2011 University of Minnesota Combined Research and Extension Plan of Work

Status: Accepted

Date Accepted: 05/27/2010

I. Plan Overview

1. Brief Summary about Plan Of Work

This plan of work describes the goals of seventeen planned programs. Fourteen of these programs operate as a structured program area within Extension. Three others (Global Food Security and Hunger, Sustainable Energy, and Climate Change) cluster multi-disciplinary programs and activities around the newly released priority issues of the National Institute of Food and Agriculture. Most of these programs share outreach and research interests with the Agricultural Experiment Station research. If funding has not been allocated to the Experiment Station for research contributions to the planned program, other research is tapped or conducted with Extension funding. Program teams involve researchers and educators in the design, development, delivery and evaluation of educational programs grounded in research related to their priority issue. Cross-disciplinary initiatives (sustainable energy and climate change) convene educators, specialists and researchers from many fields to contribute to education and outreach on issues that influence many sectors.

By coordinating program, business and research plans, these teams reach target audiences, evaluate stakeholder input, evaluate their work and update program designs. Working alongside these teams are administrative structures that support programs, manage stakeholders and communicate the value of the land grant system to Minnesota and beyond.

From 2011 through 2015, the University of Minnesota Extension and the Minnesota Agricultural Experiment Station will work together to:

Enhance the scholarship of programs and educators;

Strengthen connections between research, extension programming and communities' assessed needs;

Analyze the outcomes and impacts of programming and research;

Strengthen the diversity of programs and improve the cultural competence of staff; and,

Increase the impact of both research and outreach through multidisciplinary research and collaborative learning partnerships.

Projections for this plan of work assume stable funding from county, state and federal resources; however, the economic crisis has created cuts in state allocations to the University of Minnesota. University administration has asked Extension's dean to prepare budgets accordingly for FY 2011, and tighter budgets are anticipated in 2012. As the University of Minnesota president undertakes fiscal responsibility for budget cuts, he is operating under the following principles:

We will advance and maintain quality and competitiveness in research, education and public mission. We will compensate, support and retain high performing faculty and staff, improve access and affordability for all students, increase productivity by reducing cost, reform operations and improve services, and finally, we will use all available tools to address budget and investment challenges.

In reducing costs, we will defer investments and increase revenues from non-state sources.

As the Dean of Extension and the Agricultural Experiment Station considers budget cuts, she will operate under the following principles:

We will continue to program for local, regional and statewide impact.

Extension is committed to being the "front door" for University resources.

Extension will maintain and strengthen its partnerships with counties and colleges.

All funds will be managed as investments.

All programs and operations will require increased accountability with clear deliverables and measured outcomes.

Therefore, in the coming five years Extension will be continue to be managed with a goal to continue to be able to report to NIFA that the University of Minnesota is making a difference in Minnesota, the region, the United States and the world.

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	322.5	0.0	389.7	0.0

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

Year	Extension		Research	
	1862	1890	1862	1890
2012	322.5	0.0	389.7	0.0
2013	322.5	0.0	389.7	0.0
2014	322.5	0.0	389.7	0.0
2015	322.5	0.0	389.7	0.0

II. Merit Review Process

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

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

2. Brief Explanation

The Minnesota Agricultural Experiment Station engages in a scientific merit and peer review processes for all research projects. Peer review involves both reviewers internal and external to the University. This takes place within each college that receives MAES funding and under the review and approval of the college department heads and associate deans for research. Each college engages in a yearly strategic planning process to submit a "compact" that is negotiated with central administration and assures that the colleges' research and outreach goals and direction are connected with priorities.

Extension will manage continuous improvement of the merit-based promotion processes begun in 2009. To facilitate a successful system, there is an emphasis on Center-management of Extension staff, cross-disciplinary peer support, coaching for all in the promotion process, and critical review of promotion applications.

Promotion of UMN Extension staff is neither automatic nor routine, and the decision is made without regard to race, color, creed, national origin, sex, age, marital status, disability, public assistance status, veteran status or sexual orientation. The process does not result in tenure. Every Extension Assistant Professor is expected to apply for and receive promotion to the rank of Associate Extension Professor within six years of employment.

Promotion in academic rank is based on six criteria. The criteria are consistent with the following organizational values:

Program Leadership: Extension educators will help to envision, organize and lead educational programs that address priority interests of citizens.

Extension Teaching: Extension teaching will bring relevant content to a current issue.

Scholarship: Creative intellectual work will contribute to knowledge in the discipline, have impact, be communicated and valued, and is reviewed by peers.

Engagement: Extension staff will connect with communities and stakeholders to better understand their needs, use their resources and build their capacity.

Program Management: Extension programs will be "done right" through planning, organization, staffing, implementation and evaluation.

Service: The University and the profession will benefit from staff contributions.

External and internal input during this process is provided by:

1. External peers or near peers within Extension or the educator's field of interest who comment upon the candidate's promotion portfolio in writing.
2. Promotion Committee members from within the organization who are recommended by the candidate and are ultimately chosen by the associate dean.
3. The Promotion Committee makes a recommendation to an Associate Dean, who makes a recommendation to the Dean. The Dean ultimately decides upon the candidate's promotion.

