2008 University of Illinois Combined Research and Extension Plan of Work

I. Plan Overview

1. Brief Summary about Plan Of Work

The College of ACES: The mission of the College of Agricultural, Consumer and Environmental Sciences is discovering, advancing, and integrating new knowledge to ensure nutritious and safe food, sustainable and innovative agriculture, strong families and communities, and environmentally sound natural resource management to benefit the people of Illinois and the world. To fulfill the University's land-grant mission, ACES is responsible for the Illinois Agricultural Experiment Station and University of Illinois Extension, subsidiary units authorized by federal and state statutes that complement the academic departments in the College.

Academic Departments and Quality: ACES has seven academic departments: Agricultural and Biological Engineering, Agricultural and Consumer Economics, Animal Sciences, Crop Sciences, Food Science and Human Nutrition, Human and Community Development, and Natural Resources and Environmental Sciences. ACES also provides intellectual and administrative leadership to the Division of Nutritional Sciences. The University of Illinois is among an elite group of institutions noted for the impact of their research in food and agricultural sciences. Among the programs recently cited by The Chronicle of Higher Education in its ranking of "Top Research Universities in the 2005 Faculty Scholarly Productivity Index," the University of Illinois ranked second in animal science and food science and third in crop science. U.S. News and World Report ranked the Department of Agricultural and Biological Engineering first in the nation in 2006. According to Thomson Scientific, ACES ranks 13th among government research institutions and other universities worldwide in its impact on agricultural sciences.

Strategic Intent: In 2005-2006, ACES crafted its Statement of Strategic Intent and developed its most recent strategic plan in the context of the campus planning process. Two overarching goals—global preeminence in our scholarship and exceptional value to society, especially on issues relevant to Illinois—frame the strategic intent of the College of ACES.

ACES will be recognized as the global leader in learning, discovery, and engagement in the most promising areas of scholarship broadly relevant to agricultural, consumer, and environmental sciences. ACES is acknowledged in Illinois, across America, and around the world

< For preparing globally competitive undergraduate, graduate, and mid-career students.
< For first-class discovery research that is purposefully translated into practice.
< As the preferred source of knowledge that informs sound individual and collective decisions, transforms lives, and deepens cooperative relationships.

Strengths/Initiatives: A key strength of ACES is the ability to combine high-impact integrative research and education with cutting-edge scholarship across interrelated disciplines to serve the needs of global and local audiences. Among the many major initiatives, particularly noteworthy is the exponential growth of interest and activity in bioenergy / bioprocessing, e.g. creating the Center for Advanced Bioenergy Research (CABER), partnering with UC Berkeley to win the support of BP plc to fund the Energy Biosciences Institute, and garnering $3.2 million of state support to plan the Integrated Bioprocessing Research Laboratory. Other ongoing initiatives include the South Farm modernization, the Food and Nutrition Institute, and the Illinois Council for Food and Agricultural Research (C-FAR).

University of Illinois Extension: In FY 2006, Extension accounted for $76,308,217 (48.3%) of the total expenditures in ACES. Extension reaches more than 2.8 million people face-to-face in Illinois with educational outreach programs in agriculture and natural resources; nutrition, family, and consumer sciences; 4-H youth development; and community and economic development. The statewide Extension system employs approximately 390 professional field staff, assisted by over 30,000 volunteers in all 102 counties in the state.

Key strategic priorities for Extension include: entrepreneurship – within Extension and among clientele; community and economic development – emphasizing community leadership; and urban Extension – reaching audiences in metropolitan communities and among changing populations. During the past year, Extension significantly ramped up programs and staffing in Cook County as a result of $5 million in new state funding, first earmarked for Cook County Extension programs in FY 2006. Extension acquired management responsibility for new programs in the past year. Governed by an external board of electric cooperatives and utilities, the Illinois Electric Council was administratively moved to Extension. Water quality programs totaling over $1.4 million were transferred to Extension from the Vice Chancellor for Research, including the Illinois-Indiana Sea Grant program and USEPA and USGS programs. Business and Industry Services (BIS) was acquired from Northern Illinois University, complementing Extension's

community and economic development programs.

Illinois Agricultural Experiment Station: The research mission of ACES is closely aligned with the Illinois Agricultural Experiment Station (IAES), which operates as a statutory state-federal partnership. IAES accounted for $59,305,553 (37.5%) of the expenditures in the College last year.

Faculty and staff with research responsibilities in the College of ACES have some percentage of their appointment in the Illinois Agricultural Experiment Station, which is established by federal statute. In identifying and responding to new opportunities, the IAES plays a leadership role in shaping the research efforts of faculty, departments, and programs in the College. The long-term strategic goal is to undertake new investments in research that are balanced between discovery and application, as well as between long-term and short-term outcomes, to ensure both creativity and relevance to the state's food, agricultural, environmental, and human interests. To produce science that matters, the research portfolio demands strong entrepreneurial motivation, as well as elements that are very responsive to those with a stake in the food system. More than ever, our research must respond swiftly to the rapid pace of change in today's era of globalization.

Research and Extension coordination: The critical links between research and Extension are the campus-based subject matter specialists and the center educators located throughout the state. These linkages are formalized through the Extension program team structure that links faculty and Extension staff through program team membership. Many of the faculty appointments in the College of ACES include joint research and Extension appointments.

Comprehensive Excellence:

Research / Scholarship/Critical Disciplines: ACES is making a number of strategic investments to enhance its research and scholarship capabilities.

- Center for Advanced Bioenergy Research – The College is investing $250,000 per year for two years to launch CABER, which will include campus and external partners. C-FAR also invested $200,000 in FY 2007.
- Energy Biosciences Institute – ACES offered the principle faculty leadership to the BP funded project with UC Berkeley and will devote 340 acres of land to agronomic research on the South Farms. The College also committed $60,000 to the Miscanthus project, which was a key component of the successful bid for BP support. ACES leads a $1.2 million C-FAR strategic research initiative related to biomass, which was also important for positioning the University of Illinois for this opportunity. Management and laboratory space is being provided in the Institute for Genomic Biology.
- Imported Swine Research Laboratory (ISRL) – ACES committed a $150,000 investment in this facility to provide enhanced capabilities for biomedical research.
- ACES Global Connect – ACES invested $112,750 to establish a base budget for programs being launched under the auspices of ACES Global Connect and is committed to establishing permanent leadership for the global dimensions of the College.
- National Great Rivers Research and Education Center – ACES partnered with the Illinois Natural History Survey and Lewis and Clark Community College to establish the Center, attracting a $6 million capital development grant from the state.

Engagement/Service: University of Illinois Extension is the largest and most important instrument of the University's engagement mission. Extension started to bolster the critical bottleneck of state specialists, and the state appropriated $300,000 to assist in this effort. Other strategic initiatives in Extension include:

- Entrepreneurship – Extension created expectations and aligned management practices to encourage significantly more grant activity internally and in collaboration with partners and more entrepreneurship programming with educational audiences.
  - Fourteen professional positions have been reoriented to grant and contract funding. Ten off-campus specialists now have ten-month appointments, paid over twelve months.
  - Extension grant funding continues to grow steadily. Since initiation of Extension's 2003 Strategic

Agenda, grants have increased by 45% to more than $7.3 million, and ICR has increased 63% to more than $674,000.

< Urban Extension – Major expansion of Extension programs in Cook County were fueled by the targeted appropriation in FY 2006. The expansion phase continued into FY 2007.

< Community and Economic Development – Demand from local communities for Extension programs will be met in part by the acquisition of Business and Industry Services (BIS). With 23 professional staff and about 35 contractors, BIS offers educational programs to firms in the range of $100-200 million of gross sales. BIS is expected to generate in excess of $5 million in grant and fee revenue.

Technology commercialization: ACES continues to produce significant technology management activity, including 31 disclosures, 19 patents filings, five patents, and nine licenses or options. Substantial commercial interest has been identified for intellectual property from Extension products, e.g. MarketMaker and Going Solo, which have national market potential.

Strategic Initiatives

Illinois Informatics Initiative: The I3 Initiative currently includes faculty from the College whose expertise is in bioinformatics and automation of machine systems and bioprocesses.

Integrated Sciences for Health Initiative: The College has faculty participation in two campus committees that are related to the initiative, one focused on translational research in the biomedical field and the other focused on health and wellness more broadly. Potential College contributions are most obvious relative to genomic biology, use of animal models, nutrition, bioactivity of food components, and delivery of nutrition and health knowledge and information to local and international communities.

Illinois Sustainable Energy and the Environment Initiative: In the past year, ACES made substantial commitments related to this initiative, and ACES faculty members are deeply engaged on multiple fronts. The Renewable Energy Initiative includes faculty from crop sciences and agricultural and consumer economics in its leadership group. Leadership for the push in bioenergy and bioprocessing has arisen largely in ACES, including establishment of CABER and the Energy Biosciences Institute led by UC Berkeley. A major requirement of the Energy Biosciences Institute is dedicated use of land on the South Farms, lending additional support to the College's objectives for integrated landscapes research and education on the South Farms. Related initiatives include the Integrated Bioprocessing Research Laboratory, in the planning stage, and the wind energy project, initiated by Students for Environmental Concerns, for constructing three energy-generating wind turbines on the South Farms.

Global / International Dimensions

ACES' strategic intent implies a firm commitment to amplify the global or international dimensions of the College.

< ACES Global Connect – The College's main coordinating unit was assigned to the Dean's office, a budget for operations was established, and staff personnel were reassigned to the unit.

