

2007 Iowa State University Combined Research and Extension Annual Report

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I. Report Overview

1. Executive Summary

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

The accomplishments and results contained in this report for Iowa State University's (ISU) Combined Extension and Research Plan of Work is organized under seven themes:

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

This annual report presents accomplishments and results from our five-year, rolling Plan of Work. Whereas the Plan of Work has 19 program areas, in this Annual Report we will include annual accomplishments and results for all 1862 Extension programs and on a rolling basis some 1982 Research programs. Table 1 presents the specific program areas under each of the seven themes and indicates those programs for which report is made in 2007 per our plan. The research expressed in the program areas is the result of cooperation among researchers within and between departments and colleges at all levels of activity.

Table 1. ISU Program Areas by Theme

Theme	Program Areas
Animal Systems	Iowa Beef Center
Dairy Team	
Iowa Pork Industry Center	
Economics & Sociology	Farm & Business Management
Community Resource Planning & Development	
Economics, Markets & Policy--	NOT REPORTING IN 2007
Economic & Social Welfare--	NOT REPORTING IN 2007
Family, Youth & Communities	Community Services & Institutions
4-H Youth Development	
Families, Communities and Civic Engagement	
Money for Life	
Strengthening Families	
Food & Nonfood Products	Food and Nonfood Products-- NOT REPORTING IN 2007
Human Nutrition & Health--	NOT REPORTING IN 2007
Food and Nutrition: Choices for Health	
Human Nutrition, Food Safety, and Human Health and Well-being--	NOT REPORTING IN 2007
Natural Resources	Natural Resources and the Environment and Agricultural and Biosystems
Engineering	

Plant Systems Commercial and Consumer Horticulture
 Corn and Soybean Production & Protection

Plants and Their Systems-- NOT REPORTING IN 2007

Here are key impacts and accomplishments arranged by theme.

Animal Systems: Extension and Research

Iowa Beef Center

With the explosion of ethanol production in Iowa has come a flow of corn co-products, namely distillers dry grains (DDG). The Iowa Beef Center (IBC) presented over 60 sessions that addressed feeding, storage, and economics of using DDG, innovations to enhance producer profitability. They also impacted beef feedlot producers by providing educational training on alternative manure management systems to address water quality needs while managing costs. The IBC targeted 30-40 young (20s and early 30s) cattle producers with an intensive multi-meeting training to address management, legal and profitability issues.

Dairy Team

The Dairy Team (DT) has assisted with four (4) new family-owned dairies relocating from Holland via the New Farm Family Program. The DT also assisted 10 to 14 dairy owners with rotational grazing, composting, milking parlor remodeling, financial and asset management. Four dairies were part of an on-farm research and demonstration project focused on enhancing alternative bedding, energy and manure management, herd health, and overall profitability. Forty (40) farms received detailed biological risk management assessments as well as state-of-the art research on dairy herd health, and herdsman and milker training for Hispanic employees.

Iowa Pork Industry Center

The Iowa Pork Industry Center (IPIC) facilitated producer sign up with the national animal identification system to help protect American animal agriculture and the public from disease threats. The IPIC also caused over 5000 producers to learn about group sow housing, and assisted 44 producers interested in niche markets with a financial cost of production system. Over 41,000 producers benefited from exposure to programs and management models designed to enhance competitive production practices including animal health and systems.

Economics and Sociology: Extension and Research

Farm and Business Management

Farm operators are faced with uncertain commodity process, input process and crop yields annually. Thirty-five county level meetings focused on farm leasing and risk management were held as well as 3,000 personal consultations. A 275-person one-day crop insurance seminar was held for crop insurance agents. As a result of these activities about 300 farm lease arrangements were adjusted enhancing competitive returns for landowners and modified market driven costs to tenants. Crop insurance agents were better prepared to give advice to clients. Twelve "Annie's Project" groups were started to endure female farm operators and farm partners were better prepared regarding farm financial management skills. Nearly 1000 women participated and have increased their understanding of USDA farm programs, farm accounting and budgeting, interpersonal communication, machinery economics and leasing arrangements. Nearly 90 agricultural lenders enrolled in the 2007 Agricultural Credit School conducted by ISU Extension. The attendees self-reported that the school was excellent (50%) or good (50%). The impact is that lenders reduced their delinquencies and non-performing loans. Beginning farmers attended a four-day seminar entitled AgLink and 185 beginning farmers were matched with 17 retiring farmers to facilitate transfer of intergenerational knowledge and provide extensive mentoring. Given the thirty year success of the Farm Income Tax Schools nearly all farm income tax returns filed in the state are completed by attendees at the seven schools. About 1200 people are enrolled each year. The results of the tax schools are increased compliance with IRS policies and procedures and more accurate farm tax submissions. Over 525 individuals benefited from meeting and workshops related to alternative agriculture. Organic field and vegetable crops and alternative animal agriculture were addressed in a comprehensive manner from management, regulations to economics.

Community Resource Planning and Development

A gap exists between the demand for design services to rural Iowa communities and the availability of those services. Many

smaller communities in Iowa face enhancement related issues that they are unable to address due to lack of personnel and or resources. The Iowa's Living Roadways Community Visioning Program assists small Iowa communities to develop enhancement plans. In 2007 there were 24 communities that participated in developing their community plan. Survey results indicate that 94% of the communities complete at least one project that was proposed during the visioning/planning process. Dallas County was helped by ISU Extension to develop a county local housing trust fund to rehabilitate existing housing for the betterment of the people and communities in the county. Several other Iowa counties will be following suit. The Community Vitality Center (CVS) helps many communities with community entrepreneurship, philanthropy and rural/urban policies. Activities of the CVC have helped communities leverage \$2 million in state tax credits and revenues into \$12 million in donations to endowments and provided distribution of \$5 million in state revenues to 1,700 local agencies and nonprofit organizations.

Families, Youth and Communities: Extension

Iowa cares deeply about its families and their emotional, physical and financial health and wellbeing. Iowans understand the struggles many individuals face and recognize the value of high quality, affordable, early childhood care and education, the need for effective parenting, the strengths inherent in our multi-generational population; the importance of exercise, nutrition, and food safety, and the ability to handle family finances and actualize plans for the future. Iowans support working collectively to reduce poverty and building thriving, inclusive communities for all within our state. Accomplishments, impacts and success stories related to family, youth and communities include:

Community Services & Institutions

Problems during the election process continue to occur throughout the country. Iowa county level and state election officials are committed to assuring that Iowa elections continue to reflect "good government". ISU Extension with several partners developed a six-hour precinct election official certification training for the Iowa Secretary of State's office. More than 2,700 precinct officials in 64 counties have received certification training. The results from participants indicate that the training has helped the elections run more smoothly and effectively.

4-H Youth Development

Our 4-H youth development program evolved primarily around communication skills. Over 1900 4-H leaders in each of Iowa's 100 counties were trained to help 4-H'ers improve communication skills. 4-H members reported through a self-assessment tool, significant improvements in their skills relating to creation of demonstrations, presentations, and speeches. Teamwork was also cited as another benefit from the communication training. Similarly, 4-H'ers across the state were engaged with citizenship and leadership training and reported enhancements in their community citizenship skills as well as personal leadership abilities.

Families, Communities and Civic Engagement Much of our work related to this plan grew out of our Horizons program. Horizons is a multi-state program focused on using study circles and building leadership to better understand community needs and set the stage for action related to reducing poverty in rural communities. 245 community volunteers were trained in Study Circle materials on poverty, and LeadershipPlenty® and engaged more than 1780 citizens in study circles and leadership trainings (Horizons). 20 communities developed strategic plans to reduce poverty within their communities and are actively working the plans. An additional 7 communities (non-Horizons communities) implemented plans to reduce food insecurity.

Money for Life

Community classes offered in partnership with local agencies and organizations reached a wide range of families. 5,451 individuals improved personal and family financial management skills, evaluated by three month post sample surveys (8,517 participants). 1,789 consumers strengthened decision making skills, evaluated by three month post sample surveys (2,839 participants).

Strengthening Families

Our Strengthening Families program evolved primarily around citizen needs related to parenting education, early childhood

education and work with intergenerational families. PROSPER (Promoting School, Community and University Partnerships to Enhance Resiliency), designed by the ISU Partnership in Prevention Sciences Institute, ISU Extension, Pennsylvania State University Prevention Research Center and Pennsylvania Extension was designated as a model Strengthening Families program by USDA/CSREES and the Annie E. Casey Foundation in 2007. 134 families and 1600 youth in seven PROSPER communities reported positive changes in family functioning and adolescent competencies. 110 professionals completed ISU E certification requirements for Partnering With Parents and Family Development; an additional 735 professionals were trained to facilitate specific sequenced parent education programs in their communities. 3,031 parents improved parenting skills, evaluated by a pre and post self assessment sample surveys. 965 lowans participated in learning related to intergenerational family relationships in mid, later life and aging families. Fifty-four percent of those surveyed felt they had improved their decision making, communication, and care-giving skills to manage later life issues. 10,196 individuals received early care and education instruction. This included 7261 child care and early childhood education professionals who received training to improve child care quality in preschool, center or family childcare settings. 1,189 early childhood educators received instruction and assistance to self-assess the overall quality of their services, and implement specific changes. 561 directors received instruction in new staff orientation and staff feedback and coaching procedures. 349 child care and preschool center teachers received 16 hours of instruction and completed activity assignments specific to their work-site. 836 child care professionals completed self-study instruction using Child Care That Works, 96% identified at least one improvement in their practices as a result.

Food and Nonfood Products: Extension

Food and Nutrition: Choices for Health

Work within this plan focused primarily on improving health through diet and exercise, also food safety. 'WiseWoman - Care for Yourself' has been recognized as a 'best practice' by the Center of Excellence for Training and Research Translation. For the past five years, 15 projects in 14 states have addressed women's cardiovascular disease risk with screening and intervention funded by CDC. At the end of the funding period, based on independent expert reviewers, Iowa's intervention (created and delivered by Families Extension in partnership with the Iowa Department of Public Health and the University of Iowa) was one of five recommended for dissemination to other projects and programs for replication. 157 women in the WiseWoman cardiovascular risk reduction program self reported nutrition and physical activity behavior changes supportive to reduced risk. Through a variety of program offerings, 44,550 adults improved their diet; evaluated by 24 hour food recalls; pre and post self assessments and 3 month post sample surveys. And, 17,678 adults increased their minutes of activity (self reporting of 23,859 participants). Nearly 480 employers and employees passed certification requirements for food safety programs, improving food handling behaviors and decreasing the incidence of food borne illness (90% of 531 participants)

Natural Resources: Extension and Research (note that the subcategories listed below are not Programs under our Plan of Work, but rather a convenient way to group research and extension impacts)

Conservation Practices

Increased use of conservation tillage practices reduces soil erosion and helps to improve water quality. The Iowa Learning Farm Project used a rainfall simulator at ten locations across the state to demonstrate the impact of residue cover on soil erosion. The Iowa Learning Farm Project also demonstrated conventional tillage versus conservation tillage systems at 17 sites across Iowa. Between the rainfall simulator and field demonstrations farmers were able to quantify the savings from conservation practices, thus enhancing both conservation practices and personal on-farm management skills.

Nutrient Management and Tools

Iowa law requires manure management plans to be upgraded to phosphorus index (P-index). Producers are faced with understanding the P-index, gathering required information, and upgrading their on-farm manure management plans. Three workshops on soil erosion and Iowa P-index were delivered in collaboration with USDA-NRCS personnel. The participants reported developing nearly 450 manure management plans and indicated a benefit gain of over \$3,000 per participant.

Air Quality

Nuisance issues related to exposure to animal agriculture odors and gaseous emissions are a major concern across Iowa. A computer model entitled Community Assessment Model (CAM) is helping producers select sites for new facilities to minimize potential nuisance impacts on neighbors. CAM has been run for 22 producers evaluating potential new sites. Producers and farmer stakeholder groups agree that CAM assists with placement of their new livestock operations and helps minimize nuisance issues with neighbors.

Woodland, Wildlife, and Community Resource Conservation

Fifteen forestry field days attracted over 850 lowans to learn about forest resource management. Woodland Manager, Community Tree Steward and other forestry workshops reached another 4,800 adults. Master Conservationist, NatureMapping and other wildlife and fisheries workshops reached over 2,600 lowans. The School Tree Program and Community Tree Program for Youth reached an additional 10,900 young lowans. Based on participant feedback knowledge gained from these programs was clear.

Energy Conservation

Energy makes up an ever increasing input cost for farmers. Fossil fuels and electricity vary in price and are highly volatile. Renewable energy resources need to be developed and used while addressing unintended consequences. Two field days with focus on energy, two workshops on energy efficiency, and four workshops on alternative energy sources were delivered to nearly 160 participants. Participants learned about on-farm energy management techniques to reduce energy costs and improve profits. They also learned about renewable energy technologies including wind turbines and solar panels.

Plant Systems: Extension and Research

Commercial and Consumer Horticulture

Growing grapes for wine production is the most rapidly expanding horticulture industry in Iowa and surrounding states. To be successful growers need to select the proper site and cultivars and thoroughly understand all aspects of grapes for wine production. Workshops aimed at prospective grape producers were conducted across Iowa helping and increasing the number of people indicating they are entering the grape for wine industry. Growing vegetables, herbs and some fruit crops in high tunnels has the potential to be profitable for Iowa growers. Growers need to understand high tunnels and proper crop production to assure profitability. Research using high tunnels determines profitability for tomatoes, peppers, basil, raspberries, and blackberries. Participants in workshops where the results were disseminated indicated they would likely change to production of vegetables, herbs, and fruit crops in high tunnels. They also indicated that their horticulture enterprise would be more profitable based on what they had learned.

Corn and Soybean Production & Protection

Iowa corn and soybean producers are interested in improving production efficiency and increasing profits. Profit per acre has been linked directly to increases in yield. Yields of both crops continue to increase and concern about unintended environmental consequences continues to increase as well. Fungicide research on corn hybrids provided important disease tolerant results that were disseminated in various ways. Research on soybean planting date, row spacing and varieties response to planting rate was also completed and disseminated via the web, meetings and publications. Particular integrated pest management research was done on soybean aphid and sweet potato white flies. Trials did not support prophylactic application of fungicides. Forage production in Iowa has typically been given low priority. Extension programming in a joint effort between Iowa and Illinois has presented information and workshops to producers on ways to increase forage production and profitability. A series of publications was developed for programs within the Iowa Beef Center. New crop opportunities including growing and feeding field peas to swine have been researched. Likewise short and long-term implications of bioenergy crops have been researched. The swine feeding trials with the field peas are not profitable at this time. Work continues on identifying biomass crop production systems and management needs.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	Extension		Research	
	1862	1890	1862	1890
Plan	247.5	0.0	119.4	0.0
Actual	247.8	0.0	114.9	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

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

2. Brief Explanation

Merit review:

ISU Extension continued to monitor and adjust the plan of work in 2007 through use of self directed work teams, continuous needs assessment, and ongoing work with public and private partnerships. At the state level, state staff worked closely with key statewide constituencies. Surveys of needs assessment were done at both the local and state level to inform selected plans. Iowa County Extension Councils and local stakeholder groups annually review, and prioritize needs, feeding the information back to the statewide plan of work teams.

State POW merit review:

North Central Regional Program Directors review plans across the region and are continuing to provide oversight, guidance, and course corrections on the logic models.

Scientific Peer Review:

Project Proposals: Each project proposal is endorsed by the department chair and Associate Director of the Experiment Station. Each proposal is sent to peers internal to ISU (typically 2 to 4 faculty) for a thorough review of the scientific merit. Depending upon the reviews, the project is either approved, revised based on reviewer comments, or rejected.

III. Stakeholder Input

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

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey of the general public
- Survey of selected individuals from the general public
- Other (web-based needs survey; 1-on-1 discussions with representatives of all client groups)

Brief Explanation

The majority of programs use media to announce public meetings and listening sessions, and use targeted invitations to traditional stakeholder groups and individuals. In addition, the various programs have employed the following:

- Community Visioning: random surveys of residents in the twelve communities were conducted to obtain feedback.
- Iowa Beef Center (IBC) members are in regular contact with primary stakeholders at meetings and on an individual basis. Producer organizations, auction markets, veterinarians, and state agencies were brought together to discuss opportunities and obstacles. IBC members periodically travel to regions within the state and pay for supper to hear what producers have to say.
- Invited producers, suppliers, policy makers, and other interested parties to a state-wide bioeconomy web cast. The Corn and Soybean Initiative (CSI) involves industry collaboration with ISU personnel in determining Extension priorities and establishing and conducting research. CSI partners are encouraged to actively participate in and financially support research activities.
- End of meeting surveys consistently seek input for future research and programming needs.
- Responding to stakeholder input encourages additional input; e.g., the Dairy Facilities Conference was a result of ISU Extension staff and stakeholders interacting in the process of planning, preparing, and delivering an educational program.
- Identify existing stakeholder meetings, ask to be placed on the agenda, and ask stakeholders to answer questions or provide input.
- Input is systematically gathered through written surveys completed by professionals who participate in Partnering with Parents.
- Many faculty and staff have developed relationships, one key to quality interaction with stakeholder groups. The Iowa Pork Industry Center has been very active in participation at a variety of events where stakeholders are present and interact.
- Surveys, focus groups and on-going informal assessments attempt to match program delivery methods with the preferences of stakeholder groups. Decisions regarding content, delivery, and mechanisms to reduce barriers to participation are made with a goal of increasing participation.
- Provided fliers and presentations to regional supervisors of Department of Human Services staff to promote poverty simulations. As a result the supervisors scheduled 4 meetings around that state and 287 DHS staff participated. Participation with traditional stakeholder groups occurred through structured meetings scheduled at regular intervals. Contact with individual traditional stakeholders continued via phone and email. Permission to include a new Extension publication in a nontraditional stakeholder group electronic newsletter was requested. Non-traditional individuals frequently see the Extension Food Safety Project web site and initiate contact or submit questions.
- Horizons: local steering committees representative of the population were formed. Partial funding support was based on communities achieving inclusivity goals.

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

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys
- Other (phone calls & email messages received; trade show interactions)

Brief Explanation

•Formal advisory boards, by far the most common method employed, specifically invite representation from the organizations and agencies that work in a given area, and may also include producers nominated by extension field specialists, and representatives of the field specialists, campus specialists and campus researchers. •Web-based needs assessment and future talks listening sessions were open. Targeted groups were identified and contacted. Steering committees identify key individuals to ensure that the invitation list represented the broad spectrum of stakeholders. •Use a mailing list we have developed or a random survey. •External Focus groups includes information from dairy peer groups. Conducted needs assessments informally via routine contacts with target audience or formally via surveys. •Conducted random sample surveys using our statewide youth enrollment database to obtain names of 4-H program volunteers. •Extension state and field specialists serve on multiple county and state advisory committees where the needs of parent, parenting educators and early childhood care and education professionals are identified and used to shape program efforts. •Most Extension specialists in Farm and Business Management education have at least 10 years of experience and have acquired a very good knowledge, increased through hundreds of personal contacts, telephone calls and e-mail messages received each year from potential clientele, of the individuals and groups that will have interest in their programs. Recommendations are also received from county-based Extension staff, campus faculty and staff, and commodity/producer organizations. •Participants provide personal contacts that can be of service in our planning process; much attention is paid to our major client groups and their boards of directors and other key people. Suggestions from university administration are an excellent source of contributors also. •A process of needs assessment and subsequently a mechanism for identifying stakeholders is augmented by a web-based survey of the general population. Interviews were conducted with key informants at state agencies and state-level organizations that serve families. Staff are members of coalitions and taskforces at the state and local level that continually review and check changing needs against operational plans. •Meeting with representatives from state agencies regularly allows for input from consultants to districts throughout the state. There is individual contact with school foodservice administrators during summer short courses, as well as at site visits to school districts and other foodservice sectors as part of external funded research. Attendance at state and national meetings allow input from individuals, as do email contacts from the web site. •Participation in monthly and quarterly meetings assists with identification of new stakeholders. •Individuals in more than 100 potential groups were contacted. Media and surveys were used to identify interested stakeholders. State staff held conversations with individuals in more than 30 key state agencies and state organizations to share information and seek input.

2(B). A brief statement of the process that was 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

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

Brief Explanation

•Meetings with traditional stakeholder groups and individuals are by far the most common method used. •Activities specifically for non-traditional groups and individuals include establishing Latino business networks and conducting classes for new immigrants. •Listening sessions were held, as well as a conference on the impact of the bioeconomy on small communities. •Conducted targeted and random surveys. •Contacts are ongoing by field agronomists, county extension education directors, and state specialists who work with individual private sector partners. The CSI Round Table is designed to gather input from industry. •Meetings were held with professional associations and advisory boards, and other various groups across the state, providing information and asking for input both on existing and emerging issues, and to assist in better understanding local needs. •Selected stakeholders were asked to serve on advisory boards, leadership councils and work teams to help set program direction, develop innovative programs to reach new audiences, and implement strategies to reach desired outcomes. •Webcasts serve to share information and new policy direction and receive input from stakeholders. Participants are often surveyed. •Participants are asked to complete a survey at the beginning and end of the training to assess their training needs and how the training series can be improved, as well as a self-assessment to identify specific knowledge and skills participants gained from the training. This data is continuously reviewed to modify the training as appropriate. Follow-up surveys sometimes occur, and website contacts for information are provided. •ISUE state and field specialists serve on multiple county and state advisory committees where the needs are identified. ISUE staff use this information to shape program efforts.

•Personal contacts initiated by the stakeholders. •One-on-one interaction, surveys from clients at public meetings, discussions with Advisory Board members, e-mail communications including responses to Web and other origination sources. •Surveys allowed those unable to attend meetings to voice opinions about needs and program planning processes. Follow-up meetings with selected individuals who might provide 'missing voices' were conducted in order to gather broad-based input. •Each community determined how they would collect input. Communities chose a variety of methods, including personal conversations, web surveys, speaking to individuals and groups, and work with the media.

3. A statement of how the input was considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities
- Other (determine program content, dates, and locations)

Brief Explanation

•Based on input from stakeholders, we continue to focus on Latino communities and businesses. To better communicate Extension programming to the public, we created the Program Builder Web site that lists all the programs offered by Community and Economic Development •We were able to identify a set of priority programs, and the information helped direct us in how we deliver programs. •Staffing decisions are based heavily on needs expressed by stakeholders. Stakeholders are members of some staff search committees. •Stakeholders are used as sources of ideas and for identification of emerging issues. They also react to potential courses of action, research, and educational programs. Stakeholders are influential in creating the multi-year program of work. Information gathered from stakeholders is used in making decisions on program planning and directions to go with special projects such as research or grant projects. •Information was used to help develop and revise the Iowa 4-H strategic plan; to assess staff and volunteer training needs and develop training plans; to develop effective strategies to reach program outcomes; to assess effectiveness of training programs; and to assess progress towards program goals. •Information from listening sessions and focus groups was used to review 4-H program policy and clarify policy interpretations; and to review and revise plan of work goals and planned implementation strategies. •Stakeholders helped determine program direction, assisted with development of innovative programs to reach new audiences, and helped implement strategies to reach desired program outcomes. •Evaluation surveys following webcasts were compiled and information was used to clarify policy interpretation and plan future webcasts to share program information. •Input was included in shaping the registration fee and continuing education and course credit offerings for Partnering with Parents. In addition, input from stakeholders resulted in two new program offerings •Stakeholder input has also generated an increase in training hours for environment rating scale training series and led to the development of a new technical assistance program for 2008. •Stakeholder input was used to determine the subject matter content of the educational programs, time and place of public meetings, mass media utilized, and the formatting and design of decision aids. •Input from stakeholders, was used to direct the activities targeted towards each of the major client groups. This includes the amount of funds and other resources to dedicate to each activity and the priority each is given. Furthermore, the programmatic content of each major POW activity was greatly impacted by the input from our stakeholder groups. •We have used this input to bolster programming in financial education and to expand our work with limited resource audiences. •Through work with the Iowa Food Safety Task, a state run group of traditional and non traditional stakeholders, food safety programming was targeted toward consumers and retail. This input was conducted in open meetings of the FSTF.

