatively inelastic corn processing demand.

7. Assumptions made for the Program

Beliefs we have about the program and people involved:
Most farm families have among their goals a desire to operate a profitable business.

Resources from federal, state and county government will decrease in real terms, staff numbers will continue to decline.
The knowledge base relating to farm and business management is extensive and will continue to expand.
Institutional priorities will be to carry out programs that can generate user fees or can be funded externally. Extension clientele will increasingly depend on electronic communication to receive information.
Numbers of farm families will decrease, but they will still constitute a large clientele group.

8. Ultimate goal(s) of this Program

Farm Profitability and Financial Management: Crop and livestock producers will increase the profitability of their operations while controlling risks consistent with their financial resources and personal preferences.
Legal and Business Planning: Farmers, landowners and agribusiness managers will use contracts, leases and business organization plans to increase their control of key resources, control financial and legal risks, and conserve assets and efficiencies for the next generation.
Environmental Management: Farmers will implement practices that conserve the productivity of agricultural resources as well as enhance the quality of environment for the non-farm population.
New Business Development: Producers and other entrepreneurs will increase the number of alternative or value retained businesses in Iowa. The number of Iowa communities looking at agriculture as an important component of community economic development will increase.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	20.0	0.0	0.0	0.0
2008	20.0	0.0	0.0	0.0
2009	20.0	0.0	0.0	0.0
2010	20.0	0.0	0.0	0.0
2011	20.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Farm Profitability and Financial Management:
Increase the knowledge of grain, livestock and dairy producers, as well as agribusiness persons, of up-to-date short-term market outlook information.
Improve crop and livestock producers' ability to choose among alternative marketing strategies and develop marketing plans for their commodities.
Improve crop and livestock producers' ability to control price and production risks by choosing combinations of insurance programs, USDA commodity programs, and marketing tools.
Improve crop producers' understanding of the economic and risk implications of new technology choices.

Increase farmers' ability to assess their own financial risk bearing ability and how it will be impacted by higher interest rates and other production costs.
Improve agricultural lenders' ability to manage and evaluate farm loan portfolios and control risk within their own credit institutions.
Increase farm employers' knowledge about current wages and benefits for farm employees, and improve their labor management skills.
Increase the knowledge of farmers and agribusiness persons about how agricultural policies and production around the world impact their businesses locally.
Increase the access for female farmers and farm partners to a broad array of risk and financial management topics, in learning communities composed of their peers.
Legal and Business Planning:
Increase the recognition of the importance of an estate plan for stability and continuity of farm businesses.
Increase the knowledge of on-farm and off-farm heirs of strategies for transferring income, ownership and management of farm businesses.
Build skills necessary for success through programs targeted to beginning farmers.
Increase farmers' and landowners' skills in comparing alternatives for acquiring the use of major farm assets, including ownership, leasing and contracting.
Train tax practitioners to help Iowa farmers manage taxes efficiently.
Build skills to help farm families strategically evaluate business opportunities involving new enterprises, new resources (including new operators) and changes in legal/organization structures.
Environmental Management:
Provide crop and livestock producers and land owners current information and analytical tools for evaluating their participation in conservation programs that are available.
Develop educational materials for consultants and others who advise farmers and landowners on conservation program issues and regulations, and train them on their use.
Assist producers in assessing the environmental and economic impacts of alternative farming methods and enterprises.
New Business Development:
Increase producer and other entrepreneur awareness related to creating or enhancing alternative or value retained businesses.
Increase business and marketing skills related to new food and farming ventures for ISUE staff and other agricultural service providers.
Enhance skills necessary for development of alternative or value retained enterprises per year geared toward women, who make up a majority of food production enterprises in Iowa.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Other 1 (In-service tranings)	• Newsletters • Web sites • Other 1 (Publications) • Other 2 (Internet study courses)

15. Description of targeted audience

Grain, livestock and dairy producersAgribusiness professionalsAgricultural lendersFarm employeesFemale farmers and farm partnersOn-farm and off-farm heirsBeginning farmersLandownersTax practitionersEntrepreneursFarm familiesState agencies and NGOs

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	15000	3350000	0	0
2008	15000	3350000	0	0
2009	15000	3350000	0	0
2010	15000	3350000	0	0
2011	15000	3350000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

{NO DATA ENTERED}

Target: {NO DATA ENTERED}
Target: {NO DATA ENTERED}
Target: {NO DATA ENTERED}
Target: {NO DATA ENTERED}
Target: {NO DATA ENTERED}

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of crop and livestock producers who choose marketing, insurance and USDA program alternatives that are consistent with the risk bearing ability of their businesses and their personal preferences for managing risk.

Outcome Type: Medium

2007 Target: 500
2008 Target: 500
2009 Target: 500
2010 Target: 500
2011 Target: 500

Outcome Text

Number of female farmers and farm partners who take a more active role in decision making for their businesses.

Outcome Type: Medium

2007 Target: 10

2008 Target: 100

2009 Target: 100

2010 Target: 100

2011 Target: 100

Outcome Text

Number of agricultural lenders who finance the acquisition of new resources or implementation of new technology for their borrowers while maintaining liquidity and controlling financial risks.

Outcome Type: Medium

2007 Target: 100

2008 Target: 100

2009 Target: 100

2010 Target: 100

2011 Target: 100

Outcome Text

Number of beginning farmers who objectively measure the likelihood of meeting their individual and family goals through entering a farm business.

Outcome Type: Medium

2007 Target: 25

2008 Target: 25

2009 Target: 25

2010 Target: 25

2011 Target: 25

Outcome Text

Number of Iowa businesses providing inputs and/or services to farmers that will offer informed marketing and financial advice.

Outcome Type: Medium

2007 Target: 150

2008 Target: 150

2009 Target: 150

2010 Target: 150

2011 Target: 150

Outcome Text

Number of income tax practitioners that increase the accuracy and efficiency of the farm returns that they prepare.

Outcome Type: Medium

2007 Target: 1000

2008 Target: 1000

2009 Target: 1000

2010 Target: 1000

2011 Target: 1000

Outcome Text

Number of producers and landowners who make choices among CRP, CSP and commodity payment programs consistent with their goals of increasing profits and protecting agricultural resources.

Outcome Type: Medium

2007 Target: 100
2008 Target: 100
2009 Target: 100
2010 Target: 100
2011 Target: 100

Outcome Text

Number of producers and other entrepreneurs who increase their awareness of alternative enterprises or value retained opportunities by either attending an educational program or downloading educational materials from a website.

Outcome Type: Medium

2007 Target: 300
2008 Target: 300
2009 Target: 300
2010 Target: 300
2011 Target: 300

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges

Description

Passage of a new farm bill.
Implementation of current and future decisions by the World Trade Organization and expansion of regional and bilateral trade agreements.
Changes in environmental and biosecurity regulations affecting agriculture.
Extension staffing patterns and retirements, especially in the Department of Economics at ISU.
The advancing age profile of farm operators and owners
Changing learning styles of farmers and agribusiness persons
Continual evolution of communications technology
Increased global demand for energy and improved technology for extracting it from agricultural products.
Development of more specialized traits in crops and livestock.
Changes in livestock numbers and opening or closing of international borders to livestock trade, resulting in volatile price movements.

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

Compare benchmark data from the following sources before and after implementation of the plan:
Census of Agriculture (2007 and 2012)
ISU survey of land tenure and leasing practices (every 5 years)
Annual ISU surveys of cash rental rates, land values, and farm custom rates
Special surveys of farm employee compensation, farm succession plans and other topics
Farm record data from the Iowa Farm Business Association
ISU Farm and Rural Life Poll results

Note: specific programs will be evaluated by comparing characteristics of target audiences before and after participation, and documenting changes in management practices.

22. Data Collection Methods

- Sampling
- Mail
- Observation

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Community Resource Planning and Development

2. Program knowledge areas

- 608 Community Resource Planning and Development 100 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The ISU Extension Community and Economic Development (CED) group works to improve the long-term well being of individuals, families, businesses, organizations and communities through research and experience-based education. CED extends the knowledge and resources of ISU to people where they live and work. CED programs help Iowa communities deal with their own unique issues and challenges. In the knowledge area of Community Resource Planning and Development CED programming focuses on three areas critical to the future of Iowa Communities: (1) Community visioning and design; (2) Community planning; and (3) Community economic development.

6. Situation and priorities

Iowa's 956 cities and 99 counties continue to struggle with increasing economic and social opportunities and improving overall quality of life for their residents. Continuing demographic change and globalization create ongoing challenges toward achieving these goals. The loss of economic activity in Iowa's rural communities challenge communities' ability to keep up with public sector responsibilities, plan for the future and create a single vision of community goals. It is a priority of CED to continue research into improving opportunities for economic development and the efficient functioning of rural communities, and to disseminate best practices to community leaders.

7. Assumptions made for the Program

Funding will remain constant or increase.

8. Ultimate goal(s) of this Program

Community visioning and design – increase the number of communities that operate on a shared (community-wide) vision of the future and work toward those goals. Community planning – increase the number of communities that plan for efficient use of fiscal, human, and natural resources. Community economic development – increase levels of earnings, employment and quality of life in rural communities.

9. Scope of Program

- In-State Extension
- In-State Research

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	20.0	0.0	0.0	0.0
2008	20.0	0.0	0.0	0.0
2009	20.0	0.0	0.0	0.0
2010	20.0	0.0	0.0	0.0
2011	20.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Community visioning and design – We will pursue a program of participatory research and outreach, working with communities to develop concepts and strategies for creating a shared vision of the future; which includes social, as well as physical/design strategies. Programs such as Living Roadways Community Visioning, the Community Design Program, PLaCE, Downtown & Neighborhood Revitalization will continue to involve participatory research and outreach. Community planning – We will conduct research and provide outreach to communities on community planning, zoning, geographic information systems, and community resource management. We will provide training to local officials on local government topics that contribute to the efficient management and operation of community assets. Community economic development – We will conduct economic analyses and applied research for communities and regions, disseminate the information, and provide training on entrepreneurship and small business development and management.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Other 1 (community plans)	• Newsletters • Web sites • Other 1 (Publications) • Other 2 (Videos)

15. Description of targeted audience

Individuals, businesses, organizations, public officials and community leaders in Iowa.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	4850	37800	0	0
2008	4875	38200	0	0
2009	5300	38500	0	0
2010	5250	38750	0	0
2011	5750	39000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of articles, publications, reports, plans.

2007 Target: 53
2008 Target: 67
2009 Target: 73
2010 Target: 81
2011 Target: 91

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Community visioning and design: Organizations/communities participating in events.

Outcome Type: Short

2007 Target: 0
2008 Target: 0
2009 Target: 0
2010 Target: 0
2011 Target: 0

Outcome Text

Community visioning and design: Quality of life projects initiated

Outcome Type: Medium

2007 Target: 0
2008 Target: 0
2009 Target: 0
2010 Target: 0
2011 Target: 0

Outcome Text

Community visioning and design: Communities completing quality of life projects.

Outcome Type: Long

2007 Target: 2

2008 Target: 5

2009 Target: 8

2010 Target: 10

2011 Target: 14

Outcome Text

Community planning: Communities participating in training sessions

Outcome Type: Short

2007 Target: 0

2008 Target: 0

2009 Target: 0

2010 Target: 0

2011 Target: 0

Outcome Text

Community planning: Community plans/projects initiated

Outcome Type: Medium

2007 Target: 0

2008 Target: 0

2009 Target: 0

2010 Target: 0

2011 Target: 0

Outcome Text

Community planning: Communities with improved civic functioning

Outcome Type: Long

2007 Target: 5

2008 Target: 8

2009 Target: 10

2010 Target: 12

2011 Target: 14

Outcome Text

Community economic development: Communities participating in economic development events

Outcome Type: Short

2007 Target: 0

2008 Target: 0

2009 Target: 0

2010 Target: 0

2011 Target: 0

Outcome Text

Community economic development: Communities undertaking economic development activities

Outcome Type: Medium

2007 Target: 0
2008 Target: 0
2009 Target: 0
2010 Target: 0
2011 Target: 0

Outcome Text

Community economic development: Number of businesses started

Outcome Type: Long

2007 Target: 10
2008 Target: 20
2009 Target: 50
2010 Target: 75
2011 Target: 100

Outcome Text

Community economic development: Number of jobs created or retained

Outcome Type: Long

2007 Target: 50
2008 Target: 250
2009 Target: 500
2010 Target: 800
2011 Target: 1000

20. External factors which may affect outcomes

- Economy
- Appropriations changes

Description

Economic recession, further energy shocks, state or federal budget constraints.

21. Evaluation studies planned

- Time series (multiple points before and after program)
- Case Study

Description

Surveys, time series examination of secondary data, case studies. Program/workshop participants will be surveyed. Communities will be surveyed/case studies generated. Farmland loss will be monitored at multiple points. State economic data will be analyzed at multiple points.

22. Data Collection Methods

- Case Study

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Economics, Markets, and Policy

2. Program knowledge areas

- 803 Sociological and Technological Change Affecting Individuals, Fam 15 %
- 604 Marketing and Distribution Practices 5 %
- 601 Economics of Agricultural Production and Farm Management 20 %
- 609 Economic Theory and Methods 5 %
- 610 Domestic Policy Analysis 10 %
- 606 International Trade and Development 10 %
- 602 Business Management, Finance, and Taxation 10 %
- 611 Foreign Policy and Programs 5 %
- 603 Market Economics 10 %
- 607 Consumer Economics 10 %

3. Program existence

- New (One year or less)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Social science research funded by the Iowa Agriculture and Home Economics Experiment Station contributes to the advancement and profitability of Iowa's agricultural industry, and provides information and analysis to improve the economic and social condition of Iowa's families and communities. This program of work conducts research and Extension activities that provide new and unbiased information to decision makers in the agricultural and food industries, enabling these individuals and groups to better understand options available to them, and consequences of alternative decisions.
This program will provide information:
on the effects of agricultural and trade policy on commodity markets and the social and economic well being of agricultural producers, input suppliers, processors, retailers, and consumers.
on the efficiency of financial and risk markets, develop new and improved risk management tools, and evaluate the effects of risk and financial market policy on the welfare of market participants.
to agricultural producers and agribusiness firms on alternative crop and livestock production practices, financial risk management, resource acquisition, transfer and disposal, startup of new businesses, new technologies, products, markets, and information systems, value-added opportunities, and firm organization and structure to assist them in making optimal decisions on best management practices given their economic environments and individual preferences.
to consumers and policymakers concerning the effects of the above decisions by firms on agricultural and food markets and how these market outcomes affect overall social welfare.
to policymakers and members of the agricultural sector on the effects of alternative research policies, including direct expenditure, taxes and subsidies, transfer payments, and intellectual property protection on economic and social welfare.