< Faculty programs – The College successfully launched the first class for the Academy for Global Engagement. Seven faculty members were introduced to a variety of opportunities to enhance the global aspects of their scholarship. A second class was announced in early 2007.

< International student programs – Study abroad participation by ACES students continued to increase significantly, with 260 participants last year in various programs.

< Institutional relationships – The College solidified a number of its institutional relationships in the last year, notably including progress with National Taiwan University, Kon Kuk University in Korea, several institutions in China, Wageningen in the Netherlands, Zamorano in Honduras, and others for innovative student programs. In addition, the College continued to encourage many formal and informal collaborative relationships with researchers and institutions around the world. For example, the agreements with CONACYT in Mexico and INRA in France have yielded benefits in terms of excellent graduate students and strong collaborative research projects.

< Major international projects – Among the international projects managed in ACES, significant projects in Egypt and Afghanistan continued and programs managed by the National Soybean Research Laboratory have flourished in several target countries. The College regularly evaluates project opportunities.

Facilities

Over the past year, progress occurred on several goals related to facilities:

< Construction of the Institute for Genomic Biology was completed.
< Doris Kelley Christopher Hall was finished and dedicated for the Family Resiliency Program and the Department of Human and Community Development.
< The Bevier Café was remodeled and service substantially improved. A donor committed over $1 million in new funds to complete remodeling the Spice Box and Quantity Foods Laboratory. Another donor agreed to support remodeling the Bevier food laboratories.
< The Provost's task force delivered its recommendations for the statewide Field Research and Education Centers.
< Planning money was released for the Integrated Bioprocessing Research Laboratory
< Elements of the South Farm modernization plan progressed.
    o Agreements were reached for relocating the poultry and pomology facilities.
    o Critical land acquisitions were accomplished.

Executive Summary of Planned Programs

The 2008- 2011 Plan of Work is focused on twelve major planned programs currently in progress. These twelve programs are:
1. 4-H Youth Development - Activities include character education, training volunteers and after school program directors to create environments for youth to learn and develop, and project materials and training to enhance knowledge and skills in a variety of areas including science and technology, nutrition and physical activities, and leadership.

2. Agricultural and Biological Engineering - Activities include improving indoor air quality through contaminant control measures and improved ventilation design, field trials using intelligent machinery in agriculture, improving the use [and decreasing the nuisance] of manure applications, and the development of a showcase watershed for conducting research and demonstrations on conservation drainage practices. Biofuels work also reflects a significant portion of the research portfolio. Extension activities related to these biofuels research initiatives will be developed as the research matures. Activities related to this program area are also identified in the Plant Health, Systems, and Production and the Natural Resources and the Environment program area sections.

3. Agricultural and Consumer Economics - Activities include an investigation of the legal issues affecting agricultural production and marketing, Extension programs designed for working couples, a cost/benefit analysis of natural resource policies [such as the impact of contaminated rivers in Wisconsin and New York on local property values], a study of the function and performance of rural finance markets, and an investigation of the variety selection process followed by Illinois soybean producers. Extension activities encompass farm financial management, personal financial management, consumer health care options, housing decisions with respect to purchase and financing, and planning ahead for retirement.

4. Animal Genomics - This program will use animal genetics work to benefit not just the swine and livestock industries through improvements in animal production and animal health, but to provide information of biomedical importance as well, such as pig-to-human transplants.

5. Animal Health and Production - Activities include a study of the molecular mechanisms regulating skeletal muscle growth in livestock species, identifying milk fat composition for improved nutritional and market value, using embryo development and manipulation to improve milk and meat production, using digital temperature sensors to gauge animal well-being, and an investigation of the processes that transport antibiotic residues from swine waste to surface water. Work in animal genomics is, of course, closely related. Extension activities will focus on maintaining animal agriculture profitability through financial analysis, recommended animal nutrition and health practices, and improved management skills. A second focus of activities addresses animal welfare/well-being, and biosecurity.

6. Biofuels - Biobased renewable resources can be obtained from a wide range of agricultural crops, forestry products and

processing industries. The U.S. has access to significant amounts of biobased resources, including those of the highly productive corn/soybean cropping system in the central U.S., arguably the largest man-made ecosystem on the planet. This agro-ecosystem is still largely focused on providing raw materials for the food, feed and fiber industries and not on chemicals and fuels, which is the focus of this thematic program.

7. Community Resource Planning and Development - Activities include evaluating the economic viability of community-based food systems, assessing the economic development of great rivers rural communities, studying how community factors affect children's social competence, a large assessment project of 16 communities in Southern Illinois, and understanding the employment and financial security of immigrant men and women working in the Midwest. Extension activities will focus on leadership development, community planning, development of community organizations, and economic development.

8. Food Product Development, Processing and Safety - Activities include the study of mycoxins and enteric diseases as food safety concerns, sequencing of the apple genome, investigating the use of irradiation to extend the shelf life of meat [additional irradiation work deals with the safety of fresh fruits and vegetables], improving food production facilities [for example, a simple modification of a cereal packing line improved productivity by 6%], and attempts to identify key odorants in foods to improve consumer acceptability. Extension activities focus on safe food handling in homes, commercial entities, and public settings.

9. Human Development - Activities include investigating the cognitive levels of teachers and students to improve instruction in the Agricultural Sciences, the impact interaction with nature has on child development, examining how peer factors influence children's social competence, and improving the use of web-based instructional activities. Studies are also being undertaken in the areas of parental involvement [particularly the importance of fathers], and identifying the coping strategies of families [particularly African American families]. Extension activities will focus on aging and intergenerational issues including care-giving roles and coping strategies; family and individual resiliency including balancing work and family life and handling various life crises; developing healthy relationships; and building parenting skills for specific ages of children.

10. Human Nutrition - Activities include the study of genistein [the principal soy isoflavone] in relation to estrogen-related breast cancer treatment, developing low-cost methods to increase protein in the diets of people in developing countries, identifying feasible strategies to treat gastrointestinal failure, investigating the importance of calcium on osteoporosis prevention, examining the health-promoting properties of broccoli, and understanding the mechanisms of fat deposition/mobilization on obesity. Extension activities will address diet planning, food selection, cooking methods, and exercise with respect to maintaining health and mitigating the effect of such diseases as diabetes and osteoporosis. Specific activities to promote physical activity and mitigate disease transmission will also be addressed.

11. Natural Resources and the Environment - Activities include a study of the seasonal movements of soybean aphids, field studies to determine the impacts of common Midwest weed species [and the use of integrated pest management techniques], a study of the conversion of agricultural lands by urban development, an evaluation of the impact of particulate mater on air and water quality, as well as long-standing efforts to measure current air quality. Extension activities will focus on crop tillage recommended practices, soil and water management, and manure management.

12. Plant Health, Systems and Production - Activities include the use of asexual techniques for plant improvement [especially important giving public concern over genetically modified crops], development of strategies to measure and manage phytophthora blight of pumpkins [Illinois ranks first in the nation in pumpkin production], a study of the impact of ozone pollution on soybean, efforts to assess crop rotation effects in Illinois, and a very long-term study of corn for oil and protein content. Extension activities in this program area will address alternative agriculture production, invasive and/or exotic pest diagnosis and management, integrated pest management, competitive production practices for field crops, and best management practices for transgenic crops including resistance management. In addition, Extension activities will address commercial horticulture plant production and protection from insects, weeds, and diseases, as well as the production of organic crops. Another set of activities will address homeowner lawn and garden production and protection from pests.

Estimated Number of Professional FTEs/SYs total in the State.

Year	Extension		Research	
	1862	1890	1862	1890
2008	361.0	0.0	155.0	0.0
2009	361.0	0.0	155.0	0.0
2010	361.0	0.0	160.0	0.0
2011	361.0	0.0	160.0	0.0
2012	361.0	0.0	160.0	0.0

II. Merit Review Process

1. The Merit Review Process that will be Employed during the 5-Year POW Cycle

- Internal University Panel
- Combined External and Internal University Panel

2. Brief Explanation

Research and outreach projects and programs have always been exposed to a review process. Formula funded research projects undergo a merit review process at the departmental level by at least three faculty members in a related discipline to insure the projects are scientifically sound, relevant to society's needs and not duplicative of efforts undertaken elsewhere. Formula projects are then submitted to CSREES for final review and approval. Internal research grants are all reviewed internally.

In Extension all projects are reviewed at several points in the system. Whenever local programming involves the delivery of programming by Extension educators, as it usually does, the programs are reviewed by the teams, including specialists. In addition, during annual performance reviews much attention is given to programming quality. Finally, Extension programs are continuously evaluated in terms of inputs, program content and delivery, outputs and outcomes. While not every project is evaluated in this fashion, programming in all core program areas is reviewed extensively on an annual basis.

III. Evaluation of Multis & Joint Activities

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

As noted in the stakeholder input process, extensive consultation is ongoing with stakeholders on both a formal and informal basis to help establish program priorites. Currently the College of Agricultural, Consumer and Environmental Sciences (ACES) is in the final stages of drafting a strategic plan to guide the college within the context of the larger University of Illinois community.
The development of research and Extension agendas are driven by the needs of the state as expressed by advisory councils at the state (such as C-FAR), departmental and local level.

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

Considerable efforts have been made and continue to be made to insure that nontradional stakeholders are given a voice in identifying needs to be addressed and in shaping the research and programatic responses to these needs.
For example, the input from youth not currently being served by informal youth organizations have influenced the revision and development of curricula to address the needs of these youth and the volunteers needed to support these youth.
Programming is provided in a variety of ways to increase access by nontraditional audiences. For example, 11 percent of the web page "hits" received by the Urban Extension website are now for Spanish sites. Additional sites are being translated in Spanish and an Arabic site has just been opened.