Brief Explanation of what you learned from your Stakeholders

Programs are shifting to address many of the needs expressed by stakeholders, who tell us:

•There is a need for quality, convenient, affordable programming, training, and professional development opportunities delivered via a variety of methods to reach an increasingly diverse audience. •The Web is one of the last places producers go for information. Traditional meetings, fact sheets, newsletters, and farm media are primary ways of reaching producers. •Farmers are concerned about staying competitive and are interested in having opportunities for young farmers to enter the business and staying current on research, technology, and management practices. Competition for rented farmland is fierce, the cost of crop inputs is increasing rapidly, traditional benchmarks for prices and costs are no longer useful for decision making, new enterprises require superior management skills and intensive marketing, and tax simplification is a myth. •There is growing concern about water quality and air quality, and about the impact of increased demand for agricultural goods and increased commodity prices on conservation tillage and the conversion of CRP land to row-crop production. •4-H program volunteers want consistent (from county to county) information, and do not want performance tied to any 4-H club re-chartering process. 4-H youth development is important to lowans, and volunteers want to be involved in expanding programs; however, they want staff help with expansion strategies. Surveys identified existing 4-H club efforts that could be identified as "Best Practices". Many county 4-H programs were not including youth as part of decision making councils (i.e. 4-H Youth Committees). There is strong support for quality 4-H After School programs.

•Parents, especially those experiencing poverty, are interested in trying to meet such basic needs as basic understanding of child development and how to interact with their children to promote development, guiding children in developmentally appropriate ways, and strengthening family communication skills. •Child care administrators need and value effective education opportunities that involve coaching and leadership. Peer learning and peer coaching opportunities were well received. Training that offered time for development of detailed action and implementation plans were considered very effective. Early care and education professionals desire credit-based educational opportunities that can be tailored to meet their specific needs. •We need financial management education and to expand our work on understanding alleviating poverty in Iowa. Availability and access to safe, nutritious food is a challenge in many rural, Iowa communities, with 'food deserts' existing in rural locations throughout the state. •We need better community programming. Communities are eager to make their own decisions and to implement plans they have determined with coaching and facilitation; however, reaching those who are in poverty continues to be a struggle for communities. Stakeholders liked the Horizons program because it was a program that happened in step by step sequenced phases and was tested.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
8751973	0	10115747	0

2. Totaled Actual dollars from Planned Programs Inputs				
Extension			Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7458165	0	5921774	0
Actual Matching	7458165	0	5921774	0
Actual All Other	25196236	0	53586309	0
Total Actual Expended	40112566	0	65429857	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	710918	0	4626530	0

V. Planned Program Table of Content

S. NO.	PROGRAM NAME
1	Iowa Beef Center
2	Dairy Team
3	Iowa Pork Industry Center
4	Farm and Business Management
5	Community Resource Planning and Development
6	Economics, Markets, and Policy
7	Economic and Social Welfare
8	Community Services and Institutions
9	4-H Youth Development
10	Families, Communities and Civic Engagement
11	Money for Life
12	Strengthening Families
13	Food and Non-Food Products
14	Food and Nutrition: Choices for Health
15	Human Nutrition, Food Safety, and Human Health and Well-being
16	Natural Resources and the Environment and Agricultural and Biosystems Engineering
17	Commercial and Consumer Horticulture
18	Corn and Soybean Production and Protection
19	Plants and their Systems

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Iowa Beef Center

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
307	Animal Management Systems	40%		40%	
308	Improved Animal Products (Before Harvest)	10%		10%	
315	Animal Welfare/Well-Being and Protection	5%		5%	
403	Waste Disposal, Recycling, and Reuse	20%		20%	
601	Economics of Agricultural Production and Farm Management	15%		15%	
604	Marketing and Distribution Practices	10%		10%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	10.3	0.0
Actual	15.0	0.0	4.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
480867	0	206363	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
480867	0	206363	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1905783	0	3578252	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Objective 1: Increase effective use of grain co-products. The Iowa Beef Center has developed and is implementing a broad-based educational program that focuses on increasing the use of DGS and growing Iowa's cattle-feeding sector. To increase the use of DGS, IBC held over 60 producer meetings on nutrition, handling, and the economics of feeding DGS. These were often at the request of, or in partnership with, an ethanol plant. IBC secured grant funding, which was used to conduct demonstrations and applied research on the storage of wet DGS. IBC also developed a newsletter about feeding ethanol co-products and distributed it to thousands of producers.

Objective 2: Improved environmental stewardship by beef feedlots. IBC held four feedlot environmental field days, which were attended by 190 producers. IBC also partnered with DNR, NRCS, ICA and RFA to hold five workshops focusing on facilities and manure management, and 160 producers attended. Finally, IBC held two management workshops specifically for permitted feedlots and their consultants, which more than 120 people attended.

Objective 3: Adopt quality management systems to improve cost control and market access. Educational meetings on process verified programs to age verify cattle for the Japanese export market were held. The Tri-County Steer Carcass Futurity trained cow herds and qualified feedlots under the Tyson Quality System Assessment program for age verification program.

Objective 4: Improved beef cow herd production efficiency. Conducted educational meetings across the state and developed/updated decision software for grazing management, reducing winter feed costs, estrus synchronization, and feeder cattle marketing. A progeny evaluation to develop a sire profitability index was conducted representing over 700 sires. A feed intake monitoring system was developed to measure feed efficiency on individual animals, including breeding stock. Completed research and published results on the premiums paid for feeder cattle with additional information and proof of practices.

Objective 5: Expand intergenerational transfer. A group of 30-40 young cattlemen in Tama, Poweshiek, Benton and Iowa counties were invited to participate in this project. "Young" is defined as cattlemen in their 20s or early 30s. The group was directly involved in determining their program's needs by using a typical needs assessment process. Each meeting has consisted of a presentation followed by group discussion. They have met four times with the following topics: profitability in cattle feeding in Iowa, legal concerns, leasing arrangements, fence laws, reproduction and conception in cows and heifers, heifer development, and pasture walk and grazing system design.

2. Brief description of the target audience

Beef feedlot producers and managers

Cowherd producers and managers

Allied industries and service providers

Ethanol plants and managers

State agencies

Beginning farmers

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	8000	90000	0	0
2007	20074	154960	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	3	3	6

V(F). State Defined Outputs**Output Target****Output #1****Output Measure**

- Number of applied research and demonstration studies on feeding DGS.

Year	Target	Actual
2007	3	8

Output #2**Output Measure**

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

Year	Target	Actual
2007	3	3

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Percent of Iowa feedlots that regularly feed DGS to reduce cost of gain.
2	Percent of feedlots over 100 head capacity that utilize solid manure settling structures or alternative technology treatment systems.
3	Percent of producers who adopt management systems to improve cost control and market access.
4	Percent of cowherd producers who utilize technologies to improve enterprise efficiency.
5	Number of intergenerational transfers.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	79

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Corn co-products are increasing in supply as the ethanol industry grows in Iowa. These products are excellent feed for cattle. The wet product is better than the dry for cattle, it saves energy by not drying, and is cheaper for corn at locations near the plant. It is a win-win situation for the plant and cattle producers.

What has been done

A total of 2,955 producers, nutritionists, veterinarians and industry advisors attended more than 60 sessions that addressed feeding, storage, and economics of co-products during a 12-month period. The meetings were often sponsored by ethanol plants, with IBC specialists providing the technical expertise. Thus, the meetings were typically not included in the Extension calendar counts.

Results

Of those responding to a post-meeting survey, the economic value of the information presented averaged greater than \$1,000. More than 40% of the respondents indicated they would feed more corn co-products, change how they store corn co-products, and evaluate the price paid for corn co-products. More than 25% indicated they would use more nutrient analysis of products and evaluate their purchasing method. A follow-up survey was returned by 349 producers. Of those, 243 marketed fed cattle and 215 had beef cow herds; some producers had both. Large operations were more actively feeding co-products. About 87% of beef cow operations over 200 head and more than 90% of all producers marketing more than 500 head indicated they were feeding corn co-products. Seventy-seven percent indicated that price was the primary advantage for using co-products.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Iowans are increasingly concerned about water quality, and small, open feedlot cattle operations often contribute to this concern. DNR and NRCS are charged with improving water quality through regulation and technical assistance, respectively. Producers have a strong stewardship ethic, but are often not aware of the specific risk caused by their operations. Solid settling and practical treatment of feedlot effluent are necessary to protect the water quality from open feedlots.

What has been done

Several field days, tours and meetings have been held for producers to better understand the issue and see practical solutions to common problems. Research is being conducted on alternative treatment systems, and the results are being shared when available. IBC is a partner with DNR, NRCS, ICA, IDALS to develop an extensive education program for non-permitted feedlots. A survey will be conducted to determine the current adoption of practices and level of environmental knowledge.

Results

A follow-up survey for two events shows that because of information producers gained, they are willing to make changes to their facility and management practices. Of eleven returned surveys, five changed how they manage their manure handling system in open lots, two modified their manure handling system, one built a new settling basin and stacking area, one replaced an earthen basin with concrete, and four applied for government cost share funds for manure handling structures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Cost control continues to be a priority in production agriculture. Beef producers in particular face rising land and feed prices, but they may have opportunities to reduce costs by using corn co-products and innovative management. Price premiums are being offered for cattle with proven age or production practices. However, proof based on an accredited third-party provider will be necessary to capture the higher prices.

What has been done

IBC has been conducting educational programs and demonstration projects since 2000. IBC developed and distributed information on Country of Origin Labeling, age and source verification, and the national animal identification system. Templates and fact sheets were developed to explain the process, and educational materials were prepared to help producers prepare for the changes.

Results

Very few producers have taken any action in this regard, but the few who have are now receiving premiums in the marketing place. The Tri-County Steer Carcass Futurity trained cow herds and qualified feedlots under the Tyson Quality System Assessment program for the age verification program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
604	Marketing and Distribution Practices
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Beef cow herds face a double challenge from the emerging ethanol industry. The higher price of feed results in lower prices for the calves they sell, as feedlots have higher feeding cost. Land prices and rent, a major input, are driven up with higher grain prices. Cow herds must find ways to improve their efficiency to remain sustainable.

What has been done

There are several practices that can improve efficiency of a beef cow herd, i.e., improved reproduction, superior genetics, grazing management, and reducing winter feed costs. Software has been developed and sold, and training has been provided on ration formulation and estrus synchronization. Genetic evaluation for feed efficiency and overall profitability has been conducted as well.

Results

Two surveys of beef cow herds found that more than half of those surveyed were using some type of production technology to improve efficiency. One survey found that 59% of respondents were feeding corn co-products to reduce feed cost. Another survey questioned Iowa producers with beef cow herds about their pasture management and practices. Of those responding, more than half (52%) reported they used rotational grazing with 4-7 paddocks, an additional 16% used 7+ paddocks, 41% were frost seeding a legume, 33% said they test soil every 5 years or less, 38% have improved water systems, and 25% limit access to waterways to protect water quality. The objective was to have 10% of cow herds using technology to improve efficiency. While not all producers with beef cow herds responded to the survey, these results indicate moderate adoption of proven grazing technologies to improve efficiency.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #5

1. Outcome Measures

Number of intergenerational transfers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Iowa cattle producers, as a segment, are younger than all farmers, and a relatively high percentage of them anticipate that a son or daughter will continue the cattle enterprise into the future. Both generations need to prepare and implement a well thought-out plan to ensure success.

What has been done

A group of 30-40 young cattlemen in Tama, Poweshiek, Benton and Iowa counties were invited to participate in this project. Young is defined as cattlemen in their 20s or early 30s. The group members were directly involved in determining their program's needs by using a typical needs assessment process. Each meeting has consisted of a presentation followed by a group discussion.

Results

The group has met four times, discussing the following topics: profitability in cattle feeding in Iowa, legal concerns, leasing arrangements, fence laws, reproduction and conception in cows and heifers, heifer development, and pasture walk and grazing system designs. A core group of 15-20 producers have evolved, with about 5-10 of them having the business potential to remain profitable for the long term. The group has begun very openly sharing with each other about their operations, their questions and their concerns.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Other (Corn, hay, and land prices have increased dramatically)

Brief Explanation

Feed costs have increased dramatically. This has provided a teachable moment for feed cost control in feedlots and beef cow herds. However, the rising prices are also encouraging many farmers to look for ways to plant more crop acres. Often, pastures and/or hay meadows are planted to crops, and the beef cow herd is sold. Those who keep the cows will need to utilize innovative management practices to remain viable. An unmet goal was the adoption of quality systems to ensure market access. This goal was built on the idea that the national animal identification system (NAIS) would be mandatory by 2009 and that the infrastructure to implement NAIS would facilitate more information transfer in the supply chain. In November 2006, the USDA backed away from mandatory animal ID and instead will rely on market signal to encourage adoption. To date, the market signals have been meager and mixed. IBC continues to work with producers who are looking into these programs and is well positioned if the demand for this information grows.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

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

Evaluation Results

What we have learned is that we do not do a very good job evaluating our educational programs. When a consistent end-of-meeting survey is prepared, it may be forgotten. When it is collected, it is not a priority to compile. When the results are compiled, they often are not shared. Neither IBC nor ISU Extension has a good database of beef producers. We received several returned surveys from people who did not have cattle or who had been long retired. It is costly to work with Iowa Agriculture Statistics to sample all beef producers, but it should be considered for specific questions periodically. What we also learned about IBC programs was generally favorable. The post-meeting evaluations typically showed that new information was learned and that changes were being planned based on what they had learned. Two formal surveys of beef producers were conducted in 2007. One specifically evaluated the use of corn co-products and what producers learned from IBC meetings and newsletters. Of the useable surveys, we found that a high percentage of feedlots and cow herds were using corn co-products. ISU has been researching these products for more than 20 years, doing educational programs for at least 10 years, and now the products are widely available and are widely used. The attention should switch from adoption to increasing inclusion rates, reducing storage loss and improving cost efficiency. A second survey looked at grazing practices across the state. It found that several of the management practices that ISU Extension has been recommending are being adopted.

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Dairy Team

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
307	Animal Management Systems	20%		20%	
315	Animal Welfare/Well-Being and Protection	20%		20%	
401	Structures, Facilities, and General Purpose Farm Supplies	20%		20%	
601	Economics of Agricultural Production and Farm Management	20%		20%	
802	Human Development and Family Well-Being	20%		20%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	7.0	0.0	5.1	0.0
Actual	7.0	0.0	2.6	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
224405	0	158592	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
224405	0	158592	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1159115	0	2143303	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

While there are 6 topic areas that reflect the ISU Extension Dairy Team's priorities, the Team focused on 4 of the 6 areas in the July 06- June 07 reporting period:

1. Increase dairy farm business planning to establish new dairies, remodel or expand existing dairies, assist transitioning farmers, establish new dairy enterprises including grass-based and organic systems, confinement systems, and young stock systems.
2. Increase adoption of more competitive dairy production systems and practices
3. Adopt, apply, and evaluate approaches to integrated dairy herd and health management
4. Increase the awareness and use of interpersonal and organizational skills by dairy personnel.

The following section describes program efforts for each of these 4 priority areas.

1. Increase dairy farm business planning, start up of new, remodel/expansion of existing dairies:
 - Assisted with establishment of new family-owned dairies relocating from Holland via the New Farm Family Program
 - Assisted with remodel and start-up of dairy enterprises for beginning farmers seeking low-cost start-up strategy
 - Provided educational programs or tours to community citizens, leaders, and economic developers seeking information about potential impacts of new dairy start-ups in their regions
 - Assisted with start-up of new dairy producer organization dedicated to issues of dairy growth, economic impact on rural communities, support to existing farmers, and encouragement of beginning farmers
 - Conducted educational farm tours for dairy producers to dairy farm sites that have been remodeled/upgraded through installation of low-cost parlors
2. Increase adoption of more competitive dairy production systems and practices
 - Hosted Dairy Facilities Conference for dairy communities in NE and NW Iowa
 - Conducted workshop for agri-business and dairy producers on method to conduct whole farm financial analysis and benchmarking
 - Hosted Dairy Days and I-29 Conference to update dairy communities in NE and NW Iowa on pertinent herd management topics
 - Coordinated and delivered farm safety training in English and Spanish
 - Conducted on-farm training on herd management topics to Hispanic workforce
3. Adopt and apply approaches to integrated dairy herd and health management
 - Conducted Biological Risk Management assessments in NE and NW Iowa as part of collaboration between researchers in Iowa and California seeking to understand association between specific herd health practices and actual herd health performance.
 - Conducted on-farm training on herd management topics to Hispanic workforce
4. Increase the awareness and use of interpersonal and organizational skills by dairy personnel.
 - Hosted an Employee Management Seminar for dairy producers and managers from other industries
 - Partnered with Midwest Dairy Association to provide training workshop for dairy owners and agri-business staff to improve communication and positive public relations about the dairy industry

2. Brief description of the target audience

- Dairy producers
- Beginning farmers
- Agricultural lenders
- Dairy nutritionists
- Other agri-business personnel
- Builders and contractors
- Dairy veterinarians
- Economic development partners
- Iowa Department of Natural Resources

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	10000	2500	2300	1050
2007	33003	13100	1537	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year Target
Plan: 0

2007 : 1

Patents listed

Method and Composition for Coating Wound or Protecting Animal Skin

3. Publications (Standard General Output Measure)**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	2	1	0

V(F). State Defined Outputs**Output Target****Output #1****Output Measure**

- Research/demonstration studies

Year	Target	Actual
2007	3	0

Output #2**Output Measure**

- Publications

Year	Target	Actual
2007	6	0

Output #3**Output Measure**

- Workshops

Year	Target	Actual
2007	42	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of new dairy farms established.
2	Percent of dairy producers who adopt more competitive dairy production systems and practices.
3	Percent of Iowa producers who adopt integrated dairy herd and health management practices that result in improved profitability, enhanced food quality and safety, and improved environmental stewardship.
4	Percent of producers who will increase the awareness and use of interpersonal and organizational skills when managing family or non-family personnel.
5	Percent of producers increasing the efficiency of manure and crop nutrient utilization while minimizing surface run-off and preserving ground water and air quality.

Outcome #1**1. Outcome Measures**

Number of new dairy farms established.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8	40

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Iowa leaders and rural citizens recognize the positive economic impact of keeping or increasing livestock agriculture, including dairy farms, a part of the Iowa economy. Regionally, these operations contribute to rural community economic viability by keeping families and trade nearby. Economists estimate that for every 100 cows, approximately 2 jobs are created on farm, and 1 off-farm. When factoring the full value of goods and services required to serve dairy operations, it is estimated that each cow generates \$13,000 in economic activity. In short, dairy operations have a strong positive impact on local and state economy, and efforts to retain existing farms and bring in new farms and new farmers contribute to the Iowa economy.

What has been done

- * Assisted with establishment of new family-owned dairies relocating from Holland via the new Farm Family Program
- * Assisted with remodel and start-up of dairy enterprises for beginning farmers seeking low-cost start-up strategy
- * Provided educational programs or tours to community citizens, leaders, and economic developers seeking information about potential impacts of new dairy start-ups in their regions
- * Assisted with start-up of new dairy producer organization dedicated to issues of dairy growth, economic impact on rural communities, support to existing farmers, and encouragement of beginning farmers
- * Conducted educational farm tours for dairy producers to dairy farm sites that have been remodeled/upgraded through installation of low-cost parlors

Results

1. 4 Dutch families assisted with re-location of family to Iowa and with the building of new dairies.
2. 10 operations assisted with transition to rotational grazing
3. 12 dairy owners assisted with the establishing new compost barn housing system
4. 14 operations assisted with the remodel from tie stall to low cost milking parlor
5. 12 dairy operations assisted with farm organization and transfer

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management
802	Human Development and Family Well-Being
401	Structures, Facilities, and General Purpose Farm Supplies

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

With rising bedding and energy costs, producers and industry are interested in evaluating and implementing alternative bedding option and renewable energy strategies.

What has been done

ISU Extension took the lead in developing and implementing on-farm demonstration and research projects to evaluate use of separated manure solids and develop strategies and guidelines for usage and implementation. 4 farms (2600 cows) were involved in a year-long study.

Results

1. Farm 1 (1600) developed and achieved a consistent product (included composting following solid separation) based on ISUE monitoring and advise.
 - a. Farm was able to maintain herd SCC and improved animal comfort score in stalls. Elevations in herd SCC were associated with poor milking hygiene (also monitored by ISUE) rather than bedding characteristics and bacterial loads.
2. Farms 2-4 used the same material from farm 2 (700 cows, solids separated following anaerobic digestion) and were monitored on farm bimonthly for 1 year. Also, DHI and creamery records were monitored monthly.
 - b. Use of separated manure solids resulted in decreased SCC in all herds (40,000- 140,000), improved feet and leg health, decreased culling due to feet and leg problems, and all 3 herds improved milk production (also related to nutrition, etc).
 - c. Differences in SCC were related more to milking hygiene issues (also monitored).
 - d. Herds saved \$7000 -\$24,000+ on annual bedding costs.
 - e. Trials have resulted in publications and presentations at local, state, national, and international meetings as well as developed an integrated framework of all systems to make this technology work .

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	29

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Good herd management and herd health management are necessary to achieve productive, profitable herds. Dairy owners and the general public both benefit from efforts to keep Iowa herds healthy. Herd management measures that result in good cow health typically translate to successful production parameters such as low cull rate due to sickness or death, good reproductive performance, high quality milk, and average to above average volumes of milk. These production parameters affect the profitability of the dairy herd business. Healthy herds produce wholesome milk going to milk processors and ultimately to the general public in the form of fluid milk, cheese, yogurt, ice cream.

Controlling mastitis is an important strategy to achieving quality milk production. Mastitis is estimated to cause \$1 billion loss to dairy industry annually. 50% of mastitis begins in dry cow phase and can manifest during cows,' lactation phase as clinical mastitis, with resulting lost milk production. Additionally, research shows that 50% of heifers calve already with mastitis.

What has been done

Conducted Biological Risk Management assessments in NE and NW Iowa as part of collaboration of researchers in Iowa and California seeking to understand association between specific herd health practices and actual herd health performance.

On- farm herdsman and milker training for Hispanic employees on topics of herd management.

Research project in conjunction with NADC to study transition dry cow nutrition.

Collaboration with industry partners to develop non-antibiotic technologies to prevent and control mastitis.

Educational meetings and publications to dairy farmers and agri-business on mastitis prevention and control; monitored impact via industry-wide survey (Hoard's Dairyman).

On-farm troubleshooting on mastitis issues, sometimes involving full-farm investigation and milk culture analysis.

Developed and used an applied research model to evaluate teat health and effectiveness of teat dips.

Results

40 farms participated in Biological Risk Management Assessments, and received feedback as to disease risks present on their farm, followed by recommendations on actions to take to reduce risk. Full follow-up on changes and on overall research report are in progress.

On-farm herdsman/milker training resulted in improvement in the SCC score, a measure of milk quality, and increase in milk production. These improvements translated to \$25,000 added profit to herd owner.

Research report in progress on 'Methodologies to Reduce the Cation-Anion Balance in Hays of Dry Cows'

2 peer-reviewed publications on mastitis control

42% industry-wide adoption rate of mastitis control strategies and technologies.

75% reduction in clinical mastitis in cows and heifers resulting from use of mastitis control strategies and technologies. With each mastitis case causing a loss of \$110 in revenue and increased costs, the economic value of widespread herd owners' adoption of new mastitis control strategy is estimated at \$16 million.

Use of the non-antibiotic mastitis prevention strategies saves dairy farmers an estimated \$36 million in antibiotic treatment costs.