6. Situation and priorities

Iowa agriculture is well known for producing high-quality food and fiber at low cost. Changes in technology and agricultural and trade policy are causing many consumers, producers, and policy makers to reconsider Iowa’s traditional comparative advantage in producing raw bulk commodities for sale on the world market. The low-cost model is valid for large efficient farms but less well suited for mid-size operations. Many new value-added opportunities in agriculture come from market differentiation and specialized or geographically-identified products selling in nontraditional or niche markets. The lack of acceptance of genetically modified organisms, growth hormones and antibiotics in feed by some consuming nations, an increased sophistication in consumer preferences in all markets, and the associated demand for information, along with increased health and phytosanitary concerns, places more emphasis on quality control and traceability than in the past. The latter concerns are directly applicable to the bulk commodity and traditional markets for which traceability has been insufficient, such as in the recent BSE and Starlink cases.
While Iowa is traditionally a low-cost producer, recently there has been more emphasis on the long-run effects of agricultural

practices on productivity. There is also increased interest and research on the off-site effects of agricultural production and enhancement or degradation of environmental and recreational amenities. There are increased social expectations for agriculture to become a source of energy as well as food, feed, and industrial products. A robust market for organic and locally or otherwise differentiated food is emerging. Iowa may have a comparative advantage in the production of many of these specialized products, but its relatively small consumer base and increased fossil fuel costs may limit its ability to profit from fresh products with limited shelf life. Traditional row crop agriculture is being viewed as a source of bio-renewable fuels, and the movement towards a bio-economy holds some promise for many agriculturally dependent communities. At the same time there are growing calls for lessening the impacts of farming on the natural ecosystem, to reduce dependency on chemicals and fossil fuels, and reverse existing and long-term ecological damage.
The existing structure of agriculture and environmental in which it operates primarily reflects adaptation and responses to short-term market signals. Incomplete information on the potential market for new products and the efficiency of new processes may lead producers to make costly mistakes in starting or expanding businesses. While markets can be effective at resource allocation, policy distortions and externalities often lead to production and consumption plans that are ineffective in allocating resources optimally in the long run. Lack of information about the effect of current decisions on short and long-term profits and consumer welfare often leads to suboptimal decisions by producers, consumers, and policymakers.

7. Assumptions made for the Program

Funding will remain constant or increase.

8. Ultimate goal(s) of this Program

Policymakers, producers, and consumers will have accurate information on how the United States and foreign agricultural and trade policies affect commodity prices, production and exports, and the social and economic well being of agricultural producers, input suppliers, processors, retailers, and consumers.
Producers, consumers, and policy makers will be able to assess the efficiency of financial and risk markets and the effect of these markets on their well-being. Agricultural producers will have access to effective risk management tools.
Agricultural producers will have a better understanding of the economics of crop and livestock production, financial risk management, and resource acquisition and will adopt management practices that best achieve their personal goals.
Individual producers and consumers will have accurate assessments of the economic benefits and costs of new technologies, new firm structures, new standards and labeling requirements, and new information collection, storage, retrieval, and dissemination methods.
Policymakers in the public and private sector will have accurate measurements of how research policy affects the agricultural sector, private and public investment, and economic growth.
Firms, entrepreneurs, consumers, public enterprises and agencies, and government regulators will be better able to determine the effectiveness and efficiency of current statutes and practices related to the development and protection of intellectual property.
Market participants and policy makers will have unbiased assessments of the benefits and costs of various valued-added enterprises to producers and local economies.
Firms, entrepreneurs, and consumers will have unbiased information on markets for new and differentiated products, and the potential for profits and increased consumer welfare in such markets.
Retiring farmers, existing farmers, potential farmers, and policy makers will understand the advantages and disadvantages of alternative methods for the intergenerational transfer of assets and the formation of new or reorganized agricultural enterprises.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	6.7	0.0
2008	0.0	0.0	6.7	0.0
2009	0.0	0.0	6.7	0.0
2010	0.0	0.0	6.7	0.0
2011	0.0	0.0	6.7	0.0

Outputs for the Program

13. Activity (What will be done?)

There are a myriad of initiatives underway where the insights, theories and methods of the social sciences are needed to integrate emerging markets and policies. We anticipate that our staff will be team members in exploring market opportunities and the potential economic benefits and related social and community effects of alternative policy development. Through theoretical model development, primary data collection, and analysis of existing secondary data, we will develop socio-economic impact study modules that can assist in local, regional and national development activities and monitor the effects of external and endogenous factors in individual producers and consumer well-being. Faculty associated with the Center for Agricultural and Rural Development (CARD), the Rural Policy Research Institute (RUPRI), the Community Development - Data Information and Analysis Laboratory (CD-DIAL), and the Office of Social and Economic Trend Analysis (SETA) will be at the forefront in developing economic social impact assessment models of policy options.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Other 1 (Socio-economic impact studies) • Other 2 (Consultations with policy makers)	• Other 1 (Publications)

15. Description of targeted audience

All traditional and non-traditional agricultural producers in IowaAll Iowa consumersAspiring agricultural producersRetired Iowa agricultural producersAgricultural input suppliersAgricultural product processorsAgricultural product retailersState of Iowa and national agriculture policy makersNon-government agricultural and agriculture-related organizationsState and national agricultural information, service, and regulatory agenciesHigh school, community college, and university students

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	1250	2500	50	0
2008	1300	3000	60	0
2009	1350	3500	70	0
2010	1400	4000	75	0
2011	1450	4500	75	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Extension Bulletins

2007 Target: 4
2008 Target: 4
2009 Target: 4
2010 Target: 4
2011 Target: 4

Output Text

Web page hits

2007 Target: 10000
2008 Target: 10000
2009 Target: 10000
2010 Target: 10000
2011 Target: 10000

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Journal articles

Outcome Type: Short

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text
Proceedings

Outcome Type: Short

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text
Book chapters

Outcome Type: Short

2007 Target: 2
2008 Target: 2
2009 Target: 2
2010 Target: 2
2011 Target: 2

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Technological change)

Description
{NO DATA ENTERED}

21. Evaluation studies planned

- After Only (post program)
- Time series (multiple points before and after program)

Description
{NO DATA ENTERED}

22. Data Collection Methods

- Case Study

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Economic and Social Welfare

2. Program knowledge areas

- 608 Community Resource Planning and Development 10 %
- 607 Consumer Economics 10 %
- 805 Community Institutions, Health, and Social Services 20 %
- 609 Economic Theory and Methods 10 %
- 610 Domestic Policy Analysis 10 %
- 603 Market Economics 10 %
- 803 Sociological and Technological Change Affecting Individuals, Fam 30 %

3. Program existence

- New (One year or less)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Research, education and Extension programs in the social sciences provide information to decision makers at the individual and group level that assists them in making choices that improve their economic and social well being.
This program will provide information
to consumers, firms, public entities and policymakers on the effects of their decisions on themselves and others.
to market participants and policy makers on the major structural factors affecting the agricultural and rural economy: technological change, globalization, and changes in consumer income, preferences and demographics, to assist them in making efficient choices, and on the likely effects of these changes as well as policy interventions on consumer and producer welfare and the vitality of rural communities. Market structure and firm organization affect firm level profitability, market efficiency, wages, employment, and income, as well as consumer welfare and overall economic vitality.
to market participants and policymakers on the effects of alternative firm and market structures. The agricultural sector is linked in many ways to the economy as a whole. A clear understanding of these linkages is essential to make efficient policy decisions for agriculture, trade and the rest of the economy. While the agricultural sector has a variety of effects on the overall health of the rural economy, rural economic growth is also affected by many other factors.
This program will provide analysis of the linkages between agriculture and other factors and rural economic vitality to those who make decisions affecting the growth and development of agriculture and the rural economy, and will furnish policymakers, producers, and consumers with accurate information on the potential for value added agriculture, new and differentiated products, and new organizational structures to improve economic well being for rural communities.
The program will also measure community factors such as leadership structures, social participation, social networks, and population dynamics over time to provide information on how these factors contribute to community viability, economic vitality, and sustainability.
Finally this program will enhance our understanding of group structure, group dynamics, group decision making, and social networks and how group actions may affect firm and market efficiency, the provision of public services, social fabric, and local governance.

6. Situation and priorities

Iowa ranked 28th in the U.S. in per capita income in 2005 compared to 9th and 14th for Minnesota and Illinois and 31st for South Dakota. While agriculture is a key component of the Iowa economy, manufacturing, wholesale and retail trade, financial services, educational services, and the public sector provide the greatest share of personal income in the state. Iowa population growth is stagnant and the population is aging. Iowa has a strong educational system that prepares workers with excellent job skills. More and more low skill jobs are being taken by immigrants. Many high skill workers are leaving the state for employment opportunities elsewhere. Political leaders are looking for ways to increase economic activity and personal income statewide. There is a great deal of discussion about the bioeconomy and the opportunity for Iowa to capitalize on its superb natural resources and outstanding human capital in transforming the agricultural sector and related industries to invigorate the economy and improve social welfare.
Changes in agricultural structure and industrial composition have important implications on workforce, employment opportunities

and population growth. Many rural counties have experienced over a century of population decline owing to the forces of industrialization and urbanization. Currently about 20% of Iowa youth are being raised in poverty, and in many cases there are inadequate services to assist the parents in improving their family's economic situation, other than to migrate to better job markets. To date rural development efforts have not stymied the out migration and currently many local organizations and institutions are faced with another round of consolidation or substantial increases in operating costs. In areas where population and industrial growth is not occurring, new models of service delivery must be considered. This program is designed to assist communities recognize their potential and assist them in providing economic and social opportunities to maximize their quality of life and economic well-being through strategic planning, needs assessment, and exploring new models of sharing and collaboration.
Additional research on local self-development is warranted, including the roles of various forms of capital and entrepreneurial training and development. Central to this programming effort is the concept of a highly mobile workforce; people will over time migrate to places that provide good jobs and opportunities for self improvement. Simply providing jobs is not sufficient. Highly trained and qualified workers for the emerging job market are equally concerned about quality of life conditions including local public services, environmental quality, and recreational and ascetic dimensions.

7. Assumptions made for the Program

Funding will remain constant or increase.

8. Ultimate goal(s) of this Program

Policymakers, producers, and consumers will have useful measurements of the effects of new technologies, processes, and products, economic globalization, and changes in consumer preferences and social structure on agricultural production and distribution and consumer well being.
In order to make informed decisions, policymakers, producers, and consumers will have appropriate information on the effects of firm organization and market structure in the agricultural sector on profitability, rural economic growth, and consumer well-being.
Policy makers at the local, state, and national level will have accurate quantitative information on the factors that lead to rural economic growth or decline.
Agricultural leaders as well as policy makers will understand and have accurate quantitative assessments of the relationship between the health of the agricultural sector and community and economic development. Rural labor market participants and entrepreneurs will have accurate information on local and regional labor markets, skill premiums, and capital-labor substitution in agriculture and related industries.
Policymakers, producers, and consumers will have accurate information on the potential for value added agriculture, new and differentiated products, and new organizational structures to improve economic well being for rural communities.
Researchers, practitioners, and policy makers will be able to measure community factors such as social participation, social networks, and population dynamics over time in such a way as to determine how they contribute to community viability, economic vitality, and sustainability.
An increased understanding of group structure, group dynamics, group decision making, and social networks will lead to more efficient firms and markets, formation of rational groups in production and consumption, efficient provision of public services, and more coherent social organization and forms of local governance.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	11.2	0.0
2008	0.0	0.0	11.2	0.0
2009	0.0	0.0	11.2	0.0
2010	0.0	0.0	11.2	0.0
2011	0.0	0.0	11.2	0.0

Outputs for the Program

13. Activity (What will be done?)

Through the institutional capacities of the departments of economics, sociology and agricultural education and studies, and research and outreach organizations such as the Center for Agricultural and Rural Development (CARD), the Office of Social and Economic Trend Analysis (SETA), the Community Development - Data Information and Analysis Laboratory (CD-DIAL), the North Central Regional Center for Rural Development (NCRCRD), and the Rural Policy Research Institute (RUPRI) we will investigate the potential for technological change, government policy, and market reforms to enhance the competitive positions of Iowa firms, personal income for Iowa residents, and social well being for Iowa consumers. We will identify growth areas in the state and make extensive studies of the principles of local development efforts that might be replicated elsewhere. In those communities where job market reduction and out-migration are persistent, we will explore innovative ways that local leaders are addressing the issues of collaboration and cooperation with other units of government to finance the provision of local services.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Other 1 (Socio-economic impact studies) • Other 2 (Consultations w/ policy makers)	• TV Media Programs

15. Description of targeted audience

All traditional and non-traditional agricultural producers in IowaAll Iowa consumersIowa entrepreneursIowa businessesIowa agricultural leadersIowa community and economic development practitionersIowa researchers outside of the land grant systemIowa state and local government officialsIowa local community leadersState of Iowa and national policy makersPublic and non-governmental community and economic development organizations and agenciesHigh school, community college, and university students

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	900	2500	150	0
2008	900	3000	160	0
2009	900	3500	170	0
2010	900	4000	175	0
2011	900	4500	175	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Extension bulletins

2007 Target: 4
2008 Target: 4
2009 Target: 4
2010 Target: 4
2011 Target: 4

Output Text

Web page hits

2007 Target: 10000
2008 Target: 10000
2009 Target: 10000
2010 Target: 10000
2011 Target: 10000

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Journal articles

Outcome Type: Short

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text
Proceedings

Outcome Type: Short

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Outcome Text
Book chapters

Outcome Type: Short

2007 Target: 2
2008 Target: 2
2009 Target: 2
2010 Target: 2
2011 Target: 2

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)
- Other (Technological change)

Description
{NO DATA ENTERED}

21. Evaluation studies planned

- After Only (post program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Description
{NO DATA ENTERED}

22. Data Collection Methods

- Case Study

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Community Services and Institutions

2. Program knowledge areas

- 805 Community Institutions, Health, and Social Services 100 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The ISU Extension Community and Economic Development (CED) group works to improve the long-term well being of individuals, families, businesses, organizations and communities through research and experience-based education. CED extends the knowledge and resources of ISU to people where they live and work. CED programs help Iowa communities deal with their own unique issues and challenges. In the knowledge area of Community Services and Institutions CED programming focuses primarily on community leadership and organizational development, and the functioning of community services.