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

Outputs and outcomes for each of the planned programs have been defined and targets for program performance have been established.

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

Output targets in terms of participation, academic publications and research projects completed provide a basis for monitoring research and extension program implementation. Measures of outcomes provide a basis for estimating program effectiveness. The monitoring of both kinds of measures provides a basis for determining effectiveness, a necessary precursor to determining efficiency.

IV. Stakeholder Input

1. Actions taken to seek stakeholder input that encourages their participation

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

Brief explanation.

It should be noted that not every technique is used every year.
All programs in the College are continually subjected to a diverse process of stakeholder input. The College, the Office of Research, the Office of Extension and Outreach, academic departments, and many programs within the College have advisory groups and councils made up of stakeholders. In this context, stakeholders may represent organized entities in the state with a particular interest in a program area, but they also include individual stakeholders.

The Office of Research has an especially powerful process of stakeholder input through the Illinois Council on Food and Agricultural Research (C-FAR). C-FAR represents stakeholders throughout the state such as organizations dealing with environmental quality and resource conservation issues, sustainable agriculture groups, commodity groups, and rural development interests. The membership of C-FAR has had an ongoing, very active and very influential role in defining needed research and outreach outcomes for the work of the College.

Extension, in addition to its advisory council structure, from local (county-level) councils through regional councils and a statewide council also has other mechanisms in place for continuous stakeholder input.
Local councils are volunteers nominated locally and appointed by the College to provide advice on educational programming. The makeup of the councils reflects local populations and local participation in Extension programs.
In addition, University of Illinois Extension has an ongoing process of program planning. In this process, on a rotating annual basis, one of the four core program areas (Agriculture and Natural Resources; Nutrition, Family and Consumer Sciences; 4-H Youth and Development; and Community and Economic Development) is reviewed in-depth in terms of programming needs and program delivery. The program planning process starts at the local level and is characterized by systematic collection of information from a wide variety of sources and from stakeholders who are particularly interested in program delivery in that area. During the program planning process, special effort is made to include representatives from diverse and potential audiences in the program planning process.
After two years of dialogue involving different groups within Extension, the State Program Planning Committee created a framework for identifying flagship programs designed to elevate the impact and visibility of University of Illinois Extension both on campus and in Illinois communities. Through interdisciplinary, innovative, and entrepreneurial approaches, these flagship programs will address local and state priority needs and issues and include provisions for long-term financial sustainability. From over twenty pre-proposals, three have been invited to prepare and submit final proposals and will then be added to the current portfolio of programs included in the Illinois and county plans of work.

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 Surveys
- Needs Assessments
- Use External Focus Groups
- Use Internal Focus Groups
- Use Advisory Committees

Brief explanation.

A variety of methods and techniques are used to identify individuals and groups. As part of the University of Illinois Extension Affirmative Action plan, County Extension Directors, Extension Educators and Specialists identify individuals and groups who are potential stakeholders for research and Extension programs. These individuals are then involved in formal needs assessment, interviews and other methods for program input.
For example, in 2005 Extension staff completed 180 focus groups with youth, many of whom were not a member of any formal youth organization. A total of 1,313 youth participated in these focus groups. More than one-fourth of the participants were members of minority groups.

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

1. Methods for collecting Stakeholder Input

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

Brief explanation

While not every approach is used every year, all of the approaches listed above are employed within a 3-5 year period. Individuals and groups are identified in a variety of ways. Often personal or individual contacts are used to identify members of potential audiences and stakeholder groups (e.g., migrant worker councils) which in turn lead to more formal contacts.

3. A statement of how the input will be considered

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

Brief explanation.

Partner relationships are highly valued in ACES. Private and public organizations regularly seek assistance from ACES faculty and draw on unique expertise in entities such as the National Soybean Research Laboratory. Policy makers have called upon the College for input on issues such as federal farm and agricultural research policy, food security/safety, animal industry development, and global climate

change. Numerous other examples indicate that stakeholders value direct relationships with the College, both on-campus and off-campus.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

1. Name of the Planned Program

4-H Youth Development

2. Brief summary about Planned Program

Youth development programs are designed to:
- allow youth and adults to work together in family and community environments to create real life learning laboratories that help youth practice skills they need today and will continue to need for the rest of their lives.
- reach youth in their own neighborhoods and communities with unique, hands-on learning strategies suited to their needs.
- address current youth issues through positive prevention programs.
- promote positive youth/adult partnerships involving them in significant decision making and encouraging their participation in community roles.

Through funding at the state and local levels there is a significant resource commitment in Illinois to serving the needs of youth in rural and urban areas. These investments in youth through informal education are expected to continue to return significant benefits to the public while addressing important issues such as science and youth education.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 806 100% Youth Development

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

School officials, community leaders, and parents voice concerns over growing disciplinary problems in schools and youth vandalism. All are concerned with raising children to demonstrate good character and develop into contributing and competent adults. These same groups of individuals, especially working parents, face challenges in keeping youth involved in positive after school activities and finding trained caring volunteers and after-school program staff to lead these activities.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Resource funding will remain at least constant. The level of state funding specifically designated for 4-H youth development funding has varied from year to year.

2. Ultimate goal(s) of this Program

To be a leader in maximizing community and university resources to help youth reach their fullest potential.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	75.0	0.0	3.0	0.0
2009	75.0	0.0	3.5	0.0
2010	75.0	0.0	3.5	0.0
2011	75.0	0.0	3.5	0.0
2012	75.0	0.0	3.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include character education, training volunteers and after school program directors to create environments for youth to learn and develop, and project materials and training to enhance knowledge and skills in a variety of areas including science and technology, nutrition and physical activities, and leadership.

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • One-on-One Intervention • Workshop • Education Class	• Newsletters • Web sites

3. Description of targeted audience

Youth, youth leaders (paid and volunteer), teachers, parents and community members.

V(G). Planned Program (Outputs)

1. 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
2008	8900	25000	114000	100000
2009	9200	25000	117000	100000
2010	9600	25000	121000	100000
2011	10000	25000	127000	100000
2012	10000	25000	127000	100000

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	7	2
2009	7	2
2010	8	2
2011	8	2
2012	8	2

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :3 **2009 :**4 **2010 :** 4 **2011 :**4 **2012 :**4

V(I). State Defined Outcome

1. Outcome Target

Number demonstrating or reporting KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :90000 **2009 :** 90000 **2010 :** 90000 **2011 :**90000 **2012 :** 90000

3. Associated Knowledge Area(s)

- 806 - Youth Development

1. Outcome Target

Number demonstrating or reporting behavior changes.

2. Outcome Type : Change in Action Outcome Measure

2008 :60000 **2009 :** 60000 **2010 :** 60000 **2011 :**60000 **2012 :** 60000

3. Associated Knowledge Area(s)

- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

As noted earlier, the level of state budget funding for a budget line item for 4-H youth development positions has been variable as

annual state budgets are funded.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

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

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population
- Sampling
- Structured
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural and Biological Engineering

2. Brief summary about Planned Program

Leadership for Agricultural and Biological Engineering is provided by the College of Agricultural, Consumer and Environmental Sciences (ACES) Department of Agricultural and Biological Engineering. The department contributes to using engineering in an interdisciplinary manner to solve problems in agricultural, food and biological systems. The department is organized into four "groups:"

1. Bioenvironmental Engineering Group

Applying engineering principles to biological systems including air quality, biomass and bioenergy (see Illinois "State Planned Program Biofuels"), engine emission control and animal waste management.

2. Food and Bioprocess Engineering Group

Food and bioprocess engineering is the application of engineering principles to preserve, process, package, and distribute biological materials for human and animal consumption, for biofuels and for biobased products. Elements related to food and bioprocess engineering are also related to Illinois "State Planned Program Food Product Development, Processing and Safety."

3. Off-Road Equipment Engineering

The mission of off-road equipment engineering is to provide research-based engineering information relating to off-road equipment, agricultural production and safety. Faculty, staff and students in this area specialize in agricultural and construction equipment design and the development of precision agricultural technology for production agriculture.

4. Soil and Water Resources Engineering

Soil and Water Resources Engineering involves the management of soil and water resources and water quality. Among the issues addressed by this group are crop nutrient management and understanding the relationships between land use and water quality and the role of natural ecosystems in modern agriculture. Elements of soil and water resources engineering are also involved in Illinois state planned programs "Natural Resource Management" and "Plant Health, Systems and Production."

Significant research projects are carried out in all four of the department's "groups" and contribute to the Extension and outreach program of the College of ACES. In addition to the research noted in other Illinois "state planned programs," research is conducted on agricultural infotonic systems, animal waste management, livestock production environments and improving the value of coproducts produced in grain processing.

Extension program teams have Extension Educators partnering with staff and faculty with joint Extension and Research appointments to further integrate research and Extension efforts. Agricultural Engineering also contributes significantly to work in manure management (included in the Natural Resources and the Environment Planned Program) and Integrated Pest Management (included in the Plant Health, Systems and Production Planned Program).

Agricultural and Biological Engineering is submitted as a state planned program because of the critical role this area contributes to commercial agriculture and solving the problems facing the state of Illinois.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 401 8% Structures, Facilities, and General Purpose Farm Supplies
- 403 42% Waste Disposal, Recycling, and Reuse
- 404 17% Instrumentation and Control Systems
- 405 8% Drainage and Irrigation Systems and Facilities
- 511 25% New and Improved Non-Food Products and Processes

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Engineering technology plays a major role in developing and maintaining competitive livestock and crops industries in Illinois. It also contributes to increasing worker safety in agricultural and related industries. Such technology is also addressing concerns and problems related to odors, animal waste, animal treatment, and protection and management of water resources.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Resource and funding levels will remain at least at a constant level.
Research will continue to discover and document positive technologies to address problems.