III. Evaluation of Multis & Joint Activities

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

Each Extension program team is responsible for a planned program or a multi-disciplinary effort. Teams regularly review trends, conduct new research and interview key informants to assure that educational programs and field research are addressing issues of strategic importance. Program teams meet regularly to review the work in communities and available research.This team approach also supports the monitoring of critical issues and needs.Their review culminates in the yearly development and updating of program business plans that articulate yearly goals for program adaptation and outreach.

From 2011 through 2015, Extension will also organize initiatives and program areas around critical issues identified by NIFA.

2. How will the planned programs address the needs of under-served and under-represented populations of the

Program teams and assigned committees work intentionally to include and serve underserved and under-represented audiences. Below are some examples of methods employed by UMN Extension to integrate underserved populations in programming.

Co-design of curriculum and program offerings: Teams use collaborative design methods to bring educational design concepts to pilot focus groups, monitor feedback, and adjust approaches.

Evaluated program pilots: Teams design programs and use pre- and post-evaluation techniques to determine whether the program is effective with specific groups.

Outreach committees: The Native American Advisory Committee, for example, has convened a multi-disciplinary team to learn about and listen to Minnesota's Native American population. The process develops more solid relationships that result in more successful future programming.

Designated outreach staff: Several Extension positions have been targeted to the task of conducting programs in locations or with communities of culture. By making successful outreach a measure of performance for specific job descriptions, deeper in-roads are made.

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

We have elected to present a joint report that organizes NIFA's planned programs around Extension's program areas and initiatives. Extension activities are implemented and monitored by program teams that work together to plan and enhance their program business plans yearly. This "straight line" between the research and field work and our NIFA reporting system will assure field accountability to NIFA as a key stakeholder. Benchmarks will be monitored and changed based on yearly assessments and will be incorporated into the Program Business Plans as well as the NIFA Plan of work.

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

By clustering our programs and research under areas of expertise we have created a matrix for both managing programs and evaluating their effectiveness. It is clear we have been operating for some time in an environment of increasing need from our stakeholders and increasing complexity of research problems, while budget forces at the county, state and federal level require thoughtful choices. By selecting critical issues, focusing our work and tightening the links between areas of expertise in Extension and research, we can both increase our effectiveness and also have a feedback system that tells us when to increase, decrease, or shift focus to maintain or increase

efficiency.

IV. Stakeholder Input

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

- 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
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals
- Other (One-on-one interactions)

Brief explanation.

The University of Minnesota works hard to maintain the confidence and trust of the people, organizations and communities it serves in all regions of Minnesota. We are firmly committed to building strong relationships that bring together the knowledge, skills and abilities necessary to build capacity in individuals, geographic communities and communities of interest. Extension and MAES strive to listen carefully and to be flexible and creative in its programs, collaborating with a wide range of diverse Minnesotans to assert the position, "We know Minnesota."

Extension and MAES builds relationships with opinion leaders in government, education, agriculture, business, community organizations, the media, nonprofits, communities of interest and opinion leaders. Targeted communications and stakeholder engagement strategies build appreciation and active support for planned program area offerings. Audiences for each program receive high-quality, customized education. The appropriate technology is used to expand the reach of these programs.

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

1. Method to identify individuals and groups

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

Brief explanation.

1. A study in 2008 took a snapshot of organizational networks engaged by Extension. This data is being used to identify gaps and opportunities for stakeholder engagement.
2. Regular review of program activities and feedback on programs allow program teams to identify new individuals and groups that can help them achieve their ultimate goals.
3. Members of a statewide Extension Citizen Advisory Committee are selected through scans of program audiences and outreach to local and state stakeholders.
4. Counties conduct yearly budget reviews, assess past performance of local Extension staff and programs, and consider current program relevance to county priorities.
5. Current program participants typically have their needs and satisfaction measured through post-event

surveys.
6. Targeted program audiences and constituents are identified by Extension educators.
7. Educators and researchers act as an internal focus group.
8. Legislators and higher education committees are identified by University Relations and Extension's government relations department.
9. Colleges receiving MAES funding have advisory groups to inform their research decisions. This broad-based input is supplemented by stakeholder group input that individual researchers seek to provide feedback and support to their research programs.

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

1. Methods for collecting Stakeholder Input

- 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)
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Survey specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief explanation.

1. Regular review of program activities and feedback from stakeholders about programs allow program teams to identify new individuals and groups that can help them achieve their goals.
2. The Extension Citizen Advisory Committee is convened three times a year and receives conference calls and informational reports.
3. County-based committees and elected officials base Extension-related budget decisions ont he quality and relevance of the service they receive from local Extension staff.
4. Current program participants provide feedback through post-event surveys.
5. Program teams have regular conversations with members of their target audiences, and utilize formal evaluation and market surveys to collect input. By deciding whether or not to partner with Extension, this audience "votes" on the relevance and effectiveness of programs.
6. Educators and researchers who are liaisons to stakeholders provide an internal focus groups to share what they learn in program discussions and planning.
7. Through personal meetings with legislators and higher education committees, Extension monitors whether the goals of the State of Minnesota and its voters are considered.

Colleges receiving MAES funding have advisory groups who provide input into research goals and needs. In addition, individual departments convene stakeholder groups specific to their disciplines, and researchers connect with stakeholder groups in a variety of ways for continuing feedback on their research goals and objectives.Specific efforts to convene groups for new emerging research challenges, such as seeking input into renewable energy research goals, will be undertaken.