Active troubleshooting on 18 farms (6000 cows involved) to investigate milk quality problems resulted in 95% of herds achieving improved milk quality as evidenced by reduced somatic cell counts. These improvements in udder health resulted in milk production gains valued at \$300,000, and milk quality premiums earned valued at \$414,000.

Teat health research resulted in 4 new products commercialized to industry, and a standard model for scoring teats developed and distributed world-wide.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

One of the most frequently reported information gaps that owners of expanding dairy farms identify is information about employee training and management. As farms expand to achieve business advantage or quality of life, the need to hire employees increases, yet many dairy owners have had little or no prior experience or training in this area.

What has been done

Hosted an Employee Management Seminar for dairy producers and managers from other industries

Partnered with Midwest Dairy Association to provide training workshop for dairy owners and agri-business staff to improve communication and positive public relations about the dairy industry

Results

13 dairy farm owner/managers were among the 65 managers/supervisors who attended Employment Management seminar to learn hiring, training, supervising skills

16 attended Speak Out training, and to date 7 have participated in public or large group events to explain aspects of the dairy industry to general public or agri-business partners

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
802	Human Development and Family Well-Being
315	Animal Welfare/Well-Being and Protection

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Due to programmatic changes, this outcome has been absorbed into others and cannot be reported independently.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Competing Programmatic Challenges

Brief Explanation

1. A state-wide blizzard hit a the end of February on the dates originally scheduled for the 2 site/2 day Dairy Facilities Conference. Planners re-scheduled to early April dates. The re-scheduling and early spring dates decreased actual attendees from the list of those originally pre-registered for the February dates.
2. The Dairy Team has been without an Ag Engineer. Without this position filled, substantial progress on the program objectives in areas of manure nutrient management and energy efficiency and conservation will not be made.

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

The Dairy Facilities Conference was a project planned and coordinated by NE and NW Iowa Dairy Team Extension staff, along with partners in the private and public sectors. The purpose of the event was to provide learning forum for dairy producers, consultants, and agri-business services to gain updates on dairy buildings. This meeting was planned in response to increased interest and activity statewide on new, remodeled, or expanded facilities. The results summary gives details about the depth or coverage on this topic:

Results of the Post-meeting Survey:

- 100% either Agreed or Strongly Agreed that the conference increased their dairy facility awareness
- 98% Agreed or Strongly Agreed that gained better understanding of the critical components of a good dairy facility
- 91% Agreed or Strongly Agreed that the conference broadened their knowledge of on-farm energy conservation
- 94% Agreed or Strongly Agreed that the conference increased their knowledge about milking center planning
- 90% Agreed or Strongly Agreed that the conference increased knowledge about manure management strategies
- 89% Agreed or Strongly Agreed that conference increased their understanding of dairy financial planning guidelines

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Iowa Pork Industry Center

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	10%		10%	
302	Nutrient Utilization in Animals	10%		10%	
306	Environmental Stress in Animals	10%		10%	
307	Animal Management Systems	10%		10%	
308	Improved Animal Products (Before Harvest)	10%		10%	
311	Animal Diseases	10%		10%	
315	Animal Welfare/Well-Being and Protection	10%		10%	
402	Engineering Systems and Equipment	10%		10%	
403	Waste Disposal, Recycling, and Reuse	10%		10%	
601	Economics of Agricultural Production and Farm Management	10%		10%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	14.0	0.0	10.3	0.0
Actual	14.0	0.0	15.6	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
448809	0	808595	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
448809	0	808595	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2160616	0	11716617	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

National Animal ID Program: IPIC Associate Director serves on the national steering team for NAIS. Producers are targeted for sign-up at this program at the Iowa Pork Congress, and in IPIC/IPPA regional meetings around the state.

Group Pen Sow Gestation Systems: ISUE Swine Field Specialists are trained in this area at the in-service training, and include this as a part of their farm visits and regional educational efforts.

Manure testing and utilization: IPIC works closely with IMMAG in development and implementation of standards and protocols for producer education in this area, particularly with the Field Specialist programs of work.

Cost of production records: We are completing an NRI research program working with niche market farms to assist them in accurately knowing their cost of production. Swine reproductive management software is being developed to assist both niche market producers (Sow Group Tracker) and commodity producers (Sow Tracker) in monitoring herd inventories and reproductive performance. The IPIC has offered software to assist all producers in monitoring post-weaning performance of pigs for the past six years (Group Tracker). Also, each swine Field Specialist works with individual producers wanting to use the Swine Business Record software package to estimate annual costs and returns from pork production.

Quality (Environmental) Management Systems: The efforts sponsored by the 'Smithfield Agreement' with the state of Iowa and coordinated through the IPIC has focused in part on working with swine producers to better understand what an EMS consists of and how it can be of benefit to them. A pilot group has been organized to begin implementation of EMS at their farms. Unfortunately, the staff coordinator of this project has resigned from this job to work at home, and a replacement is being sought.

Youth programs: The efforts of IPIC personnel in county and state fair swine activities continue to be strong. Further efforts are aimed at youth considering college after high school, many of these efforts in cooperation with Animal Science, College of Agriculture and Life Sciences, and College of Veterinary Medicine faculty and staff.

Pork and crop farm synergies: IPIC personnel have held meetings for county boards of supervisors and boards of health to educate them as to the potential benefits of animal agriculture. These events are coordinated by ISUE Field Specialists and programs are presented by faculty from Animal Science, Economics and Agricultural and Biosystems Engineering departments. IPIC works with producer organizations such as IPPA and Iowa Farm Bureau, as well as the Beginning Farmer Center at ISU in developing programs on the potential for young farmers to enter agriculture via integrated crop and swine production.

Production systems and practices: To improve their profit through using state of the art production systems and practices, producers are offered educational opportunities through regional conferences, Iowa Pork Congress, PorkBridge, SowBridge, convention displays and one on one client discussions.

Animal health improvement: Faculty from the College of Veterinary Medicine are very active in developing and communicating information for producers to improve the animal health of their farms. This information comes to the producer directly in regional conferences, state wide educational meetings, teleconferences such as PorkBridge and SowBridge, and via educational opportunities for swine veterinary practitioners in the annual Iowa Swine Disease Practitioners Conference.

2. Brief description of the target audience

Independent farms: these are farms that are owned by the individual operators and not by investor owned companies

Corporate farms: these are farms that are owned by investor owned companies

Attribute based farms: these are farms that are marketing a product based on a particular attribute that has appeal to a consumer segment and has a potential higher return.

Peer support groups: these are groups of producers with common interests and concerns as it applies to pork production.

Youth and next generation: these are our potential clients and include high school, college and young people newly entering the workforce

Commodity groups: these are the organizations that represent the pork producers of Iowa, such as Iowa Pork Producers Association, Iowa Farm Bureau Federation, National Pork Board, National Pork Producers Council, and National Swine Registry

Veterinarians: these are the animal health practitioners who serve the pork industry through on-farm service, through commodity groups or other organizations

Community colleges: these educational organizations are our partners in training potential swine farm personnel, as well as, consumers of pork

General population: as consumers of pork, this is a very important group

Policy makers: since the pork industry does not operate without impact from the policy makers of Iowa and the nation, we must communicate and cooperate with this client group

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	8000	16000	3000	3000
2007	12000	28000	1500	1500

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	1
2007 :	2

Patents listed

1. Novel PRKAG3 Alleles and use of the same as Genetic Markers for Reproductive and Meat Quality Traits
2. HMGA Alleles and Use of the Same as Genetic Markers for Growth, Fatness, Meat Quality, and Feed Efficiency Traits

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	25	35	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research studies completed.

Year	Target	Actual
2007	12	0

Output #2

Output Measure

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

Year	Target	Actual
2007	3	0

Output #3

Output Measure

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

Year	Target	Actual
2007	3	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of niche market farms with accurate cost of production records.
2	Number of swine farms to participate in EMS training sessions (cumulative).
3	Number of youth participating in the Iowa State Fair swine programs (annually).
4	Number of crop producers who broaden their agricultural enterprise to include swine production facilities in order to bring another family member into the business (annually).
5	Number of premises registered in the national animal ID program (cumulative).
6	Number of pork producers exposed to large pen gestation systems and their management (cumulative).
7	Percent of pork producers using manure testing information to manage swine manure application (cumulative).
8	Number of pork producers who adopt more competitive production systems and practices
9	Number of producers who adopt improved animal health protocols or procedures.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	44

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

It is essential for any pork production enterprise to accurately know their cost of production. Unfortunately, many of our clients have been so busy with the activities of a diversified farm that they have not focused on this area, and do not know their cost of production.

What has been done

ISUE has worked with commodity pork producers for many years using the Iowa Swine Business Enterprise Record system to approximate their cost of production and returns in an annualized basis. Unfortunately, the expertise in the Economics department that worked with this system has retired, and as a result, the program has not evolved recently to meet the needs of a changing commodity pork production system. The ISUE swine field specialists continue to use this system, on a limited basis, with a limited number of commodity pork producers. In 2005, the Iowa Pork Industry Center was awarded an NRI grant to work with niche market producers and assist them in implementing a system to accurately know their cost of production.

Results

We targeted 30 producers in the NRI project, and now have 44 herds participating with accurate cost of production records. Currently, we are examining an expansion of the project to include farms outside the Midwestern United States.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
307	Animal Management Systems

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	334

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Swine producers are undergoing increased scrutiny from external partners in a number of areas. Concerns about the environment, animal well-being and food safety are major areas of interest to the consumers, retailers, processors, as well as, producers of pork. Increasingly pork producers are being asked to document their performance in these areas, in many cases with third party verification of the results. A 'Quality Management Systems' approach has been found to be most effective in meeting the producers needs in these areas, as well as, having other benefits such as increased market access, lower cost of production and enhanced employee management capabilities.

What has been done

The IPIC has identified QMS as a priority program for the next period of time. Working with funding from the Smithfield-State of Iowa settlement, a part-time coordinator has been hired to manage this program. Areas of potential QMS activities include: environmental management systems, premise ID, national animal identification system, PQA+ certification of producers, ISO9000/14000 certification and other process verification based programs.

Results

A pilot group of 12 farms are participating in an Environmental Management System initiation program. A major program is the PQA+ program coordinated by the National Pork Board. This requires that producers successfully complete an educational program aimed at insuring the highest food safety and animal well-being results from their farms. The IPIC has four persons who have become certified PQA+ trainers. Their job is to train PQA+ advisors, who will then certify producers in this industry based program. To date, the IPIC has conducted 15+ meetings resulting in more than 200 certified PQA+ advisors. As producers are required to become PQA+ certified, it will be the job of these advisors to conduct either group or individual training for producers. To date, three of the major processors in Iowa now require that all suppliers be PQA+ certified within the next three years or sooner. ISUE and IPIC have the largest and most active program in this area in the nation. People trained by IPIC in PQA+ include veterinarians, educators, and producers directly.

4. Associated Knowledge Areas

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

Outcome #3**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	1213

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Today's young people need to know how important livestock and crop production is to the world and learn how they can have an active role in maintaining our state's agricultural leadership. In order to be successful in agricultural production, youth must be well educated. We use a variety of methods to provide to youth accurate, timely and unbiased information in the areas of swine production and consumer information. In addition to personally useful information, we also encourage consideration of post-secondary enrollment at Iowa State University in animal science and human science fields.

What has been done

IPIC and ISUE staff coordinate the Iowa State Fair 4-H Derby swine show and work with the premier swine exhibitor scholarship program; we coordinate with the ISU Animal Science Department staff in their recruitment effort during the annual 4-H Roundup program; we coordinate and present three pork-related workshops during the annual Iowa State 4-H Youth Conference; we encourage enrollment in the ISU Swine Fellows program; we work with IPPA in its Youth Ambassador Program and arrange youth activities at the Iowa Pork Congress; and we offer ultrasound scanning services to Iowa county fair shows.

Results

In 2007-08: more than 300 youth exhibited in the State Fair youth swine show; 85 youth participated in Roundup; more than 50 youth and adult State 4-H conference attendees participated in the workshops; 12 ISU students are part of the Swine Fellows program; the Pork Youth Ambassador program has been restructured, yet nearly 100 youth participated in special activities including the scavenger hunt at Iowa Pork Congress; and more than 2,700 head of hogs were scanned for county fair shows in 33 Iowa counties.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management
307	Animal Management Systems

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	220

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is important to develop and maintain a 'sustainable' agriculture industry in Iowa. Sustainability has various components, such as economic viability, social acceptance and environmental impact. The best way to accomplish all three areas of sustainability is to integrate the crop and livestock industries of Iowa. Livestock are the primary users of Iowa grown crops. Livestock produce highly valuable nutrients that are needed by the crop producers to fertilize the land and produce the high levels of product needed for economic viability. And the inclusion of livestock production (such as a swine finisher) in the business plan of a crop farmer adds both diversity to the operation, and is a mechanism for a young beginning farmer to enter agriculture. In addition, these swine production enterprises add to the tax base of our rural communities and create jobs where the proceeds stay in the community.

What has been done

A cash flow model has been developed for use by crop farmers, and others that might be considering expansion of their business to include finishing of swine. Targeted publications outlining the possibilities of diversifying farms to increase income and manage risk have been developed. Also, ISUE Swine Field Specialists have coordinated meetings with county boards of supervisors and county boards of health to expose them to this important topic of 'Animal Agriculture' and the benefits of integrated crop and livestock production.

Results

Meetings were held with representative of eight county boards of health or boards of supervisors on the benefits of integrated crop and livestock production in the past year. Displays outlining the possible advantages of these systems were put up and manned at the Iowa Farm Bureau Federation annual meeting, the Iowa Pork Congress and many regional and local events. The IPIC has worked very closely with the Coalition to Support Iowa's Farmers in articulating this concept, and in assisting producers in evaluating potential sites for swine barns that would have the least probability of odor or negative impacts on neighbors.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment
601	Economics of Agricultural Production and Farm Management
307	Animal Management Systems

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	20886

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A national animal identification system is necessary to help protect American animal agriculture from disease threats. The ability to find potentially sick or exposed animals early in a disease outbreak is essential to controlling the outbreak quickly. The NAIS would allow for rapid traceback of animals in the event of an outbreak, helping to limit the outbreak and minimize the impact on markets.

The NAIS may benefit producers in other areas as well, including providing additional marketing opportunities. The NAIS also helps uphold the reputation of Iowa and the United States as having healthy animals, and it will promote continued confidence in American agricultural and animal products.

What has been done

Producers and other landowners were encouraged to register their premises during the 2007 Iowa Pork Congress at a dedicated online computer in the IPIC/ISU display. Representatives from IDALS were at the display much of the time to provide assistance and answer questions. Also, producers were referred to the IDALS display at the same trade show for additional information. ISUE swine field specialists affiliated with livestock production have registered their own premises, and based on their experience, promote the program and its simple registration process to attendees at educational programs throughout the year.

Results

Our target goal of 2,500 registered premises in Iowa was easily reached, since we are in the early phases of the program. In fact, according to the latest numbers available from the USDA-APHIS Web site on the NAIS program, more than 44 percent of all premises in Iowa have been registered as of 1-22-08: 20,886 of an estimated 47,273 premises. This puts Iowa in 5th place nationally for number of premises registered and 13th place in percentage of estimated premises registered. In 2007, Iowa ranked first in number of new premises registered, due in part to the opportunity at Iowa Pork Congress in January and continued encouragement by ISUE field specialists.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection
308	Improved Animal Products (Before Harvest)

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	125	150

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The pork industry is under attack from activist groups with an agenda against animal agriculture. One way they have attacked the animal industries is the method of penning females during reproduction. The traditional method of housing sows in environmentally controlled individual crates has been a target of criticism and legislative action (to ban such pens). As a result, pork producers need to be aware of alternative group sow housing systems and their strength and weaknesses.

What has been done

The ISUE Swine Field Specialists held one of their semi-annual in-service training events in Denmark. Since most of Europe is being forced to use group sow housing, and Denmark has been a leader in developing these housing systems, the field specialists (and accompanying faculty) had the chance to learn these systems and evaluate how they might be used in Iowa. Each field specialist developed a PowerPoint presentation targeted towards group sow housing that was used for multiple audiences. In addition, this was a topic presented to producers at our regional Advance Reproductive Management Conferences held in 2007.

Results

More than 5000 of our pork producers and allied industry have been exposed directly to the concepts of group sow housing, and the strengths and limitations of these facilities at commodity conferences such as Iowa Pork Congress. ISUE sponsored Reproductive Management Conferences were attended by 150 in the past year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management
306	Environmental Stress in Animals

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Livestock nutrients are a valuable resource to farmers, supplying essential nutrients required for crop growth. However, it is also no secret that too much manure or manure improperly handled or land-applied can also be a detriment to soil and water quality. The agriculture community recognizes the need to provide information on regulations, best management practices, and neighbor relations to Iowa's farmers.

What has been done

ISUE field specialists with livestock and agricultural engineering specialties plan and present manure management certification meetings annually, and offer specialized manure management plan educational meetings and sessions on as-needed and as-requested bases in their respective geographical areas.

Results

Each year a higher percentage of pork producers test their manure for nutrient composition prior to land application. The reasons for this include the increasing value of manure dictates that less is wasted, pork producers are most always good stewards of the land and over application could harm water quality, and most producers realize that any over application casts the industry in an unfavorable light. The Manure Applicator Certification program is especially important in making sure that manure is tested prior to land application. As more of the acres of Iowa cropland are fertilized with animal nutrients, and more pork producers either qualify for the MAC license or use MAC certified applicators, there is less chance of harming our environment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
403	Waste Disposal, Recycling, and Reuse

Outcome #8

1. Outcome Measures

Number of pork producers who adopt more competitive production systems and practices

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	41631

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Pork production, like all other agriculture enterprises, requires an ever increasing level of efficiency and product quality to survive and prosper. To accomplish this, pork producers must continually improve their production systems and practices to meet these goals. As a Land Grant University, Iowa State University has a broad mission which includes discovery of new technology, assist our client,'s adoption of these technologies, and to educate our students and industry clients in why these new ideas might help them and how to implement them.

What has been done

Iowa State University has over 50 PhD or DVM scientists working to assist the pork industry of Iowa. In addition, we have access to technology developed at other locations which may be of service to the pork producers of Iowa. We also have the largest and most effective information delivery system in the nation. A coordinated effort between ISU administration, faculty and staff targeting the pork industry of Iowa is ongoing and extremely successful.

Results

Only pork producers that adopt more competitive production systems and practices can survive and prosper in the long term. The IPIC has had direct contact with more than 40,000 participants in the pork industry over the past year. Major activities (in terms of client contacts) include the Iowa Pork Congress, the World Pork Expo, Farm Progress Show, Iowa Farm Bureau annual convention, regional conferences and one on one interactions with clients. Another avenue of impact is through the IPIC website and the PorkLine. Programs of particular success has been the development of materials for assessment of sow condition (more than 5000 distributed worldwide), guides to replacement gilt selection (more than 6000 distributed worldwide), and Sow Longevity Spreadsheets (distributed to producers across Iowa and to 38 foreign countries worldwide).

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management

Outcome #9

1. Outcome Measures

Number of producers who adopt improved animal health protocols or procedures.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	132

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

An essential part of efficient production of profitable pork is to maintain a healthy herd. With the increasing oversight over food safety and the tightening profit margins, it is imperative for pork producers to adopt optimal animal health programs and procedures for their herds. Information on these improved animal health protocols and procedures must come from unbiased source of information who works with the most advanced discovery teams.

What has been done

Iowa State University has greatly re-invested in programs involving Food Supply Veterinarians and the Veterinary Diagnostic and Production Animal Medicine unit. These programs are designed to integrate a variety of disciplines to effectively address the needs of producers and consumers, provide veterinary students with needed skills, knowledge and problems solving ability to serve the needs of the pork industry of Iowa. These areas of discovery, education and technology transfer are essentially needed by our clients of Iowa.

Results

The capabilities of the Veterinary Diagnostic Lab at ISU have been greatly enhanced over the past year. Major investments in facilities, faculty and staff have increased the capability to serve our clients. Ongoing programs, such as the Iowa Swine Disease Conference, continue to be the model for other universities across the nation. Furthermore, the cooperative activities between the College of Veterinary Medicine and the College of Agriculture and Life Sciences have been greatly enhanced recently. Cooperative efforts in areas such as PQA+ education, sow lifetime productive lifetime, animal well-being and care, and computerized data management systems have recently evolved and are having a tremendous impact on pork production in Iowa, the nation, and worldwide.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management
302	Nutrient Utilization in Animals
311	Animal Diseases
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems
306	Environmental Stress in Animals

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Other (high input costs for corn and soybean meal)

Brief Explanation

Due to the demand for corn and soybean meal for energy production (ethanol, soy biodiesel) the cost of feed related inputs has almost doubled in the past year. This appears to be a change that will not recede in the near future. As a result, the economic importance of feed cost and feed conversion has increased greatly. This then drives a need for accurate information to assist our clients in understanding their options to deal with this challenge. This then has a direct impact on the programs that are offered through the Iowa Pork Industry Center, and for the applied research needed to address these important questions.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- After Only (post program)
- Other (compared 2006 eom results with 2007 emo results)

Evaluation Results

The 2006 regional pork conferences were held as five-hour sessions in eight locations around Iowa; the 2007 series was held in five locations for the same length of session. Speakers and specific topics were different, but general topics (handling and transportation, health and disease, and market outlook) were similar. Results are summarized by geographic area of the state to compensate for the different meeting locations.

Nearly 60 percent of attendees completed end of meeting evaluations for both years. Based on numerical ratings and comments, the pig health/disease/mortalities topic was highly ranked in 2006 in northwest, north central and west central Iowa in 2006, and in northwest, north central, west central and southeast Iowa in 2007. These areas of the state also have more pigs than others. Similarly, animal handling was a primary reason for attending the 2006 series in northwest, north central, west central, northeast and central Iowa; while in 2007 the handling/transportation topic was a major attendance draw in west central, northeast and southeast Iowa. In 2007, the marketing and market condition presenter received high marks (mostly 4s and 5s on a 1-5 scale with 1 being "not at all beneficial" and 5 being "very beneficial") but generated few additional comments, and those were only from northwest Iowa. When categorizing attendees by geographical location within Iowa, there was a repeat participation level of 70 percent in some cases. Our survey results show that while producers and others choose to attend based on specific interest topics and a date/location that works for their operation, they are appreciative of the presentations and speakers in other areas.

Based on these (and past) survey results, continuing to offer segments on current health and disease conditions, financial and economic concerns, and animal handling and transportation is vital. Also, ISUE swine field specialists use these results to tailor topic-specific producer workshops and meetings in their respective geographic areas.

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Farm and Business Management

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	60%		60%	
602	Business Management, Finance, and Taxation	10%		10%	
603	Market Economics	20%		20%	
605	Natural Resource and Environmental Economics	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	0.0	0.0
Actual	20.0	0.0	1.4	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
641156	0	70811	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
641156	0	70811	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2078288	0	424245	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Risk Management Education: 35 county level meetings discussing farm leasing agreements were held, with over 3,000 attendees. 20 radio interviews and mass media articles were disseminated. Approximately 3,000 personal consultations were carried out. A one-day continuing education seminar for crop insurance agents was held, with 275 people attending.

Women Decision-makers and Leaders: Approximately 12 Annie's Project groups have been started in Iowa, in which farm women only are invited to attend a series of workshops that address financial and economic issues of their choosing.

Financing Agriculture: 87 agricultural lenders and auditors enrolled in the 2007 Agricultural Credit School conducted by ISU Extension. They each received 35 hours of instruction on legal requirements of lending, financing crops, livestock and farm real estate, risk management, financing new businesses, and problem loan solving.

Next Generation of Agriculturalists: The AgLink program is a four day seminar for multiple generations. It allows students, their parents and others with whom they will be farming the opportunity to explore transition options and plans. The FarmOn program is designed to match unrelated beginning and retiring farmers. Individual consultations have been provided. Speeches, lectures, workshops, and short courses have been initiated. Materials have been developed. Extension has worked with other groups and organizations.