2. Ultimate goal(s) of this Program

Employ engineering sciences to solve problems in agricultural, food and biological systems and make the resulting technologies available to users.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.4	0.0	6.0	0.0
2009	0.4	0.0	7.0	0.0
2010	0.4	0.0	7.0	0.0
2011	0.4	0.0	8.0	0.0
2012	0.4	0.0	8.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include improving indoor air quality through contaminant control measures and improved ventilation design, field trials using intelligent machinery in agriculture, improving the use [and decreasing the nuisance] of manure applications, and the development of a showcase watershed for conducting research and demonstrations on conservation drainage practices. Biofuels work also reflects a significant portion of the research portfolio. Extension activities related to these biofuels research initiatives will be developed as the research matures. Activities related to this program area are also identified in the Plant Health, Systems, and Production and the Natural Resources and the Environment program area sections.

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

Extension	
Direct Methods	**Indirect Methods**
• Group Discussion • Demonstrations • One-on-One Intervention • Workshop • Education Class	• Web sites

3. Description of targeted audience

Target audiences include producers and others who can benefit from the technologies developed, especially those who purchase, transport, process, and package agricultural commodities.

V(G). Planned Program (Outputs)

1. 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
2008	5500	2500	400	200
2009	5000	2500	100	100
2010	5000	2500	100	100
2011	5000	2500	100	100
2012	5000	2500	100	100

2. (Standard Research Target) Number of Patents

Expected Patents

2008 : 1 **2009 :** 1 **2010 :** 1 **2011 :** 1 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	60	1
2009	60	1
2010	60	1
2011	60	1
2012	60	1

V(H). State Defined Outputs

1. Output Target

- Number of research projects.

2008 :9 **2009 :**9 **2010 :**10 **2011 :**10 **2012 :**10

V(I). State Defined Outcome

1. Outcome Target

Number reporting or demonstrating KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :3000 **2009 :** 3000 **2010 :** 3000 **2011 :**3000 **2012 :** 3000

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 403 - Waste Disposal, Recycling, and Reuse
- 404 - Instrumentation and Control Systems

1. Outcome Target

Number demonstrating or reporting practice changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2400 **2009 :** 2400 **2010 :** 2400 **2011 :**2400 **2012 :** 2400

3. Associated Knowledge Area(s)

- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 403 - Waste Disposal, Recycling, and Reuse
- 404 - Instrumentation and Control Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)
- After Only (post program)
- Retrospective (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Whole population
- Mail
- Sampling

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agricultural and Consumer Economics

2. Brief summary about Planned Program

The Department of Agricultural and Consumer Economics targets research and outreach programs aimed at improving the economic and environmental well-being of producers, consumers and families. Drawing on economics, business and law, the department analyzes issues related to individuals and families, agriculture and natural resources, and food -- all ranging in scope from local to global.
Researchers in the department partner with two Extension program teams, the Farm Business Management and Marketing Team and the Consumer and Family Economics Team. Team members work with local Extension councils and stakeholders as well as research faculty in identifying needs and establishing programs to meet those needs. These interactions in turn influence the research agenda of the College.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 602 50% Business Management, Finance, and Taxation
- 801 50% Individual and Family Resource Management

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Agricultural producers, including those engaged in horticulture businesses, express concerns about their enterprise's sustainability and profitability and about how to manage changes with competing demands for limited resources. Illinois consumers face issues that involve identity theft, credit debt load, affordable housing, and managing to maintain the desired quality of life on fixed and/or limited incomes.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Government policies have a great influence on economic decisions by producers and consumers alike.
Resource levels for programs and research will remain at least constant.

2. Ultimate goal(s) of this Program

To improve the economic and environmental well-being of producers, consumers and families.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	13.0	0.0	12.0	0.0
2009	13.0	0.0	13.0	0.0
2010	13.0	0.0	13.0	0.0
2011	13.0	0.0	13.0	0.0
2012	13.0	0.0	13.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include an investigation of the legal issues affecting agricultural production and marketing, Extension programs designed for working couples, a cost/benefit analysis of natural resource policies [such as the impact of contaminated rivers in Wisconsin and New York on local property values], a study of the function and performance of rural finance markets, and an investigation of the variety selection process followed by Illinois soybean producers. Extension activities encompass farm financial management, personal financial management, consumer health care options, housing decisions with respect to purchase and financing, and planning ahead for retirement.

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • Other 1 (Audio/Video Conferencing) • Education Class • Workshop	• Web sites • TV Media Programs • Newsletters

3. Description of targeted audience

The target audience includes ag producers, ag lenders, high school students, senior citizens, baby boomers nearing retirement, prospective and current homeowners, and health impared individuals.

V(G). Planned Program (Outputs)

1. 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
2008	4210	2000000	1250	750
2009	4160	2000000	1240	750
2010	4170	2000000	1230	750
2011	4060	2000000	1220	750
2012	4060	2000000	1220	750

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :** 0 **2012 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	45	1
2009	45	2
2010	50	2
2011	50	2
2012	50	2

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :5 **2009 :**6 **2010 :** 6 **2011 :**6 **2012 :**6

V(I). State Defined Outcome

1. Outcome Target

Participants will report/demonstrate KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :2300 **2009 :** 2250 **2010 :** 2400 **2011 :**2400 **2012 :** 2400

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 801 - Individual and Family Resource Management

1. Outcome Target

Participants will report/demonstrate practice changes including improved decision-making.

2. Outcome Type : Change in Action Outcome Measure

2008 :1445 **2009 :** 1365 **2010 :** 1375 **2011 :**1325 **2012 :** 1325

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 801 - Individual and Family Resource Management

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Time series (multiple points before and after program)
- After Only (post program)
- During (during program)
- Case Study
- Retrospective (post program)

Description

Some evaluation studies of existing program efforts have already been completed. Additional studies will be undertaken to document outcomes of those program efforts where studies have not been completed.

2. Data Collection Methods

- Mail
- Sampling
- Whole population

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Genomics

2. Brief summary about Planned Program

When completed in early 2007, the $75 million, 186,000 square foot University of Illinois Institute for Genomic Biology will house state-of-the-art equipment for conducting genetic research, including a microfabrication lab, a plant growth facility, and a microscopy suite. Research will focus on applications of genomic biology in addressing significant problems in agriculture, medicine and the environment such as identifying genes that influence animal behavior, discovery of new antibiotics and the diagnosis and treatment of chronic human diseases. Currently ongoing is a project funded in part by a $10 million USDA grant to provide the initial sequence of the porcine genome. The pig genome is approximately the same size as the human genome, which took almost ten years to complete at a cost of over $3 billion. Work on the porcine genome will be completed five times faster and at 1/150th of the cost. Genomics work is also being conducted through multistate project NC-1010 with collaborators in eleven states.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 303 50% Genetic Improvement of Animals
- 304 50% Animal Genome

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Completion of the human genome sequence provides a foundation for understanding genetic complexity and how it contributes to diverse phenotypes and diseases. It is clear that model organisms will continue to play an invaluable role in the synthesis of this understanding.

2. Scope of the Program

- Multistate Research
- In-State Research
- Multistate Extension

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

That the robotic sequencing technologies and bioinformatics developed from the Human Gene Initiative will allow future draft sequencing to be completed much more quickly and at a significantly lower cost. We also assume that funding will remain at a constant or increasing level.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to use animal genetics work to benefit not just the swine and livestock industries through improvements in animal production and animal health but to provide information of biomedical importance as well, such as pig-to-human transplants.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	5.0	0.0
2009	0.0	0.0	6.0	0.0
2010	0.0	0.0	6.0	0.0
2011	0.0	0.0	6.0	0.0
2012	0.0	0.0	6.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Molecular biology has experienced revolutionary changes in the past years with the availability to efficiently sequence and annotate the genomes and study the function of multiple genes.
Comparative genomics makes possible the comparison of genomes from different species and provide insights on genomes using information from other genomes.
Functional genomic studies use this genetic information to measure the levels of gene expression in thousands of genes simultaneously.
Bioinformatics, population and quantitative genetics, and statistical genomics are experiencing remarkable progress prompted by revolutions in computer sciences, genetics, genomics, molecular biology, proteomics, and statistics.
The dimensionality and complexity of information resulting from genetic, genomic and proteomic projects in laboratory and field studies prompt exciting scientific challenges that are best addressed using interdisciplinary approaches. Research teams in the Department of Animal Sciences and across the University of Illinois campuses are conducting pioneering research in these areas, and are generating ground-breaking phenomic, genomic, and proteomic information. Projects providing and using cDNA, oligo, protein arrays, genetic and physical maps, and sequence and molecular biology data require precise analyses and mining to facilitate interpretation of results and generation of new hypotheses. Advances in high-throughput genomics and proteomics, together with tools in computational and statistical biology, allow for understanding of genetic mechanisms that influence complex phenotypes, including behavior, disease, and performance in humans, agricultural and model species, and microorganisms.

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

Extension	
Direct Methods	**Indirect Methods**
• Workshop • Other 2 (national conferences) • Other 1 (video conferences)	• Other 1 (Publications) • Other 2 (Release of sequence information) • Web sites

3. Description of targeted audience

The target audience consists of the international animal genomics community, with work being done in several U.S. sites [Nevada, Illinois, Nebraska, Iowa] and several international sites [United Kingdom, France, Scotland].