6. Situation and priorities

Iowa's 956 cities and 99 counties continue to struggle with increasing economic and social opportunities and improving overall quality of life for their residents. Continuing demographic change and globalization create ongoing challenges toward achieving these goals. The loss of young talent in Iowa's rural communities is creating a leadership vacuum for public and not-for-profit organizations. It is a priority of CED to continue to provide individuals with the skills needed to provide effective leadership to these communities and institutions.

7. Assumptions made for the Program

Funding will remain constant or increase.

8. Ultimate goal(s) of this Program

Increasing the effectiveness of community organizations and institutions by improving leadership and management skills.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	7.2	0.0	2.1	0.0
2008	7.2	0.0	2.1	0.0
2009	7.2	0.0	2.1	0.0
2010	7.2	0.0	2.1	0.0
2011	7.2	0.0	2.1	0.0

Outputs for the Program

13. Activity (What will be done?)

We will pursue a program of participatory research and outreach, working with community and not-for-profit organizations to train individuals to assume leadership roles in these organizations.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • One-on-One Intervention	• Newsletters • Web sites • Other 1 (videos)

15. Description of targeted audience

Individuals, public and not-for-profit organizations in Iowa.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	400	1000	0	0
2008	500	1200	0	0
2009	600	1250	0	0
2010	600	1400	0	0
2011	600	1600	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of articles and publications (Ag Ed & Studies).

2007 Target: 10
2008 Target: 10
2009 Target: 10
2010 Target: 10
2011 Target: 10

Output Text

Number of reports & plans (Ag Ed & Studies).

2007 Target: 5
2008 Target: 5
2009 Target: 5
2010 Target: 5
2011 Target: 5

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Community institutions, health and social services: Number of organizations participating in projects

Outcome Type: Short

2007 Target: 0
2008 Target: 0
2009 Target: 0
2010 Target: 0
2011 Target: 0

Outcome Text

Community institutions, health and social services: Organizations undertaking projects

Outcome Type: Medium

2007 Target: 0
2008 Target: 0
2009 Target: 0
2010 Target: 0
2011 Target: 0

Outcome Text

Community institutions, health and social services: Community improvements made

Outcome Type: Long

2007 Target: 50
2008 Target: 60
2009 Target: 75
2010 Target: 90
2011 Target: 110

20. External factors which may affect outcomes

- Economy
- Appropriations changes

Description

Economic recession, further energy shocks, state or federal budget constraints.

21. Evaluation studies planned

- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Other (focus groups)

Description

Surveys, time series examination of secondary data, case studies. Program/workshop participants will be surveyed. Communities will be surveyed/case studies generated. Farmland loss will be monitored at multiple points. State economic data will be analyzed at multiple points.

22. Data Collection Methods

- Case Study
- Other (focus groups)

Description

{NO DATA ENTERED}

1. Name of the Planned Program

4-H Youth Development

2. Program knowledge areas

- 806 Youth Development 100 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

4-H empowers youth to reach their full potential working and learning in partnership with caring adults. Positive youth development helps young people become competent, caring, contributing, confident, connected and capable through a series of progressive learning experiences with caring adults. These experiences involve meeting the four needs of youth, fostering the eight essential elements and achieving the five life skill outcomes of leadership, citizenship, communications, personal life management, and knowledge. Staff will work with youth, volunteers, and professionals to plan, implement and evaluate a progressive series of education programs and experiences that work toward multiple life skill outcomes that reach youth over an extended period of time. Staff will model youth-adult partnerships in the 4-H program. Staff will work with state and community organizations and leaders to assist them in creating positive youth development environments that will engage youth in decision-making roles.

6. Situation and priorities

Without strong positive youth development programs with caring adults families, youth, and communities face a host of social problems. Research shows that positive youth development helps young people become competent, caring, contributing, confident, connected and capable through a series of progressive learning experiences with caring adults.

7. Assumptions made for the Program

Training of staff and volunteers on positive youth development will lead to high quality environments for youth to develop into competent, caring, contributing, confident, connected and capable people. Funding will remain constant or increase.

8. Ultimate goal(s) of this Program

Positive youth development helps young people become competent, caring, contributing, confident, connected and capable through a series of progressive learning experiences with caring adults.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	49.0	0.0	0.0	0.0
2008	49.0	0.0	0.0	0.0
2009	49.0	0.0	0.0	0.0
2010	49.0	0.0	0.0	0.0
2011	49.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Design learning experiences and conduct training for and with staff, volunteers, and community and state partners and groups that contribute to the life skill outcomes of leadership, citizenship, communications, personal life management and knowledge in environments that meet the needs of youth in long-term settings (clubs, afterschool and other out of school time).
Collect baseline data on the current status of youth and adult partnerships, statewide volunteer training delivery, youth enrollment in club and afterschool settings.
Train volunteers working with committees and boards on youth and adult partnerships.
Create and train staff and community groups on the best practices of youth in governance, after school programs, and volunteer development.
Train staff and volunteers on how to create positive youth development environments in club, afterschool, camp and other out of school time settings.
Communicate the positive youth development focus by providing newsletters, web content to volunteers and staff.
Create a volunteer development training system for 4-H.
Assess county enrollment trends and identify barriers that limit enrollment, retention and participation of youth in club programs.
Partner with state and national entities to collect and report afterschool impact data.
Conduct afterschool programming in counties with children and youth and provide local startup funding to local county offices.
Raise awareness of the needs and benefits of after-school, club, volunteer and youth in governance programming.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • Group Discussion • Other 1 (club activities) • Other 2 (conferences & webcasts)	• Newsletters • Web sites • Other 1 (radio) • Other 2 (brochures)

15. Description of targeted audience

K-12 youth; adult and youth volunteers, community and state collaborations, groups, and agencies. Extension educators. K-12 teachers. Pre-service educators.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	3500	56000	110000	34000
2008	4000	57000	100000	34000
2009	4500	58000	90000	32000
2010	4500	58000	90000	30000
2011	4500	58000	90000	28000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of trainings on Youth/Adult partnerships

2007 Target: 40
2008 Target: 50
2009 Target: 65
2010 Target: 85
2011 Target: 95

Output Text

Number of youth who retain membership in 4-H clubs after 1 year of membership

2007 Target: 4000
2008 Target: 4200
2009 Target: 4300
2010 Target: 4400
2011 Target: 4500

Output Text

Number of volunteers completing two trainings/yr

2007 Target: 1000
2008 Target: 1500
2009 Target: 2000
2010 Target: 2500
2011 Target: 3000

Output Text

Number of adults trained on 4-H afterschool

2007	Target:	100
2008	Target:	200
2009	Target:	300
2010	Target:	400
2011	Target:	500

Output Text

Number of children and youth who participate in 4-H afterschool

2007	Target:	7000
2008	Target:	9250
2009	Target:	11500
2010	Target:	13750
2011	Target:	16000

Output Text

Number of partnerships initiated or strengthened

2007	Target:	35
2008	Target:	45
2009	Target:	60
2010	Target:	75
2011	Target:	90

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Communications: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of writing a speech/presentation, delivering a speech/presentation, developing supportive visuals, recognizing and utilizing active listening skills, asking clarifying questions, sharing ideas, communicating non-verbal messages and expressing feelings appropriately.

Outcome Type: Short

2007	Target:	0
2008	Target:	0
2009	Target:	0
2010	Target:	0
2011	Target:	0

Outcome Text

Communications: Percentage of youth who participate in a 4-H experience will self-report that they practice effective communication skills in sending and receiving written, visual and oral messages.

Outcome Type: Medium

2007 Target: 0

2008 Target: 50

2009 Target: 55

2010 Target: 60

2011 Target: 65

Outcome Text

Citizenship: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of practicing good character, planning and organizing service learning events, and actively engaging in local, state and national issues.

Outcome Type: Short

2007 Target: 0

2008 Target: 0

2009 Target: 0

2010 Target: 0

2011 Target: 0

Outcome Text

Citizenship: Percentage of youth who participate in a 4-H experience will self-report that they demonstration good character traits, service learning, planning and organizational skills, and engagement in community issues.

Outcome Type: Medium

2007 Target: 0

2008 Target: 50

2009 Target: 55

2010 Target: 60

2011 Target: 65

Outcome Text

Leadership: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of setting goals, working cooperatively in a team, communication effectively, and making decisions based on data and the opinions of others, honoring individuals differences and handling conflict.

Outcome Type: Short

2007 Target: 0

2008 Target: 0

2009 Target: 0

2010 Target: 0

2011 Target: 0

Outcome Text

Leadership: Percentage of youth who participate in a 4-H experience will self report that they demonstrate the ability to influence and support others in a positive manner for a common goal.

Outcome Type: Medium

2007 Target: 0

2008 Target: 50

2009 Target: 55

2010 Target: 60

2011 Target: 65

20. External factors which may affect outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programatic Challenges

Description

Available funding at the national, state and local levels for Extension outreach.
Changes in national and or state Extension programmatic priorities.
Breadth of collaborative partnership development with local, state and national agencies and organizations and institutions.
Unreliable baseline data.

21. Evaluation studies planned

- After Only (post program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

After only (post-program).
Multiple Individual case studies of youth in varying number of years of participation.
Participation in national and regional studies measuring positive youth development characteristics.

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Families, Communities and Civic Engagement

2. Program knowledge areas

- 805 Community Institutions, Health, and Social Services 70 %
- 803 Sociological and Technological Change Affecting Individuals, Fam 30 %

3. Program existence

- New (One year or less)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

ISUE educational programs increase awareness about critical issues facing families, and teach processes that increase citizen participation and move communities to action. ISUE plans to work with citizens in selected communities to learn about causes and consequences of poverty, identify ways to increase citizen involvement in community decision making, and undertake an action plan. A portion of this program will also be devoted to cultural awareness and a respect for diversity. Participants will identify community problems and assets, create collaborative relationships, and develop self-advocacy skills to improve their quality of life.

6. Situation and priorities

Poverty is often hidden in Iowa. The number of working poor is increasing and the rural-urban gap is growing. Economic pressures have long-term negative consequences for children and families. Solutions lie in both individual and collective/community response. Iowa's diversity is also changing, which is also affecting communities. Poverty threatens the well-being of families. Citizens and community organizations together can make more informed decisions, collaborate and take action to improve the quality of life of economically vulnerable families.

7. Assumptions made for the Program

Citizens can learn skills to make decisions collectively. Communities can use an empowering approach to manage critical issues facing them. Technical support will include identifying possible funding sources to expand activities. Diversity enhances our culture and supports economic vitality.

8. Ultimate goal(s) of this Program

Individuals, families and community institutions will work collaboratively to improve quality of life.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	9.3	0.0	0.0	0.0
2008	9.3	0.0	0.0	0.0
2009	9.3	0.0	0.0	0.0
2010	9.3	0.0	0.0	0.0
2011	9.3	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Short-term educational programs will increase awareness of local social and economic conditions that exacerbate poverty and inform citizens about effective strategies for achieving local objectives. In addition, long-term collaborations in selected communities will address the causes and consequences of poverty.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Other 1 (Simulations)	• Newsletters • Web sites

15. Description of targeted audience

Citizens in communities that have high rates of poverty and have indicated an interest in working on poverty as an issue.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	1000	1000	50	0
2008	1200	1000	50	0
2009	1400	1000	50	0
2010	1600	1000	50	0
2011	1800	1000	50	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of participants in educational programs that increase awareness of public issues

2007 Target: 1000
2008 Target: 1200
2009 Target: 1400
2010 Target: 1600
2011 Target: 1800

Output Text

Number of community groups formed to address a public issue

2007 Target: 5
2008 Target: 6
2009 Target: 7
2010 Target: 8
2011 Target: 9

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of communities who report taking action to address public issues related to improving circumstances for children, youth and families at risk.

Outcome Type: Medium

2007 Target: 5
2008 Target: 6
2009 Target: 7
2010 Target: 8
2011 Target: 9

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Description

{NO DATA ENTERED}

21. Evaluation studies planned

- Before-After (before and after program)
- Case Study

Description

{NO DATA ENTERED}

22. Data Collection Methods

- On-Site
- Case Study
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Money for Life

2. Program knowledge areas

- 607 Consumer Economics 25 %
- 801 Individual and Family Resource Management 75 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Extension programs on family resource management and public policy are guided by research that is focused on 1) increasing understanding of how families can maximize use of resources, and 2) how policies and programs can enhance family economic well-being. Evaluation research assesses the efficacy of Extension education. Extension family resource management programs aim 1) to improve personal and family financial management skills, and 2) to strengthen skills in consumer decision making. Programs address needs across the lifespan, but focus particularly on resource-constrained families and policies and programs that target families' most basic needs. Low-income, rural families face significant challenges – lower levels of human capital, underemployment, low wages, and limited access to markets for both basic goods and critical services. These barriers have direct effects on family economic well-being and influence how best to design effective Extension educational programs for families and communities.

6. Situation and priorities

Iowans work diligently to earn a living, yet poor consumer decisions, low savings, high debt levels, and a lack of planning for potential major life events leave them financially vulnerable. Rural communities face growing challenges in retaining well-paying job opportunities and the array of services desired by families across the lifespan. Low-income consumers are at greatest risk of economic instability.

7. Assumptions made for the Program

Evidence-based education can help people make wise consumer decisions and achieve financial security. Iowans who do earn a living wage can build financial stability. Public policies can enhance family financial security and, in turn, community vitality. Adequate funding for targeted research and Extension education can positively influence quality of life. Adequate resources are available to sustain Extension initiatives.