Farm Income Tax Education: In 2006, the ISU Extension and the ISU Center for Agricultural Law and Taxation conducted seven schools in Sheldon, Mason City, Fort Dodge, Ames, Muscatine, Waterloo, Atlantic, and Ottumwa. Attendees are eligible for up to fourteen hours of continuing education credits. The Center has also been involved in continuing education in the area of taxation in the areas of women in agriculture, farm estate and business planning, and the Iowa Bar Association Tax School.

Farm Bill Education: A few presentations outlining some of the options being considered for the 2008 farm bill were included in seminars and meetings for farm audiences. It is anticipated that these will increase as the time for actually debating and passing the bill draws nearer.

Alternative Enterprises or Value Retained: Iowa State University Extension has responded to producers' needs a number of ways. Extension bulletins on vegetable and organic budgets, as well as how to use them in decision making were developed. A series of informational meetings on organic agriculture and other long-term rotations, vegetable economics, and using budgets were held throughout the state. Interactive decision making tools were developed and put on the ISU farm management website Agricultural Decision Maker. Alternative agricultural information was added on the website Agricultural Marketing Resource Center.

2. Brief description of the target audience

- Grain, livestock and dairy producers
- Agribusiness professionals
- Agricultural lenders
- Farm employees
- Female farmers and farm partners
- On-farm and off-farm heirs
- Beginning farmers
- Landowners
- Tax practitioners
- Entrepreneurs
- Farm families
- State agencies and NGOs

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	15000	3350000	0	0
2007	15027	929322	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	127	13	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- {No Data Entered}

Not reporting on this Output for this Annual Report

Year	Target	Actual
2007	{No Data Entered}	{No Data Entered}

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of crop and livestock producers who choose marketing, insurance and USDA program alternatives that are consistent with the risk bearing ability of their businesses and their personal preferences for managing risk.
2	Number of female farmers and farm partners who take a more active role in decision making for their businesses.
3	Number of agricultural lenders who finance the acquisition of new resources or implementation of new technology for their borrowers while maintaining liquidity and controlling financial risks.
4	Number of beginning farmers who objectively measure the likelihood of meeting their individual and family goals through entering a farm business.
5	Number of Iowa businesses providing inputs and/or services to farmers that will offer informed marketing and financial advice.
6	Number of income tax practitioners that increase the accuracy and efficiency of the farm returns that they prepare.
7	Number of producers and landowners who make choices among CRP, CSP and commodity payment programs consistent with their goals of increasing profits and protecting agricultural resources.
8	Number of producers and other entrepreneurs who increase their awareness of alternative enterprises or value retained opportunities by either attending an educational program or downloading educational materials from a website.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	12620

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Farm operators are faced with uncertain commodity prices, input prices and crop yields each year. These factors have a large impact on their net income and the long-term financial viability of their businesses. Farm landowners also must adjust their rental arrangements to fit current levels of profitability in agriculture. Finally, agricultural professionals such lenders and insurance agents must be able to provide informed advice to their clientele.

What has been done

Farm leasing arrangements: 35 county level meetings were held with over 3,000 attendees. 20 radio interviews and mass media articles were disseminated. Approximately 3,000 personal consultations were carried out. Crop insurance: a one-day continuing education seminar for crop insurance agents was held, with 275 people attending.

Results

An estimated 300 farm lease arrangements were adjusted to reflect current economic conditions, resulting in competitive returns to landowners and market driven costs to tenants. Crop insurance agents are giving more informed advice regarding the basic crop policies, conflict of interest considerations, choosing insurance units, and the sustainability of recent increases in corn yields.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	2295

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Female farm operators and farm partners have many questions and concerns about the financial management of their businesses and economic decisions that affect their businesses. They are often reluctant to attend mixed-gender educational meetings or to voice their questions and concerns.

What has been done

Approximately 12 Annie's Project groups have been started in Iowa, in which farm women only are invited to attend a series of workshops that address financial and economic issues of their choosing.

Results

Nearly 1000 women have participated in Annie's Projects in Iowa. They have increased their understanding of topics such as USDA farm programs, farm accounting and budgeting, interpersonal communication, machinery economics and leasing arrangements.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics

Outcome #3**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	2927

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Agricultural lenders need to understand the legal steps needed for making new farm loans, how to analyze and evaluate new loan applications, how to service and monitor existing credits, and how to meet the credit needs of beginning farm operators and new enterprises.

What has been done

87 agricultural lenders and auditors enrolled in the 2007 Agricultural Credit School conducted by ISU Extension. They each received 35 hours of instruction on legal requirements of lending, financing crops, livestock and farm real estate, risk management, financing new businesses, and problem loan solving.

Results

50% of the attendees rated the School as Excellent and 50% rated it as Good relative to meeting their educational needs. They expect that their credit institutions will be able to increase their agricultural loan portfolios with fewer delinquencies and nonperforming loans.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
603	Market Economics
602	Business Management, Finance, and Taxation

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	294

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The next generation of agriculturalists was identified as one of the top areas in both the survey and listening sessions held by Extension. The major concerns are the lack of young people on the farms, transitioning farms from one generation to the next and the difficulty getting started in today,'s capital intensive agriculture. Iowa land owners are aging and there will be a major shift in wealth over the next several years. Much of Iowa,'s land will be owned by people who do not live in the state.

What has been done

The AgLink program is a four day seminar for multiple generations. It allows students, their parents and others with whom they will be farming the opportunity to explore transition options and plans. The FarmOn program is designed to match unrelated beginning and retiring farmers. Individual consultations have been provided. Speeches, lectures, workshops, and short courses have been initiated. Materials have been developed. Extension has worked with other groups and organizations.

Results

Currently there are matching files for 185 beginning farmers and 17 retiring farmers. There were 23 active matches facilitated. During the year there were 162 calls of a general nature and 15 individual farm consultations impacting 38 individuals. The Ag Link seminar was attended by six families and their students with 30 people being reached. The Beginning Farmer Center hosted the national meeting of the Nation Farm Transition Network. The Center worked with two surrounding states to obtain a grant to help provided transitional seminars in six additional states. Legislation to help beginning farmers was passed in 2006. A resource pamphlet was developed in northwest Iowa. The Ag Link seminar was successfully duplicated at Kirkwood Community College with 8 students and 22 attendees. The student Beginning Farmer Network hosted a conference attend by approximately 100 people. Evaluations indicate the conference was well received and it will be repeated again this year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

Outcome #5**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done**

Due to programmatic changes, this outcome has been absorbed into others and cannot be reported independently.

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	10001

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

For over thirty years, the Iowa State University Farm Income Tax Schools have been conducted to educate agricultural business professionals, farm accountants, and attorneys on the legal and technical tax issues involved in preparing farm income tax returns. Nearly all farm income tax returns filed in the state are completed by attendees at the seven schools. The schools are extension based and reach nearly 1200 people every year.

What has been done

In 2006, the ISU Extension and the ISU Center for Agricultural Law and Taxation conducted seven schools in Sheldon, Mason City, Fort Dodge, Ames, Muscatine, Waterloo, Atlantic, and Ottumwa. Attendees are eligible for up to fourteen hours of continuing education credits. The Center has also been involved in continuing education in the area of taxation in the areas of women in agriculture, farm estate and business planning, and the Iowa Bar Association Tax School.

Results

Over 1200 people attended the 2006 Farm Income Tax Schools. Professor Roger McEowen taught Day One of every school and Day Two was taught jointly by Dr. Neil Harl and three Iowa attorneys, Lee Wilmarth (Decorah), Jim Goodman (Marshalltown), and David Bibler (Algona). The result was extensive education in the area of farm income taxation and comprehensive training for those involved in the preparation of tax returns across the state. It is expected that this will lead to fewer errors and omissions in the preparation of farm income tax returns in Iowa and increased compliance with IRS policies and procedures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	629

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The 2003 Federal farm bill will expire in 2008. Farmers, landowners and agribusiness professionals are interested in what provisions will be included in the legislation that follows it, because it is likely to have significant impacts on the size and frequency of commodity payments received, the types of conservation programs and practices that will receive incentive payments, and other issues that will impact both individual farming operations and rural communities.

What has been done

A few presentations outlining some of the options being considered for the 2008 farm bill were included in seminars and meetings for farm audiences. It is anticipated that these will increase as the time for actually debating and passing the bill draws nearer.

Results

Farmers, landowners and agribusiness persons have more knowledge of proposals being considered for the 2008 farm bill and can discuss them more intelligently with their neighbors and elected representatives.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

Outcome #8

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300	4529

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Commodity agriculture is historically a high volume, low margin industry. High land and machinery costs make entry into commodity agriculture difficult. Interest, therefore, is increasing in alternative agricultural farming operations including, but not limited to: organic agriculture, fruit and vegetable production, and various livestock enterprises. Profit margins, however, vary a great deal and are based on what product is grown and how it is priced. Potential farmers need assistance in evaluating which alternative enterprise makes sense to them.

What has been done

Iowa State University Extension has responded to producers needs a number of ways. Extension bulletins on vegetable and organic budgets, as well as how to use them in decision making were developed. A series of informational meetings on organic agriculture and other long-term rotations, vegetable economics, and using budgets were held throughout the state. Interactive decision making tools were developed and put on the ISU farm management website Agricultural Decision Maker. Alternative agricultural information was added on the website Agricultural Marketing Resource Center.

Results

Initial comments from producers indicate they are surprised at the profitability of vegetable production, as well as organic and non-organic long-term crop rotations. Misunderstandings regarding profitability of alternative agricultural enterprises are prevalent. Questions following the meetings and increases in requests for additional information and future meetings are occurring.

Total attendance for all meetings and workshops related to alternative agriculture were approximately 525. Individual consultations are increasing due to the additional interest. Producers are changing practices as a result of their educational experiences. For example, a few vegetable growers told us they were changing product mix, production practices, and pricing and promotional strategies as a result of their educational experience. A few farmers are slowly transitioning their crops into organics (a field at a time) from conventional agriculture. Producers tell us that as they learn how to budget, price, and/or plan for a particular decision, they are learning how to use the same process for the other decisions they need to make within their farming operation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics
603	Market Economics

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Government Regulations

Brief Explanation

The sudden manifestation of increased demand for corn for production of ethanol in rapidly increasing prices for corn (initially) followed by soybeans, wheat, hay and other commodities created a need for more education about cost of production, renegotiation of farm lease agreements, new marketing strategies and the economics of ethanol and biodiesel production. This resulted in a reallocation of time for many Extension specialists.

New income tax legislation and rules always influence the program content of the Farm Income Tax Schools.

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

1. Evaluation Studies Planned

- After Only (post program)

Evaluation Results

Key Items of Evaluation

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Resource Planning and Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	0.0	0.0
Actual	20.0	0.0	1.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
468153	0	116832	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
468153	0	116832	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1736122	0	306307	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

(1) Community visioning and design – A program of participatory research and outreach, working with communities to develop concepts and strategies for creating a shared vision of the future; which includes social, as well as physical/design strategies. Programs such as Living Roadways Community Visioning, the Community Design Program, PLaCE, Downtown & Neighborhood Revitalization continue to involve participatory research and outreach.

(2) Community planning – Conduct research and provide outreach to communities on community planning, zoning, geographic information systems, and community resource management. Provide training to local officials on local government topics that contribute to the efficient management and operation of community assets.

(3) Community economic development – Conduct economic analyses and applied research for communities and regions, disseminate the information, and provide training on entrepreneurship and small business development and management.

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	4850	37800	0	0
2007	11547	15831	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	23	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of articles, publications, reports, plans.

Year	Target	Actual
2007	53	129

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Community visioning and design: Organizations/communities participating in events.
2	Community visioning and design: Quality of life projects initiated
3	Community visioning and design: Communities completing quality of life projects.
4	Community planning: Communities participating in training sessions
5	Community planning: Community plans/projects initiated
6	Community planning: Communities with improved civic functioning
7	Community economic development: Communities participating in economic development events
8	Community economic development: Communities undertaking economic development activities
9	Community economic development: Number of businesses started
10	Community economic development: Number of jobs created or retained

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	36

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

A gap exists between the demand for design services to rural Iowa communities and the availability of those services. Many smaller communities in Iowa face enhancement related issues that they are unable to address due to lack of planning personnel and/or resources.

What has been done**Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #2**1. Outcome Measures**

Community visioning and design: Quality of life projects initiated

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	36

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

A gap exists between the demand for design services to rural Iowa communities and the availability of those services. Many smaller communities in Iowa face enhancement related issues that they are unable to address due to lack of personnel and/or resources.

What has been done

The Iowas Living Roadways Community Visioning Program assists small Iowa communities to develop enhancement plans that reflect the values and identity of the community. The visioning process is sponsored by the Iowa DOT in partnership with ISU Extension and Trees Forever. The College of Design Extension offers community planning assistance through design studios and GIS imaging workshops. ISU Extension developed Planning & Zoning Workshops for city officials and planners.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

A gap exists between the demand for design services to rural Iowa communities and the availability of those services. Many smaller communities in Iowa face enhancement related issues that they are unable to address due to lack of personnel and/or resources.

What has been done

The Iowas Living Roadways Community Visioning Program assists small Iowa communities to develop enhancement plans that reflect the values and identity of the community. The visioning process is sponsored by the Iowa DOT in partnership with ISU Extension and Trees Forever. The College of Design Extension offers community planning assistance through design studios and GIS imaging workshops. ISU Extension developed Planning & Zoning Workshops for city officials and planners.

Results

In 2007, 24 communities participated in community visioning or community planning programs. Each community received a conceptual design plan, a project feasibility study and assistance in implementation planning. An impact assessment conducted in 2006 shows that 94 percent of communities that participate in community visioning complete at least one project proposed during the process. Types of project completed include roadside plantings, signage or signage improvements, streetscape enhancements, downtown area improvements, parks and other infrastructure improvements such as storm water drainage, welcome centers and historic areas. ISU Extension conducted 12 Planning and Zoning workshops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

Community planning: Communities participating in training sessions

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #5**1. Outcome Measures**

Community planning: Community plans/projects initiated

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	10

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many small Iowa communities also lack resources and expertise to develop comprehensive plan and individual community improvement projects. Worth County beautification committee requested assistance from ISU Extension in landscaping a 40 by 100 foot open space between two of the main buildings at the Worth County Fairgrounds. Sioux City received an Iowa Great Places grant which included the development of a satellite studio for ISUs College of Design.

What has been done

ISU Design Extension assisted the towns of Mitchellville, Elkhart and De Soto to develop comprehensive plans. Design studios worked in the following communities/areas: East Neighborhood in Des Moines, Franklin township, Arnolds Park, Pocahontas and Ames Campustown. ISU Extension developed beautification plans for the Worth County Fairgrounds. At the ISU Design West Studio in Sioux City, architecture students designed and built three bus stop shelters.

Results

Through Design Extension, comprehensive plans were developed for the communities of Mitchellville, Elkhart and De Soto. Through design studio classes, plans were developed for the East Neighborhood in Des Moines and Ames Campustown. A cemetery expansion plan was developed for Franklin township, designs of downtown businesses were created for Pocahontas, and a plan for Fire Lakes Cultural District was developed for Arnolds Park. Having a completed plan allowed the Worth County to apply for grants and other funds to pay for the construction of the main gate. A fund-raising effort was also taken up by 4-H clubs throughout the county and the \$9,500 gate was installed in June 2007.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #6

1. Outcome Measures

Community planning: Communities with improved civic functioning

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To help families make the transition to home ownership and to help low-income families improve their living conditions, the Iowa General Assembly created a state housing trust fund administered by the Iowa Finance Authority that offers forgivable loans to rehabilitate existing housing. However, many Iowa communities do not have the structure in place to apply for and administer such loans.

What has been done

ISU Extension developed a process to apply for and use state funding for rehabilitation of existing housing for the Dallas County Local Housing Trust board. ISU Extension is conducting similar work in Linn, Clay and Des Moines Counties and the city of Burlington. A presentation on how to develop a local housing trust fund was given to the Tri-State Workforce Housing Task Force, which represents University of Missouri, 13 Missouri counties, 14 Illinois counties and 8 Iowa counties.

Results

The Dallas County Local Housing Trust Fund was established and funds totaling \$165,000 from the State Housing Trust Fund have been put to work locally since the county group was formed. The trust fund has also received private donations and grants as matching funds. Because of the success of its rehabilitation work, Dallas County is moving toward funding new construction projects. ISU Extension was awarded a contract for \$156,000 by the Iowa Finance Authority to develop a similar process for other counties in the state. With assistance from Extension, Sioux City wrote a successful application and received a grant of \$132,044 for 2007.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #7

1. Outcome Measures

Community economic development: Communities participating in economic development events

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	20

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many communities in Iowa lack the resources necessary to develop innovative projects and initiatives designed to improve their economic growth. Communities need assistance in dealing with issues related to community entrepreneurship, community philanthropy and rural/urban policy.

What has been done**Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #8**1. Outcome Measures**

Community economic development: Communities undertaking economic development activities

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	20

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many communities in Iowa lack the resources necessary to develop innovative projects and initiatives designed to improve their economic growth. Communities need assistance in dealing with issues related to community entrepreneurship, community philanthropy and rural/urban policy.

What has been done

The Community Vitality Center (CVC) was created to identify policy topics of concern to rural communities; commission research to analyze the priority policy topics and impacts of public policy on rural areas; assess best practices, lessons learned and performance of alternative strategies to improve rural vitality; and foster collaborative public-private partnerships to engage rural communities and diverse rural and urban interests in dialogue.

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #9**1. Outcome Measures**

Community economic development: Number of businesses started

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	6

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Many communities in Iowa lack the resources necessary to develop innovative projects and initiatives designed to improve their economic growth. Communities need assistance in dealing with issues related to community entrepreneurship, community philanthropy and rural/urban policy.

What has been done

The Community Vitality Center (CVC) was created to identify policy topics of concern to rural communities; commission research to analyze the priority policy topics and impacts of public policy on rural areas; assess best practices, lessons learned and performance of alternative strategies to improve rural vitality; and foster collaborative public-private partnerships to engage rural communities and diverse rural and urban interests in dialogue.

Results

CVC co-sponsored entrepreneurship support projects in more than 20 communities, conducted programs in 40 schools, conducted 7 e-Commerce workshops and 3 workshops to assist Latino businesses. CVC collaborates with the Iowa Council of Foundations, Extension, Iowa Dept. of Economic Development, and Iowa Nonprofit Resource Center in organizing philanthropy education and training. These activities leveraged \$2 million in state tax credits and revenues into \$12 million in donations to endowments and provided distributions of \$5 million in state revenues to 1,700 local agencies & nonprofits serving countywide needs. CVC collaborated with more than two dozen diverse groups during project implementation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

Outcome #10**1. Outcome Measures**

Community economic development: Number of jobs created or retained

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	125

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Southwest Iowa is considered one of Iowas economically distressed regions and is in need of assistance in economic development. The regions shares of the state income, jobs, and people are on a downward trend. The workforce is older; many younger workers have relocated.

What has been done

ISU Extension, with the Southwest Iowa Coalition, the Grow Iowa Foundation, and the Wallace Foundation for Rural Research and Development developed and secured funding for the Southwest Iowa Rural Development Resource Center (RDRC). RDRC is a communication hub that brings together resources and service providers for businesses in SW Iowa.

Results

USDA awarded a \$300,000 technical assistance grant to RDRC. Iowas only rural business accelerator, funded by the Iowa Department of Economic Development, was established at the center. Thirty-eight SW Iowa businesses have taken advantage of the services offered by RDRC. Some of the benefits to these clients include one small business start, two small business expansions, and two loan referrals. The location investigation of more than 40 sites for an out-of-state, biofuels site consultant, has resulted in plans to construct two new biofuels plants in the region.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Appropriations changes

Brief Explanation**V(I). Planned Program (Evaluation Studies and Data Collection)****1. Evaluation Studies Planned**

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

Evaluation Results**Key Items of Evaluation**

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

Economics, Markets, and Policy

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	20%		20%	
602	Business Management, Finance, and Taxation	10%		10%	
603	Market Economics	10%		10%	
604	Marketing and Distribution Practices	5%		5%	
606	International Trade and Development	10%		10%	
607	Consumer Economics	10%		10%	
609	Economic Theory and Methods	5%		5%	
610	Domestic Policy Analysis	10%		10%	
611	Foreign Policy and Programs	5%		5%	
803	Sociological and Technological Change Affecting Individuals, Fam	15%		15%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	6.7	0.0
Actual	0.0	0.0	2.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	214024	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	214024	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	553566	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Extension Bulletins

Year	Target	Actual
2007	4	0

Output #2

Output Measure

- Web page hits

Year	Target	Actual
2007	10000	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Journal articles
2	Proceedings
3	Book chapters

Outcome #1**1. Outcome Measures**

Journal articles

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

Outcome #2**1. Outcome Measures**

Proceedings

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Book chapters

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

Economic and Social Welfare

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
603	Market Economics	10%		10%	
607	Consumer Economics	10%		10%	
608	Community Resource Planning and Development	10%		10%	
609	Economic Theory and Methods	10%		10%	
610	Domestic Policy Analysis	10%		10%	
803	Sociological and Technological Change Affecting Individuals, Fam	30%		30%	
805	Community Institutions, Health, and Social Services	20%		20%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	11.2	0.0
Actual	0.0	0.0	4.3	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	321931	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	321931	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	752763	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

2. Brief description of the target audience

All traditional and non-traditional agricultural producers in Iowa

All Iowa consumers

Iowa entrepreneurs

Iowa businesses

Iowa agricultural leaders

Iowa community and economic development practitioners

Iowa researchers outside of the land grant system

Iowa state and local government officials

Iowa local community leaders

State of Iowa and national policy makers

Public and non-governmental community and economic development organizations and agencies

High school, community college, and university students

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	900	2500	150	0
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year Target

Plan: 0

2007 : {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Extension bulletins

Year	Target	Actual
2007	4	0

Output #2

Output Measure

- Web page hits

Year	Target	Actual
2007	10000	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Journal articles
2	Proceedings
3	Book chapters

Outcome #1**1. Outcome Measures**

Journal articles

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
609	Economic Theory and Methods
608	Community Resource Planning and Development
607	Consumer Economics
805	Community Institutions, Health, and Social Services
603	Market Economics
610	Domestic Policy Analysis
803	Sociological and Technological Change Affecting Individuals, Fam

Outcome #2**1. Outcome Measures**

Proceedings

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done**

Results**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services
803	Sociological and Technological Change Affecting Individuals, Fam
607	Consumer Economics
603	Market Economics
609	Economic Theory and Methods
610	Domestic Policy Analysis

Outcome #3**1. Outcome Measures**

Book chapters

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
603	Market Economics
608	Community Resource Planning and Development
607	Consumer Economics
610	Domestic Policy Analysis
609	Economic Theory and Methods
805	Community Institutions, Health, and Social Services
803	Sociological and Technological Change Affecting Individuals, Fam

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #8

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Services and Institutions

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	7.2	0.0	2.1	0.0
Actual	7.2	0.0	7.6	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
220307	0	267400	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
220307	0	267400	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
816999	0	1290815	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	400	1000	0	0
2007	6214	5277	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	10	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2007	10	13

Output #2

Output Measure

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

Year	Target	Actual
2007	5	8

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Community institutions, health and social services: Number of organizations participating in projects
2	Community institutions, health and social services: Organizations undertaking projects
3	Community institutions, health and social services: Community improvements made

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	264

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Problems during the election process continue to occur throughout the country as more and more precincts develop new procedures and adopt new technology. County and state election officials are committed to ensuring that Iowa elections continue to reflect good government values of Iowans. Iowa municipal employees must also deal with constantly changing legislation and procedures.