3. A statement of how the input will be considered

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process

- In the Action Plans
- To Set Priorities

Brief explanation.

Input from stakeholders guides program teams and administration as they design research programs, outreach plans and structures. Stakeholder input is considered when answering questions such as:

- Which audiences should educators work with as they conduct programming and market new research to places where it is needed?
- Who is interested in our work?
- How should research-based education be delivered? (Long-term consultation, workshop format, on-line courses, assessment, one-on-one consultation, mass media, web site, etc.)
- What other resources do stakeholders turn to? Do these intermediaries need research-based information? Are we duplicating a service? What is our program niche?
- What do stakeholders know about our programs? How do they hear about them?
- Has past service and research been satisfactory?How might it be changed?
- What new research should shift how we deliver programs?
- What external factors have occurred which require us to change program strategies?

As Extension has established program specialization, regional centers and county purchase of service, stakeholder input is more integrated into our organizational response. The extent to which programs continue, grow and evolve relies upon satisfaction, positive feedback and investment from stakeholders as well as demonstration of positive educational impacts.

Each program business plan and capacity area work plan includes input from external scans, stakeholder input and secondary data that feed the strategic planning process. It will directly influence the use of resources and the direction of research and outreach programs.

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Global Food Security and Hunger

2. Brief summary about Planned Program

The Food and Agricultural Organization of the United Nations recently reported that more than one billion people in the world now suffer malnutrition. This sobering statistic highlights the challenge to the world and the U.S food production system. Minnesota, as the sixth largest agricultural producer in the U.S, plays a key role within that system. Fifty-three percent of Minnesota's total land area is farm land, and farm income provides close to $15 billion to the Minnesota economy. Maintaining and building that productivity requires both long term vision and short term results as world food needs grow, because the food production system is not static. To be profitable and meet societal expectations, farms must both use resources more efficiently and reduce harmful environmental affects. Without significant increases in agricultural productivity, food will become more scarce and expensive.

To help meet the challenge of global food security and hunger, MAES invests in research to: develop disease resistance in crops and improve the nutrient quality of food; reduce animal diseases and develop better livestock production practices; improve agricultural marketing and enhance rural development. Extension has an equally long history in connecting farmers and communities with the information to be productive and profitable. Many promising research avenues, such as precision agriculture, production strategies to reduce erosion and pollution, and new crop varieties that reduce water and fertilizer demand have international implications. Both research and outreach supports new agricultural niche markets, responds to new consumer preferences and seizes the opportunity for local and organic foods. MAES and Extension are committed to being strategic in looking at the entire food system and finding solutions that will support Minnesota agriculture without sacrificing the environment.

MAES invests in both basic and applied research to support a productive agricultural industry and address the issue of global food security and hunger. A major emphasis of MAES supported basic research is in microbial and plant and animal genomic research. The University of Minnesota's St. Paul campus houses the Cargill Building for Microbial and Plant Genomics, the first building dedicated to microbial and plant genomics research at a public research university. MAES researchers also have available the resources of a Bio-Safety Level 2 (BL2) laboratory, and a Bio-Safety Level 3 (BL3), a maximum containment laboratory/glasshouse which is the only facility of its kind in the Midwest, and one of only three in the U.S.

Genomic research supported by MAES research will:

Provide techniques to understand the genetic basis of traits found in agronomic crops such as corn and soybeans, peas and alfalfa that may be used to improve these and other crops.

Study microbial and plant compounds that have potential as drugs.

Sequence the genomes of bacteria that cause disease in livestock to identify potential targets for therapy.

Study pathogenic microbes that cause livestock and plant disease.

Develop technology for identifying useful biological agents and for analyzing the huge volume of data genomics produces.

Use DNA molecular marker techniques to help speed the process of plant breeding for desirable traits.

Support animal agriculture through understanding changes in gene expression associated with animal diseases.

This planned program combines the work of two program areas within Extension. One organizes outreach to commodity crop producers and their industry supports; the other organizes outreach to livestock producers and their industry supports. Both program areas focus on introducing new technology and practices. Content areas featured within the crops area include: agricultural drainage, climate and weather, commodity crops (corn, soybeans, small grains and sugar beets), forages, and pesticide safety. Livestock educators serve producers within Minnesota's beef, dairy, horse, meats, poultry, and swine industry. Both areas have small farms programs.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		10%	
204	Plant Product Quality and Utility (Preharvest)	10%		20%	
205	Plant Management Systems	10%		20%	
206	Basic Plant Biology	5%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	5%		10%	
212	Pathogens and Nematodes Affecting Plants	5%		10%	
213	Weeds Affecting Plants	5%		10%	
216	Integrated Pest Management Systems	5%		10%	
301	Reproductive Performance of Animals	5%		0%	
302	Nutrient Utilization in Animals	8%		0%	
304	Animal Genome	2%		0%	
305	Animal Physiological Processes	5%		0%	
306	Environmental Stress in Animals	2%		0%	
307	Animal Management Systems	15%		0%	
311	Animal Diseases	10%		0%	
315	Animal Welfare/Well-Being and Protection	3%		0%	
	Total	100%		100%	

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

1. Situation and priorities

Commodity crops addressed by this planned program produce approximately $3 billion in cash receipts to Minnesota farmers, contributing economically to Minnesota's rural communities and to the state as a whole. The primary commodity crops produced in Minnesota are corn, small grains (spring wheat, barley and oats) and soybean. Another important commodity crop in Minnesota is sugar beets. Minnesota ranks first nationally in sugar beet production, raising 460,000 acres annually. The economic benefit from the beet sugar industry in Minnesota and North Dakota include $1.1 billion in direct impacts plus another in secondary impacts.