8. Ultimate goal(s) of this Program

Learners make more informed consumer decisions that result in increased family economic stability. Research findings are applied to increase family economic stability and community vitality. Public policies are adopted that encourage family economic stability.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	15.3	0.0	0.0	0.0
2008	15.3	0.0	0.0	0.0
2009	15.3	0.0	0.0	0.0
2010	15.3	0.0	0.0	0.0
2011	15.3	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Extension educational programs will be directed to professionals and community leaders, as well as to individuals and families through multiple methods – classes, workshops, web-based programs and mass media.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention	• Public Service Announcement • Newsletters • TV Media Programs • Web sites • Other 1 (eXtension Communities of interes)

15. Description of targeted audience

All families and the policy makers, agencies, businesses, organizations and practitioners that serve families.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	11000	15000	12000	0
2008	11000	15000	12000	0
2009	11000	15000	12000	0
2010	11000	15000	12000	0
2011	11000	15000	12000	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of adults participating in programs on improving personal and family financial management skills.

2007 Target: 7500
2008 Target: 7500
2009 Target: 7500
2010 Target: 7500
2011 Target: 7500

Output Text

Number of adults participating in programs on strengthening consumer decision making skills.

2007 Target: 2500
2008 Target: 2500
2009 Target: 2500
2010 Target: 2500
2011 Target: 2500

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of individuals improving personal and family financial management skills.

Outcome Type: Medium

2007 Target: 6000
2008 Target: 6000
2009 Target: 6000
2010 Target: 6000
2011 Target: 6000

Outcome Text

Number of individuals strengthening consumer decision making skills.

Outcome Type: Medium

2007 Target: 1875
2008 Target: 1875
2009 Target: 1875
2010 Target: 1875
2011 Target: 1875

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Description

{NO DATA ENTERED}

21. Evaluation studies planned

- Before-After (before and after program)

Description

Participant attitudes, knowledge and behaviors will be assessed before participation in educational interventions and following the intervention. With available funding, more rigorous evaluations including a comparison group will be conducted.

22. Data Collection Methods

- Mail
- On-Site
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Strengthening Families

2. Program knowledge areas

- 804 Human Environmental Issues Concerning Apparel, Textiles, and Res 5 %
- 802 Human Development and Family Well-Being 95 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Families across the lifespan need access to information, skills and resources that encourage positive growth and development. Parents seek sources of support and skill to nurture and guide children and youth while fulfilling work responsibilities. Older families need information to make homes accessible and to enhance choices for home and community-based long-term care for frail elders or persons with disability. Professionals serving families need access to training based on best practices and current research. Families of all ages seek support in adjusting to life changes, and opportunities to contribute to the community.

6. Situation and priorities

Twelve percent of Iowa's children were in poverty in 2004. Iowa ranks second in the nation in the percentage of families with children under the age of six with both parents working. 59% of caregivers for elderly family members and adults with disability are in the workforce. 15% of family caregivers live an hour or more from a family member needing assistance.
Iowa lags behind in the quality of child care. 22% of Iowa early care and education is rated as poor in quality, 58% is rated as mediocre, while only 20% is rated as good quality. Early care and education professionals report limited education, incomes of less than $15,000 per year, lack of benefits and high turnover. Iowa requires no training or education before adults work directly with children. 40% of assistant teachers and 18% of teachers do not complete the hours of annual training required by licensing.
In 2005, there were 9,915 founded reports of child abuse by the Iowa Department of Human Services. The number of children who suffered abuse was 15,060. Twenty-two Iowa children per 1,000 were found to have been abused. Denial of critical care (neglect) was the most common form of abuse reported.
The percentage of people 85 and over is Iowa's fastest growing age group. Yet few homes accommodate wheelchairs or people who cannot climb steps and there is a lack of community knowledge and resources to make appropriate home modifications for accessibility.
The system of long-term adult care services is complex and inadequate to meet the needs of elders who wish to stay in their own homes. Family caregivers who provide most in-home assistance are often unaware of how to access assistance. State long-term care dollars are more often spent for institutional care than for in-home care. Increasing access to a range of high-quality affordable long-term living options and increasing information and education for family and professional caregivers to maximize independence, choice and dignity are shared goals of Iowa's state agencies.
Professionals in schools, agencies or private organizations serving families across the lifespan are stretched by time and resources. There is a need for easily accessible information and training based on research and practice to help families manage work, parenting, and care responsibilities.
Priorities:
Quality and availability of early care and education programs.
Resources for family caregivers of persons who are elderly or have disability.
Guidance and nurturance of children and teens.
Quality of the home environment for older Iowans and persons with disabilities.

7. Assumptions made for the Program

All families have strengths.
People's values, knowledge, skill, personal experiences, financial resources, culture and environment, including policies and events, influence their behaviors.
Lack of resources (e.g., knowledge, skills, money, social support) leads to family stress.
Family members influence each others development.
Older Iowans and people with disabilities prefer to stay in their own homes as long as possible, rather than move to institutional

care.
Homes that have universal design and accessibility features help people with disabilities live more independently and reduce caregiver responsibilities and stress.
Increased self-efficacy increases family caregivers ability to resist potentially harmful effects of caregiving stress.
Parents want to raise healthy children who are contributing members of society.
Effective parenting is learned.
Early care and education strengthens community workforce support.
Quality early care and education programs produce positive outcomes for children.

8. Ultimate goal(s) of this Program

Strengthen parents/ caregivers ability to effectively guide and nurture children and teens.
Improve the quality and availability of early care and education.
Strengthen family skills for communication, decision-making and caregiving in later life.
Improve the quality of the home environment so older Iowans and people with disabilities will be able to continue living in their own homes.
Strengthen skills of professionals who partner with families on transitions from welfare to work and work to work.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	18.5	0.0	0.0	0.0
2008	18.5	0.0	0.0	0.0
2009	18.5	0.0	0.0	0.0
2010	18.5	0.0	0.0	0.0
2011	18.5	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Research early care and education program quality.
Provide comprehensive new staff orientation training for early care and education professionals.
Provide education to strengthen and improve the quality of early childhood and education programs.
Provide consultation, technical assistance or needs assessment for early childhood programs and communities.
Provide workshops to prepare families for later life decisions and relationships.
Provide certification training for class leaders of Powerful Tools curriculum.
Provide in-depth training for parenting educators through Partnering with Parents.
Provide facilitator training for in-depth sequenced parenting education curricula.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Other 1 (Community Forum/Presentation) • Other 2 (On-line seminars)	• Web sites • Other 1 (Print materials)

15. Description of targeted audience

Professional parent education facilitatorsEarly Care and education professionalsParents seeking early care and educationPublic policy decision makersCommunity citizens and leadersEmployersFamilies in mid and later-lifeCaregivers of frail elders or people with disabilitiesService providers who work with older adults or people with disabilitiesHome improvement contractors and suppliers.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	22000	40000	6000	0
2008	22000	40000	6000	0
2009	22000	40000	6000	0
2010	22000	40000	6000	0
2011	22000	40000	6000	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of parents and family members in educational programs related to child care, parenting, aging and housing.

2007 Target: 13700
2008 Target: 13700
2009 Target: 13700
2010 Target: 13700
2011 Target: 13700

Output Text

Number of professionals involved in programs related to childcare, aging, parenting and housing programs.

2007 Target: 2315
2008 Target: 2315
2009 Target: 2315
2010 Target: 2315
2011 Target: 2315

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of parents improving parenting skills (child-parent communication and providing love and limits).

Outcome Type: Medium

2007 Target: 7500
2008 Target: 7500
2009 Target: 7500
2010 Target: 7500
2011 Target: 7500

Outcome Text

Number of professionals trained to assist families (certification programs).

Outcome Type: Medium

2007 Target: 1215
2008 Target: 1215
2009 Target: 1215
2010 Target: 1215
2011 Target: 1215

Outcome Text

Number of early child care programs improving learning environments and teaching strategies.

Outcome Type: Medium

2007 Target: 700
2008 Target: 700
2009 Target: 700
2010 Target: 700
2011 Target: 700

Outcome Text
Number of participants better able to manage later life issues.

Outcome Type: Medium

2007 Target: 610
2008 Target: 610
2009 Target: 610
2010 Target: 610
2011 Target: 610

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Description
{NO DATA ENTERED}

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Description
Partnering with Parents: combine post-pretest from several series to identify overall impact, as well as follow-up surveys with program participants.
Follow-up survey for Partnering with Parents program participants to measure program impact.
Post-test evaluation of Child Care Center New Staff Orientation.
Formative and summative assessment for Child Care Center New Staff Orientation, CCTW self study, and Early Childhood Environment rating scale training.
Retrospective pretest and follow-up survey to measure program impact for Child Care Center New Staff Orientation.
Observational assessment to measure impact Early Childhood Environment rating scale training.

22. Data Collection Methods

- Whole population
- Mail
- Telephone
- On-Site
- Structured

Description
Strengthening Families Program for Parents and Youth 10:14 years pre-post test for parents and for youth.
Partnering with Parents Post-pretest for professionals.
Number of consumers assisted in developing remodeling plans to improve home accessibility.
Post training observational assessments for Early Childhood Environment rating scale training to measure impact of quality improvements.
Post-training survey of participants in caregiver training programs.

1. Name of the Planned Program

Food and Non-Food Products

2. Program knowledge areas

- 711 Ensure Food Products Free of Harmful Chemicals, Including Residu 10 %
- 503 Quality Maintenance in Storing and Marketing Food Products 10 %
- 511 New and Improved Non-Food Products and Processes 15 %
- 502 New and Improved Food Products 15 %
- 501 New and Improved Food Processing Technologies 15 %
- 512 Quality Maintenance in Storing and Marketing Non-Food Products 15 %
- 504 Home and Commercial Food Service 10 %
- 712 Protect Food from Contamination by Pathogenic Microorganisms, Pa 10 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The development of new foods and processing technologies are necessary to provide the public with safe, nutritious, high quality foods. Likewise, the development of new and improved non-food products and processes will provide the public with high quality, environmentally friendly, and cost effective fuels, glues, furniture, textiles, and clothing. Increasing our knowledge of food, and non-food storing and marketing conditions will reduce waste, protect the environment, increase food safety, reduce costs, and improve the health and quality of life of Iowans. Understanding the factors and barriers that reduce safety, quality, functionality, and shelf life will allow new value-added products and processes to be developed to maintain an adequate food and non-food supply for Iowans. This project addresses the development, improvement, and dissemination of new and improved foods, non-foods and processing technologies throughout the food chain. Numerous food and non-food applications utilizing fruits, vegetables, grains, legumes, meats, milk, their ingredients and their by-products will be used in this program. Likewise, existing processes (such as freezing, drying, heat) and alternative processes (irradiation, high pressure, UV, ozone, microbial conversion, etc.) will be used to produce new value-added food and non-food products with longer shelf-life/use-life. The conversion of low quality commodities and waste-streams into value-added products can provide employment in new industries, increase rural development, and improve the profitability of industries and farmers in Iowa.

6. Situation and priorities

The low number of food and non-food industries generating income, tax dollars, employing people, and utilizing the State's agricultural resources, threatens the State economy. The States Agricultural commodities are often shipped out-of-state for value added processing. New processes need to be developed and old processes need to be improved for the production of food and non-food products. Improved methods of processing and storage systems can reduce agricultural wastes (post-harvest losses) and help in building a stronger economic base for the State. The development of new processes and storage conditions can increase the shelf life of foods and non-foods, reduce foodborne illness outbreaks, and increase the quality of life for people in the State. Food-borne biological and chemical agents, as well as insect derived pathogens, cause significant morbidity and morality in Iowa and the US. For many Iowans, environmental, economic and policy factors impact the access to an adequate food supply. The morbidity and mortality of chronic and acute diseases associated with food cause significant economic impact both in loss of productivity, and rising health care costs. Furthermore, lack of access to adequate and nutritious food results in developmental problems in infants and children. Iowa State University has been among the leaders in research and outreach related to food and non-food. A major focus of this project is multidisciplinary study of these complex issues. This project includes scientists and educators from a variety of disciplines including food science, economics, sociology, human development, nutrition, entomology, value-added agriculture, animal and veterinary science. Researchers collaborate through campus-based centers as well as multi-state projects.

7. Assumptions made for the Program

New products, processes, and storage systems will be adopted by industries and accepted by consumers.
State funding will continue to decrease

Science based education will help people make wise dietary, health, and entrepreneurial choices
Communities can use an empowerment approach to mitigate food insecurity, increase employment, and aid in rural development and economic development
Training/certification programs directed at consumers, food service, processing, retail, industries will change behaviors leading to fewer food borne illnesses, better nutrition, and better quality of life for Iowans.
The number of faculty participating in this program will remain constant.

8. Ultimate goal(s) of this Program

The ultimate goals of this project are to develop new value-added foods, non-foods, processing technologies, and storage systems that will produce and maintain high quality, safe, environmentally renewable products at an affordable cost.
Reduce the incidence of food borne illness
Increase the production of new and improved foods
Increase the production of new and improved non-foods
Develop new processes for value added food and non-food items
Improve the quality of life
Aid in rural and economic development

9. Scope of Program

- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	10.3	0.0
2008	0.0	0.0	10.3	0.0
2009	0.0	0.0	10.3	0.0
2010	0.0	0.0	10.3	0.0
2011	0.0	0.0	10.3	0.0

Outputs for the Program

13. Activity (What will be done?)

Research into the development of new products, processes, and storage conditions are a focus area for this program. Foods and non-foods also are important focus areas of this program. This focus includes research into new processes that improve the quality and ensure the safety of foods (microbial, chemical, physical); rapid methods to determine the quality and detect biological, chemical, and physical hazards associated with food and non-foods; development of storage systems for commodities, food and non-food ingredients, and finished goods from animal and plant origin.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Other 1 (none)	• Other 1 (none)

15. Description of targeted audience

{NO DATA ENTERED}

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	1
2008	0
2009	1
2010	0
2011	1

18. Output measures

Output Text

Number of research studies completed per year.

2007 Target: 5
2008 Target: 5
2009 Target: 5
2010 Target: 5
2011 Target: 5

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text
Number of refereed publications per year.

Outcome Type: Short

2007 Target: 5
2008 Target: 5
2009 Target: 5
2010 Target: 5
2011 Target: 5

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programatic Challenges

Description
Decreased funding, changing institutional commitments and priorities Availability of volunteer and non-profit participation Changing economic conditions Natural and human caused disasters Lack of evidenced based programs Lack of culturally sensitive programming resources

21. Evaluation studies planned

- Before-After (before and after program)
- During (during program)

Description
{NO DATA ENTERED}

22. Data Collection Methods

- On-Site
- Structured

Description
Populations and groups impacted by this project (individuals, companies, government agencies) will be receiving a survey, be interviewed in person, or contacted to evaluate the success and impact of this program. Several data measuring methods will be used to obtain valid data for the evaluation of this program. Data will be collected throughout this project, so that mid-stream changes can be made to improve the success of this project.