V(G). Planned Program (Outputs)

1. 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
2008	500	5000	0	0
2009	500	5000	0	0
2010	500	5000	0	0
2011	500	5000	0	0
2012	500	5000	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :1 **2009 :**0 **2010 :** 1 **2011 :**0 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	49	0
2009	49	0
2010	50	0
2011	50	0
2012	50	0

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :8 **2009 :**9 **2010 :** 9 **2011 :**8 **2012 :**8

V(I). State Defined Outcome

1. Outcome Target

Percent of sequence in 3x coverage of the Porcine Genome and deposit it in a public database

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :50 **2009 :** 0 **2010 :** 0 **2011 :**0 **2012 :** 0

3. Associated Knowledge Area(s)

- 303 - Genetic Improvement of Animals
- 304 - Animal Genome

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Other (Detailed Below)
- Appropriations changes

Description

Progress made by cooperating institutions.
Advances that allow genomics work to be done more quickly and at a lower cost will continue to improve efficiency to the benefit of agricultural and non-agricultural stakeholders.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Other (Please see explanation below.)

Description

Sequencing data will be made available to the research community, allowing them to evaluate and build on our results.

2. Data Collection Methods

- Mail
- Whole population
- Sampling

Description
{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Health and Production

2. Brief summary about Planned Program

Leadership for programs in animal science is provided by the Department of Animal Sciences of the College of Agricultural, Consumer and Environmental Sciences and the College of Veterinary Medicine.
Research programs range from those at the molecular level (molecular genetics) to applied research on farms and herds throughout the state. These programs cover all major species. Examples include the molecular mechanisms regulating skeletal muscle growth, tracking antibiotic resistant genes in swine, reproductive health, and optimization of animal welfare. Animal sciences is a strong component of the research and outreach efforts of the College of ACES and Veterinary Medicine from the use of animals for food and fiber to their role as companions with human beings.
Extension and outreach is conducted by faculty and Extension educators throughout the state. Outreach includes an extensive internet presence through the Illinois TRAILLS portal:http://www.traill.uiuc.edu/. Additionally, Extension programs are conducted on both a multi-state and instate basis. Animal related 4-H projects are a strong element of the University of Illinois 4-H Youth Development program. The animal system team combines faculty, researchers and Extension educators to produce strong programs which integrate research and Extension.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 301 15% Reproductive Performance of Animals
- 302 15% Nutrient Utilization in Animals
- 307 25% Animal Management Systems
- 311 20% Animal Diseases
- 315 20% Animal Welfare/Well-Being and Protection
- 806 5% Youth Development

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Production efficiency and ability to meet specific consumer demand for value-added meat products is threatened by lack of market access and working capital. Consumers are also concerned about the safety of meat products from transmission of diseases such as Avian pandemic flu. In addition, the public is expressing concern for the treatment of both production and companion animals.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

That funding and resource levels will remain at a constant level.
That the now traditional multiple delivery methods being used in this program area of electronic and face-to-face program delivery will continue to be effective.
That research will continue to deliver discoveries in areas such as animal health that will provide benefits to producers and

consumers.

2. Ultimate goal(s) of this Program

To enhance animal productivity and safety, improve consumer acceptability of animal products, minimize negative impacts of animal production on the community, and to improve animal/human relationships.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	14.0	0.0	18.0	0.0
2009	14.0	0.0	20.0	0.0
2010	14.0	0.0	20.0	0.0
2011	14.0	0.0	20.0	0.0
2012	14.0	0.0	20.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include a study of the molecular mechanisms regulating skeletal muscle growth in livestock species, identifying milk fat composition for improved nutritional and market value, using embryo development and manipulation to improve milk and meat production, using digital temperature sensors to gauge animal well-being, and an investigation of the processes that transport antibiotic residues from swine waste to surface water. Work in animal genomics is, of course, closely related. Extension activities will focus on maintaining animal agriculture profitability through financial analysis, recommended animal nutrition and health practices, and improved management skills. A second focus of activities addresses animal welfare/well-being, and biosecurity.

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

Extension	
Direct Methods	Indirect Methods
• Education Class • One-on-One Intervention • Workshop • Demonstrations	• Web sites • Newsletters

3. Description of targeted audience

The target audience includes producers, industry support (agribusiness and veterinarians), youth, community leaders, and companion animal owners.

V(G). Planned Program (Outputs)

1. 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
2008	61000	58500	28000	4600
2009	61000	58500	28000	4600
2010	61000	58500	28000	4600
2011	61000	58500	28000	4600
2012	61000	58500	28000	4600

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :1 **2009 :**0 **2010 :** 1 **2011 :**0 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	84	1
2009	84	1
2010	90	1
2011	90	1
2012	90	1

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :19 **2009 :**21 **2010 :** 21 **2011 :**21 **2012 :**21

V(I). State Defined Outcome

1. Outcome Target

Program participants will exhibit/report KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :85000 **2009 :** 85000 **2010 :** 85000 **2011 :**85000 **2012 :** 85000

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 315 - Animal Welfare/Well-Being and Protection
- 806 - Youth Development

1. Outcome Target

Number demonstrating/reporting behavior changes including improved decision-making

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
52500	52500	52500	52500	52500

3. Associated Knowledge Area(s)

- 307 - Animal Management Systems
- 315 - Animal Welfare/Well-Being and Protection
- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Additional external factors which may affect outputs and outcomes include changes in disease types and transmission.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)

Description

Data will be collected from program participants. Some of the program efforts have already been evaluated.

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Biofuels

2. Brief summary about Planned Program

The United States is the largest user of energy in the world accounting for about 50% of total consumption. Thus, any change in global energy use will require a change in production and consumption of energy in the U.S. The major renewable energy systems include solar, wind, biomass, hydroelectric, ocean and geothermal. Biofuels have been gaining ground since the 1980's, but several limitations need to be overcome before plant/crop based resources and processes become a viable alternative to petrochemical based systems for chemicals and energy. These include improvements in the efficiency of bioconversion of plant fibers to value added products and extraction of high value products.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 201 60% Plant Genome, Genetics, and Genetic Mechanisms
- 402 25% Engineering Systems and Equipment
- 601 15% Economics of Agricultural Production and Farm Management

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Biobased renewable resources can be obtained from a wide range of agricultural crops, forestry products and processing industries. The U.S. has access to significant amounts of biobased resources, including those of the highly productive corn/soybean cropping system in the central U.S., arguably the largest man-made ecosystem on the planet. This agro-ecosystem is still largely focused on providing raw materials for the food, feed and fiber industries and not on chemicals and fuels, which is the focus of this thematic program.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

There already exists growing support for biofuels as evidenced by the marketing of biodiesel blends in many states, and the provision of tax incentives for its use. We assume that this trend will continue and funding will be available to allow us to take advantage of this trend.

2. Ultimate goal(s) of this Program

The U.S. government has committed the nation to an ambitious plan to triple the use of biobased materials and bioenergy by 2010. As a member of the Midwest Consortium for Biobased Products and Bioenergy, the University of Illinois is committed to working regionally to help meet this goal.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	0.0	0.0	4.0	0.0
2009	0.0	0.0	5.0	0.0
2010	0.3	0.0	5.0	0.0
2011	0.3	0.0	5.0	0.0
2012	0.3	0.0	5.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

We will combine and focus the specialized research abilities of faculty members from several disciplines to generate chemicals and biofuels from renewable biomass sources using a comparative and functional genomic approach. Future economic development aspects include technology transfer, biotech startups, attraction of national talents including faculty, students and postdoctoral associates, and training of a first-class workforce. Research is also focusing on perennial rhizomatous grasses, such as switchgrass and Miscanthus, which are particularly well-suited as bioenergy crops. Work is also being conducted to evaluate the impact of biofuels on emissions reducing technologies for off-road diesel engines.

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

Extension	
Direct Methods	Indirect Methods
• Demonstrations • Workshop	• Other 2 (Publications) • Web sites • Other 1 (Peer reviewed publications)

3. Description of targeted audience

The beneficiaries of this research will be agriculture and agriculture-based industries in Illinois, although ultimately all of us will benefit as consumers of energy.

V(G). Planned Program (Outputs)

1. 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
2008	0	0	0	0
2009	100	0	0	0
2010	100	0	0	0
2011	100	0	0	0
2012	100	0	0	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**1 **2010 :** 1 **2011 :**0 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	19	0
2009	22	0
2010	22	0
2011	22	0
2012	25	0

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :2 **2009 :**3 **2010 :** 4 **2011 :**4 **2012 :**4

V(I). State Defined Outcome

1. Outcome Target

Proportion of the Use of Biomass Relative to Total Energy [Currently at 3-4%]

2. Outcome Type : Change in Condition Outcome Measure

2008 :6 **2009 :** 8 **2010 :** 10 **2011 :**12 **2012 :** 17

3. Associated Knowledge Area(s)

- 402 - Engineering Systems and Equipment

1. Outcome Target

Percent reduction in NOx Emissions from Biodiesel

2. Outcome Type : Change in Condition Outcome Measure

2008 :35 **2009 :** 50 **2010 :** 60 **2011 :**65 **2012 :** 70

3. Associated Knowledge Area(s)

- 402 - Engineering Systems and Equipment

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

{NO DATA ENTERED}

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- After Only (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Mail
- Sampling
- Whole population
- On-Site

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Resource Planning and Development