Minnesota livestock producers are challenged with integrating knowledge from diverse disciplines into production practices suitable for their individual operation. Research and education on animal production systems must address the

interactions between nutrition, genetics, reproduction, physiology, microbiology, immunology, and molecular biology, and alsorelated effects on animal health, productivity, and impacts to the environment. In Minnesota, large amounts of land (including 2,000,000 acres of conservation reserve land) are suited for beef cow/calf operations, but the cost of production is high due to feed costs and inefficient use of available forage. Research is needed to develop grazing and forage systems to reduce feed costs and improve profitability. Minnesota is the nation's sixth largest milk-producing state and has the largest turkey industry in the nation.

2. Scope of the Program

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

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

1. Assumptions made for the Program

A balanced approach toward commodity, industry and regulatory partners is necessary to maintain programmatic funding and our competitive position. The biggest challenge to the Commodity Crops program is how to efficiently and effectively integrate across county, regional and state levels of programming to best serve the commodity crop producers who farm these 17 million acres of land each growing season.

2. Ultimate goal(s) of this Program

The ultimate goal of Extension programs in crop and livestock production are to enhance the productivity and profitability of those who manage these millions of acres of productive Minnesota land, thus stimulating an efficient economy that produces the world's food. Another goal is environmental protection and management.

Research components seek to:

Identify and overcome constraints to crop production.

Focus on soil health, tillage systems, crop rotations, pest management and decision support systems that will accelerate the adoption of research results on farms by demonstrating the benefits of research in terms of the whole farm.

Enhance the health and safety of producers and pesticide applicators.

Develop efficient crop production and sustainable cropping systems.

Create discoveries in germplasm development, genetic transformation and the development and application of molecular markets -- crop improvement for the introduction of new genes to increase resistance to pests and diseases; and improvement of productivity and crop quality.

Develop new approaches for breeding and genetic improvement using molecular technologies.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	19.9	0.0	121.7	0.0
2012	19.9	0.0	121.7	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2013	19.9	0.0	121.7	0.0
2014	19.9	0.0	121.7	0.0
2015	19.9	0.0	121.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted to achieve the goals outlined under "Ultimate Goals." Note that KA 201 Plant Genome, Genetics and Genetic Mechanisms, and KA 206 Basic Plant Biology, will be used to report mainly MAES research activities and outcomes in this joint report, while other KAs will be used to discuss both Extension and Experiment Station results and impact. Within this planned program, both basic and applied research activities will focus on a broad range of efforts to support the viability and success of Minnesota's crop producers, including such emerging opportunities as biomass, alternative crops and response to new pests and pathogens.

Crop production and livestock Extension education will use educational forums, one-on-one consultation opportunities, industry collaboration and web-based information to deliver both proactive and reactive information to producers. Proactive education will disseminate new research that can improve the practices of crop and livestock producers; for example, creating better dairy cow health through improved cow care. Reactive education will help farmers cope with current economic trends and other external threats such as bad weather.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites

3. Description of targeted audience

The primary audiences are producers of livestock, commodity crops and small farms. Additional audiences are industry representatives who can assist in dissemination of valuable information. Collaborative relationships with state departments, local government jurisdictions and regulating agencies support and inform those who influence crop and livestock producers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	60000	75000	3500	0
2012	60000	20000	3500	0
2013	60000	20000	3500	0
2014	60000	20000	3500	0
2015	60000	20000	3500	0

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

2011:2 **2012:**2 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	160	50	210
2012	160	50	210
2013	160	50	210
2014	160	50	210
2015	160	50	210

V(H). State Defined Outputs

1. Output Target

- Conduct educational events and consultations to provide producers with latest applied research for improved crop management and livestock production. (Target expressed as number of events)

2011:600 **2012:**600 **2013:**600 **2014:**600 **2015:**600

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants of Extension livestock and crop program workshops/classes and conferences will achieve significant learning gains regarding research-based knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Extension program workshops/classes and conferences.)
2	Participants of workshops/classes and conference sessions related to livestock and crop production intended to improve participant production practices will significantly improve their production practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their practices as a result of attending workshops/classes and conference sessions intended to improve participant practices.)
3	Interventions will result in changes in conditions related to profitability, crop and livestock health or environmental conditions. (Target expressed as number of changes in condition reported each year.)

Outcome # 1

1. Outcome Target

Participants of Extension livestock and crop program workshops/classes and conferences will achieve significant learning gains regarding research-based knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Extension program workshops/classes and conferences.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:85	**2012:**85	**2013:**85	**2014:**85	**2015:**85

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 206 - Basic Plant Biology
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Participants of workshops/classes and conference sessions related to livestock and crop production intended to improve participant production practices will significantly improve their production practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their practices as a result of attending workshops/classes and conference sessions intended to improve participant practices.)