1. Name of the Planned Program

Food and Nutrition: Choices for Health

2. Program knowledge areas

- 712 Protect Food from Contamination by Pathogenic Microorganisms, Pa 5 %
- 703 Nutrition Education and Behavior 75 %
- 504 Home and Commercial Food Service 5 %
- 704 Nutrition and Hunger in the Population 10 %
- 501 New and Improved Food Processing Technologies 5 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

This program focuses on improving nutrition education and behavior to reduce negative health consequences brought about by overweight, obesity and inactivity; on improving food handling behaviors and practices by consumers, food processors, and food services for the purpose of reducing the incidence of food borne illness in the state; and on working within communities to mitigate food insecurity.

6. Situation and priorities

Iowans are practicing behaviors that lead to a high risk of obesity, diabetes, and food borne illnesses. A significant portion of the population fails to follow dietary and activity recommendations for a reasons including; heritage, socio-economic status, availability of foods, and lack of understanding of recommendations. There is an increasing rate of overweight and obesity among children. According to the BRFSS data, only 56% of adults are doing regular moderate exercise. Approximately 50% of income spent is for food consumption away from home. There is an estimated 76 million cases of food borne illness yearly. 250,000 Iowans are food insecure.

7. Assumptions made for the Program

Citizens can learn skills to make better decisions.
Evidenced based education can help people make wise dietary and health choices.
Communities can use an empowerment approach to mitigate food insecurity.
Training/certification programs directed at food service, processing, retail, and consumer food handlers change behaviors that lead to food borne illness.

8. Ultimate goal(s) of this Program

Individuals will engage in healthier lifestyles that will lead to a reduction in overweight and obesity and an improvement in health.
Consumers, employers and employees will improve food handling behaviors and decrease the incidence of food borne illness.
Citizens will improve their understanding of food insecurity issues and work collectively to mitigate food insecurity within their communities.

9. Scope of Program

- In-State Extension
- Multistate Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	18.5	0.0	0.0	0.0
2008	18.5	0.0	0.0	0.0
2009	18.5	0.0	0.0	0.0
2010	18.5	0.0	0.0	0.0
2011	18.5	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Extension educational programs will be directed to professionals and community leaders as well as to individuals and families through multiple methods. Programs will focus on nutrition and wellness, food safety and food insecurity.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • Group Discussion • One-on-One Intervention • Other 1 (Hot lines)	• Public Service Announcement • Newsletters • Billboards • TV Media Programs • Web sites

15. Description of targeted audience

Parents of young children, teens and young moms, low income families, caregivers of children and adults, athletes, coaches, health professionals worksite employees, food service managers and workers, food processors, and commodity groups.

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	44350	10180	800	17000
2008	45000	5000	850	17500
2009	45000	5000	1000	18000
2010	45000	5000	1000	18000
2011	45000	5000	1000	18000

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of adults who participate in Extension programs on food, nutrition and health.

2007 Target: 64000
2008 Target: 64000
2009 Target: 64000
2010 Target: 64000
2011 Target: 64000

Output Text

Number of participants in Extension programs on food safety.

2007 Target: 1000
2008 Target: 1000
2009 Target: 1000
2010 Target: 1000
2011 Target: 1000

Output Text

Number of participants in Extension programs on food insecurity.

2007 Target: 100
2008 Target: 120
2009 Target: 140
2010 Target: 160
2011 Target: 180

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of adult participants who improve their diet.

Outcome Type: Medium

2007 Target: 32625
2008 Target: 32625
2009 Target: 32625
2010 Target: 32625
2011 Target: 32625

Outcome Text

Number of adult participants who increase their minutes of activity.

Outcome Type: Medium

2007 Target: 24750
2008 Target: 25000
2009 Target: 25000
2010 Target: 25000
2011 Target: 25000

Outcome Text

Number of communities that take steps to reduce food insecurity.

Outcome Type: Medium

2007 Target: 5
2008 Target: 6
2009 Target: 7
2010 Target: 8
2011 Target: 9

Outcome Text

Number of participants certified in food safety programs.

Outcome Type: Medium

2007 Target: 850
2008 Target: 900
2009 Target: 900
2010 Target: 900
2011 Target: 900

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration,new cultural groupings,etc.)

Description

{NO DATA ENTERED}

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)

Description

{NO DATA ENTERED}

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Observation
- Tests

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Human Nutrition, Food Safety, and Human Health and Well-being

2. Program knowledge areas

- 722 Zoonotic Diseases and Parasites Affecting Humans 10 %
- 724 Healthy Lifestyle 10 %
- 610 Domestic Policy Analysis 5 %
- 703 Nutrition Education and Behavior 10 %
- 701 Nutrient Composition of Food 10 %
- 704 Nutrition and Hunger in the Population 15 %
- 712 Protect Food from Contamination by Pathogenic Microorganisms, Pa 10 %
- 711 Ensure Food Products Free of Harmful Chemicals, Including Residu 10 %
- 702 Requirements and Function of Nutrients and Other Food Components 15 %
- 603 Market Economics 5 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Expanding knowledge of food safety, vector-borne diseases, nutrition, health promoting activities, and understanding factors and barriers related to acquiring an adequate food supply, are needed to promote the health of Iowans. This project addresses development and dissemination of new and improved practices and technologies used throughout the food system. The information will be conveyed to commodity groups, professionals (industry, health care, and others), policy makers, and consumers through publications, workshops, electronic and print media and personal interactions.

6. Situation and priorities

Food-borne biological and chemical agents, as well as insect derived pathogens, cause significant morbidity and mortality in Iowa and the US. Diet and lifestyle contribute significantly to health and disease prevention, but there are many barriers to the implementation of health promoting behaviors by consumers. For many Iowans, environmental, economic and policy factors impact the access to an adequate food supply. The morbidity and mortality of chronic and acute diseases associated with food, cause significant economic impact both in loss of productivity, and rising health care costs. Furthermore, lack of access to adequate and nutritious food results in developmental problems in infants and children.
The demographics of Iowa include a high percentage of elderly, single parent families, recent immigrants and other underserved or at risk consumers living in rural communities. Therefore, research will focus on the design, delivery, impacts and cost effectiveness of food assistance and nutrition education programs to achieve a food secure and well nourished population.
Research efforts are directed toward identification of the biomolecular roles for nutrients in normal and abnormal human metabolism and the impact of production and processing methods on nutrient composition of foods. A comprehensive approach to food safety research includes detection methods for biological and chemical hazards in foods, the effect of processing methods on pathogen control, attribution of food borne illness to food handling practices throughout the food system, studies on the economic impact of food safety improvement, and the effect of food safety regulation on public health.
Vector borne zoonotic diseases increasingly threaten the health, well-being, and livelihood of Iowans. It continues to be a priority to detect, prevent, and deter existing and emerging zoonotic diseases. Hence, research efforts are needed to develop new methodologies to detect, control, intervene in the life cycle, and prevent transmission of these organisms to humans and/or animals.
Iowa State University has been among the leaders in research and outreach related to food, nutrition and human health since 1920. We will continue to emphasize the multidisciplinary study of these complex issues. This project includes scientists and educators from a variety of disciplines including food science, economics, sociology, human development, nutrition, entomology, and animal and veterinary science. Researchers collaborate through campus based centers as well as multistate projects.

7. Assumptions made for the Program

Communities can use an empowerment approach to mitigate food insecurity.
Demand will increase for basic and applied knowledge of food, nutrients, and their impact on health and well-being.
Technology to identify and quantify biomolecular compounds will increase.
Advances in understanding individualized responses to nutrition and food will evolve.
The identification and characterization of bioactive components of foods and their contributions to health will advance.
Obesity and its associated morbidities will continue affect all stages of the life cycle.
Funding for health related research will continue to increase.

8. Ultimate goal(s) of this Program

To improve the nutrition and well-being of Iowans
To mitigate and manage the risks of food and vector borne diseases and chemical hazards in foods.

9. Scope of Program

- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	7.9	0.0
2008	0.0	0.0	7.9	0.0
2009	0.0	0.0	7.9	0.0
2010	0.0	0.0	7.9	0.0
2011	0.0	0.0	7.9	0.0

Outputs for the Program

13. Activity (What will be done?)

To improve the nutrition and well-being of Iowans
Define the role of nutrients and bioactive components of foods.
Reduce barriers to acquiring and utilizing an adequate and nutritious diet.
Increase awareness, participation, and cost effectiveness of food assistance, nutrition education, and community based wellness programs.
Increase the likelihood of people making healthy food choices consistent with current recommendations.
Improve the nutritional value of the food supply.
Reduce the prevalence of inadequate or excessive dietary intake.
Reduce the prevalence of obese or overweight individuals.
To mitigate and manage the risks of food and vector borne diseases and chemical hazards in foods.
Reduce the incidence of food and vector borne illness in humans.
Increase the ability to rapidly detect and implement control strategies for food and vector borne pathogens.
Reduce the incidence of food and vector borne pathogens through environmental and animal/plant pre and post-harvest

controls.
Evaluate the economics of food and vector borne illness and control.
Dissemination of research findings will be through a variety of mechanisms including peer reviewed journals, symposia, Extension publications, policy briefs, electronic and print media, presentations to commodity, industry, government, consumer and community groups.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Other 1 (none)	• Other 1 (none)

15. Description of targeted audience

parents of children aged 0-5, youth
pregnant and perimenopausal women
teens and young adults
low income families with young children
caregivers of children and adults
athletes, coaches
health professionals
worksite employees
retail foodservice, grocery store, and other foodservice managers and workers
food processors
commodity groups
community leaders and managers

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	1
2010	0
2011	1

18. Output measures

Output Text

Number of non-peer reviewed publications.

2007	Target:	10
2008	Target:	10
2009	Target:	10
2010	Target:	10
2011	Target:	10

Output Text

Number of workshops/presentations.

2007	Target:	40
2008	Target:	40
2009	Target:	40
2010	Target:	40
2011	Target:	40

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of peer-reviewed publications

Outcome Type: Short

2007	Target:	10
2008	Target:	10
2009	Target:	10
2010	Target:	10
2011	Target:	10

Outcome Text

Number of proceedings and published abstracts.

Outcome Type: Short

2007	Target:	10
2008	Target:	10
2009	Target:	10
2010	Target:	10
2011	Target:	10

Outcome Text

Number of theses produced.

Outcome Type: Short

2007 Target: 8

2008 Target: 8

2009 Target: 8

2010 Target: 8

2011 Target: 8

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programatic Challenges

Description

Funding opportunities from federal, state, and industry sources are dynamic. This often leads to rapid reallocation of research effort and challenges to maintaining a long term research agenda. In addition, funding agencies are requiring multidisciplinary approaches. Institutional mechanisms have developed to incorporate flexibility into research programs to allow rapid responses to these new environments. Roles for food in health are continually evolving. This complex interaction results in a need for deliberative well designed research programs and dissemination tools. The demographics of the state of Iowa are changing with new immigrants from Central and South America, the Balkans, and other areas moving to the state. The resources to address the cultural needs of this diverse population will need to be funded and developed. Mitigating the potential and the fallout for human caused disasters, federal and state regulatory agencies have placed new guidelines and directives that will need to be addressed by the food and agriculture production communities.

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Description

{NO DATA ENTERED}

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Observation

Description

{NO DATA ENTERED}

1. Name of the Planned Program

Natural Resources and the Environment and Agricultural and Biosystems Engineering

2. Program knowledge areas

- 104 Protect Soil from Harmful Effects of Natural Elements 5 %
- 134 Outdoor Recreation 10 %
- 402 Engineering Systems and Equipment 10 %
- 405 Drainage and Irrigation Systems and Facilities 7 %
- 141 Air Resource Protection and Management 15 %
- 133 Pollution Prevention and Mitigation 15 %
- 123 Management and Sustainability of Forest Resources 8 %
- 131 Alternative Uses of Land 5 %
- 112 Watershed Protection and Management 10 %
- 102 Soil, Plant, Water, Nutrient Relationships 15 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Management of all natural resources, including water, land, air, and other resources are important for sound environmental stewardship. The focus areas of this plan of work encompass all of these resources. As part of this program area we will conduct programming with the ultimate goal of:
Improving clients' management of Iowa's natural resources ensuring both economic and resource sustainability,
Protecting and enhancing Iowa's air, soil, wildlife, and woodland, and water resources in concert with agriculture, recreation, and urban land uses,
Enhancing energy conservation and production of energy from Iowa's renewable resources.
Providing leadership in developing a culture of environmental stewardship to protect air, soil, wildlife, woodland, and water quality and to increase adoption of technologies and systems that protect and enhance natural resources.
Increasing adoption of integrated crop-livestock production systems to improve farm profitability and environmental quality,
Engaging communities in protecting and enhancing Iowa's natural resources,
Developing long-term, sustainable, and economically and environmentally sound plant production systems to conserve and enhance Iowa's natural resources.
Animal science research on the impact of animals on the environment promotes a long-term sustainable system of animal agriculture by identifying and developing management practices that will be implemented to reduce the amount of nutrients released to water and/or air. This program, specifically, will look at changes in the diets of animals and their impact on the quantity and form of emissions that are released from managed animal production systems.

6. Situation and priorities

Management of all natural resources, including water, land, air, and other resources, within the constraints of farm production systems and communities are prerequisite for sound environmental stewardship. Inappropriate management can lead to potential environmental degradation. To maintain economic viability of agricultural operations there will be an increased need to ensure environmental stewardship.
Environmental consequences are especially pertinent to nitrogen, phosphorus, carbon, and sulfur, with respect to land, water, and air.
Soil erosion continues to be the number one pollutant in the state of Iowa. Pollutant loadings, in general, are a primary concern at state and federal levels.
Uncertainties of health impacts and nuisance related to exposure to agricultural odors and emission of other gases are a prominent concern in rural parts of Iowa. Odor along with nitrogen (NH3, NOx, N2O), methane, and hydrogen sulfide are most pertinent to air resources.
Wildlife conservation, energy utilization, and community water issues are part of our natural resources that merit protection.