What has been done**Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

Outcome #2**1. Outcome Measures**

Community institutions, health and social services: Organizations undertaking projects

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	264

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Problems during the election process continue to occur throughout the country as more and more precincts develop new procedures and adopt new technology. County and state election officials are committed to ensuring that Iowa elections continue to reflect good government values of Iowans. Iowa municipal employees must also deal with constantly changing legislation and procedures.

What has been done

ISU Extension, in cooperation with the Iowa State Association of County Auditors, the Iowa Association of Counties and Help America Vote Act (HAVA) programs, developed a six-hour precinct election official (PEO) certification training for the Iowa Secretary of States Office. ISU Extension Office of State and Local Government Programs conducted the Iowa Municipal Clerks Institute to provide training to municipal employees throughout the state on a variety of topics relevant to city government.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

Community institutions, health and social services: Community improvements made

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	264

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Problems during the election process continue to occur throughout the country as more and more precincts develop new procedures and adopt new technology. County and state election officials are committed to ensuring that Iowa elections continue to reflect good government values of Iowans.

What has been done

ISU Extension, in cooperation with the Iowa State Association of County Auditors, the Iowa Association of Counties and Help America Vote Act (HAVA) programs, developed a six-hour precinct election official (PEO) certification training for the Iowa Secretary of States Office. Participants of Iowa PEO certification training attend three, two-hour sessions to learn about requirements in Iowa law designed to ensure open, honest and fair elections.

Results

More than 2,700 precinct election officials in 64 counties have received certification training. The high level of satisfaction expressed by PEO training participants prompted the Iowa Secretary of States Office to expand the original agreement to conduct 90 trainings over 3 years to 180 trainings conducted over the same period. Program evaluations indicate that precinct election officials and county auditors believe that elections are running more smoothly and effectively since some or all of the precinct election officials completed certification. More than 95 percent of participants rated the program as very good and excellent and more than 97 percent said they would recommend the training to others. More than 260 municipal employees attended the Iowa Municipal Clerks Institute and earned educational credit toward certification by the International Institute of Municipal Clerks or the Iowa Certification of Professionals Program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Program evaluations indicate that precinct election officials and county auditors believe that elections are running more smoothly and effectively since some or all of the precinct election officials completed certification. More than 95 percent of participants rated the program as very good and excellent and more than 97 percent said they would recommend the training to others.

Key Items of Evaluation

Program #9

V(A). Planned Program (Summary)

1. Name of the Planned Program

4-H Youth Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
806	Youth Development	100%		100%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	49.0	0.0	0.0	0.0
Actual	49.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1462050	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1462050	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2061136	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

4-H Afterschool

Training in youth development principles, practices and curricula was offered statewide for staff, afterschool staff and volunteers: 168 Extension, 736 after-school, and 321 volunteers were trained.

4-H curriculum was marketed and offered to after school programs resulting in 568 after-school programs using it and 17,513 children and youth K–12 engaged in 4-H Afterschool programming in leadership, citizenship, and communication.

A grants program was developed to provide local 4-H Afterschool startup funding to 10 County Extension Offices.

Iowa 4-H Afterschool impact data was collected and reported to National 4-H Afterschool and the Iowa Afterschool Alliance (IAA).

In collaboration with IAA, \$1M in state funding was secured for quality afterschool programming.

4-H Youth in Governance

A survey was created to identify status of youth in governance in counties, in order to understand current issues with promoting youth in governance.

A youth leadership curriculum was developed for volunteers and a middle school youth leadership curriculum developed and piloted.

4-H Challenge training was provided to promote leadership development for youth groups and 4-H groups.

Staff was trained in the Youth Program Quality Assessment instrument and the piloting with other agencies within the state.

Advancing Youth Development training and curriculum was provided to staff and workshops hosted by county offices for youth workers in their counties.

1000 youth and 884 volunteers were trained in Youth/Adult Partnerships at 140 local training programs.

4-H Clubs

A 4-H club growth initiative was launched. Each of Iowa's 100 counties prepared a County Action Plan to identify local strategies to grow club membership.

A pilot "Past-member" survey instrument and process was initiated. The survey targeted previous 4-H'ers who did not re-enroll. Early reports indicate as many as 60% of those contacted did re-enroll when asked.

A "New Member Satisfaction Survey" was developed to be sent at the end of a member's first year in 4-H and was completed by the parents with youth input. This survey was a way to assess program quality and better connect with new families.

Provided staff in-service training for extension staff to assess statistical trends in county 4-H membership and utilization of statistical data for making program decisions.

4-H Volunteer Development

Two standardized volunteer training programs on youth development and communications were offered in 97 counties. Other trainings were held in all 100 counties. Topics of the trainings consisted of subject matter (87) management (81), youth development (50), communications (24), leadership (24), and citizenship (8).

Surveys were created to determine current volunteer training practices, needs and understanding of 4-H outcomes and methods to design future trainings.

Three state volunteer newsletters were published and mailed to volunteers. Focus groups discussions resulted in new content webpages.

The impact of volunteering was measured by asking counties to record the number of hours of service volunteers and youth in the 4-H program give through the program to better their communities.

2. Brief description of the target audience

The target audience for Iowa 4-H youth programs are Iowa youth in grades K-12. Additional audiences are adult 4-H program volunteers, extension educators, Iowa K-12 grade teachers, pre-service educators, youth workers in community and private organizations that serve youth audiences, and community and state youth development collaborations.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3500	56000	110000	34000
2007	5955	53513	117639	29228

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	4	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trainings on Youth/Adult partnerships

Year	Target	Actual
2007	40	200

Output #2

Output Measure

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

Year	Target	Actual
2007	4000	4290

Output #3

Output Measure

- Number of volunteers completing two trainings/yr

Year	Target	Actual
2007	1000	1929

Output #4

Output Measure

- Number of adults trained on 4-H afterschool

Year	Target	Actual
2007	100	1225

Output #5

Output Measure

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

Year	Target	Actual
2007	7000	17513

Output #6

Output Measure

- Number of partnerships initiated or strengthened

Year	Target	Actual
2007	35	1995

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Communications: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of writing a speech/presentation, delivering a speech/presentation, developing supportive visuals, recognizing and utilizing active listening skills, asking clarifying questions, sharing ideas, communicating non-verbal messages and expressing feelings appropriately.
2	Communications: Percentage of youth who participate in a 4-H experience will self-report that they practice effective communication skills in sending and receiving written, visual and oral messages.
3	Citizenship: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of practicing good character, planning and organizing service learning events, and actively engaging in local, state and national issues.
4	Citizenship: Percentage of youth who participate in a 4-H experience will self-report that they demonstrate good character traits, service learning, planning and organizational skills, and engagement in community issues.
5	Leadership: Percentage of youth who participate in a 4-H experience will self report a 1 point increase in skills or knowledge in the content areas of setting goals, working cooperatively in a team, communication effectively, and making decisions based on data and the opinions of others, honoring individuals differences and handling conflict.
6	Leadership: Percentage of youth who participate in a 4-H experience will self report that they demonstrate the ability to influence and support others in a positive manner for a common goal.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	66

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Communication skills are important so that youth gain the ability to communicate effectively with others in interpreting information, expressing feelings and ideas, asking questions, and actively listening to others views. Through communication skill development, youth can participate in learning experiences that assist young people in writing/delivering presentations, utilizing active listening skills, asking clarifying questions, communicating non-verbal messages, and expressing feelings.

What has been done

1,929 4-H leaders in each of Iowas 100 counties were trained to help 4-Hers improve communication skills. 4-H fair communication event judges received training at two area workshops. A new 4-H Communications publication with communication activities was distributed to leaders, parents, and fair exhibit judges in every Iowa county. All 100 counties offered a county communication event program. 1,726 4-H members participated in public speaking and performance events at the 2007 Iowa State Fair.

Results

466 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, and Communication Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members communication skills after participating in 4-H as compared to before participating in 4-H. On average, 46.1% of 4-H Club members indicated a 1-point increase, 17.6% indicated a 2-point increase, and 2.8% indicated a 3-point increase in their communication skills after participating in a 4-H Club.

4-H Club members commonly indicated being involved in 4-H helped a young person gain communication skills through... 1) creating demonstrations, presentations, and speeches; 2) speaking in front of groups; 3) expressing ideas and asking for help from 4-H Leaders and judging officials; and 4) working together with a team of different aged people and having to speak and write effectively, listen attentively to others views, and articulately express ones perspectives.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

Outcome #3**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	74

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Citizenship skills are important so that youth learn to develop a life-long commitment to actively contribute to the world around them. Through citizenship learning experiences, youth develop skills to effectively work with others to plan, organize, and implement community changes or improvements. Citizenship experiences also help youth foster a personal connection and sense of commitment to their local community and assists youth in better understanding government systems, laws, and voting.

What has been done

Counties reported 266,668 hours of service given by 4-H members and 4-H volunteers to better local communities. 50 4-H clubs leveraged \$13,000 of service grants into over \$74,261 in community improvement projects. During the state Iowa 4-H Youth Conference 800 youth and adults contributed 2400 hours of service, and 40 youth received philanthropy training. 250 youth participated in 4-H Day at the Iowa Legislature. 98 youth attended the national Citizenship Washington Focus program.

Results

466 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, and Communication Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members citizenship skills after participating in 4-H as compared to before participating in 4-H. On average, 48.1% of 4-H Club members indicated a 1-point increase, 23.4% indicated a 2-point increase, 2.8% indicated a 3-point increase, and .4 indicated a 4-point increase in their citizenship skills after participating in a 4-H Club.

4-H Club members most commonly indicated being involved in 4-H helped a young person gain citizenship skills through ... 1) connecting to and understanding a community's needs and strengths; 2) being involved in service learning projects to improve one's community; 3) working with and learning from people during projects that help others; and 4) respecting one's own skills and others skills to work together to get things done.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	67

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Leadership skills are important so that youth gain the ability to influence, motivate, inspire, and positively support others for a common goal or desired action. Through leadership skill development, youth can participate in learning experiences that assist young people in relationship building, communicating effectively, understanding group processes including obtaining others viewpoints, making decisions based on principles, and organizing individuals and resources to get things done.

What has been done

4-H leader training modules on improving youth leadership skills were developed. 21 counties held leader training on leadership topics. 800 youth received leadership training during the Iowa 4-H Youth Conference. 1100 youth and 844 adults were trained to improve leadership skills through local Youth in Governance trainings. A statewide Program Governance policy was revised and implemented, recommending that youth be included as part of decision-making committees at all levels of the 4-H program.

Results

466 randomly selected 4-H Club members completed the Iowa 4-H Youth Citizenship, Leadership, and Communication Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members leadership skills after participating in 4-H as compared to before participating in 4-H. On average, 49.6% of 4-H Club members indicated a 1-point increase, 15.4% indicated a 2-point increase, and 2.6% indicated a 3-point increase in their leadership skills after participating in a 4-H Club.

4-H Club members most commonly indicated being involved in 4-H helped a young person gain leadership skills through ...1) providing opportunities to have officer roles within 4-H Clubs and team leader roles within activities; 2) learning to work as a team with multiple people that have different opinions and ideas; 3) communicating and presenting effectively in front of a group of people; and 4) learning to take responsibility to set personal goals.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	0	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Accurate reporting issues)

Brief Explanation

Budget issues that have resulted in reduced staffing at the State and local level continue to be a factor affecting progress toward our goals. A University/Department budget rescission forced important staff positions to be eliminated. The target youth population is decreasing in most Iowa counties. Implementation of new and innovative programs to reach new youth audiences is dependent on growing our volunteer workforce. Another issue that affected our output measures is the accuracy of and inconsistencies in county reporting of data. This year we began the process of helping counties more accurately record various types and numbers of volunteers and youth in their database.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- After Only (post program)

Evaluation Results

466 randomly selected 4-H Club members representing Iowa's 5 Extension areas completed the 4-H Youth Citizenship, Leadership, and Communication Self-Assessment Tool. The tool, based on a 5-point Likert scale, examined self-reported changes in 4-H Club members' communication, leadership, and citizenship knowledge and skills after participating in 4-H as compared to before participating in 4-H. 282 females (60.5%) and 184 males (39.5%) completed the self-assessment.

Results: Communication

On average, 46.1% of 4-H Club members indicated a 1-point increase in their communication skills, 17.6% indicated a 2-point increase in their communication skills, and 2.8% indicated a 3-point increase in their communication skills after participating in a 4-H Club.

Results: Leadership

On average, 49.6% of 4-H Club members indicated a 1-point increase in their leadership skills, 15.4% indicated a 2-point increase in their leadership skills, and 2.6% indicated a 3-point increase in their leadership skills after participating in a 4-H Club.

Results: Citizenship

On average, 48.1% of 4-H Club members indicated a 1-point increase in their citizenship skills, 23.4% indicated a 2-point increase in their citizenship skills, 2.8% indicated a 3-point increase in their citizenship skills, and .4 indicated a 4-point increase in their citizenship skills after participating in a 4-H Club.

Key Items of Evaluation

Reliability analysis of the 4-H Youth Citizenship, Leadership, and Communication Self-Assessment Tool indicated that the individual questions within each of the three respective constructs of citizenship, leadership, and communication were reliable; had the same conceptual meaning as the given construct. T-test comparison of After and Before citizenship, leadership, and communication constructs were significantly related for each of the three constructs. Furthermore, T-test comparison of 4-H Club members' After and Before responses indicated that for each individual question within the construct of citizenship (3 questions), leadership (6 questions), and communication (8 questions), 4-H Club members' After participating in 4-H responses were significantly higher than 4-H Club members' Before participating in 4-H responses.

Program #10

V(A). Planned Program (Summary)

1. Name of the Planned Program

Families, Communities and Civic Engagement

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
803	Sociological and Technological Change Affecting Individuals, Fam	30%		0%	
805	Community Institutions, Health, and Social Services	70%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	9.3	0.0	0.0	0.0
Actual	12.6	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
364348	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
364348	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
800000	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Horizons - 24 communities (Allerton, Alta, Bedford, Chariton, Corydon, Ellsworth, Elma, Grand Junction, Greenfield, Humeston, Keosauqua, Lake City, Marble Rock, Morning Sun, Olin, Oxford Junction, Rockford, Sac City, Scranton, Seymour, Wapello, Waukon, Woodbine and Wyoming) were selected for Horizons, an 18 month program to develop leadership skills and reduce poverty. Horizons is delivered by Iowa State University Extension with funding support from the Northwest Area Foundation headquartered in St. Paul, MN. Communities used the Study Circles process to understand effective poverty reduction strategies, and leadership training to better understand community needs and set the stage for action related to reducing poverty in their communities. More than 1,000 adults and older youth completed the 5-week Study Circles discussions. Communities completed leadership training with 750 participants and are beginning community visioning and strategic planning. During 2008, communities will develop action plans to implement programs to reduce poverty.

Poverty Simulations – 28 simulations were held across the state reaching 1939 participants.

We partnered with the National Corporation for National and Community Service for Iowa to offer the simulation for new Americorps and Vista training. We partnered with Central College in Pella providing the simulation for all incoming freshman students. We provided consultation and assistance for the Des Moines Public Schools staff and community partners through a United Way grant.

2. Brief description of the target audience

Horizons was delivered in rural communities with populations between 500 and 5000 and 10% or higher poverty rates. Adults and older youth were the primary audience. The program stresses inclusivity across all socioeconomic groups.

Poverty Simulations – simulations were requested by school systems, colleges, human services groups and community groups interested in increasing awareness and encouraging individuals to take steps to reduce negative circumstances for those in poverty.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1000	1000	50	0
2007	4983	24915	75	150

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

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

Year	Target	Actual
2007	1000	5058

Output #2**Output Measure**

- Number of community groups formed to address a public issue

Year	Target	Actual
2007	5	63

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of communities who report taking action to address public issues related to improving circumstances for children, youth and families at risk.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	32

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Horizons helps communities take charge and build stronger leaders to address poverty, economic decline and the exodus of young adults. Poverty has long-term negative consequences for children and limits opportunities among other vulnerable groups. Poverty reduction efforts are investments in communities, directly benefiting the poor and preventing future problems.

What has been done

24 communities participated in Horizons. 202 community facilitators were trained to lead study circles, involving 1030 citizens in discussions about reducing poverty within their communities. Action plans were developed out of the study circle discussions. Communities have recently completed leadership training with 750 participants and are beginning community visioning and strategic planning.

Results

Horizons communities implemented projects to assist in becoming a thriving location for all, including; community wide clean ups, developing community resource directories, developing community through festivities and block parties, welcome to the community activities, expanding child care services, adult and community education, and mentoring programs for youth. Other communities are working on transportation, fighting substance abuse, food insecurity, and awareness of poverty.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Fam
805	Community Institutions, Health, and Social Services

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Public Policy changes
- Other (External funding)

Brief Explanation

An increase in external funding allowed us to increase our programming significantly. The NWAFF grant provided dedicated funding for Extension staff to support a series of educational programs that were conducted simultaneously in 24 targeted communities and to reduce barriers to participation by paying for child care, transportation and meals at Horizons events. In addition, changes in the Iowa economy and public policy created increased awareness and concern about the future of rural communities and their poorest residents. Plant closings, increasing numbers of mortgage foreclosures and news of a 30% increase in the state's poverty rate between 2000 and 2005 may have increased community readiness for Horizons. Increases in the minimum wage brought attention to the tension between the needs of the working poor and cost pressures facing small businesses.

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

1. Evaluation Studies Planned

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

Evaluation Results

Horizons – Pre and post surveys and extended interviews provide evidence that communities have more widespread conversations about what poverty means in the local context. Study Circle participants significantly increased their knowledge about poverty in their communities. Participants report statistically significant gains in knowledge, attitude and skills. Evaluation from the leadership pre and post surveys show that we are reaching new leaders who had not previously felt their voices were heard in the community. They report knowing how to develop and implement action for change as a result of attending training.

Key Items of Evaluation

Causes of poverty

Kinds of poverty

How poverty affects communities

New leaders

Ability to lead community change

Program #11

V(A). Planned Program (Summary)

1. Name of the Planned Program

Money for Life

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	25%		0%	
801	Individual and Family Resource Management	75%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	15.3	0.0	0.0	0.0
Actual	12.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
346998	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
346998	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
280536	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Community-based classes, often offered in partnership with local agencies and organizations, reached a wide range of families. Young mothers participating in Stork's Nest projects learned budgeting skills. Families participating in Individual Development Account (IDA) matched savings programs also learned financial management skills in a two-part class. Mid-life families developed a better understanding of financial needs in retirement through retirement planning classes. Families facing estate planning decisions learned practical ways to distribute family heirlooms by taking the "Grandma's Yellow Pie Plate" class. Classes on privacy and identity theft focused on steps to prevent fraud. Credit workshops helped consumers obtain and interpret credit reports and understand principles of wise management of credit. A two-hour "Planning to Stay Ahead" workshop gave bankruptcy filers and other limited resource families hands-on experience in financial planning and record keeping. "Welcome to Retirement" workshops walked participants through a retirement simulation that highlights alternative life scenarios. A web-based course teaches basic money management and links participants to Extension educators for individualized assistance. A 5-week "Money Talks" distance education course targets women who learn how to organize finances, invest for retirement and plan for future life events. Volunteer Income Tax Assistance (VITA) programs have been established in rural counties, training community volunteers to complete simple tax returns for moderate and low-income families eligible for the Earned Income Credit. Individual credit analyses using Power Pay software provide a clear path for paying off debt. Mass media outlets are used to reach all Iowans on family resource management topics. An Invest Wisely year-long media campaign, funded in part with a grant from the Investor Protection Trust, was started in June 2007. Weekly newspaper, radio PSAs and extended radio vignettes are disseminated state-wide and archived for continued use on a website. The ISU Money for Life and the eXTension Financial Security for All websites provide research-based information and access to Extension educators "24/7." Conferences for high school teachers have introduced the High School Financial Planning Program curriculum and train-the-trainer workshops have put financial literacy materials in the hands of professional and volunteer youth educators.

2. Brief description of the target audience

Programs reach individuals and families across the age and socioeconomic spectrum. Limited resource families including those filing bankruptcy, young families, mid-life and older women, those approaching retirement, and professionals or volunteers working with youth were target audiences in 2006-2007. Limited resource audiences include young mothers, participants in drug and chemical dependency programs, refugees and other limited income savers enrolled in IDA programs, and low and moderate-income taxpayers who utilize VITA tax preparation programs. Bankruptcy filers complete a required two-hour financial management education class. Families on public assistance programs learned skills to access additional resources and manage limited incomes. Young families are reached through marriage preparation classes, first-time homebuyer classes and parents as teachers programs. Mid-life and older women are identified as target audiences to bolster knowledge, confidence and ability to manage family finances. Mid-life and older families have a growing need to plan for retirement and are reached through civic groups, employer-based programs and media. High school teachers and youth workers are trained to teach financial literacy skills to older youth.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	11000	15000	12000	0
2007	11356	78997	9296	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	0	2

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2007	7500	8517

Output #2

Output Measure

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

Year	Target	Actual
2007	2500	2839

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of individuals improving personal and family financial management skills.
2	Number of individuals strengthening consumer decision making skills.

Outcome #1**1. Outcome Measures**

Number of individuals improving personal and family financial management skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	6000	5451

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Low wages, limited access to employee benefits, a lack of job security, and greater emphasis on individual responsibility create the need for lowans to develop or improve their personal and family financial management skills. Economic pressures have led to a negative savings rate, increasing consumer debt levels, and a spillover effect that erodes family life. The financial choices grow more complex, creating a need for research-based information and education to guide decisions.

What has been done

More than 8,500 lowans have participated in family resource management workshops, distance education classes, individualized consultations, and have received information about available family resources. On-going mass media reach thousands of lowans through print and radio; websites offer continuous access to Extension resources.

Results

Workshop evaluations are consistently positive, acknowledging the practical and effective instruction and voicing positive views of the class and plans for action. For example, participants in the Planning to Stay Ahead workshops, completed as a requirement of the bankruptcy process, indicate overwhelmingly positive views: 95% indicate they plan to use a budget 96% report that they gained tools and ideas they can use to stay in control of their money 99% report that course content was easy to understand and that the teacher was helpful and well-prepared. Comments include: Great information—we plan to implement these strategies. I could have listened to more! Very interesting and informative. Time well spent.

A VITA site sponsored by Extension in SW Iowa served 300 taxpayers and yielded claims for \$201,521 in EIC tax credits from 134 filers that will be returned to the local economy.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
607	Consumer Economics

Outcome #2**1. Outcome Measures**

Number of individuals strengthening consumer decision making skills.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1875	1789

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

It is assumed that consumer choices result from an informed decision-making process. Particular market segments—the young, the illiterate, the poor, and other vulnerable groups—have a need for developing skills to assess information, problem solve, and to seek protection when they are victims of fraud.

What has been done

More than 2,800 lowans have participated in Extension programs that strengthen consumer decision-making skills. Limited income audiences have increased awareness of resources and services that can improve their consumer well-being. General audiences have become increasingly aware of threats to their consumer privacy and have gained knowledge about protecting their identity. Youth audiences have gained skills in accessing the quality of advertising claims and information in the market.