2. Brief summary about Planned Program

Dramatic changes in the United States and around the world are altering individual life courses and the communities in which people live. These fundamental social and economic shifts have created new challenges for communities and their citizens. Leadership for community development in the College of ACES rests with the Department of Human and Community Development (HCD) and the University of Illinois Extension Community and Economic Development Extension program team. Faculty members engage in teaching, research, and outreach to improve the lives of children, youth, and adults in the contexts of their communities and society. Research interests of faculty include community infrastructure, community capacity and leadership, community organizing and small-town change.
University of Illinois Extension through Extension educators and locally funded educators helps communities, organizations, businesses and leaders by providing practical, research-based information and programs to local needs whether rural or urban.
A unique feature at the University of Illinois is the partnership between the HCD department, University of Illinois Extension and others as expressed through the Laboratory for Community and Economic Development. This venture helps to coordinate research and educational programs in community and economic development. The Lab's staff work with researchers, economic development practitioners, business leaders, Extension Educators and others across the country, bringing information and expertise to state and local policy makers, agricultural and business leaders, community leaders and Illinois citizens.
Extension programs focus on enhancing civic engagement, improving the business climate and economic development, and developing community-based infrastructure and organizations. Within these broad areas are programs on leadership and local leader development and education, organizational development, local governance, community planning, recreation and tourism development, agricultural entrepreneurship, small business development, workforce development, community economic development, and diversity education. Given the challenges faced by Illinois communities whether small towns or villages or an urban neighborhood, this planned program will play an important role in assisting communities and their citizens in addressing these needs.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 608 80% Community Resource Planning and Development
- 802 5% Human Development and Family Well-Being
- 803 5% Sociological and Technological Change Affecting Individuals, Families and Communities
- 805 5% Community Institutions, Health, and Social Services
- 806 5% Youth Development

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Many communities in Illinois are experiencing declines and changes in population and a declining economy. These communities are characterized by the lack of viable community organizations, businesses, workforce opportunities, and recreation opportunities. These communities may also be characterized by a lack of planning and a shortage of leadership and local officials with skills to revitalize their communities.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Citizens given training and information are best equipped to determine the ultimate solutions to the problems they and their communities face.
Local policies and environments can in turn influence business and economic development.
Resources (local, state and federal) will remain at a high enough level to fund the needed research and extension programs.

2. Ultimate goal(s) of this Program

Citizens, organizations and communities will develop the skills to address societal, community and individual concerns within their current environments.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	15.0	0.0	3.0	0.0
2009	16.0	0.0	3.5	0.0
2010	17.0	0.0	3.5	0.0
2011	18.0	0.0	3.5	0.0
2012	18.0	0.0	3.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include evaluating the economic viability of community-based food systems, assessing the economic development of great rivers rural communities, studying how community factors affect children's social competence, a large assessment project of 16 communities in Southern Illinois, and understanding the employment and financial security of immigrant men and women working in the Midwest. Extension activities will focus on leadership development, community planning, development of community organizations, and economic development.

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

Extension	
Direct Methods	Indirect Methods
• Group Discussion • One-on-One Intervention • Workshop • Other 1 (Audio/Video Conferencing)	• Web sites • Other 1 (Self Study)

3. Description of targeted audience

The target audiences are individuals, elected officials, businesses, organizations, community leaders, and high school youth.

V(G). Planned Program (Outputs)

1. 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
2008	21000	0	500	0
2009	21000	0	500	0
2010	21000	0	500	0
2011	21000	0	500	0
2012	21000	0	500	0

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	16	0
2009	18	1
2010	18	0
2011	18	1
2012	18	1

V(H). State Defined Outputs

1. Output Target

- Number of research projects completed.

2008 :3 **2009 :**4 **2010 :** 4 **2011 :**4 **2012 :**4

V(I). State Defined Outcome

1. Outcome Target

Number of individuals demonstrating KASA and related changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :4500 **2009 :** 4500 **2010 :** 4500 **2011 :**4500 **2012 :** 4500

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities
- 806 - Youth Development

1. Outcome Target

Number of individuals demonstrating behavior changes such as improved practices or improved decision-making

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
2250	2500	2500	2500	2500

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families and Communities

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Natural disasters can have a devistating impact on communities.
The state of the economy can have a direct impact on efforts in both community and economic development.
Changes in appropriations at the federal, state and local levels can impact the availability of resources for programming.
Competing public and programmatic priorities can influence the level of attention provided to community economic development by non-subject matter staff such as County Directors.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Case Study
- Retrospective (post program)
- During (during program)
- After Only (post program)
- Time series (multiple points before and after program)

Description

Some evaluation studies of existing program efforts have already been completed. Additional studies will be undertaken to document outcomes of those program efforts where studies have not been completed.

2. Data Collection Methods

- Mail
- Sampling
- Whole population

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food Product Development, Processing and Safety

2. Brief summary about Planned Program

Leadership for food product development rests with the College of Agricultural, Consumer and Environmental Sciences (ACES) Department of Food Science and Human Nutrition. Located in the College is the Division of Nutritional Sciences which also addressed food safety issues. (The work of the Division is described under Illinois Planned Program Human Nutrition, Diet Adequacy, Health and Wellbeing.)
The College also hosts the National Soybean Research Laboratory which houses the Illinois Center for Soy Foods. The Center has among its interests the study of the efficacy and safety of soy food products to improve human health. Additional research interests in the department include improving the safety of food processing techniques while improving the nutritional quality of food products.
Strongly related to food product development is the overriding issue of food safety. Food safety is an issue for all families regardless of household resource level and affects producers, processors and consumers. Concerns regarding food safety have been expressed by a number of stakeholders including the Illinois Council on Agricultural Research (C-FAR) as well as local Extension advisory councils and other stakeholders.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 501 23% New and Improved Food Processing Technologies
- 502 25% New and Improved Food Products
- 712 52% Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

According to the Center for Disease Control (CDC) an estimated 76 million cases of foodborne disease occur each year in the United States. Generally these cases are mild and cause symptoms for only a day or two. Some cases are more serious, and CDC estimates that there are 325,000 hospitalizations and 5,000 deaths related to foodborne diseases each year. Even mild cases may have economic losses associated with absence from work. Estimates are that a single outbreak of foodborne illness can cost a restaurant or other food service facility a minimum of $75,000. The Problem: Improper food handling techniques are a primary cause of food borne illnesses.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

That the causes and control of foodborne illnesses and pathogens are well understood.
Foodborne illnesses are best controlled through an analysis of how food is handled to avoid contamination and pathogen growth.
Additional safety can be assured in what foods are selected for use.

2. Ultimate goal(s) of this Program

To develop safe food products and processing techniques for food preparation, storage and use by the food processing industry, households and consumers.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	5.0	0.0	5.0	0.0
2009	5.0	0.0	6.0	0.0
2010	5.0	0.0	6.0	0.0
2011	5.0	0.0	6.0	0.0
2012	5.0	0.0	6.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include the study of mycoxins and enteric diseases as food safety concerns, sequencing of the apple genome, investigating the use of irradiation to extend the shelf life of meat [additional irradiation work deals with the safety of fresh fruits and vegetables], improving food production facilities [for example, a simple modification of a cereal packing line improved productivity by 6%], and attempts to identify key odorants in foods to improve consumer acceptability. Extension activities focus on safe food handling in homes, commercial entities, and public settings.

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

Extension	
Direct Methods	Indirect Methods
• Education Class • Workshop • One-on-One Intervention	• Newsletters • Web sites

3. Description of targeted audience

Producers, processors, teachers, youth, certified food handlers, limited resource individuals and families.

V(G). Planned Program (Outputs)

1. 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
2008	76000	153000	88000	102000
2009	78500	155000	90000	104000
2010	80000	155000	90000	105000
2011	80000	155000	90000	105000
2012	80000	155000	90000	105000

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :1 **2009 :**0 **2010 :** 1 **2011 :**0 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	45	1
2009	45	1
2010	50	1
2011	50	0
2012	50	1

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :5 **2009 :**6 **2010 :** 6 **2011 :**6 **2012 :**6

V(I). State Defined Outcome

1. Outcome Target

Number of people reporting or demonstrating KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :128000 **2009 :** 131000 **2010 :** 135000 **2011 :**135000 **2012 :** 135000

3. Associated Knowledge Area(s)

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

1. Outcome Target

Number of people reporting or demonstrating practice changes including improved decision-making.

2. Outcome Type : Change in Action Outcome Measure

2008 :14600 **2009 :** 15800 **2010 :** 17000 **2011 :**17000 **2012 :** 17000

3. Associated Knowledge Area(s)

- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occuring Toxins

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Natural disasters may influence the availability of facilities for safely developing, storing, distributing, and using food products.
The changes in the economy and appropriation changes may influence the resources available for research/extension programs.
Government regulations may influence food product development and processing.
Competing priorities (public and programatic) may influence the level of programmatic effort from non-subject matter staff such as County Directors.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- Retrospective (post program)
- After Only (post program)

Description

For many of the programmatic efforts evaluation research has already been completed.

2. Data Collection Methods

- Sampling
- Mail
- Whole population

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Human Development and Family Wellbeing

2. Brief summary about Planned Program

The stresses on American families are well known. Although rates of divorce have stabilized in the last 20 years, 40 to 50 percent of all first marriages end in divorce. The number of children growing up in poverty is a breathtaking 16.2 percent. The number of adults raising children while also caring for an aging parent has grown, and rates of children diagnosed with attentional, learning and behavioral problems have soared, particularly as we have become more skilled in recognizing these problems.

Still, there is compelling evidence that many families—including those living under difficult circumstances—manage to raise their children successfully and support their members. Because family strengths tend to be difficult to quantify, they can easily be overlooked or dismissed as unimportant. The result is a significant gap in our knowledge base. We need to know from research the factors that make for strong families.