Development of strategies to address utilization and preservation of these natural resources and education on the issues surrounding adverse consequences will help Iowans better understand and practice environmental stewardship.
Environmental compliance challenges continue to grow for livestock agriculture, particularly with respect to air quality concerns. Commodity groups and the Iowa Department of Natural Resources have identified air and water quality impacts from livestock agriculture as one of their highest priorities for research and application. It is a priority of the State and ISU to develop and evaluate management practices that will improve air quality around livestock operations and to disseminate these practices to the end-user for implementation.

7. Assumptions made for the Program

There is an ever increasing concern about the quality and degradation of our natural resources including air, land, and water resources. For example, in Iowa the number of waters on the EPA Impaired Waters List is greater than 200. In addition, there is a growing concern about air quality around large animal feeding operations. While there is a recognition and understanding that some natural resource concerns are related to urban settings, much of the air and water quality concerns are related to agricultural production. With this, there is a need for programming and development of agricultural best management practices that reduce the environmental impacts of agricultural production. This focus on stewardship of natural resources needs to also encompass wildlife conservation and energy utilization. The stewardship of natural resources is important nationally but particularly important to the economic vitality of Iowa. We believe programming under this plan of work can help maintain and enhance the condition of our natural resources, increase the adoption of practices that will reduce the environmental impacts of agricultural production, and assist with developing strategies for addressing natural resources concerns. Since natural resources concerns involve many stakeholders, participants and targeted audience members for this plan of work include producers, citizens, public health officials, agency personnel, and regulators.

8. Ultimate goal(s) of this Program

Address air and water quality along with other environmental issues of Iowa through programming targeted at producers, citizens, public health officials, and regulators.
Increase the adoption of conservation practices that control soil erosion, minimize sediment transport, and reduce nutrient export.
Increase the adoption of practices that reduce nitrate export from subsurface drainage.
Increase the understanding of water quality issues and problems associated with poor stewardship practices.
Increase the use of indices and diagnostic tools along with other performance measures to document progress toward improved nutrient management.
Identify site-specific strategies and facilitate the implementation of these strategies to improve air quality and address related concerns.
Increase the adoption of practices that reduce impacts to air resources.
Understand and evaluate the economic impact of management of natural resources.
Change the attitudes and practices of how Iowans use and protect natural resources including woodlands, wildlife, energy, and community resources.
Increase the adoption of energy conservation practices by crop farmers, livestock producers, and homeowners.
Implement practices that not only meet compliance requirements but exceed these requirements, resulting in greater confidence in CAFO practices by the citizens of Iowa.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	13.0	0.0	15.8	0.0
2008	13.0	0.0	15.8	0.0
2009	13.0	0.0	15.8	0.0
2010	13.0	0.0	15.8	0.0
2011	13.0	0.0	15.8	0.0

Outputs for the Program

13. Activity (What will be done?)

Curriculum for each targeted group, fact sheets, and web-accessible tools for decision making.
Targeted programming to address policy issues as they arise including response to public comment documents, development of hard copy materials and resources for regulators and policymakers.
Produce, update or revise handbooks, newsletters, and bulletins as appropriate.
Hold workshops, field days, farm/field visits, and satellite and web-based sessions as appropriate.
Develop strategies and programs to increase community (citizen) involvement.
Develop and execute educational programs about the Conservation Security Program (CSP).
Develop and execute educational programs about indices and diagnostic tools (e.g. P-Index) that can be used to improve nutrient management.
Develop and execute educational programs on methods to conserve energy.
Develop educational programs to preserve environmental benefits of the Conservation Reserve Program (CRP) and other conservation programs when the programs change.
Research will be conducted that focuses on source control of emissions to air and/or water using diet modification as the primary mitigation strategy. Studies will be multi-species in nature and will address emissions from housing and manure storage and application with emphasis on the immediate (housing) and long-term (storage and land application) impacts of dietary changes.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Demonstrations • Other 1 (In-service)	• Newsletters • Web sites • Other 1 (Publications)

15. Description of targeted audience

Crop and livestock producersPrivate citizensPublic health officialsState agenciesConservation plannersLandownersHomeowners

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	6000	85000	0	0
2008	6500	87000	0	0
2009	7000	89000	0	0
2010	7500	91000	0	0
2011	8000	93000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	1
2008	0
2009	1
2010	0
2011	1

18. Output measures

Output Text

Number of research studies completed to identify site-specific strategies and application of these strategies in order to improve air quality and address related concerns.

2007 Target: 3
2008 Target: 3
2009 Target: 3
2010 Target: 3
2011 Target: 3

Output Text

Number of research studies completed to identify strategies and application of these strategies in order to improve water quality and address related concerns.

2007 Target: 4
2008 Target: 4
2009 Target: 4
2010 Target: 4
2011 Target: 4

Output Text

Number of research studies completed to understand and evaluate the economic impact of management of natural resources.

2007 Target: 2
2008 Target: 2
2009 Target: 2
2010 Target: 2
2011 Target: 2

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text
Number of producers that participate in programming directly focused on increasing the adoption and implementation of conservation practices.

Outcome Type: Medium

2007 Target: 1000
2008 Target: 1000
2009 Target: 1100
2010 Target: 1100
2011 Target: 1200

Outcome Text
Number of producers that participate in programming directly focused on adoption of practices that reduce nitrate export from subsurface drainage.

Outcome Type: Medium

2007 Target: 500
2008 Target: 500
2009 Target: 500
2010 Target: 500
2011 Target: 500

Outcome Text
Number of landowners participating in programs to increase their understanding of water quality issues and related adverse consequences following poor stewardship practices.

Outcome Type: Medium

2007 Target: 1200
2008 Target: 1200
2009 Target: 1200
2010 Target: 1200
2011 Target: 1200

Outcome Text
Number of producers that participate in programming directly focused on utilization of indices and diagnostic tools along with other performance measures to document progress toward improved nutrient management.

Outcome Type: Medium

2007 Target: 600
2008 Target: 600
2009 Target: 600
2010 Target: 400
2011 Target: 400

Outcome Text

Number of producers that participate in programming directly focused on increasing the number of livestock production sites that adopt practices that reduce impacts to air resources.

Outcome Type: Medium

2007 Target: 400
2008 Target: 500
2009 Target: 600
2010 Target: 600
2011 Target: 600

Outcome Text

Number of Iowans that participate in programming directly focused on the adoption of practices that protect natural resources including woodlands, wildlife, energy, and community resources.

Outcome Type: Medium

2007 Target: 1000
2008 Target: 1000
2009 Target: 1000
2010 Target: 1000
2011 Target: 1000

Outcome Text

Number of Iowans that participate in programming directly focused on increasing the adoption of energy conservation practices.

Outcome Type: Medium

2007 Target: 500
2008 Target: 500
2009 Target: 600
2010 Target: 600
2011 Target: 600

20. External factors which may affect outcomes

- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programatic Challenges

Description

{NO DATA ENTERED}

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

Implementation of conservation practices such as no-till, buffers, and wetlands will be evaluated by reviewing and surveying conservation implementation information from the Iowa NRCS.
To evaluate benchmark conditions relative to the use of tillage practices through the survey data developed by the Conservation Technology Information Center (CTIC) will be used to evaluate whether there are changes in the implementation of conservation tillage practices. In addition, specific state surveys through active projects at Iowa State University such as the Iowa Learning Farm project that document conservation practices will be used to evaluate potential changes on the landscape.

Implementation of the Iowa Phosphorus Index will be evaluated by surveying the Iowa DNR relative to manure management plans that effectively incorporate the Iowa Phosphorus Index.
To evaluate implementation of best management practices relative to manure management through the number of manure spills and accidents documented by the Iowa DNR will be reviewed to assess improvement in reducing the number of incidents.
Increased participation in water quality projects will be evaluated by surveying state agency personnel and documenting the number of local watershed groups active in water quality projects.
The incorporation of stewardship curricula in classrooms in Iowa will be evaluated by documenting the number of schools (elementary and secondary) that communicate with ISU Extension about incorporating stewardship curricula in their classrooms.
General awareness in natural resource issues will be evaluated by reviewing overall attendance at Extension sponsored natural resource programming and changes in attitudes will be evaluated through use of program surveys and evaluations.
Adoption of conservation practices by urban and suburban landowners will be evaluated by documenting the number of Extension programs directly targeted to this audience, the overall attendance at Extension sponsored programming, and changes in attitudes will be evaluated through use of program surveys and evaluations.
Overall evaluation of all objectives relative to this plan of work will document the overall attendance at Extension sponsored programming, web-site hits and publication distribution and changes in attitudes will be evaluated through use of program surveys and evaluations.

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Case Study
- Observation
- Journals

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Commercial and Consumer Horticulture

2. Program knowledge areas

- 216 Integrated Pest Management Systems 20 %
- 124 Urban Forestry 10 %
- 205 Plant Management Systems 40 %
- 502 New and Improved Food Products 10 %
- 204 Plant Product Quality and Utility (Preharvest) 20 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

The horticulture planned program joins commercial and consumer horticulture extension programs to provide accurate, research-based information for audiences in rural and urban settings in Iowa. The ISU Horticulture Extension staff in this area has the knowledge, abilities, and network to disseminate this information to our clients. The primary emphasis of this joint programming effort is to increase the strength of the horticulture industry in Iowa by 1) increasing the production and profitability horticulture related businesses, 2) increasing the quantity and quality of horticulture information disseminated, and 3) increasing community involvement.

6. Situation and priorities

The production, marketing, and selling of horticultural crops creates many jobs for Iowans. Commercial horticultural enterprises in Iowa consist of fruit, nut, herb, and vegetable producers, lawn care companies, golf courses, school athletic fields, turfgrass sod producers, production wholesale nurseries, re-wholesale nurseries, landscape design and installation firms, retail garden centers, landscape maintenance companies, arborists, greenhouse crop producers, retail florists, private grounds maintenance, public utilities, and city, county, and state public lands. Opportunities for growth are most promising in the non-food, horticulture industries of Iowa (turf, nursery/garden center and landscape, greenhouse crops, etc.) which constitute the fastest growing segment of Iowa's agricultural economy. Access to research-based information and programs that emphasize sustainable and environmentally sound production and management practices, value-based marketing, and new technologies, will increase profitability for the commercial greens industry in Iowa.
Three commercial greens industry categories are identified to facilitate efficient and comprehensive program delivery. They are; (1) grounds management firms, (2) fruit, vegetable, and alternative crop producers and sellers, and (3) landscape plant producers and sellers. Existing programs deemed pertinent will be continued and new program offerings will be created as needed within each of the categories. Emphasis will be placed on employee training across all categories. In addition, applied research findings will be communicated to clients to strengthen and enhance the economic vitality of commercial horticultural enterprises in Iowa.
Gardening has been the most popular outdoor leisure activity in America for many years. Each year gardeners spend billions of dollars on plants, lawn and garden equipment, and garden supplies. Gardening is an activity that provides many benefits to the consumer including: exercise, nutritious food (fruits and vegetables), energy conservation, increased property value, and enhanced quality of life. There are many sources of information available in the area of consumer horticulture, but few of these sources provide accurate, research-based information. Access to research-based information and programs will help the consumer make wise decisions in plant selection, culture, and pest management.
The primary emphasis in consumer horticulture is to develop and expand resources and materials to assist gardening consumers and extension staff that work with gardening clientele. Information from the Hortline, newsletters, publications, newspaper articles, radio and television programs, websites, hands-on workshops, Master Gardener training, and field days at demonstration gardens are examples of extension programming efforts that reach the consumer horticulture audience. Continuing these programs and creating new ways to reach consumers are paramount in decision making for gardening consumers.

7. Assumptions made for the Program

As the demand for horticulture information and programming from professional and lay audiences continues to grow, ISU Horticulture Extension will play a pivotal role in creating, packaging, and distributing this information. With campus-based faculty and staff (4.7 FTE's) devoted to Horticulture Extension, 2 full-time field specialists, over a dozen county-based consumer horticulture specialists, and CEED's in every county who understand the importance of horticulture to Iowa's economic vitality, ISU has assembled an impressive and extensive network of Extension staff to assist businesses and consumers with their numerous and important horticultural needs.
This ISU Horticulture Extension network has a strong and mutually beneficial relationship with Extension specialists in the Departments of Plant Pathology, Entomology, Food Science and Human Nutrition, Natural Resource Ecology and Management, Agronomy, Landscape Architecture, and a developing relationship with the AgricultureMarketingResourceCenter and with the Iowa Department of Agriculture and Land Stewardship.
The ISU Horticulture Extension network also has developed close ties with the large and diverse horticulture industry and industry trade organizations in Iowa. These important relationships have helped ISU Horticulture Extension better understand and meet the educational needs of these clients, which in turn has helped them become or remain competitive in their specific market niche. ISU Horticulture Extension also has forged close working relationships with homeowner and volunteer groups in Iowa, further strengthening our ties to communities across the state.
While the flow of horticultural information and horticulture program development continues to follow a traditional path (from campus to field), countyExtension offices continue to be the first point of contact for horticulture professionals and home gardeners. These accessible and client-friendly offices are staffed by Extension professionals who know how and where to retrieve information for a broad array of clients. They also serve as the home base for volunteer programs like the Master Gardener Program and the Iowa Community Tree Steward Program.
With limited budgets, county and campus-based staff must continue to seek financial support through external funding and cost recovery.