Results

Workshops with vulnerable consumers strengthen their decision making skills and provide protection against fraud. A consumer skills workshop for deaf persons had the following results: one individual who had bought into a scheme for seven others who did not have access to a credit card was able to cancel the charge, recovering \$1,400. Others who were planning to buy into the scheme, chose not to. Participants in a workshop that emphasized the important of protecting identity and personal information resulted in these comments: I need to change my drivers license ID tomorrow (from the Social Security number to a random number) to protect myself against fraud. This session provided lots of information to keep legal information organized and safe.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Public Policy changes
- Competing Public priorities

Brief Explanation

Economic conditions in the state affected the salience of family resource management programs. A booming farm economy contrasted with growing concerns about wage earners who saw plant closings and a housing slump. Such economic uncertainty would suggest a growing demand for resource management education. On-going changes in public policies, e.g. an increase in the minimum wage and projected changes in tax law, require on-going consumer information search. Perhaps the greatest external factor affecting outcomes in this plan of work was the receipt of a major grant-funded project that shifted time allocations of the staff who work under this Plan of Work to another Plan: Families, Communities and Civic Engagement. The grant shifted a significant amount of time to a project that address poverty reduction in rural communities.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- After Only (post program)

Evaluation Results

Surveys of a sample of participants, conducted 3-months after participation in financial management education, report taking specific actions to improve their finances:

64% took steps to reduce their debt

43% calculated their retirement financial projections

36% increased their contribution to an employer-based retirement plan

65% increased their contribution to a personal retirement investment

84% gained greater control of their current spending, saving and financial security

Surveys of a sample of participants, conducted 3-months after participation in consumer education workshops, report:

63% strengthened consumer decision-making skills

Key Items of Evaluation

Consumer debt reduction

Retirement need projection calculation

Contribution to retirement plans/investments

Control of spending, saving and financial security

Strengthen consumer decision-making skills

Program #12

V(A). Planned Program (Summary)

1. Name of the Planned Program

Strengthening Families

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	95%		95%	
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	5%		5%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	18.5	0.0	0.0	0.0
Actual	18.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
534995	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
534995	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
432493	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

965 (total) participated in learning related to intergenerational family relationships in mid, later life and aging families. Thirty-two family caregivers participated in the six-week, 15 hour Powerful Tools for Caregivers. 933 people attended additional aging-related informational workshops including Adult Children and Aging Parents: Conversations between Generations, Who Gets Grandma's Yellow Pie Plate: Transferring Non-Titled Property, memory and aging, and other diverse programming focused on local needs. ISUE provided leadership for a eXtension Family Caregiving Community of Practice. There were 695 indirect contacts through poster presentations and information displays and 89,840 visits to web pages on aging issues. A total of 404 family members and professionals received information on universal housing adaptations. A total of 3860 people were reached through parenting education efforts. 2189 parents participated in sequential parenting education workshops; 936 parents participated in one-session workshops; and 735 professionals were trained to deliver in-depth parenting education. There were 63,885 indirect contacts through parenting fairs, hotline calls and parenting newsletters, and 184,652 visits to websites on parenting issues. More than 5,500 families (indirect) in seven school districts participated in PROSPER (Promoting School, Community and University Partnerships to Enhance Resiliency). This evidenced based prevention program has a positive affect on the academic achievement of more than 6,000 participating youth. Youth participating in the program are less likely than non-participating youth to use methamphetamines as they get older. Communities participating in PROSPER offer the Strengthening Families Program for Parents and Youth 10-14, plus one of three school based programs; Life Skills Training, All Stars or Project Alert. 2690 youth (indirect) called our TeenLine for advice and conversation. A total of 10,196 individuals received early care and education instruction. 7261 child care and early childhood education professionals received training to improve child care quality in preschool, center or family childcare settings. Education included basic first aid, health and safety, mandatory child abuse reporter training, behavior management, childhood obesity and active play. 1189 early childhood educators received instruction and assistance to self assess the overall quality of their care and educational services, develop improvement plans and implement specific changes. 561 directors received instruction in new staff orientation and staff feedback and coaching procedures. 349 child care and preschool center teachers received 16 hours of instruction and completed activity assignments specific to their work-site. 836 child care professionals completed self-study instruction. 4,325,859 page views were noted on the National Network for Child Care representing 2,243,789 visitors and 28,426 visits to ISUE child care websites (not included in indirects).

2. Brief description of the target audience

ISUE intergenerational and aging families programming was directed toward and served a variety of ages of adults from multiple generations living in Iowa families. More specific audiences included adults of any age who care for family members and older adults experiencing physical, social, and familial transitions in their lives.

Parents of children 0-14 years and professionals who work with parents of children 0-14 years were the target audience for parenting education efforts.

Early childhood audiences included family child care home providers, child care center directors and administrators, preschool, school-age, and infant toddler teachers.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	22000	40000	6000	0
2007	15425	70080	6167	2690

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	60	1	61

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2007	13700	4292

Output #2

Output Measure

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

Year	Target	Actual
2007	2315	11133

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of parents improving parenting skills (child-parent communication and providing love and limits).
2	Number of professionals trained to assist families (certification programs).
3	Number of early child care programs improving learning environments and teaching strategies.
4	Number of participants better able to manage later life issues.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	7500	3031

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

In 2006, 14,042 Iowa children suffered abuse (Iowa Department of Human Services). Thus, 20.25 Iowa children per 1,000 were found to have been abused in 2006. Research reveals that lack of basic parenting knowledge and skills (e.g., understanding basic developmental needs of children; ability to manage stress effectively) is common among parents/caregivers who abuse children. In addition, pressure has increased at the state and local level to fund family support and parenting programs that have proven impacts.

What has been done

ISUE has collaborated with numerous local organizations to deliver education to parents directly through workshops and parenting fairs. In addition, ISUE has trained numerous professionals and volunteers to deliver research- and evidence-based parenting curricula (i.e., Great Beginnings for Families, Family Story Teller, Celebrate Families, Strengthening Families Program for Parents and Youth: 10-14).

Results

A total of 3860 people were reached through parenting education efforts. 2189 parents participated in sequential parenting education workshops; 936 parents participated in one-session workshops; and 735 professionals were trained to deliver in-depth parenting education. There were 912 indirect contacts through parenting fairs and 184,652 visits to websites on parenting issues (web visits not included in our indirect counts.)

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1215	110

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As pressure has increased at the state level to fund family support and parenting programs that have proven impacts, recognition has increased among state and local organizations for the need for quality professional development for individuals who deliver family support and parenting education.

What has been done

ISUE has focused specifically on strengthening the core competencies of parenting educators/family support workers, through two programs: 1) Partnering with Parents, an in-depth training series focused on core competencies identified for effective parenting education. Partnering with Parents is delivered in face-to-face and online formats; 2) Family Development Certification Training emphasizes a strengths-based, empowering approach for helping families reach their goals; it is delivered primarily face-to-face.

Results

34 professionals participated in 55 hours of direct training in planning, delivering and evaluating parenting education through Partnering with Parents. Another 20 professionals participated in Partnering with Parents through online education. Program evaluation data reveal that participants strengthened their parenting education knowledge and skills after participating in Partnering with Parents, and actively implemented new information and strategies into their parenting education efforts. 56 individuals were certified as family development workers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	700	2631

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Iowa State University research studies 2003-2007 examining lowas child care found that much of Iowa's child care is of poor or mediocre quality. Overall, 20% of all observed Iowa child care was judged to be good, 58 percent was judged to be mediocre, and 22% percent was poor. Nearly 20% of the observed infant child care centers in Iowa offered poor quality care; none were offering good quality care. 40% of the observed family child care homes offered poor quality. 34 percent of Family Child Care providers reported receiving NO child care training within a 12 month period.

What has been done

Child Care that Works self study video lessons were provided to assist child care providers in meeting state licensing requirements. The New Staff Orientation provided 16 hours of instruction for child care center staff. Early Childhood Environment Rating Scale Training provided child care center directors, preschool teachers, infant toddler teachers and school-age teachers with self assessment, intensive instruction and guidance in developing a program improvement plan to strengthen the quality of early childhood education.

Results

96% (n=836) of individuals participating in Child Care That Works self study workshops indicated that they had made at least one improvement in improving the quality of their child care program.

A retrospective post-pre test survey of child care professionals (n= 1281) participating in the early childhood environment rating scale training indicated that they were able to better identify strengths and limitations, prioritize changes and develop a workable plan for program improvement. This perceived change in knowledge, skills, and abilities was statistically significant [p<.001] indicating that the ERS training is indeed making a difference in equipping and empowering early childhood professionals to improve the quality of their child care services. Professionals (n=514) surveyed in a 3 month follow-up survey of child care quality training indicated an improvement in learning environments and teaching strategies.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

Outcome #4

1. Outcome Measures

Number of participants better able to manage later life issues.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	610	52

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Were a nation of caregivers: an estimated 44.4 million Americans ages 18 and older provide some type of unpaid care to another adult. Iowa ranks 4th in the nation in adults 65+, 2nd in the nation in adults 75+, and 1st in adults 85+. Healthy intergenerational bonds and relationships are affected by a number of factors including family caregiving.

What has been done

In FY 2007, Powerful Tools for Caregivers class leaders implemented the educational series for family caregivers in five communities, additional caregiver stress programming was offered in another five communities. A variety of intergenerational programming, including Adult Children & Aging Parents, was offered in eight communities.

Results

Fifty-four percent of those surveyed felt they had improved their decision making, communication, and caregiving skill to manage later life issues. For a Powerful Tools for Caregivers session, 100% of the participants felt they were more confident in their caregiving skills, such as using positive communication techniques, using weekly action plans for self-care and linking with community resources. Making action plans, finding out they are not the only ones going through this, learning about stress and how to manage it, and the sharing of ideas with others were all listed as what they liked best. 100% said they would recommend the course to others.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Appropriations changes
- Public Policy changes
- Government Regulations

Brief Explanation

The state specialist position focused on aging was vacant for a six month period.
A major competitive grant that had been part of our work for several years, was not funded.

State legislation supporting the development of a state early childhood quality rating system and voluntary 4-year old preschool was passed. This legislation stimulated an increase for more intensive sequenced based and credit based training.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

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

Evaluation Results

Parenting: 3 month follow-up evaluations indicate that 174 patents out of 179 parents improved parenting skills specific to parent-child communication and providing love and limits).

Strengthening Families Program for Patents and Youth: 10-14 years, parents and youth reported a significant improvement in all knowledge and skills areas measured. For example, before participating in the program, 29.7% (n=54) of parents waited "a good amount of time" or "most of the time" to deal with problems with their child until they cooled off, compared to 80.2% (n=146) of the parents after the program. In addition, 53.3% (n=97) of parents reported working with their youth to solve problems that come up at home before participating in the program, compared to 90.2% (n=164) after the program. According to youth who participated in the program, 74.4% (n=113) knew what their parents thought they should do about drugs and alcohol before participating in the program, compared to 92.1% (n=140) of you the after the program. In addition, 55.9% (n=85) of youth reported using peer pressure steps when they were pressured to get into trouble before participating in the program compared to 86.2 % (n=131) of youth after the program.

Partnering with Parents: Retrospective post-pre test indicate that there is statistical significant difference ($p < .00$) between the post-test and pre-test scores of professionals (n=148) who participated in the Partnering with Parents training series. Thru, program participants significantly strengthened their knowledge and skills in planning, delivering and evaluating parenting education program efforts. In addition, paired t-tests indicate that there is no statistically significant difference ($p < .00$) in the knowledge and skills gained by professionals who participate in the program in a face-to-face setting as compared to those who participate in the training series completely online.

Child Care that Works: 96% (n=836) of individuals participating in Child Care that Works self study workshops indicated they had made at least one improvement in the quality of their child care program.

Early Childhood Environment Rating Scale: A retrospective post-pre test survey of child care professionals (n=1281) participating in the early childhood environment rating scale training indicated that they were able to better identify strengths and limitation, prioritize changes and develop a workable plan for program improvement. This perceived change in knowledge, skills, and abilities was statistically significant [$p < .001$] indicating that the ERS training is indeed making a difference in equipping and empowering early childhood professionals to improve the quality of their child care services. In a 3-month follow-up survey 514 individuals reported improving learning environments and teaching strategies.

Key Items of Evaluation

ERS training is indeed making a difference in equipping and empowering early childhood professionals to improve the quality of their child care services. In a 3-month follow-up survey 514 individuals reported improving learning environments and teaching strategies.

Program #13

V(A). Planned Program (Summary)

1. Name of the Planned Program

Food and Non-Food Products

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	15%		15%	
502	New and Improved Food Products	15%		15%	
503	Quality Maintenance in Storing and Marketing Food Products	10%		10%	
504	Home and Commercial Food Service	10%		10%	
511	New and Improved Non-Food Products and Processes	15%		15%	
512	Quality Maintenance in Storing and Marketing Non-Food Products	15%		15%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residu	10%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	10.3	0.0
Actual	0.0	0.0	7.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	336172	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	336172	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	3344342	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

2. Brief description of the target audience

Professionals, policy makers, and consumers, using publications, workshops, conferences, electronic and print media, and through personal interactions.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year Target

Plan: 1

2007 : {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research studies completed per year.

Year	Target	Actual
2007	5	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Number of refereed publications per year.

Outcome #1**1. Outcome Measures**

Number of refereed publications per year.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

KA Code	Knowledge Area
504	Home and Commercial Food Service
503	Quality Maintenance in Storing and Marketing Food Products
511	New and Improved Non-Food Products and Processes
512	Quality Maintenance in Storing and Marketing Non-Food Products
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residu
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

{No Data Entered}

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #14**V(A). Planned Program (Summary)****1. Name of the Planned Program**

Food and Nutrition: Choices for Health

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	5%		0%	
504	Home and Commercial Food Service	5%		0%	
703	Nutrition Education and Behavior	80%		0%	
704	Nutrition and Hunger in the Population	5%		0%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	5%		0%	
	Total	100%		0%	

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	18.5	0.0	0.0	0.0
Actual	18.5	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
534955	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
534955	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1973065	0	0	0

V(D). Planned Program (Activity)**1. Brief description of the Activity**

Nutrition and health programs were offered in every major community and all counties in Iowa. The program focused on improving nutrition education and behavior to reduce negative health consequences brought about by overweight, obesity and inactivity; improving food handling behaviors and practices by consumers, food processors, and food services for the purpose of reducing the incidence of food borne illness in the state; and mitigating food insecurity within communities. Programs were directed to professionals and community leaders and individuals and families through multiple delivery methods. Direct delivery methods included educational classes, workshops, discussions, one-on-one interventions and hotlines. Indirect delivery methods included public service announcements, billboards, newsletters, radio/television media programs and websites. Lighten Up Iowa (adult) and Go the Distance (youth) programs, encourage physical activity and healthful eating using the team concept. WiseWoman, a CDC funded program, is a community-based intervention to decrease risk of cardiovascular disease among middle-aged women who lack health insurance and access to healthcare. Eat to Compete, a program consisting of three separate sports nutrition topics, was presented statewide to parents, coaches, school staff, and adolescent athletes.

Several field staff serve as supervisors of Expanded Food and Nutrition Education Programs and Food Stamp Nutrition Education Programs educators who deliver basic food and nutrition information to qualifying low-income Iowans. The Iowa EFNEP and FNP program are administered through Extension to Families and Extension to 4-H Youth, with partnership and support of Extension faculty. Audiences learned about the myriad of factors in the current socioeconomic environment contributing to overweight and obesity including genetics, the feeding relationship, lack of physical activity, technology, portion distortion, and food availability. Community advocacy was promoted as a measure to meet the demands of this growing problem. Food safety education included certification programs and training sessions delivered via direct and indirect methods.

ServSafe®, developed by the National Restaurant Association, consists of at least 8 hours of direct training and successful completion of a certification exam. Other food safety programs focused on safe food handling, grilling safely, cleaning and sanitizing, handwashing, canning and food preservation. Health fairs, Germ City and interactive web-based lessons, streaming videos, and podcasts on the Extension Food Safety web site were examples of indirect educational efforts. Food processors were served by direct contact in person to person meeting in plant to develop HACCP, GMP, and other food safety programs.

2. Brief description of the target audience

Targeted audiences included adults and youth, parents of young children, teens and young moms, low income families, caregivers of children and adults, school staff, athletes, coaches, health professionals, worksite employees, food service managers and workers, food processors, and commodity groups.

Food safety educational programs were presented to adults and youths with interest or need to learn more about safe food practices from farm to fork. Adults who attended ServSafe® training were employed in the foodservice industry as managers or line workers. Non-managerial staff and volunteers at organizational food stands were attendees at other food safety programs. New programming was targeted to food producers, particularly fresh produce growers wishing to direct market their products to consumers or foodservices. High school youth participated in indirect training through web-based lessons on the Extension Food Safety Project web site (www.iowafoodsafety.org) with an estimated average of 4,000 visits per month. School age children attended handwashing sessions and Health Fairs that featured Germ City. Managerial personnel from food processing plants were involved in food safety training and activities.

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	44350	10180	800	17000
2007	62229	91684	30885	7646

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)**Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	13	4	17

V(F). State Defined Outputs**Output Target****Output #1****Output Measure**

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

Year	Target	Actual
2007	64000	59400

Output #2**Output Measure**

- Number of participants in Extension programs on food safety.

Year	Target	Actual
2007	1000	2249

Output #3**Output Measure**

- Number of participants in Extension programs on food insecurity.

Year	Target	Actual
2007	100	580

Output #4**Output Measure**

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

Year	Target	Actual
2007	{No Data Entered}	30885

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of adult participants who improve their diet.
2	Number of adult participants who increase their minutes of activity.
3	Number of communities that take steps to reduce food insecurity.
4	Number of participants certified in food safety programs.
5	Number of youth increasing nutrition knowledge

Outcome #1**1. Outcome Measures**

Number of adult participants who improve their diet.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	32625	44550

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Iowans are practicing behaviors that lead to a high risk of obesity, leading to increased incidence of heart disease, diabetes, certain types of cancer, and chronic diseases that can lead to disability. BRFSS data suggest that only 18% of adult Iowans consume the recommended servings of fruits and vegetables.

What has been done

Lighten Up Iowa had 23,859 participants in 2007. EFNEP reached 3,908 adults and 19,482 youth during the program year. WiseWoman had 157 unique participants with a total of 799 contacts. Professional training has been provided through Current Issues in Nutrition, an interactive video webcast, school wellness policy training for school officials/staff, and Eat to Compete programs offered for teacher recertification and coaching authorization.

Results

Based on 24 hour pre- and post-food recalls, 97.7% of EFNEP/FSNE program participants reported positive change in any food group at exit. A survey sample of Lighten Up Iowa participants indicates the following improved dietary behaviors: increased intake of fruits and vegetables, whole grains, and water. Significant improvement in nutrition knowledge and attitude was documented among Eat to Compete participant evaluations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #2**1. Outcome Measures**

Number of adult participants who increase their minutes of activity.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	24750	17678

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Iowans are practicing behaviors that lead to a high risk of obesity, leading to increased incidence of heart disease, diabetes, certain types of cancer, and chronic diseases that can lead to disability. BRFSS data suggest that only 56% of adults are performing regular moderate exercise.

What has been done

A new curriculum to reflect the Dietary Guidelines for Americans 2005 and MyPyramid recommendations was implemented in Iowa EFNEP/FSNE programs this year. This curriculum includes physical activity concepts/demonstrations at each lesson. Lighten Up Iowa had 23,859 participants this past year.

Results

More than 35% of EFNEP/FSNE families had a positive change in physical activity from beginning to end of program. A survey sample of Lighten Up Iowa participants indicates a 33% increase in frequency and intensity of activity/exercise.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

Outcome #3

1. Outcome Measures

Number of communities that take steps to reduce food insecurity.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Iowa has almost 90,000 households with 100,000 children who are food insecure. Using focus groups, researchers at ISU have studied household and community security in four locations in Iowa. A sample of issues includes: They eat less food, fresh fruits and vegetables, meat and eat lower quality food because of limited resources; Parents feel it is more important to make sure children have enough food and are full than it is to provide children a healthy diet.; Nutrition education influences family food purchases, meal planning, and strengthens parents ability to feed their families.

What has been done

3 counties focused on reducing food insecurity at food pantry sites in their county. Counties included:

Black Hawk, Polk and Woodbury.

Short teachings took place at food pantries between May-Sept 2007.

Surveys were distributed in the spring and summer to determine food security status of pantry participants, as well as basic demographic information, and health-related issues experienced by households receiving food from food pantries.

Food Security Networks operation in Black Hawk county, County mapping project to look at service gaps, Organization called Heres to our Health formed.

Results

The results of the surveys indicated that applying for food assistance (FA) was difficult. Post teaching results showed that across all counties, 60 participants provided a total of 8 reasons for never applying for FA. The common reasons were: they did not think they were eligible; lack of means to get to the office to apply for FA; stigma of receiving FA; hassle of applying; application process was too complicated; they did not feel comfortable going to the office to apply for FA.

To assess food insecurity, a total of 1278 questionnaires were completed during Winter and a total of 756 questionnaires were completed during Summer 2007. 80% of the participants reported not being able to meet their food needs during both time periods (low and very low food security), slightly more participants reported being food secure during the summer, as compared to those responding to the questionnaire in the spring. 33% of the households who responded in the spring were low food secure compared to 30% in the summer. During both time periods, over half of the participants were very low food secure. Thus, regardless of the time period (spring or summer) participants had difficulty meeting their food needs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
704	Nutrition and Hunger in the Population

Outcome #4

1. Outcome Measures

Number of participants certified in food safety programs.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	850	478

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The burden of food borne disease in the United States is significant on both the well being of the economy as well as human health. Mitigation of the high rates of food borne illness must start at the sources – the handling of food in retail and consumers. In Iowa, Norovirus is the leading cause of food borne illness and is mainly contracted in foodservice establishments. Enteric bacteria such as Salmonella and E. coli cause significant amounts of illness also.

What has been done

Extension has been the key provider of food safety education in the state of Iowa. During this report period, 531 people have taken ServSafe® and SuperSafeMark® Food Safety certification courses through ISU Extension.

Results

Food safety certification was awarded to 478 participants reflecting a 90% pass rate on certified exams.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
501	New and Improved Food Processing Technologies

Outcome #5

1. Outcome Measures

Number of youth increasing nutrition knowledge

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	7685

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Obesity among youth has tripled or quadrupled, depending on sex and age, since the early 1970s according to NHANES data. Obesity among youth increases the risk of developing chronic diseases such as type 2 diabetes, hypertension, cardiovascular disease, and joint disorders. These chronic diseases among youth place a financial strain on the healthcare budget.

What has been done

Go the Distance had 8545 participants this past year. Participants are encouraged to increase physical activity and improve nutrition choices. Weekly tips on nutrition and physical activity are received by participants.

Eat to Compete was presented to over 1000 coaches, teachers, and student-athletes throughout the state. Nutrition and physical activity principles to optimize physical performance also promote a healthy lifelong lifestyle.

A federal mandate requires schools to implement a local school wellness policy. ISUE in cooperation with Team Nutrition have been providing training and technical assistance to schools in the development/implementation of local wellness policies.

Results

Go the Distance participants logged 30,666,223 minutes of activity in the 2007 program.

Approximately 70% of Eat to Compete participants exhibit improved nutrition knowledge and attitude after attending an Eat to Compete program.

The Team Nutrition Local Wellness Demonstration project is collecting data to explore implementation of local wellness policies and impact of training/technical assistance.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

V(H). Planned Program (External Factors)**External factors which affected outcomes**

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

Brief Explanation

Program requirements for Promise Jobs changes which resulted in a loss of adult participants in EFNEP and FSNE. A number of programs promoting increased physical activity compete with Lighten Up Iowa (Shape Up America, Walk Across America, etc...). Federal mandate requiring all school districts have a local wellness policy enhanced the interest and visibility of Extension nutrition and wellness programming. Due to decisions made by stakeholders external to ISU, participation numbers in food safety programs did not meet the target. The diversity of the population in Iowa continues to change and challenges programming efforts that are sensitive to ethnic cultures.

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

1. Evaluation Studies Planned

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

Evaluation Results

Lighten Up Iowa survey results suggest that positive change in dietary intake and physical activity are maintained long term. Selected dietary behaviors and physical activity behaviors exhibit significant improvement at 5-months-post-program compared to pre-program data. Specifically, an increase in consumption of fruits, vegetables, whole grains and water, in addition to increased frequency and intensity of physical activity have been observed. A lifestyle questionnaire completed as part of the WiseWoman program demonstrates significant change in dietary intakes and physical activity. Specifically, a decrease in total fat intake, increase in fiber intake and use of walking for physical activity have been observed between completion of the initial lifestyle questionnaire and completion one year after enrollment in the program.