2. Outcome Type : Change in Action Outcome Measure

2011:60	**2012:**60	**2013:**60	**2014:**60	**2015:**60

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 206 - Basic Plant Biology

- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Interventions will result in changes in conditions related to profitability, crop and livestock health or environmental conditions. (Target expressed as number of changes in condition reported each year.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:2	**2012:**2	**2013:**2	**2014:**2	**2015:**2

3. Associated Knowledge Area(s)

- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 206 - Basic Plant Biology
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 304 - Animal Genome
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect 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.)

Description

Adjustments to both the research and outreach work of the program will be necessary in response to all of the above listed external factors, some of which are more predictable than others in an increasingly large-scale and global environment. Crop and livestock production is affected by changes in government regulations, the economy and, as always, the weather.

V(K). 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
- 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.
- Comparison between locales where the program operates and sites without program intervention

Description

Evaluation of events will include post program studies and comparison studies. Evaluation of on-farm studies will include comparison and case studies. Input from producers, crop scientists and specialists and the agricultural input industry will be used each year to enhance and improve the program.

2. Data Collection Methods

- Sampling
- On-Site
- Case Study
- Observation

Description

Evaluation of events will include post program studies and comparison studies. Evaluation of on-farm studies will include comparison and case studies. Input from producers, crop scientists and specialists and the agricultural input industry will be used each year to enhance and improve the program.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Sustainable Energy

2. Brief summary about Planned Program

The goal of this Planned Program is to be a driver of a developing renewable energy industry, and provide the unbiased information needed to allow stakeholders and the public to make thoughtful decisions about our country and state's energy future.

The U.S. has a goal of producing 20 percent of its transportation fuels from renewable sources, including biomass, by 2030. This is the kind of challenge for which the Land Grant University system was first created. Sustainable energy efforts require a system-wide focus, looking at not only efficient processes, but balancing natural resources, and examining its impact on climate change, water quality, and quality of life. Minnesota Agricultural Experiment Station research and University of Minnesota Extension outreach is focusing on the potential for biomass and other renewable energy sources, such as wind and hydrogen energy, within the context of Minnesota's agricultural and natural resources environment.

Emerging technologies and emerging public policy are driving key players to consider the use of bio-mass to create biofuels and biopower. However, a full-fledged sustainable energy economy has yet to be developed. In developing that economy, decision-makers need quality information that is not biased by either political positions or profiteering. Sustainable energy efforts at Extension will provide a source of unbiased research and education that will, ultimately, create a viable economy for sustainable energy. Its knowledge base, drawn from research of MAES and others, will glean information about current economic and policy forces, knowledge of emerging policies and technologies, and research by and about environmental impacts of biofuels and biomass, economic drivers and realities, and new technology and engineering.

MAES research is helping develop new methods to produce biofuels from many different sources, including forest and mill residues, agricultural crops and wastes, animal waste and livestock operation residues, algae, fast-growing trees and plants, and municipal and industrial wastes. Researchers are also looking at new uses for ethanol bioproducts; research to develop farm scale prototypes for energy recovery and use; and studies on the economic and environmental impacts of the emerging biofuels industry. At the same time, Extension outreach is bringing that new information to farm and forest landowners making decisions about their operations, and to local communities making decisions about their energy future.

MAES will support research to investigate the potential of renewable energy resources. Many of the currently funded projects are focused on a range of opportunities related to biomass. However, research projects on other energy sources, such as wind and solar, as well as other sources that have not yet emerged, will be undertaken as the opportunities arise. This research will help determine the economic and policy issues related to renewable energy resources, and will conduct needed basic and applied research on processes, materials, and techniques. It will be designed to help agricultural producers participate in the renewable energy industry by adding value to their products while at the same time improving rural economic development.

3. Program existence : New (One year or less)

4. Program duration : Medium Term (One to five years)

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
131	Alternative Uses of Land	30%		30%	
601	Economics of Agricultural Production and Farm Management	30%		30%	
605	Natural Resource and Environmental Economics	20%		30%	
610	Domestic Policy Analysis	20%		10%	
	Total	100%		100%	

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

1. Situation and priorities

The U.S. has a goal of producing 20 percent of its transportation fuels from renewable sources, including biomass, by 2030. Minnesota has a law that will require utilities to use wind, sun and cleaner-burning fuels to produce a quarter of the state's electricity by 2025, a standard that advocates call among the most aggressive in the country. This is the kind of challenge for which the Land Grant University system was first created.

In the early 1980s, MAES funding helped build Minnesota's first ethanol research facility at one of its branch stations. At the same time Experiment station research and Extension outreach efforts focused on the economic potential of ethanol for rural communities and how they could take advantage of those opportunities. Today, there are broader opportunities for renewable energy, and an increasingly urgent need to explore them.

Research is needed to develop new methods to produce biofuels from waste biomass including forest and mill residues, agricultural crops and wastes, animal waste, livestock operation residues, aquatic plants, fast-growing trees and plants, and municipal and industrial wastes.

Other energy opportunities include studying other energy sources. For example, a current pilot project at the Research and Outreach Center at Morris, Minnesota, is using energy from wind to turn nitrogen from the air into ammonia, an important fertilizer.

First efforts of Extension in bringing emerging technologies to producers, entrepreneurs and communities point toward a niche of bringing unbiased information to an emerging economy. This emerging economy needs better access to information about the potential benefits and drawbacks of certain energies. Public policy agencies, investors and citizens themselves need the information to help them where to invest in this new economy. In a sea of information that benefits particular industries and opinions, a neutral convener and educator is needed. As Extension's consultation to this issue expands, this niche will be explored.