8. Ultimate goal(s) of this Program

Increase profitability of existing businesses related to small farm and horticulture production by increasing overall value of marketable products, efficient use of production inputs, and at the same time limit environmental contamination.
Conserve energy and other natural resources needed and used by the industry.
Increase county-based connection to community of horticulture producers and users through face-to-face meetings and diverse electronic media.
Provide knowledge, educational opportunities, and problem solving expertise for new or beginning alternative agriculture enterprises to be successful in horticulture plant production.
Improve Iowa's urban and rural landscapes as a place to live through sustainable horticultural practices.
Incorporate IPM practices for not only growers but on public and commercial properties, home, landscapes, and communities.
Add a youth component to increase student's entrepreneurial skills. This being accomplished through the 4-H and FFA programs in Iowa.
Improve the health and quality of life of Iowans through the consumption of fresh fruits and vegetables and exercise. Iowa State will continue to develop and enhance market managers ability's in growing these places of business.
Promote and further develop Agriculture/horticulture Tourism in cooperation with IDALS. (Wine tours, pumpkin patches, Agritainment, Reiman Gardens, etc.)
Use technology to convey information directly to the homeowner and consumer through such programs as "Gardening in the Zone", pod- casting, Master Gardener webcasts, websites, and web accessible publications.
Improve quality of content delivery and expand readership of horticulture information.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	14.0	0.0	8.2	0.0
2008	14.0	0.0	8.2	0.0
2009	14.0	0.0	8.2	0.0
2010	14.0	0.0	8.2	0.0
2011	14.0	0.0	8.2	0.0

Outputs for the Program

13. Activity (What will be done?)

Develop new extension publications (web and print) as needed to disseminate information on applied research efforts and address changing gardening trends/concerns.
Expand and enhance current websites and create new websites to address developing needs.
Organize County, Area, State and Multi-state conferences to promote research, technical information, and promote economic development in the Midwest.
Test and develop technical equipment and practices to serve the industry.
Publish research results in referred journal articles.
Assist county extension staff with general gardening presentations to local communities.
Continue field trials and research at ISU Research and Demonstration Farms and with commodity groups as a source of resource exploration and fact finding.
Organize field days and educational programs to disseminate results from field trials and applied research.
Assist new businesses with a directory of resources to start a business, financial, technical expertise, directory of suppliers.
Train CEEDs who wish to improve their horticultural skills two times a year.
Enhance the quality and quantity of newsletters (electronic and printed) delivered in each subject area.
Support programs from external groups to increase profit potential of the industry and encourage adoption of Best Management Practices and IPM for environmental stewardship.
Improve product quality and safety so it is more marketable for the industry.
Increase awareness of the horticulture industry in Iowa and its affect on quality of life.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	Indirect Methods
• Education Class • Workshop • One-on-One Intervention • Demonstrations • Other 1 (In-service tranings)	• Newsletters • TV Media Programs • Web sites • Other 1 (Publications)

15. Description of targeted audience

Turfgrass and grounds management firmsFruit and vegetable and alternative crop producers, sellers and processorsGrowers and sellers of landscape products and servicesStudents considering horticulture as a careerHomeowners and garden enthusiasts in Iowa

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	30000	80000	0	0
2008	35000	100000	0	0
2009	40000	150000	0	0
2010	45000	200000	0	0
2011	50000	300000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of research studies completed.

2007 Target: 6
2008 Target: 6
2009 Target: 6
2010 Target: 6
2011 Target: 6

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Increase the number of clients who participate in horticulture programs on production methods, market outlets, Best Management Practices, and IPM techniques.

Outcome Type: Medium

2007 Target: 1000
2008 Target: 1500
2009 Target: 2500
2010 Target: 3000
2011 Target: 3000

Outcome Text

Increase the number of new horticulture businesses and the expansion of existing horticulture businesses assisted through county offices.

Outcome Type: Medium

2007 Target: 10

2008 Target: 15

2009 Target: 20

2010 Target: 25

2011 Target: 25

Outcome Text

Number of ISU staff hours for Master Market training of vendors and working at farmer's markets (to increase the strength of farmers markets in Iowa by cooperating with IDALS and WIC programs)

Outcome Type: Short

2007 Target: 20

2008 Target: 25

2009 Target: 25

2010 Target: 30

2011 Target: 30

Outcome Text

Increase involvement of Master Gardener volunteers in their communities. (Measure the number of volunteer hours per year.)

Outcome Type: Medium

2007 Target: 80000

2008 Target: 90000

2009 Target: 100000

2010 Target: 100000

2011 Target: 100000

Outcome Text

Increase the quality and quantity of horticulture information accessible to the gardening public. (Measure number of peer-reviewed extension publications.)

Outcome Type: Short

2007 Target: 2

2008 Target: 2

2009 Target: 2

2010 Target: 3

2011 Target: 3

Outcome Text

Number of refereed journal publications per year.

Outcome Type: Short

2007 Target: 8

2008 Target: 8

2009 Target: 8

2010 Target: 8

2011 Target: 8

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Government Regulations
- Competing Public priorities

Description

Iowa State Extension Specialists (State, Area and County Level)
Community Colleges, and other Universities (within Iowa and surrounding states)
Business leaders (within Iowa and surrounding states)
Iowa Department of Agriculture and Land Stewardship
Department of Transportation
Economic Development Groups on the city, county, area and state level
Iowa Corrections
Iowa Department of Natural Resources, Farm Service Agency, and the US Natural Resources and Conservation Service.
Iowa Farm Bureau
Practical Farmers of Iowa
Trees Forever
County Conservation Boards and the County Board of Supervisors
ISU Research Farms
Private and non public organizations such as All American Selection Committee, American Rose Society, America In Bloom, etc.
Iowa School Systems
Iowa Network for Community Agriculture
Campus Departments (Entomology, Plant Pathology, Agronomy, Sustainable Agriculture, Food and Nutrition, Agriculture Economics, Agriculture Education and Studies, etc.)
Iowa Master Gardeners
Iowa State Horticulture Society (24 affiliate organizations)

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

Surveys will play a primary role in evaluating the outcome of educational and research efforts (including public municipalities and homeowners). 1) Survey producers to explore changes in production methods, awareness and use of pest resistant plants, use of market outlets, use of efficient or best management practices, and enhanced use of IPM techniques. 2) Survey gardening consumers on landscape practices, gardening concerns, and the quality of information provided by ISU Horticulture Extension. 3) Survey attendees of educational programming to measure economic impact, quality of life, etc.
Growth in sector from the number of businesses and gross revenue as measured by the Iowa Statistics Department.
Web sites and ratings received by third parties as well as the number of hits or usage.
Evaluations of on-farm pilots/research (problem solving) with producers - economic impact of the model to be applied to future or larger audiences
Measure of publications (number sold, accessed, downloaded, etc.)
Subscriptions numbers of e-newsletters, alumni newsletters, etc.
Measure Master Gardener volunteer hours and projects (number and type) in counties.

22. Data Collection Methods

- Sampling
- Mail
- Telephone
- On-Site
- Structured
- Tests
- Journals

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Corn and Soybean Production and Protection

2. Program knowledge areas

- 204 Plant Product Quality and Utility (Preharvest) 10 %
- 216 Integrated Pest Management Systems 20 %
- 206 Basic Plant Biology 20 %
- 205 Plant Management Systems 20 %
- 102 Soil, Plant, Water, Nutrient Relationships 20 %
- 112 Watershed Protection and Management 10 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

Nearly two-thirds of Iowa's land surface (~23 million of 36 million acres) is annually dedicated to production of corn or soybean. Because of the importance of these crops to Iowa's economy, planned Extension programming focuses on enhancing profitable corn and soybean production and the other issues related to crop protection. These include efforts focused on the prevention or limitation of losses from weed, insect, crop disease and non-pathogen related damage. Soil, water and nutrient management issues are inherent to the two crops grown in annual monoculture and are likewise addressed. In addition, economical production of forages and small grains are issues that many farmers share, and the advent of alternative agronomic crops presents additional information needs for Extension to provide.

6. Situation and priorities

Corn or soybeans are grown on around 23 million acres of Iowa land each year, a full 90% of Iowa's farmland. Another 7 million acres are used for hay, pasture, small grains and conservation reserve. The direct economic contribution of all Iowa crops exceeded $7 billion in 2005, not including processing and use.
Managing Iowa's soil and water resources is critical for improving crop production and protecting the environment. Farm practices contribute to soil erosion and subsequent sediment and nutrient loading of water resources; increased adoption of economically viable soil, water, and crop nutrient practices is needed. Conservation systems protect soil quality, increase nutrient-use efficiency, and enhance profitability by reducing farming inputs. Potential crop residue use for energy production adds another challenge to the balance between productivity and environmental stewardship.
Corn and soybean monocultures involve a myriad of pest complexes, any one of which can reduce yield and profits. These pests continually adapt, requiring continuous adjustments in management strategies to keep pest populations below economic levels. Soybean aphid and soybean rust have recently altered overall soybean management. For soybean aphids, this has meant the increased use of insecticides. Soybean rust and the fungicides used for its management may present a similar situation. Biotechnology-based options for control of both insect pests and weeds have become available in the last ten years. Weed management has changed with the advent of crop varieties that are resistant to broad-spectrum herbicides such as glyphosate and glufosinate. Overuse of these new technologies may result in the evolution of resistant insects and weeds.
Pasture and hay crops offer critical value-added benefits as feed for Iowa's livestock, while small grains are either sold to the food processing industry or used as feed. The soil-conserving attributes of forages are well known. They can also reduce losses of applied nitrogen and phosphorus from fields. Increased public concern about water quality has led to increased regulation of the agricultural industry by state and federal authorities, making the inclusion of forages in rotations increasingly important farm management tools. As components in value-added systems, these crops represent priority interests of Iowans in agricultural economic development
New, expanding opportunities in value-added, organic, and lesser-known crops need to be integrated with developing industries. With increasing global competition capping prices and limiting the profitability of corn and soybean, Iowa producers are examining value-added crops and other new cropping opportunities. Forages are currently being evaluated for bio-energy generation, including ethanol. Forage for fiber production is also being investigated. Acreage of flax, adzuki beans and other lesser-known crops is increasing. Recently, organic crop-production acreage has been increasing by about 20% per year. Modified-trait grains, such as low linolenic soybeans, are providing solutions to human and animal health problems.

7. Assumptions made for the Program

Crop production practices and yields have changed markedly. Fewer individuals are farming larger areas, and a majority of the land is farmed by those who do not own it. A number of crop production changes arose from the changes in farm structure. The cost of production has increased dramatically with the increased prices of seed, commercial fertilizer, fuel and other farm inputs. In recent years, an increased demand for corn has developed around the ethanol industry. Many growers are considering switching or have already switched to crop rotations that include more corn following corn, in part to meet ethanol demand. Iowa is projected to be a corn-deficit state by 2010–2012 if present use trends continue.
Changes in cropping systems, increases in input costs, and increased concerns over agricultural impacts on water quality require more research and extension activities centered on tillage, soil fertility, variety selection, crop rotations, pest management (insects, diseases, and weeds), as well as costs of production. Grain quality issues for both corn and soybean have also become more important in recent years in light of increased world trade, the continuing introduction of specialty trait crops, and heightened concerns over food safety issues.
In a survey conducted in 2004, we found that private-sector Iowa agribusinesses relied on ISU Extension as a leading source of quality educational information. However, producers most often lost the connection of information to ISU Extension presented through private sector intermediaries. Extension-sourced crop information found great acceptance among end users, but the connection to ISU was either vague or lost. Much current effort in extension crop production is focusing on establishing relationships with private sector agribusinesses. In the five-year of this plan of work, the goal is to build on these cooperative relationships to enhance the efficiency of delivery of extension programming.

8. Ultimate goal(s) of this Program

Corn and soybean production:
Increase use of research-based crop management practices.
Adapt current commodity based practices to specialty trait or cropping systems.
Crop protection:
Enhance the knowledge of persons involved in production agriculture (farmers, ag supply personnel, crop consultants, etc.) on the biology, ecology and management of important crop pests. This knowledge will lead to implementation of more effective and economic pest management systems.
Continuously modify crop protection recommendations to anticipate the changing mix of products being grown.
Forages, small grains and new opportunities:
Increase adoption of Best Management Practices (BMP) for forages and the production of non-traditional crops.
The value of forages in organic production and in Conservation Security plans better communicate to all producers.
Soil, water and nutrient management:
Increase the acreage of corn and soybean in conservation systems in Iowa.
Assist producers who bring USDA-conservation reserve program (CRP) acreage back into crop production to employ appropriate best management practices for nutrient and soil quality on those acres that includes no-till, chisel plow, sod-based rotations, improved waterways and conservation buffers.
Educate producers and service providers on the use and benefits of diagnostic and other resource tools, including the Iowa P-Index, RUSLE2, soil nutrient testing, plant-based nutrient testing, etc., so that they are eligible for state and Federal conservation programs benefits.
Increase the adoption of specific, economically appropriate practices of N and P from both fertilizer and animal manures including application timing and rates that integrate with the producer's cropping system.

9. Scope of Program

- In-State Extension
- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	27.0	0.0	0.0	0.0
2008	27.0	0.0	0.0	0.0
2009	27.0	0.0	0.0	0.0
2010	27.0	0.0	0.0	0.0
2011	27.0	0.0	0.0	0.0

Outputs for the Program

13. Activity (What will be done?)

Conduct replicated research experiments and demonstrations at ISU research farms, grower fields and agribusiness partner locations.
Organize and maintain monitoring programs for appropriate crop pests (for example adult corn rootworms, Asian soybean rust, aflatoxin) and disseminate the results to inform growers and crop advisors when to scout for these pests.
Convey research results and recommended crop production and pest management practices to Iowa growers via conferences, field days, publications, and web-based information.
Conduct core training on applied agronomic sciences for agribusiness professionals (for producers, Certified Crop Advisers and other agribusiness personnel) through formal and informal sessions including those programs coordinated, organized, and conducted by the ISU Extension Agribusiness Education Program (Field Extension Education Laboratory programs, Integrated Crop Management Conference, Agrichemical Dealer Updates, Crop Advantage Series meetings, annual ISU scout school and short courses, etc.) and related activities (Integrated Crop Management Newsletter).
Conduct pasture-walks and pasture weed management demonstrations to demonstrate grazing best management practices to improve profitability and sustainability of livestock operations.
Partner with commodity organizations, agricultural input suppliers, seed companies, and other agribusinesses to conduct replicated research experiments and extension demonstrations of recommended crop production and pest management practices in grower fields.
Partner with commodity organizations, agricultural input suppliers, seed companies, and other agribusinesses to convey research-based information through meetings, field days, publications, and web-based materials of the partnering organizations.
Develop and deliver a curriculum covering an integrated approach for soil, water, and nutrient management. Create area-specific adaptations of the curriculum. This training would meet requirements for annual training of over 2000 confinement site manure applicators and over 1200 commercial manure applicators.
Prepare farmers within different watersheds for the Conservation Security Program (CSP) by educating them about the value of conservation systems and the nutrient management that need to be considered to be involved in the CSP.
Conduct training workshops and education opportunities for different management tools such as P-Index, RUSLE2 for soil erosion estimation, residue estimation, nitrogen calculation, and others.
Conduct workshops and training opportunities for alternative management of CRP lands to enhance and preserve the environmental benefits that were developed during the years of the CRP contracts. Identify appropriate opportunities to use CRP acreage after the contract expiration.
Promote use of ISU corn, soybean, alfalfa and small grain variety trial data in selecting adapted crop varieties.
Promote Total Quality Management systems (for example, ISO 9000) as a means of reconciling diverse regulatory and production needs into profitable production systems.