These resilient families, however constituted, are responsible, positively oriented, self-reliant, committed, confident, and problem-solving social units capable of nurturing children and facing adversity and life's hardships without deteriorating or becoming dysfunctional or disorganized.

"Promoting Family Resiliency" is a cross campus initiative at the University of Illinois Urbana-Champaign campus. An initiative where the College of Agricultural, Consumer, and Environmental Sciences (ACES), the department of Human and Community Development (HCD) and University of Illinois Extension play major roles.

Within HCD is the Pampered Chef Family Resiliency Program (www.familyresiliency.uiuc.edu). Established in 2000 the program is dedicated to enriching child, individual and family well-being in the context of communities. The program supports innovative research, education, and public engagement outreach activities that hold potential for strengthening families' ability to be resilient in the face of life stressors and to successfully navigate the competing demands of work and family.

Ongoing Extension programs address family issues at all stages of the life cycle from infancy through issues of aging and care of dependent adults.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 802 100% Human Development and Family Well-Being

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

As noted in the overview, what determines positive family outcomes is not always easily predictable. The ongoing research being conducted is attempting to determine how family resiliency can be enhanced. Aging Americans and their families are faced with shifting roles in care-giving and relationships within the family that increase stress, illness, fatigue, and even domestic violence. Balancing work and family often brings increased stress, fatigue, illness, and strained relationships. In addition, teens find establishing and maintaining healthy relationships with their peers and the opposite sex to be challenging and stressful. Parenting can become overwhelming, often resulting in child abuse or an environment that is not supportive of the healthy development of youth because parents lack knowledge and skills regarding best parenting practices. In addition, grandparents who are caring for grandchildren are struggling to cope with complex changes that affect lifestyles, employment, and family relations.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

That resource levels will remain stable for family research and educational programming.
That our current understanding of the complex relationships involved among family members is sufficient to provide research based educational programming.

2. Ultimate goal(s) of this Program

To improve the quality of family life (in all the variations of "family") for citizens.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	9.0	0.0	3.0	0.0
2009	9.0	0.0	3.5	0.0
2010	9.0	0.0	3.5	0.0
2011	9.0	0.0	3.5	0.0
2012	9.0	0.0	3.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include investigating the cognitive levels of teachers and students to improve instruction in the Agricultural Sciences, the impact interaction with nature has on child development, examining how peer factors influence children's social competence, and improving the use of web-based instructional activities. Studies are also being undertaken in the areas of parental involvement [particularly the importance of fathers], and identifying the coping strategies of families [particularly African American families]. Extension activities will focus on aging and intergenerational issues including care-giving roles and coping strategies; family and individual resiliency including balancing work and family life and handling various life crises; developing healthy relationships; and building parenting skills for specific ages of children.

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

Extension	
Direct Methods	Indirect Methods
• Education Class • Group Discussion • One-on-One Intervention • Workshop	• Newsletters • Public Service Announcement • TV Media Programs • Web sites • Other 1 (Train the trainer)

3. Description of targeted audience

Families (in all its variations), family members and those working with families such as physicians,agency staff, and child care providers.

V(G). Planned Program (Outputs)

1. 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
2008	14600	247000	2100	1000
2009	14700	252000	2100	1000
2010	14700	255000	2100	1000
2011	14700	262000	2100	1000
2012	14700	262000	2100	1000

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**0 **2010 :** 0 **2011 :**0 **2012 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	7	0
2009	7	0
2010	9	1
2011	9	0
2012	10	1

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :3 **2009 :**4 **2010 :** 4 **2011 :**4 **2012 :**4

V(I). State Defined Outcome

1. Outcome Target

Number of persons demonstrating or reporting KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :10900 **2009 :** 11100 **2010 :** 11100 **2011 :**11100 **2012 :** 11100

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

1. Outcome Target

Number of persons reporting or demonstrating behavior changes.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
3600	3700	3700	3700	3700

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Populations changes (immigration,new cultural groupings,etc.)
- Economy
- Appropriations changes
- Competing Programatic Challenges
- Competing Public priorities

Description

Downturns in the economy can negatively impact family relationships.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)

Description

Some evaluation research has already been completed.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Whole population

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Human Nutrition, Diet Adequacy, Health and Wellbeing

2. Brief summary about Planned Program

There are strong interrelationships among diet, activity levels and health. Research conducted at the University of Illinois College of Agricultural, Consumer and Environmental Sciences (ACES) seeks to further understand these interrelationships while improving the quality of food and food choices. Since research in isolation is of little value in improving an individual's health, University of Illinois Extension seeks to help consumers improve the quality of their diets through improved food choices.
The interdisciplinary nature of the nutritional sciences is addressed by the Division of Nutritional Sciences at the University of Illinois. The division consists of 60 faculty representing 16 departments in seven colleges on the Urbana-Champaign and Chicago campuses of the University of Illinois. Principal areas of study include animal nutrition, biochemical and molecular nutrition, community nutrition and nutrition education, dietary bioactive components, food safety and toxicology and human and clinicial nutrition.
The research agenda of the College and the focus of Extension programming are heavily influenced by multiple stakeholder groups. Much of the focus is captured by the goals expressed by the Illinois Council on Food and Agricultural Research (C-FAR) for research and outreach:
- Investigate relevant nutrition-related public health issues, for example: "Metabolic Syndrome" (obesity, cardiovascular disease, and diabetes), cancer and specific age-related issues.
- Develop sustainable solutions for nutrition-deficient populations - Investigate issues related to nutrition and wellness and develop effective methods of communicating this information.
Sources of funding for the College's research agenda in food and nutrition come from a variety of sources including Hatch funding. These efforts cover a wide range of topics. Examples include 1) the effects of dietary phytoestrogen on aging, breast cancer progression, obesity, risk of diabetes, and 2) cognitive function, and the development of sustainable solutions for improving the diet of populations affected by prolonged undernourishment, malnourishment and devastating chronic diseases.
Extension programs seek to provide education to assist consumers in making wise food choices and achieve and maintain adequate physical activity for good health, since lifestyle choices contribute to 70% of all chronic disease. Consumers must choose from a wide variety of food products each day and be discerning judges of nutrition information. Extension prepares and presents information on general nutrition, food buying, diet and disease, and health related information.
The formal interrelation between Extension and the College's research efforts in human nutrition is provided through Extension's Nutrition and Wellness Team. This team includes faculty members from the Department of Food and Nutrition Science. In addition to jointly planning programs, the Extension team and faculty collaborate on joint research projects.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 604 18% Marketing and Distribution Practices
- 703 33% Nutrition Education and Behavior
- 704 19% Nutrition and Hunger in the Population
- 723 18% Hazards to Human Health and Safety
- 724 12% Healthy Lifestyle

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

The 1990’s saw a 33% rise in diabetes among adults and adolescents which put these individuals at greater risk for complications such as amputation, blindness, and even death. Likewise, according to the national Osteoporosis Foundation, osteoporosis and low bone mass are major health threats for those over age 50. In addition, individuals and families with limited resources often lack adequate food, make poor food choices, and lack skills in food budgeting. Obesity is well-recognized problem for individuals of all

ages and backgrounds that leads to increased risk for many diseases.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Resource levels will remain at least constant.
Social marketing theory, social learning theory, and theory of reasoned action will continue to be useful in leading people to practice change.

2. Ultimate goal(s) of this Program

To assist people to achieve high levels of wellness through an appropriate diet and activity level.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	10.0	0.0	5.0	0.0
2009	10.0	0.0	5.0	0.0
2010	10.0	0.0	6.0	0.0
2011	10.0	0.0	6.0	0.0
2012	9.0	0.0	6.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include the study of genistein [the principal soy isoflavone] in relation to estrogen-related breast cancer treatment, developing low-cost methods to increase protein in the diets of people in developing countries, identifying feasible strategies to treat gastrointestinal failure, investigating the importance of calcium on osteoporosis prevention, examining the health-promoting properties of broccoli, and understanding the mechanisms of fat deposition/mobilization on obesity. Extension activities will address diet planning, food selection, cooking methods, and exercise with respect to maintaining health and mitigating the effect of such diseases as diabetes and osteoporosis. Special activities to promote physical activity and mitigate disease transmission will also be addressed.

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

Extension	
Direct Methods	Indirect Methods
• Workshop • Education Class • One-on-One Intervention • Demonstrations	• Web sites

3. Description of targeted audience

The target audience includes limited resource individuals and families, youth, individuals over age 50, individuals with diabetes and their families.

V(G). Planned Program (Outputs)

1. 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
2008	291000	608000	342000	408000
2009	299000	616000	350000	416000
2010	307000	624000	358000	424000
2011	315000	632000	366000	432000
2012	315000	632000	366000	432000

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**1 **2010 :** 0 **2011 :**0 **2012 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	27	0
2009	27	1
2010	30	0
2011	30	1
2012	30	1

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :5 **2009 :**5 **2010 :** 6 **2011 :**6 **2012 :**6

V(I). State Defined Outcome

1. Outcome Target

Number demonstrating or reporting KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :415000 **2009 :** 415000 **2010 :** 415000 **2011 :**415000 **2012 :** 415000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 723 - Hazards to Human Health and Safety
- 724 - Healthy Lifestyle

1. Outcome Target

Number demonstrating or reporting behavior changes.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
11100	12000	12000	12000	12000

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior
- 704 - Nutrition and Hunger in the Population
- 724 - Healthy Lifestyle

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Natural disasters may influence the availability of desirable food products such as fresh fruit and vegetables.
Appropriation changes may influence the level of resources available for programming.
Competing public priorities and programatic challenges may influence the availablity of non-subject matter staff such as County Directors whose support is important to program success.
While efforts are being made to address the various ethnic and cultural groups that make up Illinois, it may be difficult to keep up with population changes.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- After Only (post program)

Description

For some program efforts, evaluation studies have already been completed. Additional follow-up with participants will be used to establish learning and practice change rates.