2. Scope of the Program

- In-State Research
- Multistate Research

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

1. Assumptions made for the Program

- Public policy decisions, including incentives and mandates and purchases will stimulate an alternative energy market.
- Target audiences need informed decisions about investment in resources.
- Relationships among key players affecting supply and demand must be nurtured and informed.
- As the U.S. seeks to reduce its dependence on petroleum products, demand for bio-based products will steadily increase.

• Unanswered questions about the impact of biofuels on greenhouse gas emissions, as well as the competition between food and fuel will increase the need for unbiased information and public research. The role of research in helping to inform the public and policy debate is critical.
• Many potential alternative energy sources are in the beginning development stages or as yet unknown. It will be important to be flexible and entrepreneurial in order to take advantage of emerging research opportunities.
• The direction of the renewable energy industry will be driven by innovation.
• Renewable energy research requires a system-wide focus, looking at not only efficient processes, but balancing natural resources, and examining its impact on climate change, water quality, and quality of life.

2. Ultimate goal(s) of this Program

The ultimate goal is to build a viable alternative energy economy that includes bio-fuels and bio-power. Viability will be measured by profits for producers and processors, and efficient utilization of and protection of Minnesota's natural resources.

The ultimate research goals are:

• To build a new bio-based economic sector on the existing foundation of agriculture, forestry and natural resources.
• To understand and evaluate the economic impacts of adoption of renewable energy sources.
• To enlarge the understanding of Minnesotans in the opportunities and trade-offs in renewal energy strategies . To develop real science answers to known and as yet unknown questions.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	1.7	0.0	39.7	0.0
2012	1.7	0.0	39.7	0.0
2013	1.7	0.0	39.7	0.0
2014	1.7	0.0	39.7	0.0
2015	1.7	0.0	39.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Researchers will engage in a wide range of research activities, including laboratory studies, experiments, field testing, prototype development, comparison studies, and economic analysis. Collaborative efforts will be necessary and will include cross-disciplinary studies and the involvement of private industries and other private and public stakeholders.
Some specific projects already known:

• Research on new uses for ethanol bioproducts, liquid fuels from biomass, and other energy crops for Minnesota.
• Research on ways to recover liquid fuel, gas, and other products from agricultural wastes.
• Research to develop farm scale prototypes for energy recovery and use.
• Research on altering lignin composition for bioprocessing of lignocellulosic feed stocks to biofuels and other products.
• Studies on the economic and environmental impacts of the emerging biofuels economy.
Researchers will:

• Publish the results of research in scientific journals and communicate research results in internal and external 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.

Extension programming will be developed to take advantage of information generated by this research as it becomes available. This information will be taken to those who influence the supply and demand of the alternative energy industry. Educators and specialists will look for effective means to add unbiased information to decision-making processes in writing and face-to-face. Business opportunities posed by alternative energy will be examined and presented to key audiences. Frameworks for decision-making will be created. Communities will receive consultation. Relationships among players who can generate supply and demand will be facilitated.

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

Extension

Direct Methods	Indirect Methods
● One-on-One Intervention ● Other 1 (research)	● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

3. Description of targeted audience

Extension programming will primarily reach producers of biomass feedstocks and producers of biomass who make fuels and bio-products. Secondary audiences include policy makers at the local and state level, as well as consumers/users who influence both public policy and market demand.

Agriculture and natural resources industry representatives, biotechnology company representatives, policymakers, state and federal agency representatives, private citizens, and entrepreneurs.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	150	500	0	0
2012	200	600	0	0
2013	250	700	0	0
2014	300	800	0	0
2015	350	900	0	0

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

2011:0 **2012:**1 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	15	2	17
2012	15	2	17
2013	15	2	17
2014	15	2	17
2015	15	2	17

V(H). State Defined Outputs

1. Output Target

- Graduate student research assistants

2011:10 **2012:**10 **2013:**10 **2014:**0 **2015:**0

- Workshops and consultation will provide unbiased information to the target audiences.

2011:50 **2012:**60 **2013:**70 **2014:**80 **2015:**90

V(I). State Defined Outcome

O. No.	Outcome Name
1	Research will provide information on new uses for ethanol byproducts.
2	Research will provide information on technologies for use of on-farm energy sources.
3	Research will provide better understanding of the economic impact and environmental trade-offs of renewable energy sources.
4	Recipients of workshops and users of developed decision-making reports will report that they were able to make informed decisions about sustainable energy production and use. (Target reported as percentage of those educated who agree.)

Outcome # 1

1. Outcome Target

Research will provide information on new uses for ethanol byproducts.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:0	**2012:**0	**2013:**0	**2014:**0	**2015:**0

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Research

Outcome # 2

1. Outcome Target

Research will provide information on technologies for use of on-farm energy sources.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:0	**2012:**0	**2013:**0	**2014:**0	**2015:**0

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

4. Associated Institute Type(s)

- 1862 Research

Outcome # 3

1. Outcome Target

Research will provide better understanding of the economic impact and environmental trade-offs of renewable energy sources.