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Education Class • Workshop • One-on-One Intervention • Demonstrations • Other 1 (In-service)	• Newsletters • Web sites • Other 1 (Publications)

15. Description of targeted audience

Crop producersLivestock producersCertified Crop AdvisorsAgribusiness personnelCommodity organizationsUSDA agenciesCommercial manure applicatorsLand ownersAgricultural lenders

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
2007	20000	10000	0	0
2008	20000	10000	0	0
2009	20000	10000	0	0
2010	20000	10000	0	0
2011	20000	10000	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	0
2008	0
2009	0
2010	0
2011	0

18. Output measures

Output Text

Number of applied-research experiments and demonstrations at ISU research farms, grower fields, agribusiness partner locations.

2007 Target: 100
2008 Target: 100
2009 Target: 100
2010 Target: 100
2011 Target: 100

Output Text

Number of monitoring programs for appropriate crop pests.

2007 Target: 4
2008 Target: 4
2009 Target: 4
2010 Target: 4
2011 Target: 4

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of producers and service providers attending corn and soybean programming that focuses on improving agronomic practices.

Outcome Type: Medium

2007 Target: 10000
2008 Target: 10000
2009 Target: 10000
2010 Target: 10000
2011 Target: 10000

Outcome Text

Number of producers and service providers attending programs to learn and apply Integrated Pest Management practices.

Outcome Type: Medium

2007 Target: 10000
2008 Target: 10000
2009 Target: 10000
2010 Target: 10000
2011 Target: 10000

Outcome Text

Number of producers and service providers who participate in programs designed to increase forage production and profitability and forage-based production systems.

Outcome Type: Medium

2007 Target: 400
2008 Target: 400
2009 Target: 400
2010 Target: 400
2011 Target: 400

Outcome Text

Number of producers and service providers who attend programs designed to increase the awareness of new crop opportunities and varieties appropriate for bio-energy production.

Outcome Type: Medium

2007 Target: 100

2008 Target: 100

2009 Target: 100

2010 Target: 100

2011 Target: 100

Outcome Text

Number of producers and service providers who participate in programs designed to increase the adoption of conservation systems on Iowa's corn and soybean acreage.

Outcome Type: Medium

2007 Target: 500

2008 Target: 500

2009 Target: 500

2010 Target: 500

2011 Target: 500

Outcome Text

Number of landowners and producers attending programs that focus on applying best management practices to land coming out of the Conservation Reserve Program.

Outcome Type: Medium

2007 Target: 100

2008 Target: 100

2009 Target: 100

2010 Target: 100

2011 Target: 100

Outcome Text

Number of producers and service providers trained to use diagnostic and other resource tools related to crop nutrient management.

Outcome Type: Medium

2007 Target: 400

2008 Target: 400

2009 Target: 400

2010 Target: 400

2011 Target: 400

Outcome Text

Number of farmers and service providers trained in managing the nitrogen and phosphorus content of animal manure in relation to the appropriate cropping system.

Outcome Type: Medium

2007 Target: 2500

2008 Target: 2500

2009 Target: 2500

2010 Target: 2500

2011 Target: 2500

Outcome Text

Number of producers and service providers attending Pesticide Applicator Training programming that focuses on safe use of pesticides.

Outcome Type: Short

2007 Target: 24000
2008 Target: 24000
2009 Target: 24000
2010 Target: 24000
2011 Target: 24000

20. External factors which may affect outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities

Description

Resistance to changes in techniques and management tactics is a potential obstacle to achieving these objectives. Reduction of traditionally available public and private sector financial-risk mitigation programs add to this resistance to try/adopt innovative practices. These include:
Federal farm program incentives
Availability of insurance
Tax abatement/tax incentive programs
Energy policies
Pollution related regulations
Public sponsored environmental training and information opportunities

21. Evaluation studies planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

End of meeting surveys that evaluate awareness and likelihood of practice adoption are key evaluation methods.
Additionally, selected post-program surveys (6-month or one year later) will provide practice adoption information.
Baseline data for quantifying some objectives are available from the following:
IDALS databases
Iowa Geological Survey Bureau and other watershed/water body contaminant loading surveys
NASS, USDA-ERS and other production and economic survey data
Collection of adoption/awareness information from growers, Certified Crop Advisers, and other agribusiness professionals.
Periodic surveys will document corn and soybean production and pest management practices with these stakeholders.
Focus group discussions with targeted groups of growers and agricultural professionals will assess impacts of ISU research and educational programs.
Surveys of private sector cooperators in targeted pest monitoring programs conducted by ISU Extension.

22. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Observation
- Tests

Description
{NO DATA ENTERED}

1. Name of the Planned Program

Plants and their Systems

2. Program knowledge areas

- 216 Integrated Pest Management Systems 10 %
- 215 Biological Control of Pests Affecting Plants 10 %
- 211 Insects, Mites, and Other Arthropods Affecting Plants 10 %
- 206 Basic Plant Biology 10 %
- 212 Pathogens and Nematodes Affecting Plants 10 %
- 203 Plant Biological Efficiency and Abiotic Stresses Affecting Plant 10 %
- 205 Plant Management Systems 10 %
- 213 Weeds Affecting Plants 10 %
- 204 Plant Product Quality and Utility (Preharvest) 10 %
- 201 Plant Genome, Genetics, and Genetic Mechanisms 10 %

3. Program existence

- Mature (More then five years)

4. Program duration

- Long-Term (More than five years)

5. Brief summary about Planned Program

This program seeks to utilize both agronomic and molecular knowledge of plant systems to improve the economic and environmental situation of the plant production and utilization industries in the state of Iowa and surrounding areas in the U.S. and in addition improve the quality of life for Iowa residents. Three broad goals will be pursued. First, the program will seek to maximize the yield of current crop systems, particularly maize and soybean. This aspect of the program will be accomplished through research into advancing agronomic practices, including both plant production and management of biotic and abiotic stresses, and through extension activities designed to spread the optimal agronomic approaches through the producer community. Second, the program will seek to increase the yield potential for current crop systems. This aspect of the program will rely on molecular biology, biochemistry, genetics, genomics, and other basic science information about the prominent crop systems. Research will be directed at improving the ability of these plants to produce desirable yields, including increased disease and environmental stress resistance, carbon partitioning changes, photosynthetic efficiency, and other metabolic alterations. Basic science information that increases the yield potential will then be integrated with agronomic practice research and applications developed in other parts of the program. Third, the program will seek to develop new utilizations and traits for current crop systems, and alternative crops, beyond those that exist currently, which at this time are focused largely on animal feed and processed products from corn and soybean. Genetic engineering approaches will be used in the current crops to create additional value for these traditional species. Possible applications are improved human and animal nutrition regarding both starches and oils, and energy production advances from renewable resources. In addition to new utilizations of current crops, the program will seek to identify alternative crops that can be developed in this geographic location as alternatives to corn and soybean. All efforts in this objective will again be integrated with the work on agronomic practices so that there will be a close connection between the research effort and the producer community.

6. Situation and priorities

Profitability in traditional Iowa agricultural is related to maximizing yield. At the same time, yield improvements must be measured relative to potential negative affects on environmental quality. Improvements are needed in our understanding of plant systems so that both yield and environmental quality issues can be maximized. Specific areas of need are resistance to abiotic stresses, including pending global climate change, and biotic stresses including new pernicious pests. Improving diversification and sustainability issues are keys to future developments both in yield and environmental quality. Novel utilizations of current crops and installation of alternative crops will also contribute to improved profitability.
Recipients of the technological advances expected from this program will be agricultural producers, consumers of agricultural products, industries that process agricultural products and both rural and urban citizens who benefit from quality of life improvements. These advances will have relevance not only in the state of Iowa, but also apply to both yield and environmental improvements in other agricultural areas of the US and internationally.

ISU has a proven record of excellence and leadership in agronomic practice research, basic and applied plant sciences, plant pest and disease research, horticulture, etc., that will be applied to address these priorities. In addition the university has a well-established extension infrastructure that will readily allow dissemination, adoption, and utilization of novel information gained in the program.

7. Assumptions made for the Program

A substantial knowledge base regarding an understanding of plant production systems is in place from which significant advances can be made.
Production agriculture, and thus basic and applied research, will continue to be a high priority for Iowa.
Local, state, and federal governments continue to support and place high priority on the importance of plant systems research.
Government and private funding for these programs will increase to support future research initiatives.
Interdisciplinary collaborations within the College of Agriculture and other colleges and centers at Iowa State University exist and will continue to be strengthened in order to address these research priorities.
Future faculty hires and startup funding will be available facilitate research into new emerging areas relevant to plants and their systems.
Innovative research and novel applications in plant systems will contribute to improved quality of life through economic development including new job creation, entrepreneurship, environmental quality, higher nutritional quality in foods, and efficiencies of plant production.

8. Ultimate goal(s) of this Program

1. Profitability of agricultural production systems, marketing endeavors, and distribution chains must be assured and efficiencies identified and established.
a. The cost of petroleum fuels are becoming a major concern in plants and their systems. Research must identify opportunities to improve the use efficiency of petroleum fuels and create opportunities for bio-based alternative fuels.
b. Current production issues such as pernicious plant pests, plant responses to environmental stresses, grain handling and quality concerns, and others areas must be resolved in order to allow efficient and profitable plant production. Research must provide the answers to these important production questions.
c. Markets for Iowa agricultural products resulting from plants and their systems are mature. Research must support Iowa agriculture in establishing new and profitable markets for plant-based commodities.
2. Develop new opportunities for novel uses, applications and traits of current crops and alternative crops.
a. The use of perennial forage crops, alfalfa, certified hay products, and other non-traditional grass species potentially have a high profit potential in specific niche markets while providing the cropping system with needed diversity.
b. Crops with specific traits (i.e. amino acids) must be developed with end product uses in mind. Given the opportunities now available with modern genetic manipulation, the development and production of “designer” crops represent an excellent opportunity for Iowa agriculture.
c. The impact of alternative crops, production systems, and applicable pest management tactics on the Iowa landscape must be fully understood and thus research programs developed.
3. Create agricultural production systems that are sound environmentally and economically sustainable.
a. Water quality in Iowa has declined in part, due to current agricultural production practices. Research must be developed that results in production systems that provide a safe water resources for Iowa.
b. Soil erosion in Iowa is a significant environmental and economic problem. Current agricultural production systems must be modified in order to reduce the potential for soil erosion. Research must identify opportunities that result in the conservation of soil in Iowa agricultural systems.
c. Pesticide and fertilizer use represent environmental concerns to Iowa. Research must result in novel tactics that provide improved efficiencies in the utilization of inputs while not compromising the economics of agriculture.

9. Scope of Program

- In-State Research
- Multistate Integrated Research and Extension

Inputs for the Program

10. Expending formula funds or state-matching funds

- Yes

11. Expending other then formula funds or state-matching funds

- Yes

12. Expending amount of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2007	0.0	0.0	31.6	0.0
2008	0.0	0.0	31.6	0.0
2009	0.0	0.0	31.6	0.0
2010	0.0	0.0	31.6	0.0
2011	0.0	0.0	31.6	0.0

Outputs for the Program

13. Activity (What will be done?)

In order to fulfill the goals of the Plants and their Systems Program in the College of Agriculture at Iowa State University, personnel will necessarily engage in a wide range of research activities. Research will be designed to address each stated goal in detail and will encompass laboratory studies, experiments conducted in the growth chamber, glasshouse and research farms. As appropriate, some field research may be conducted on grower fields, public lands, and other locations. Collaborative efforts will be required and will include cross-disciplinary studies, partnering of ISU departments and Centers, and the involvement of private industries, seed suppliers, agribusinesses and grower commodity organizations. The synergy gained from an inclusive perspective in developing research that will address important goals will allow the leverage of funds and facilitate research programs that are greater and more effective in scope.
Establish hypotheses to address the critical research issues that encompass Plants and Their Systems
Develop a broad range of research experiments to evaluate the hypotheses
Construct/modify research equipment and facilities needed to effect the efficient completion of research experiments
Create new innovative procedures to address important research questions and circumvent problems encountered
Train staff and students to participate in cutting-edge research programs
Objectively evaluate results from research experiments
Publish the results of research experiments in high impact scientific journals and facilitate the use of the research results in various forms of influential media
Present data at professional scientific regional, national and international conferences and symposia
Deliver science-based objective information to state, regional, national and international user groups

14. Type(s) of methods will be used to reach direct and indirect contacts

Extension	
Direct Method	**Indirect Methods**
• Other 1 (none)	• Other 1 (none)

15. Description of targeted audience

National and international peer scientistsAgribusinessesCommodity groupsCertified Crop AdvisorsCrop producersUSDA agenciesState politicians

16. Standard output measures

Target for the number of persons(contacts) to be reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2007	0	0	0	0
2008	0	0	0	0
2009	0	0	0	0
2010	0	0	0	0
2011	0	0	0	0

17. (Standard Research Target) Number of Patents

Expected Patents	
Year	Target
2007	2
2008	2
2009	2
2010	2
2011	2

18. Output measures

Output Text

Number of non-peer reviewed publications.

2007 Target: 30
2008 Target: 30
2009 Target: 30
2010 Target: 30
2011 Target: 30

Outcomes for the Program

19. Outcome measures

Outcome Text: Awareness created

Outcome Text

Number of peer reviewed publications.

Outcome Type: Short

2007 Target: 40
2008 Target: 40
2009 Target: 40
2010 Target: 40
2011 Target: 40

Outcome Text

Number of theses completed.

Outcome Type: Short

2007 Target: 20
2008 Target: 20
2009 Target: 20
2010 Target: 20
2011 Target: 20

Outcome Text
Number of abstracts published.

Outcome Type: Short

2007 Target: 30
2008 Target: 30
2009 Target: 30
2010 Target: 30
2011 Target: 30

20. External factors which may affect outcomes

- Economy
- Appropriations changes
- Public Policy changes
- Competing Public priorities
- Competing Programatic Challenges

Description
{NO DATA ENTERED}

21. Evaluation studies planned

- {NO DATA ENTERED}

Description
Evaluation is being conducted under the Corn and Soybean Production and Protection program.

22. Data Collection Methods

- {NO DATA ENTERED}

Description
{NO DATA ENTERED}