Key Items of Evaluation

Program #15**V(A). Planned Program (Summary)****1. Name of the Planned Program**

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

V(B). Program Knowledge Area(s)**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
603	Market Economics	5%		5%	
610	Domestic Policy Analysis	5%		5%	
701	Nutrient Composition of Food	10%		10%	
702	Requirements and Function of Nutrients and Other Food Components	15%		15%	
703	Nutrition Education and Behavior	10%		10%	
704	Nutrition and Hunger in the Population	15%		15%	
711	Ensure Food Products Free of Harmful Chemicals, Including Residu	10%		10%	
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%		10%	
722	Zoonotic Diseases and Parasites Affecting Humans	10%		10%	
724	Healthy Lifestyle	10%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)**1. Actual amount of professional FTE/SYs expended this Program**

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	7.9	0.0
Actual	0.0	0.0	9.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	279242	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	279242	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	4079939	0

V(D). Planned Program (Activity)**1. Brief description of the Activity**

To improve the nutrition and well-being of Iowans

- Define the role of nutrients and bioactive components of foods.
- Reduce barriers to acquiring and utilizing an adequate and nutritious diet.
- Increase awareness, participation, and cost effectiveness of food assistance, nutrition education, and community based wellness programs.
- Increase the likelihood of people making healthy food choices consistent with current recommendations.
- Improve the nutritional value of the food supply.
- Reduce the prevalence of inadequate or excessive dietary intake.
- Reduce the prevalence of obese or overweight individuals.

To mitigate and manage the risks of food and vector borne diseases and chemical hazards in foods.

- Reduce the incidence of food and vector borne illness in humans.
- Increase the ability to rapidly detect and implement control strategies for food and vector borne pathogens.
- Reduce the incidence of food and vector borne pathogens through environmental and animal/plant pre and post-harvest controls.
- Evaluate the economics of food and vector borne illness and control. Dissemination of research findings will be through a variety of mechanisms including peer reviewed journals, symposia, Extension publications, policy briefs, electronic and print media, presentations to commodity, industry, government, consumer and community groups.

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	2

Patents listed

1. Functional Nucleic Acid Probes and Uses Thereof
2. Methanobactin: a copper binding compound having antibiotic and antioxidant activity isolated from methanotrophic bacteria

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	0	0

V(F). State Defined Outputs

Output Target

Output #1**Output Measure**

- Number of non-peer reviewed publications.

Year	Target	Actual
2007	10	0

Output #2**Output Measure**

- Number of workshops/presentations.

Year	Target	Actual
2007	40	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of peer-reviewed publications
2	Number of proceedings and published abstracts.
3	Number of theses produced.

Outcome #1**1. Outcome Measures**

Number of peer-reviewed publications

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

Outcome #2**1. Outcome Measures**

Number of proceedings and published abstracts.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

What has been done**Results****4. Associated Knowledge Areas**

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

Outcome #3**1. Outcome Measures**

Number of theses produced.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

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

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

Program #16

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and the Environment and Agricultural and Biosystems Engineering

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	15%		15%	
104	Protect Soil from Harmful Effects of Natural Elements	5%		5%	
112	Watershed Protection and Management	10%		10%	
123	Management and Sustainability of Forest Resources	8%		8%	
131	Alternative Uses of Land	5%		5%	
133	Pollution Prevention and Mitigation	15%		15%	
134	Outdoor Recreation	10%		10%	
141	Air Resource Protection and Management	15%		15%	
402	Engineering Systems and Equipment	10%		10%	
405	Drainage and Irrigation Systems and Facilities	7%		7%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	13.0	0.0	15.8	0.0
Actual	13.0	0.0	19.8	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
416752	0	844414	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
416752	0	844414	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2007068	0	6352549	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Efforts to achieve the objectives stated have taken a variety of forms including traditional Extension methods (field days, farm/field visits, newsletters, and Extension meetings as workshops). Additional web-based methods have been used for websites to web-based workshops and sessions. There have been many focused programs in specific areas. Some of these high impact program areas are highlighted below.

The Liners and Covers for Agricultural and Industrial Waste Storage Course was offered by Iowa State University in cooperation with the Natural Resources Conservation Service.

The CNMP Development Course was offered in coordination with Iowa State University, Texas A&M University, and the Natural Resources Conservation Service. The CNMP Development Course provides the educational component of the ISU TSP certification program.

Through a collaborative effort the Community Assessment Model (CAM) is being used to help producers site new livestock facilities in a way which accounts for size of facilities, local wind incidents, the presence of other livestock in the neighborhood and actual neighbor location.

In 2007, there were five dry poultry manure applicator workshops delivered in five cities in Iowa; Sac City, Greenfield, Washington, Clarion, and Thompson. The workshops were designed specifically for commercial and confinement dry poultry manure applicators and their concerns with the dry manure application process.

Demonstrations were conducted at 18 fields across Iowa to study improved poultry manure management. The project team collected field management information, soil-test P values, and applied various manure rates to supply various amounts of N and P for corn production using farmers or certified applicators equipment. Additionally, approximately 30 demonstrations on producers fields were conducted investigating residue management.

Planning and coordination meetings with the Heartland Regional Water Coordination Initiative Citizen Involvement in Watershed Management team, 4-state [Nebraska, Kansas, Missouri, Iowa] targeting extension educators, agency personnel and researchers.

Several types of programs have been held that target using alternative technology to manage beef feedlot runoff versus a total containment system.

Developed and delivered research-based information on environmentally sound and bio-secure methods of animal disposal to livestock and poultry producers, environmental agency personnel, and policy makers throughout the U.S., Canada, and Mexico.

Provided applied research information as well as educational programs on drainage water management and drainage water quality.

The Iowa Community Tree Steward program was conducted to serve community volunteers. In both classroom and field settings (hands-on), participants learn: tree identification, species selection, tree planting, tree care and maintenance, pest management, value assessment, inventory techniques, program planning, funding, and implementation. In turn, each graduate must contribute 24 hours of volunteer hours back to his or her community.

- Forestry field days
- Master Woodland Manager Course
- Grazing and birds field days and research
- Master Conservationist
- NatureMapping workshops

2. Brief description of the target audience

Crops and livestock producers

Private citizens

Public health officials

State agencies

Conservation planners

Landowners

Homeowners

V(E). Planned Program (Outputs)**1. Standard output measures****Target for the number of persons (contacts) reached through direct and indirect contact methods**

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	6000	85000	0	0
2007	13427	311500	11790	0

2. Number of Patent Applications Submitted (Standard Research Output)**Patent Applications Submitted**

Year	Target
Plan:	1
2007 :	0

Patents listed**3. Publications (Standard General Output Measure)****Number of Peer Reviewed Publications**

	Extension	Research	Total
Plan			
2007	27	17	0

V(F). State Defined Outputs**Output Target**

Output #1**Output Measure**

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

Year	Target	Actual
2007	3	4

Output #2**Output Measure**

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

Year	Target	Actual
2007	4	0

Output #3**Output Measure**

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

Year	Target	Actual
2007	2	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of producers that participate in programming directly focused on increasing the adoption and implementation of conservation practices.
2	Number of producers that participate in programming directly focused on adoption of practices that reduce nitrate export from subsurface drainage.
3	Number of landowners participating in programs to increase their understanding of water quality issues and related adverse consequences following poor stewardship practices.
4	Number of producers that participate in programming directly focused on utilization of indices and diagnostic tools along with other performance measures to document progress toward improved nutrient management.
5	Number of producers that participate in programming directly focused on increasing the number of livestock production sites that adopt practices that reduce impacts to air resources.
6	Number of lowans that participate in programming directly focused on the adoption of practices that protect natural resources including woodlands, wildlife, energy, and community resources.
7	Number of lowans that participate in programming directly focused on increasing the adoption of energy conservation practices.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	1492

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Increased usage of conservation tillage practices reduces soil erosion; thereby reducing sediment loading of streams and lakes. Improved water quality is of interest to the general public. Farmers need to know that conservation practices don't reduce crop stands or yields.

What has been done

Education programs and field demonstrations were held. The Iowa Learning Farm Project rainfall simulator visited approximately 10 locations in late 2006 and early summer 2007 and demonstrated the impact of residue cover on soil erosion to broad stakeholder groups. The No-Till Advantage Field Day, conducted in northeast Iowa, demonstrated successful no-till crop production. A total of seventeen Iowa Learning Farm Project field demonstrations compared conventional tillage to conservation tillage systems.

Results

There has been an increase in the number of farmers inquiring and attending Extension events that address conservation tillage. In addition there have been many activities associated with the Iowa Learning Farm project that have increased awareness of conservation practices to non-farm audiences. Many of these activities have focused on use of the Conservation Systems Portable Rainfall Simulator for demonstrating the water quality impacts of residue management. Extension personnel in one county in Iowa have attempted to quantify the savings from no-till practices. In Fayette County 29% of the corn and 37% of the soybeans are planted using no-till methods. Savings in Fayette County in 2007 can be estimated at \$19/acre on 97,531 acres. This total saved by farmers using no-till systems versus conventional tillage systems come out to over 1 million 853 thousand dollars. Long-term savings due to lower soil losses and maintained soil productivity are priceless.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
131	Alternative Uses of Land
112	Watershed Protection and Management
405	Drainage and Irrigation Systems and Facilities
133	Pollution Prevention and Mitigation

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	785

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Subsurface drainage has been used for many years to remove excess soil water and improve crop yields. In the past several decades concern has increased about the amount of nitrate-nitrogen that is delivered to our surface waters from subsurface drains. There is a need for more research and education on what can be done with subsurface drainage systems to reduce environmental impacts and potentially increase yields.

What has been done

To provide research information as well as provide educational programs, a Drainage Water Management Project was initiated in July of 2006. This project is comparing no drainage, normal depth/spacing, controlled drainage using normal depth/spacing, and a shallow depth/narrow spacing. Also included is a demonstration wetland for reducing nitrate levels in the drainage water. Additional education programs have been offered that focus on increasing the understanding of the impacts of nitrogen management on drainage water quality.

Results

Approximately 150 producers attended a field day where they learned about drainage practices and the use of wetlands to reduce nitrates from subsurface drainage. Attendees saw various contractors installing tile. Two regional Extension publications were developed with collaborators from multiple institutions: (1) Drainage water management for the Midwest and (2) Agricultural nitrogen management and water quality protection in the Midwest. These publications are an excellent resource.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
402	Engineering Systems and Equipment
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
405	Drainage and Irrigation Systems and Facilities

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1200	1070

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Water quality in Iowa is of increasing concern and is receiving increased attention. Agricultural non-point source pollution is a major contributor to sediment and nutrient loads in Iowa waterbodies. Implementation of agricultural best management practices have the potential to reduce sediment and nutrient loading to downstream waterbodies. Human and social factors are important influencers of landowner decisions. However technical agency staff and educators often do not understand these factors and, as a result, are less effective.

What has been done

Educational programs on the impacts of agricultural practices on water quality were conducted including working with youth, rural, and urban audiences. Worked with watershed groups to understand issues and assist in developing watershed management plans. Planning and coordination meetings with the Heartland Regional Water Coordination Initiative Citizen Involvement in Watershed Management team, 4-state [Nebraska, Kansas, Missouri, Iowa] targeted extension educators, agency personnel and researchers.

Results

As part of the Iowa Learning Farm project the Conservation Systems Rainfall Simulator was used at educational events throughout the state to demonstrate how maintaining residue cover on the land can decrease nutrient and sediment loss from agricultural fields. Audiences in the Spring and early Summer of 2007 have included, but are not limited to, grade school students at the Iowa Children's Water Festival, junior high students at the Upper Mississippi River Fest, stakeholders at the Ames Farmers Market, producer Field Days, and producers and policymakers at the Iowa Farm Bureau

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
112	Watershed Protection and Management
405	Drainage and Irrigation Systems and Facilities

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	600	362

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Iowa law requires manure management plans (MMPs) to be upgraded to P-Index based plans. This is done to minimize phosphorous losses to surface waters from manure application. Producers are faced with understanding the new requirements, gathering the needed information including soil type maps and soil sampling, and upgrading their MMP to a P-index based plan.

What has been done

Three workshops on RUSLE2 and the Iowa P-Index were delivered in collaboration with USDA Iowa-NRCS. 79 participants received training RUSLE2 Operations and Iowa P- Index Calculations. In addition, over 65 individual producers were assisted with developing P-index based MMPs. 111 participants were trained on using new digitized soil surveys in four workshops.

Results

Participants in the three workshops reported working with or managing approximately 115,000 acres and 358 clients on an annual basis. They also reported developing over 349 nutrient management plans annually. Participants indicated an average gain of \$387 per client serviced or \$1.21 per acre serviced. The overall average gain was reported as over \$3,100 per participant.

In assisting individual producers, approximately 40,000 acres were impacted with improved manure management plans. By improving nitrogen utilization practices through better manure management planning, these producers saved about \$75,000 in reduced fertilizer costs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
102	Soil, Plant, Water, Nutrient Relationships

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	58

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Nuisance issues related to exposure to agricultural odors and gaseous emission are a prominent concern in rural Iowa. Odor along with nitrogen (NH₃, NO_x, N₂O), methane, and hydrogen sulfide are the most pertinent concerns to neighbors of livestock operations.

What has been done

The Community Assessment Model (CAM) is helping producers site new facilities to minimize the impact on neighbors. This is a collaborative effort of the Coalition to Support Iowas Farmers (CSIF) and ISU. Swine producers needing siting assistance contact the CSIF and receive an initial screening and information on working with neighbors. If a CAM run is deemed necessary, ISU staff visit the site, gather the necessary information, run the model and discuss options with the swine producer.

Results

During the last half of FY07, CAM runs were performed for 22 producers. A total of 35 runs were performed because some producers asked for multiple options to be evaluated. The capacity of buildings being proposed by the 22 producers totaled 388,000 finishing pigs. If an initial investment of \$225 per head capacity is assumed, this represents a total investment of \$87.3 million. The siting model (CAM) influenced the placement of these investments, minimizing the potential for disgruntled neighbors and possible legal action.

4. Associated Knowledge Areas

KA Code	Knowledge Area
141	Air Resource Protection and Management
402	Engineering Systems and Equipment

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	46060

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

The public places a high value on natural resources. Fishing, hunting, and other wildlife-related activities alone directly contribute over \$110 billion annually to the U.S. economy. Forestry industries contribute hundreds of billions of dollars more in timber value alone, let alone recreational values. Management of those resources in the public trust and in private hands is, then, a high priority for Extension Ag and Natural Resource Programs.

What has been done

Fifteen Forestry Field Days attracted 858 lowans to learn about woodland management. Master Woodland Manager, Community Tree Steward, and other forestry workshops and presentations reached another 4,874 adults. Master Conservationist, NatureMapping, and other wildlife and fisheries workshops and presentations reached over 2,600 lowans. The School Tree Program and Community Tree Program for Youth together reached 10,940 young lowans. Indirect contacts through newsletters, emails, and phone calls exceeded 25,500 contacts in FY 2007.

Results

Natural resource knowledge and its application on the land as a result of these efforts is difficult to measure short-term. The results are measured in long-term changes in human behavior and management of these critical resources. Clearly, with the numbers of people attending these educational sessions, the value is high.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
131	Alternative Uses of Land
123	Management and Sustainability of Forest Resources
134	Outdoor Recreation
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

Outcome #7**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	228

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Energy makes up an ever-increasing portion of operating costs for farmers. Costs for natural gas, electricity, diesel, and gasoline can vary greatly and spike unexpectedly. Renewable energy resources need to be developed or harvested while adopting conservation practices with currently available resources.

What has been done

Two field days with focus on energy, two workshops with focus on energy efficiency, and four workshops on alternative energy sources were delivered. 158 participants attended these workshops.

Results

Participants learned about on-farm energy management enhancements to reduce energy costs and improve profits. They also learned various renewable energy practices in action (including solar panels and wind turbines) and learned how they can lower energy bills for farmers and non-farmers alike. Energy efficiency workshops taught participants topics that pertain to reducing winter fuel bills such as optimal insulation levels, adequate ventilation, safe carbon monoxide levels, energy efficient construction techniques, and mold prevention and remediation.

4. Associated Knowledge Areas

KA Code	Knowledge Area
402	Engineering Systems and Equipment

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Economy
- Public Policy changes
- Competing Programmatic Challenges
- Other (Bioeconomy)

Brief Explanation

Since beginning this Plan of Work there have been significant external factors which have impacted agricultural production and decision making in Iowa. During this period the demand for agricultural products for ethanol has dramatically increased. Increased demand for corn has increased the total amount of corn grown in Iowa from 12.7 million acres to over 14 million acres. This has impacted the economics associated with agriculture and altered the decision making process. For example, there has been increased interest and concern in expiration and reenrollment of land in the CRP program. With increased demand for agricultural products there is pressure to maximize production which many times may create challenges relative to environmental protection. Overall, some producers likely have more interest in maximizing the economic return rather than practicing good stewardship which creates a challenge for those working in the area of Natural Resources and Environmental Stewardship. At the same time the pressure to maximize production has raised concern among others about the eventual environmental impacts. Finally, increased demand for corn has driven the price of land considerably higher. The higher land prices have made the incentives for enrollment in the CRP and adoption of conservation tillage practices less competitive.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- After Only (post program)
- Other (one-year follow-up)

Evaluation Results

To address this issue, educational topics for the 2006 Confinement Site Manure Applicator program consisted of the review of manure land application rules and manure sampling strategies. Extension staff conducted 75 workshops statewide and reported 1,352 confinement site applicators as having received education on these topics.

One year after these workshops, this group of confinement site manure applicators was evaluated in a post-program evaluation on how well they understood manure sampling strategies and how was the education implemented into the manure management system? A total of 1,052 complete evaluations were received in 2007.

Fourteen percent of the participants completing evaluations reported that they did not implement a manure sampling strategy based on the education received in the previous year. Almost every participant in this group provided no response to the subsequent questions. Probable conclusion that can be drawn from this response is that these participants are still using research book values.

Eighty-six percent of the participants completing evaluations reported as having implemented a manure sampling strategy based on the education received in the previous year. When asked if the nutrient analysis resulting from the manure sampling impacted the manure application rate, sixty-six percent reported as having changed their manure application rate where as twenty percent reported no change in manure application rate. From this group of participants, seventy-two percent reported either an increase or decrease or both in the manure application rate. Subsequently, the amount of nitrogen being applied to crop fields as a manure nutrient either increased or decreased or both on individual field basis. Fifty-five percent of the participants in this group reported the change in amount of nitrogen applied to be less than 25 pounds per acre; nine percent reporting a change between 25 to 50 pounds per acre, two percent reporting a change of over 50 pounds per acre, and three percent reported no change. Twenty-two percent of participants in this group provided no response to the question of change in manure application rate.

These response show that manure sampling strategy education has impacted decisions on the use of nitrogen as a nutrient. Responses received show that the participants, as a result of education, are now sampling and using manure as a nitrogen resource in a more appropriate manner. This is evident from the responses where the amounts of nitrogen applied either increased or decreased or both. Appropriate management of land applied manure is important both for crop production and the environment. Appropriate rates and management are important in minimizing water quality impacts and from this programming it seems producers are placing greater value on the manure as a nutrient resource.

Key Items of Evaluation

Program #17

V(A). Planned Program (Summary)

1. Name of the Planned Program

Commercial and Consumer Horticulture

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
124	Urban Forestry	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	20%		20%	
205	Plant Management Systems	40%		40%	
216	Integrated Pest Management Systems	20%		20%	
502	New and Improved Food Products	10%		10%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	14.0	0.0	8.2	0.0
Actual	14.0	0.0	6.4	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
448809	0	301036	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
448809	0	301036	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2070725	0	1640973	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

In the area of horticulture food crops, several applied research projects were conducted to: 1) assess new fruit and vegetable cultivars, 2) develop more sustainable fruit and vegetable production practices, 3) assess earliness and market potential of crops grown in high tunnels, 4) determine the nutritional and environmental parameters suitable for growing basil on the International Space Station, and 5) identifying genes that control potato tuber formation. Commercial extension specialists also provided knowledge, educational opportunities, and problem solving expertise to existing and new fruit and vegetable enterprises for remaining or becoming more profitable and sustainable. Results were disseminated to communities of interest through refereed and non-refereed publications, printed and web-base progress reports, educational programs, and field days reaching over 2000 participants.

In the ornamental horticulture arena, assistance was given to diverse clients through correspondence, workshops, field days, presentations, and publications (printed and web-based). Consumer extension specialists answered over 3500 phone calls and 1000 emails, trained over 500 Master Gardeners, and presented talks to over 2000 attendees of field days, symposia, or workshops across the state. ISU Horticulture Extension specialists helped coordinate at least 5 symposia that attracted over 2000 attendees. During the 2006-2007 year, eight new publications were created, eighteen publications were revised, and seven publications were reprinted on horticulture topics targeting primarily consumer horticulture audiences.

2. Brief description of the target audience

- Turfgrass and grounds management firms
- Fruit and vegetable and alternative crop producers, sellers and processors
- Growers and sellers of landscape products and services
- Students considering horticulture as a career
- Homeowners and garden enthusiasts in Iowa

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	30000	80000	0	0
2007	20542	77797	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	1

Patents listed

Potato Transcription Factors, Methods of Use Thereof, and a Method for Enhancing Tuber Development

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	0	7	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of research studies completed.

Year	Target	Actual
2007	6	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of refereed journal publications per year.
2	Increase the number of clients who participate in horticulture programs on production methods, market outlets, Best Management Practices, and IPM techniques.
3	Increase the number of new horticulture businesses and the expansion of existing horticulture businesses assisted through county offices.
4	Number of ISU staff hours for Master Market training of vendors and working at farmer,'s markets (to increase the strength of farmers markets in Iowa by cooperating with IDALS and WIC programs)
5	Increase involvement of Master Gardener volunteers in their communities. (Measure the number of volunteer hours per year.)
6	Increase the quality and quantity of horticulture information accessible to the gardening public. (Measure number of peer-reviewed extension publications.)
7	Green Industry Education - Education for industry professionals including arborists, nursery growers, landscape contractors, and turf grass managers.

Outcome #1**1. Outcome Measures**

Number of refereed journal publications per year.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	8	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
124	Urban Forestry
205	Plant Management Systems
502	New and Improved Food Products
204	Plant Product Quality and Utility (Preharvest)

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	2520

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grape Example: Growing grapes for wine production is the most rapidly expanding agriculture industry across Iowa and neighboring states. However, it requires very high initial invest and can have high risks because of improper site conditions and cultivar selection, prospective growers need to thoroughly understand the requirements for a successful enterprise.

Vegetable Crops Example: Growing vegetable, herb, and some fruit crops in high tunnels has the potential to be profitable for Iowa growers. As with any production system, many variables exist that can influence production costs, total yields, and ultimately profitability. Growers need to understand the risks and requirements for a successful enterprise.

What has been done

Grapes Example: Workshops aimed at prospective grape growers were conducted in various regions of Iowa and at a regional conference in Minnesota.

Vegetable Crop Example: Research was conducted to determine the profitability of tomatoes, peppers, basil, and primocane raspberries and blackberries in high tunnels. Information from these and other research trials were disseminated to attendees of a two-day workshop in St. Joseph, MO.

Results

Grapes Example: The number of new grape enterprises has been increasing at the rate of about 50 per year.

Vegetable Crop Example: An exit survey of participating conference growers (over 425) indicated they strongly agreed with the following statements: will change production practices (62%); will adopt new marketing strategies (48%); will try a new crop or new market (46%); and 88% of attendees indicated the dollar value of their horticultural enterprise increased.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
502	New and Improved Food Products
216	Integrated Pest Management Systems
205	Plant Management Systems

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

As clients make the decision to establish a vineyard, they must determine if their sites are suitable for growing grapes based on soil conditions and select cultivars suited for their climatic conditions. Internal soil drainage and mineral composition are important components that greatly influence the success of an enterprise that need to be evaluated before planting the crop and optimized if necessary.