2. Outcome Type : Change in Knowledge Outcome Measure

2011:0	**2012:**0	**2013:**0	**2014:**0	**2015:**0

3. Associated Knowledge Area(s)

- 131 - Alternative Uses of Land
- 601 - Economics of Agricultural Production and Farm Management
- 605 - Natural Resource and Environmental Economics
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Research

Outcome # 4

1. Outcome Target

Recipients of workshops and users of developed decision-making reports will report that they were able to make informed decisions about sustainable energy production and use. (Target reported as percentage of those educated who agree.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 131 - Alternative Uses of Land
- 601 - Economics of Agricultural Production and Farm Management
- 605 - Natural Resource and Environmental Economics
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

The potential for biomass and other renewable energy sources will be developed within the context of Minnesota's agricultural and natural resources environment. It will also be developed within the larger, global world of increasing demand for energy from developing countries, as well as competing demands for food.

Public policy decisions will have an impact on how the potential of renewable energy sources will be developed, as well as governmental regulations relating not just to energy use and efficiencies, but to other public policy decisions and regulations relating to global warming, and environmental and water quality.

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

1. Evaluation Studies Planned

Description

{NO DATA ENTERED}

2. Data Collection Methods

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Climate Change

2. Brief summary about Planned Program

Climate change is a major long-term environmental issue. In Minnesota, as elsewhere, this change is already happening. For example, over the past twenty years, the growing season in the Great Lakes region has increased by 8-to-16 days, and overall plant growth has increased by 10 percent. For Minnesota, climate change will mean more hot extremes and more heavy precipitation events. Climate change will increase stress on our natural resources, require adaptations in our agricultural practices, and create economic and public policy challenges.

Land use practices are one of the biggest contributors to global warming. Of the three most significant manmade greenhouse gasses, 30 percent of the total comes from land use and agriculture. Crops are part of the 40 percent of the Earth's land surface that's managed by humans, yet large climate change models don't take cropping systems into account. Clearly, to better understand what global climate change means, and deal with its effects, we need to know much more than we do. And this knowledge needs to come from unbiased science.

The complex issue of climate change requires multi-disciplinary perspectives. U of M faculty and specialists in forestry, water quality and the environment, agricultural researchers and economists, along with climate and soil specialists will work together to develop the needed information. Researchers will develop conservation strategies, risk management strategies and practical information on best responses to climate change. Extension will provide outreach to provide Minnesotans information for responding to change**.**

Minnesota Agricultural Experiment Station researchers and Extension will provide key information and support:
Investigating forest responses to warming and wildlife responses to changing habitats.
Developing plant diversity and production strategies to reduce crop vulnerability
Identifying potential changes in soil microbes and threats from invasive pests.
Developing conservation strategies in agricultural inputs to slow or lessen the impact of climate change.
Monitoring climate and using tools such as remote sensing to map and monitor Minnesota resources.
Analyzing carbon sequestration and biomass.
Giving advice to farmers and communities on how to respond to fluctuations and stresses created by climate change.
Advising stakeholders and policy makers based on analysis of alternative climate change remediation policies.

3. Program existence : New (One year or less)

4. Program duration : Medium Term (One to five years)

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	0%		20%	
104	Protect Soil from Harmful Effects of Natural Elements	50%		20%	
123	Management and Sustainability of Forest Resources	0%		20%	
132	Weather and Climate	25%		20%	
605	Natural Resource and Environmental Economics	25%		20%	
	Total	100%		100%	

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

1. Situation and priorities

Climate change has created a divisive political environment because of issues of causality and blame. No matter the cause, changes in Minnesota's climate are affecting Minnesotans. For example, in 2007 changes in the hardiness zone stimulated discussion about potential changes in plant selection among growers. As changes are monitored, land grant systems are well-situated to recommend adaptive practices. In 2009, the University of Minnesota's Extension began coordinating efforts to address climate change. Because efforts are just beginning, the program logic model is not developed. It will be developed in the coming years as educators are convened, research is assessed, and effective education and outreach are planned. The directive of this coordinated effort is to: 1) Discover the actual and potential implications of climate change on crop and ecological systems, economies and other sectors. 2) Enhance the public's engagement and receptivity to implications of climate change regardless of causality, and 3) Transfer knowledge that allows producers and environmental control agents to adapt to climate change by seizing the opportunities of new crops, new varieties and new management practices that maintain the viability of production economics and infrastructures while minimizing damage from invasive pests, diseases and changes in the hydrologic regime.

In 2009, progress was made in coordinating this program area: 1) a key liaison was hired to coordinate Extension's response; 2) 35 Extension faculty were engaged in discussions of the influence of climate change on Extension programming; 3) relationships with key research and management resources within and external to the University were established, and literature was reviewed. Primary research resources currently include the University of Minnesota's Natural Resources Research Institute, Departments of Horticulture and Forest Resources, the Water Resources Center and non-University partners.

2. Scope of the Program

- In-State Extension

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

1. Assumptions made for the Program

1) Climate change may affect a myriad of aspects of the condition of agricultural production, environmental control, family and community life. Planning Extension's response must involve many disciplines.

2) Baseline research and needs assessment must be examined in order to chart the future of programming.

3) Climate change is a contentious issue. Neutrality regarding cause and blame must undergird the program, while proactive thinking engages stakeholders in addressing the affects of climate change.