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and the Environment

2. Brief summary about Planned Program

Leadership for Natural Resource Management programs through the University of Illinois is provided through a multidisciplinary approach as exemplified by the College of ACES Department of Natural Resources and Environmental Sciences (NRES). Research topics of NRES faculty and affiliates explore ranges of subjects from aphids to zebra mussels, and everything from individual genes to the ecosystem of the planet earth. Hatch sponsored projects range from researching the relationship between how humans experience being part of nature and how that in turn influences environmentally responsible behavior to how chemical inputs from atmospheric deposition influence good nutrient management in both crop and forest systems. Of critical interest to both agriculture and ecosystem management is how fertilizer application affects nutrient management under various management scenarios.
Natural Resource Management Extension Educators team with Crops Extension Educators to provide education to producers and others in tillage techniques and soil and water management workshops. Additional programs in watershed management help to protect water quality. Water and overall environmental quality is enhanced by assisting producers in managing manure as a plant nutrient rather than a waste product.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 102 30% Soil, Plant, Water, Nutrient Relationships
- 112 18% Watershed Protection and Management
- 123 12% Management and Sustainability of Forest Resources
- 133 12% Pollution Prevention and Mitigation
- 405 8% Drainage and Irrigation Systems and Facilities
- 605 12% Natural Resource and Environmental Economics
- 806 8% Youth Development

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Ensuring a safe and adequate water supply is an issue in both urban and rural areas of Illinois. Chemical use by agricultural producers and homeowners and soil erosion are viewed as serious contaminates of water supplies. In addition chemical use has been identified as affecting air quality and destroying beneficial plant life. This program seeks to balance the needs and demands of resource utilization with environmental quality and sustainability.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

Resources will be maintained at least at the current level.
That research is correctly addressing the interrelatedness of the dynamics of natural resource management.

That production needs can be balanced with economic and environmental needs.

2. Ultimate goal(s) of this Program

To achieve sustainability of natural resources while these resources are utilized to meet human needs.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	14.0	0.0	20.0	0.0
2009	14.0	0.0	21.0	0.0
2010	14.0	0.0	21.0	0.0
2011	14.0	0.0	21.0	0.0
2012	14.0	0.0	21.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include a study of the seasonal movements of soybean aphids, field studies to determine the impacts of common Midwest weed species [and the use of integrated pest management techniques], a study of the conversion of agricultural lands by urban development, an evaluation of the impact of particulate mater on air and water quality, as well as long-standing efforts to measure current air quality. Extension activities will focus on crop tillage recommended practices, soil and water management, and manure management.

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

Extension	
Direct Methods	Indirect Methods
• Workshop • Education Class • Demonstrations • One-on-One Intervention	• Web sites

3. Description of targeted audience

The target audience includes livestock and crops producers (including organic), homeowners, green industry personnel, and master gardeners.

V(G). Planned Program (Outputs)

1. 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
2008	10100	180	15400	3060
2009	9800	170	15200	3020
2010	9600	160	14400	2860
2011	9000	160	14100	2800
2012	9000	160	14100	2800

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :1 **2009 :**0 **2010 :** 0 **2011 :** 1 **2012 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	90	0
2009	90	1
2010	90	1
2011	90	2
2012	90	1

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects.

2008 :20 **2009 :**23 **2010 :** 23 **2011 :**23 **2012 :**23

V(I). State Defined Outcome

1. Outcome Target

Program participants will report/demonstrate KASA changes.

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :18100 **2009 :** 17700 **2010 :** 17000 **2011 :**16400 **2012 :** 16400

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

1. Outcome Target

Participants will demonstrate behavior changes including improved decision-making.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
3000	2900	2900	2900	2900

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 112 - Watershed Protection and Management
- 133 - Pollution Prevention and Mitigation

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

To some extent the adoption of practice changes will be influenced by the economic conditions influencing the cost/benefit ratio of these changes.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)
- Retrospective (post program)
- After Only (post program)

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Mail

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant Heath, Systems and Production

2. Brief summary about Planned Program

Research at the University of Illinois and its partners cover the gamut of approaches from basic apple genome research to applied research all leading to improving production both commercially and for the home grower. Through the Illinois-Missouri Biotechnology Alliance, Illinois partners with others to strengthen the agriculture and food sectors of the American Midwest while seeking to improve food quality and safety.
As a contributing partner to the North Central states Integrated Pest Management Program (IPM), Illinois research and Extension supports the combination of research/Extension implementation projects, the development of individual pest control tactics as well as Extension education and training. Funded research addresses emerging concerns such as the control of exotic, invasive weeds and pest management for the production of organic vegetable crops.
Extension program teams (Crops, IPM and Horticulture) are composed of both Extension Educators and State Extension Specialists who are both faculty members and research scientists. This provides the opportunity for further integration of research and Extension functions.

3. Program existence : Mature (More then five years)

4. Program duration : Long-Term (More than five years)

5. Expending formula funds or state-matching funds : Yes

6. Expending other than formula funds or state-matching funds : Yes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

- 201 12% Plant Genome, Genetics, and Genetic Mechanisms
- 202 6% Plant Genetic Resources
- 205 27% Plant Management Systems
- 206 10% Basic Plant Biology
- 211 8% Insects, Mites, and Other Arthropods Affecting Plants
- 214 5% Vertebrates, Mollusks, and Other Pests Affecting Plants
- 216 32% Integrated Pest Management Systems

V(C). Planned Program (Situation and Scope)

1. Situation and priorities

Plant health, systems and production are being threatened by new invasive or exotic pests or by poor management of transgenic crops. In addition, improper management of plant pest control is damaging the environment.

2. Scope of the Program

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

V(D). Planned Program (Assumptions and Goals)

1. Assumptions made for the Program

That staffing and resource levels will remain at least constant.

2. Ultimate goal(s) of this Program

Increase the capacity of Illinois field and horticultural crops to address changing demands while contributing to sustainability and economic vitality.

V(E). Planned Program (Inputs)

1. Estimated Number of professional FTE/SYs to be budgeted for this Program

Year	Extension		Research	
	1862	1890	1862	1890
2008	27.0	0.0	19.0	0.0
2009	27.0	0.0	20.0	0.0
2010	27.0	0.0	21.0	0.0
2011	27.0	0.0	21.0	0.0
2012	27.0	0.0	21.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Activities include the use of asexual techniques for plant improvement [especially important giving public concern over genetically modified crops], development of strategies to measure and manage phytophthora blight of pumpkins [Illinois ranks first in the nation in pumpkin production], a study of the impact of ozone pollution on soybean, efforts to assess crop rotation effects in Illinois, and a very long-term study of corn for oil and protein content. Extension activities in this program area will address alternative agriculture production, invasive and/or exotic pest diagnosis and management, integrated pest management, competitive production practices for field crops, and best management practices for transgenic crops including resistance management. In addition, Extension activities will address commercial horticulture plant production and protection from insects, weeds, and diseases, as well as the production of organic crops. Another set of activities will address homeowner lawn and garden production and protection from pests.

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

Extension	
Direct Methods	Indirect Methods
• Workshop • Demonstrations • Education Class	• Newsletters • Web sites

3. Description of targeted audience

The target audiences include agricultural producers, horticulturists, industry representatives, retailers, homeowners, and master gardeners.

V(G). Planned Program (Outputs)

1. 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
2008	52750	2549000	4000	228000
2009	52850	2550000	4000	228000
2010	52950	2550000	4000	228000
2011	53050	2550000	4000	228000
2012	53050	2550000	4000	228000

2. (Standard Research Target) Number of Patents

Expected Patents

2008 :0 **2009 :**1 **2010 :** 0 **2011 :**1 **2012 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target
2008	92	0
2009	95	1
2010	98	2
2011	100	1
2012	100	2

V(H). State Defined Outputs

1. Output Target

- Number of completed research projects

2008 :27 **2009 :**29 **2010 :** 30 **2011 :**30 **2012 :**30

V(I). State Defined Outcome

1. Outcome Target

Number of participants demonstrating changes in KASA

2. Outcome Type : Change in Knowledge Outcome Measure

2008 :25700 **2009 :** 26000 **2010 :** 26000 **2011 :**26000 **2012 :** 26000

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 206 - Basic Plant Biology
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 216 - Integrated Pest Management Systems

1. Outcome Target

Number of participants exhibiting or reporting changes in practice including improved decision-making.

2. Outcome Type : Change in Action Outcome Measure

2008 :	**2009 :**	**2010 :**	**2011 :**	**2012 :**
17670	18000	18000	18000	18000

3. Associated Knowledge Area(s)

- 202 - Plant Genetic Resources
- 205 - Plant Management Systems
- 206 - Basic Plant Biology
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 216 - Integrated Pest Management Systems

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Appropriations changes
- Economy

Description

Plant production is always suceptable to weather problems. Other concerns would include the costs of inputs and market changes.
Appropriation changes could reduce the available resources to deliver programs.

V(K). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Other (post then pre retrospective stud)
- During (during program)

Description

For some program efforts, evaluation studies have already been completed. Additional follow-up with participants will be used to establish learning and practice change rates.

2. Data Collection Methods

- Sampling
- Mail
- On-Site
- Whole population

Description

{NO DATA ENTERED}