What has been done

Pre-plant soil test results were interpreted for 50 clients and recommendations made to optimized soil pH, phosphorous, potassium and zinc content, and adjusting the nitrogen fertilizer program based upon the soil organic matter content.

Results

The number of new grape enterprises has been increasing at the rate of about 50 per year. Soil nutritional problems have been identified that require further study.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
502	New and Improved Food Products
205	Plant Management Systems

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Due to programmatic changes, this outcome has been absorbed into others and cannot be reported independently.

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	80000	88739

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Clients are becoming more and more interested in planting and caring for plants around their homes and communities. The need for sound horticultural information has increased.

What has been done

Delivering the Master Gardener program using Adobe Connect, an interactive web broadcast, has allowed more participants in more remote sites to view and ask questions from presenters on campus. Supplemental programs such as the Native Plants Workshop have also been held to add to participant's knowledge base of popular and timely horticultural topics. In 2007, 550 participants went through the Master Gardener training sessions.

Results

A research study including participants and coordinators was conducted to determine the acceptance or rejection of the Adobe Connect system in February of 2007. It was found that participants (95%) and coordinators (96%) are accepting of this mode of delivery.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
216	Integrated Pest Management Systems
204	Plant Product Quality and Utility (Preharvest)
502	New and Improved Food Products

Outcome #6**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

ISU Horticulture Extension has a long list of gardening publications in both print and web-based formats. Horticulture specialists are also highly respected in disseminating unbiased, research-based information to gardeners and garden enthusiasts. However, because gardening is so popular and many gardeners are constantly seeking new or more information, there is considerable gardening information generated that is not as reputable as that from ISUE. One of our primary objectives in consumer horticulture is reviewing and improving the quality, quantity, and mode of delivery of gardening information.

What has been done

Consumer extension specialists answered over 3500 phone calls and 1000 emails, trained over 500 Master Gardeners, and presented talks to over 2000 attendees of field days, symposia, or workshops across the state. ISU Horticulture Extension specialists helped coordinate at least 5 symposia that attracted over 2000 attendees. Information was also delivered to diverse audiences via publications, radio, television, pod-casting, webcasts, and websites. During the 2006-2007 year, eight new publications were created, eighteen publications were revised, and seven publications were reprinted on horticulture topics targeting primarily consumer horticulture audiences.

Results

In 2006-2007 the Home Landscaping publication received a national award from the American Society for Horticultural Science (ASHS) as an outstanding extension bulletin. ISU Horticulture Extension publications have regularly been nominated for awards from ASHS, GWA (Garden Writers Association), and ACE. Another indirect measure of quality is the number of publications requested by gardening consumers. During the 2006-2007 year over 75,000 horticulture publications were distributed by ISUE Publications.

4. Associated Knowledge Areas

KA Code	Knowledge Area
124	Urban Forestry
216	Integrated Pest Management Systems
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
502	New and Improved Food Products

Outcome #7**1. Outcome Measures**

Green Industry Education - Education for industry professionals including arborists, nursery growers, landscape contractors, and turf grass managers.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Emerald ash borer (EAB) has posed a significant threat to shade trees in several Midwestern states. Yet, it is assumed that the general public in Iowa is relatively unaware of the potential destruction of the pest on the ash trees in their landscapes.

What has been done

In an effort to alert and educate green industry professionals about the looming threat posed by the emerald ash borer, the 51st ISU Shade Tree Short Course (STSC) featured presentations from several EAB experts from the state of Michigan. Green industry professionals have direct access to consumers through retail sales, landscape installations, and landscape maintenance. A survey of attendees of the STSC focused on their knowledge of EAB.

Results

Before attending the STSC, respondents said they had either no knowledge (10.3%) or low knowledge (25.7%) of the signs and symptoms associated with an EAB infestation. After attending the STSC, respondents said they had either a moderate (26.5%) or high knowledge (72.8%) of EAB signs and symptoms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Appropriations changes

Brief Explanation

The largest limiting factor for ISUE Horticulture specialists is dwindling resources to travel and conduct applied research or present findings to others. Many extension professionals in Horticulture are relying more on electronic forms of communication rather than face-to-face presentations or meetings.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- After Only (post program)

Evaluation Results

See Shade Tree Short Course Results above

Key Items of Evaluation

Program #18

V(A). Planned Program (Summary)

1. Name of the Planned Program

Corn and Soybean Production and Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	20%		20%	
112	Watershed Protection and Management	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	20%		20%	
206	Basic Plant Biology	20%		20%	
216	Integrated Pest Management Systems	20%		20%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	27.0	0.0	0.0	0.0
Actual	27.0	0.0	8.2	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
865561	0	408091	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
865561	0	408091	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
5714290	0	4914552	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Crop production in Iowa in 2007 was dramatically impacted by economic forces that increased the demand for corn, primarily due to growth in the biofuels industry. Consequent to the added demand for corn, an anticipated shift in corn acreage and related practices resulted in a 10.8% increase in harvested corn acreage from 2006, with a record harvested acreage of 13.85 million acres. A corresponding decrease in soybean acreage was also noted, and the net result of these two cropping system changes drove educational needs that were reflected in Extension programming. For issues that centered on production of corn following corn, these needs were reflected in increased focus on crop-specific pests, and related nutrient and natural resource effects. For soybean producers, extension programming related to maximizing return from basic adjustments in the management of inputs was key.

Extension programming was adjusted, with innovative programming designed to address audience needs. This programming occurred largely through existing programs including the Integrated Crop Management (ICM) Conference in December 2006, the Crop Advantage Series in January 2007, and other programs of the ISU Extension Agribusiness Education Program, and by publishing two special issues of the ICM Newsletter, one devoted to corn-following-corn management and the other on soybean pest management.

Both long-term and immediate needs were determined in large part with the input of private sector agribusiness partners through the ISU Corn and Soybean Initiative. The initiative is designed to establish local dialogues among ISU extension staff and the agribusinesses, providing continual stakeholder input to direct the ISU plan of work in crop production.

2. Brief description of the target audience

Crop producers

Livestock producers

Certified Crop Advisors

Agribusiness personnel including corn and soybean Initiative Partners

Commodity organizations

USDA agencies

Commercial manure applicators

Land owners

Agricultural lenders

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	20000	10000	0	0
2007	103968	250000	30	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	2

Patents listed

1. RPSK-1 Gene Family, Nucleotide Sequences and Proteins
2. Identification and Characterization of a Novel Alpha-Amylase from Maize Endosperm

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	33	26	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2007	100	0

Output #2

Output Measure

- Number of monitoring programs for appropriate crop pests.

Year	Target	Actual
2007	4	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of producers and service providers attending corn and soybean programming that focuses on improving agronomic practices.
2	Number of producers and service providers attending programs to learn and apply Integrated Pest Management practices.
3	Number of producers and service providers who participate in programs designed to increase forage production and profitability and forage-based production systems.
4	Number of producers and service providers who attend programs designed to increase the awareness of new crop opportunities and varieties appropriate for bio-energy production.
5	Number of producers and service providers who participate in programs designed to increase the adoption of conservation systems on Iowa's corn and soybean acreage.
6	Number of landowners and producers attending programs that focus on applying best management practices to land coming out of the Conservation Reserve Program.
7	Number of producers and service providers trained to use diagnostic and other resource tools related to crop nutrient management.
8	Number of farmers and service providers trained in managing the nitrogen and phosphorus content of animal manure in relation to the appropriate cropping system.
9	Number of producers and service providers attending Pesticide Applicator Training programming that focuses on safe use of pesticides.

Outcome #1**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10000	16488

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Iowa corn and soybean producers are critically interested in improving production efficiency and increasing profit. Profit per acre has historically been linked directly to increases in yield and the subsequently associated increased income per acre. Yields of both crops must continue to increase in light of increased demand to meet the grain needs of biofuels, while maintaining environmentally sound practices.

What has been done

Fungicides were applied to corn hybrids with different disease tolerance in more than 30 on-farm strip trials to determine expected yield response to application. Results, coupled with peer data from neighboring states, were presented in web pages, meetings, publications and farm media. Efforts demonstrated and communicated the effects of soybean planting date, row spacing, and variety response to planting rate.

Results

For both corn and soybean, current information is delivered through an easily retrieved archive in two websites, which are also sources of links to management-specific publications. Soybean information is available at www.soybeanmanagement.info, and the corn information site is at: <http://www.agronext.iastate.edu/corn/>. The corn web page averaged 500 hits per day and allows us to communicate more information to the public faster and more thoroughly than through any other media.

Corn fungicide education will save surveyed producers \$30,000 each for the next growing season by eliminating unnecessary pesticide use.

Soybean yields have increased each of the last 4 years. Extension has shown ways to fine-tune effective soybean management to enhance profitability and to maintain its economic competitiveness as the principal rotational crop with corn.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
206	Basic Plant Biology
216	Integrated Pest Management Systems
205	Plant Management Systems

Outcome #2**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10000	29943

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

About 3 million acres of field corn were sprayed with fungicide in 2007, although the benefits were unsubstantiated. Factors responsible for increased fungicide use were the high price of corn, higher disease risk associated with corn following corn, and the marketing of 'plant health' benefits.

Producers were unsure about identification and management of soybean insects, some of which do have economic impact and some of which do not.

What has been done

Corn fungicide trials were established at 30 locations, with results presented to producers and industry. Field ID cards for stalk/ear rot and foliar disease diagnosis were developed and distributed.

About 4.35 million acres were sprayed for soybean aphid. Sweet potato whitefly occurred in large numbers statewide for the first time. Biology and management information on these pests was delivered through newsletter articles, farm media, and meetings.

Results

Trials did not support prophylactic application of fungicides. Data were presented to 1,000+ agribusiness persons and 2,000+ farmers. Producers estimated data improved their profits about \$8.75 per acre. Over 20 farmers in one-on-one contacts indicated they will make a decision to apply a fungicide to field corn in the next growing season using IPM principles. Requests for corn disease ID cards continue. ISU personnel and key private-sector stakeholder-partners held a symposium on soybean aphid and sweet potato whitefly that resulted in improved pest management.

The ICM newsletter increased users' awareness of insect, plant disease, weed and crop production best management practices through over one million page views.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
216	Integrated Pest Management Systems

Outcome #3**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	4468

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Traditionally, forage production has been given low priority by producers. Forage production adds diversity and mitigates risk. Local livestock markets are growing in some areas, increasing the need for better production practices.

What has been done

One-on-one contacts, organized educational meetings, and newsletters educated producers on profitable production practices. A Master Equine Managers program was developed to address this emerging market. A series of publications was developed for programs within the ISU Beef Center. Extension responded to clients including forage and livestock producers, industry, acreage owners, government officials, and media.

Results

ISU supported the joint forage Extension programming with the state of Illinois, via internet program delivery. This maximized the Extension efforts for both states.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
204	Plant Product Quality and Utility (Preharvest)
206	Basic Plant Biology

Outcome #4**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	3633

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Producers must be able to evaluate the short and long term implications of their cropping decisions.

Bio-energy production is increasing market volatility for crop gross returns and costs of crop production inputs, creating opportunities and concerns.

Alternative crop production adds diversity and impacts risk. Swine producers are interested in feeding field peas.

Producers must improve their capacity to make profitable, long-term decisions for sustaining their farming operations.

What has been done

ISU experts discussed issues relating to the next generation of biomass fuel. Extension agronomists worked directly with stakeholders in new biofuel industry companies regarding agronomic issues related to the supply of biofuel feedstocks.

Field pea production for use in swine feeds was researched.

Results

One-hundred eighty participants increased their knowledge of the agronomic consequences of biofuel production.

Swine feeding trials indicated that swine producers can profitably include locally purchased field peas in the ration, but crop rotation research demonstrated that field peas are not currently economically competitive with other crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
112	Watershed Protection and Management

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	500	29943

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

About 3 million acres of field corn were sprayed with fungicide in 2007, although the benefits were unsubstantiated. Factors responsible for increased fungicide use were the high price of corn, higher disease risk associated with corn following corn, and the marketing of 'plant health' benefits.

Producers were unsure about identification and management of soybean insects, some of which do have economic impact and some of which do not.

What has been done

Corn fungicide trials were established at 30 locations, with results presented to producers and industry. Field ID cards for stalk/ear rot and foliar disease diagnosis were developed and distributed.

About 4.35 million acres were sprayed for soybean aphid. Sweet potato whitefly occurred in large numbers statewide for the first time. Biology and management information on these pests was delivered through newsletter articles, farm media, and meetings.

Results

Trials did not support prophylactic application of fungicides. Data were presented to 1,000+ agribusiness persons and 2,000+ farmers. Producers estimated data improved their profits about \$8.75 per acre. Over 20 farmers in one-on-one contacts indicated they will make a decision to apply a fungicide to field corn in the next growing season using IPM principles. Requests for corn disease ID cards continue. ISU personnel and key private-sector stakeholder-partners held a symposium on soybean aphid and sweet potato whitefly that resulted in improved pest management.

The ICM newsletter increased users' awareness of insect, plant disease, weed and crop production best management practices through over one million page views.

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	100	376

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Conservation Reserve Program (CRP) contracts affecting several thousand acres are scheduled to expire in 2007, 2008, and 2009. Landowners can re-enroll their CRP acres or convert them to row crop, pasture or hay. Mid-contract management practices are required on re-enrolled acres during the new ten-year contract. Land returned to row crops, pasture or hay must have a conservation plan. Landowners need information to make re-enrollment and mid-contract management or land use decisions.

What has been done

Extension partnered with county Farm Service Agencies (FSA), Natural Resource Conservation Districts (NRCS), and Iowa Department of Natural Resources (IDNR) to hold 13 landowner meetings and 3 field days in 8 counties. Agency staff met to combine and coordinate knowledge. Plots demonstrated mid-term contract management techniques. Meetings focused on re-enrollment requirements, mid-term contract management options, pest and nutrient management for crops, and establishing wildlife habitat.

Results

More than 30 staff members from FSA, NRCS, and IDNR met at the field site to discuss mid-contract management options, resulting in inter-agency consistency of knowledge and recommendations.

One hundred eighty-five landowners attended the meetings and field days, with several commenting that they had a better understanding of new CRP contract requirements, mid-term contract management options, and managing land that will return to crops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems
205	Plant Management Systems

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	400	1673

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Government programs cross state boundaries, requiring better coordination of nutrient guidelines on a regional basis. Fertilization plans should be based on sound economic and environmental criteria. Producers, agri-business professionals, certified crop advisers, and state agency personnel need help to make fertilizer decisions to reach appropriate crop production goals.

What has been done

The publication, 'Concepts and Rationale for Regional Nitrogen Rate Guidelines for Corn,' was developed in cooperation with research and extension personnel from seven states in the U.S. Corn Belt. Also, an on-line web tool(<http://extension.agron.iastate.edu/soilfertility/nrate.aspx>) was developed to incorporate the regional recommendations into an interactive calculator that uses a research database and user-selected inputs to derive a suggested nitrogen rate of application.

Results

Producers and industry use the above-mentioned publication and the web-based calculator tool to make nitrogen rate decisions at a time when fertilizer costs and corn prices are at record levels. Use of this information has helped producers maintain viable economic returns from corn production. In the past two years, more than 30,000 visits to the corn nitrogen-rate-calculator web site have been recorded.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
206	Basic Plant Biology
205	Plant Management Systems

Outcome #8

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	2500	4853

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Overuse and misapplication of animal wastes can lead to water pollution. The increasing cost of commercial fertilizer is increasing the economic incentive to consider the nutrient content of animal manure when making plant nutrient plans. Producers need to be able to utilize the animal manure resource in a manner that is both economically and environmentally sound.

What has been done

The Commercial Manure Applicator program was delivered via satellite downlink to 79 Iowa county Extension offices, one Nebraska county Extension office, one Wisconsin county office, and two Minnesota county Extension centers.

Results

Over 1,400 Confinement Site Applicators and over 840 Commercial Manure Applicators attended the trainings. Fifty-two per cent of the Confinement Site Applicators previously had a soil sampling plan; and additional 32% indicated they would create one within 12 months. Forty-one per cent of the Confinement Site Applicators indicated they were using RUSLE2 and the Phosphorus Index, and an additional 40% plan to do so. Sixty-six per cent of the Commercial Manure Applicators indicated they had already trained employees on response to an accident or spill and an additional 14% indicated they plan to conduct this training because of the workshops.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
205	Plant Management Systems

Outcome #9**1. Outcome Measures**

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	24000	25481

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

Federal and state law requires that all people who purchase and apply restricted use pesticides and any applicator who applies pesticides for hire or as a part of their job responsibilities in the public sector be certified according to established standards. Approximately 99 percent of Iowa row crop acres are treated with pesticides each year, which amounts to over 22 million acres statewide. As part of their pesticide safety training pesticide applicators need to: understand how pesticides enter into the best management practices for agricultural crop production; realize the importance of safe handling, use, storage and disposal of pesticides; understand the risks associated with pesticide use including acute and chronic health concerns as well as potential environmental effects; be educated and updated about the technological advances in pesticide application methods; fully understand the benefits of pesticide use and accompanying responsibility to maintain Iowa's natural resources (air, soil, water, plants, and non-target organisms).

What has been done

During the period July 1, 2006 thru June 30, 2007 a total of 8,024 Commercial applicators received recertification training, 17,267 Private applicators were recertified and 190 applicators received initial pesticide applicator training. Approximately 350 different training programs were delivered either live, by satellite, webcast or videotape. Also during that time period there were 443,181 visits to the Pest Management and Environment web site.

Results

As a result of private pesticide applicator training the importance of safe handling of pesticides was introduced and reinforced. Seventy-one per cent of private pesticide applicators said they currently review the pesticide label to determine the required personal protective equipment and 25% said they would do so in the future as a result of the training they received. In addition, 27% reported they currently carry an emergency spill kit in their vehicle when transporting pesticides while an additional 48% said they would adopt this practice as a result of the training program. Ninety-six per cent of participants in the private pesticide applicator program rated the program as excellent or good and that the information presented was useful to their farming operation.

Evaluations from commercial pesticide applicator training programs indicate that applicators' knowledge of pesticide issues increased as a result of the programs. For example, when asked to rate their degree of knowledge of concerns surrounding preharvest intervals with products used to control soybean aphids and bean leaf beetles, 50% initially reported they had a somewhat high to high level of understanding while 79% reported that level of knowledge after receiving the training. When asked to rate their knowledge about Pesticide Container and Containment Structure Regulations, 45% reported a somewhat high to high knowledge base prior the program while 79% reported that same level after the program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
216	Integrated Pest Management Systems
112	Watershed Protection and Management
205	Plant Management Systems

V(H). Planned Program (External Factors)**External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Competing Public priorities

Brief Explanation

In some areas, deluging spring rains caused sheet and rill erosion, and delayed spring field preparation and planting. In other areas, the lack of mid-season rain caused crop stress, and some of the same areas that were damaged by the spring rains had the rains return in the fall, interfering with harvest operations. Conditions were favorable in late summer for the development of many foliar crop diseases in both corn and soybean, requiring educational efforts to address the potential need for the use of fungicides.

The initial discovery of soybean rust in Iowa occurred, but the lateness in the season precluded yield losses in general. The Iowa Soybean Rust Team was instrumental in pre-empting unnecessary fungicide applications, thereby saving producers a potential cost of about \$20 per acre.

The agricultural economy could be described as chaotic at times. Costs of most inputs rose rapidly, but were countered by dramatic increases in crop commodity values. This economic volatility is neither bad nor good, but it does drive the agricultural community toward different information needs. Extension worked throughout the year and continues to work on educating Iowans about these new challenges.

V(I). Planned Program (Evaluation Studies and Data Collection)**1. Evaluation Studies Planned**

- Retrospective (post program)

Evaluation Results

One year after a meeting series ended, a random sample of 120 participants was selected to participate in a follow up survey on adoption of soybean production practices. This length of time was selected due to feasibility to ensure enough time has elapsed for the practices to be put into use and have an effect.

The mid-term outcomes of the Crop Advantage Series sought to assess if participants had followed through and used the information from the series (adoption). The longer-term outcome was to assess if participants benefited by the soybean practices recommended by Extension researchers.

One topic promoted in the meeting series was planting soybean earlier. 76% of respondents did not plant soybean earlier in 2007. Of the 83 respondents who gave a reason for not planting early, the majority indicated aspects out of their control kept them from an earlier planting date as was recommended.

Another topic dealt with appropriate seeding rates. Almost 50% of respondents who did not change their soybean seeding rate were already planting at the recommended rate as a result of knowledge gained from previous Crop Advantage meetings.

Of the respondents who changed their soybean seeding rate, 39% found that the change resulted in a \$5-10 profit per acre.

Respondents considered the research information on soybean production practices presented at the Crop Advantage Series valuable enough to tell others in their communities, thus providing a significant multiplier effect in disseminating ISU crop production information. In addition, respondents indicated the value of interaction with Extension researchers about crop management, climate influence on their crop, pest management, and research updates.

Key Items of Evaluation

Program #19

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plants and their Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	10%		10%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		10%	
205	Plant Management Systems	10%		10%	
206	Basic Plant Biology	10%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	10%		10%	
215	Biological Control of Pests Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
Total		100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	31.6	0.0
Actual	0.0	0.0	22.9	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	1588271	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	1588271	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	12488086	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

In order to fulfill the goals of the Plants and their Systems Program in the College of Agriculture at IowaStateUniversity, personnel will necessarily engage in a wide range of research activities. Research will be designed to address each stated goal in detail and will encompass laboratory studies, experiments conducted in the growth chamber, glasshouse and research farms. As appropriate, some field research may be conducted on grower fields, public lands, and other locations. Collaborative efforts will be required and will include cross-disciplinary studies, partnering of ISU departments and Centers, and the involvement of private industries, seed suppliers, agribusinesses and grower commodity organizations. The synergy gained from an inclusive perspective in developing research that will address important goals will allow the leverage of funds and facilitate research programs that are greater and more effective in scope.

- Establish hypotheses to address the critical research issues that encompass Plants and Their Systems
- Develop a broad range of research experiments to evaluate the hypotheses
- Construct/modify research equipment and facilities needed to effect the efficient completion of research experiments
- Create new innovative procedures to address important research questions and circumvent problems encountered
- Train staff and students to participate in cutting-edge research programs
- Objectively evaluate results from research experiments
- Publish the results of research experiments in high impact scientific journals and facilitate the use of the research results in various forms of influential media
- Present data at professional scientific regional, national and international conferences and symposia
- Deliver science-based objective information to state, regional, national and international user groups

2. Brief description of the target audience

National and international peer scientists

Agribusinesses

Commodity groups

Certified Crop Advisors

Crop producers

USDA agencies

State politicians

V(E). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2007	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year Target

Plan: 2

2007 : {No Data Entered}

Patents listed

{No Data Entered}

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	{No Data Entered}	{No Data Entered}	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of non-peer reviewed publications.

Year	Target	Actual
2007	30	0

V(G). State Defined Outcomes**V. State Defined Outcomes Table of Content**

O No.	OUTCOME NAME
1	Number of peer reviewed publications.
2	Number of theses completed.
3	Number of abstracts published.

Outcome #1**1. Outcome Measures**

Number of peer reviewed publications.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	40	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)****What has been done****Results****4. Associated Knowledge Areas**

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

Outcome #2**1. Outcome Measures**

Number of theses completed.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	20	0

3c. Qualitative Outcome or Impact Statement**Issue (Who cares and Why)**

What has been done**Results****4. Associated Knowledge Areas**

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

Outcome #3**1. Outcome Measures**

Number of abstracts published.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	30	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results**4. Associated Knowledge Areas**

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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

1. Evaluation Studies Planned

-

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}