2. Ultimate goal(s) of this Program

The ultimate goal of this program is to assure that decision-makers across selected target audiences are practicing adaptive practices that address the effects of climate change.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	0.5	0.0	38.9	0.0
2012	0.5	0.0	38.9	0.0
2013	0.5	0.0	38.9	0.0
2014	0.5	0.0	38.9	0.0
2015	0.5	0.0	38.9	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Priorities for 2010-2011 will be to conduct and synthesize adaptation research, develop resources and pathways to increase climate literacy in target audiences, and train decision-makers in new practices to ensure communities are prepared. The program coordinator will attract educators and program leaders from many parts of Extension to consider content that should shift in their programming so that it addresses climate change. By the end of five years, content will change in every program of the Extension Food, Agricultural and Natural Resources Center of Extension.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations ● Other 1 (Adaptation of program modules)	● Web sites

3. Description of targeted audience

As programming is developed, audiences will be targeted. Targeted audiences must be those with whom we can make a difference, and who can benefit from research-based information. Primarily, we will choose audiences whose production systems will be influenced by climate change, as well as those who consult or influence the decision-makers of these growers and producers. Secondary audiences to be considered will be decision-makers and leaders responsible for preparing communities for change. This includes local government jurisdictions, state and local elected officials, producers and environmental groups, human health services, FEMA, and Extension educators working in food and nutrition, family and community life issues.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0
2015	0	0	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	35	2	37
2012	35	2	37
2013	35	2	37
2014	35	2	37
2015	35	2	37

V(H). State Defined Outputs

1. Output Target

- A multi-disciplinary Community of Practice among researchers and Extension educators will effectively gather and interpret science-based knowledge about the implications of climate variability for production systems, natural resource systems and others. (Target expressed as number of Extension educators and specialist engaged in the Community of Practice.)

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

- Presentations will reach practitioners who need to integrate information about climate change into their program content. (Target expressed as the number of presentations each year.)

2011:3	**2012:**3	**2013:**3	**2014:**3	**2015:**3

- Recommendations and guidelines for climate change adaptation will be developed, maintained and integrated into Extension's educational programs. (Target expressed as number of Extension educational offerings that have integrated climate adaptation plans into curriculum or program plans.)

2011:5	**2012:**10	**2013:**15	**2014:**20	**2015:**25

V(I). State Defined Outcome

O. No.	Outcome Name
1	Outcome target measures will be developed as a result of consultation with stakeholders, educators, researchers, literature review and program best practices. (Target expressed as number of action and condition goals to be articulated throughout program development.)

Outcome # 1

1. Outcome Target

Outcome target measures will be developed as a result of consultation with stakeholders, educators, researchers, literature review and program best practices. (Target expressed as number of action and condition goals to be articulated throughout program development.)

2. Outcome Type : Change in Action Outcome Measure

2011:1	**2012:**2	**2013:**3	**2014:**3	**2015:**3

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 132 - Weather and Climate

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Degree of climate change)

Description

This program area will be a moving target. Strategies, viable approaches and possible outcomes will all be affected by the degree to which climate change affects conditions.

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

1. Evaluation Studies Planned

Description

Evaluation strategies will be developed along with development of the program logic model.

2. Data Collection Methods

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Childhood Obesity

2. Brief summary about Planned Program

The U.S. obesity epidemic is increasingly affecting children. More than a third of American kids are now overweight or obese. There are 12.5 million obese children in the U.S. a threefold increase since 1980. The causes of this problem are more complex than just too many sugary drinks and snacks and too little exercise. Social and economic changes and challenges have combined to create this national health problem. Research has shown that children who live in households that struggle to afford food are more likely than others to be overweight. Schools are trying to improve the nutrition in lunch programs while facing shrinking funding. Meaningful solutions require a broad response.

Minnesota Agricultural Experiment Station research and Extension outreach will focus on the issue of childhood obesity with a broad community and family focus. The goal is to generate the needed research and provide both reliable information and practical outreach to families and communities, as well as to the food industry and public policymakers. MAES will support research to develop better understanding of the nutritional content and health benefits of foods, as well as to develop methods to help the food processing industry provide healthy food. Extension's nutrition education programs will help people with limited income discover how to make healthy food choices while stretching food dollars. These programs will be complemented by outreach to families, schools and communities for a more systemic approach to disease and obesity prevention.

The Extension Nutrition Education Program (NEP) provides nutrition education to audiences of low-income persons and professionals who serve low-income persons. Extension's NEP program includes the Supplemental Nutrition Assistance (SNAP-Ed) Program, the Expanded Food and Nutrition Education Program (EFNEP), and an Extension-funded program. The SNAP-Ed and EFNEP programs focus on diet quality, food safety, food resources management and food security. These have been designed to reach specific target populations ranging from pregnant mothers to children in Head Start to older adults. Through University of Minnesota Extension, the SNAP-Ed and EFNEP programs directly reach individuals in 86 of Minnesota's 87 counties. Educational programs are designed and delivered to youth, adults and older adults. Programs developed for adults and older adults focus on changing learned behaviors related to food purchase and consumption, for themselves and the children in their families. Youth programs are based on the premise that learning healthful eating habits during childhood will play a role in the prevention of nutrition-related disease, particularly diseases related to obesity. The program not only works to change individuals' knowledge and/or behaviors, but is designed to support systemic change. All aspects of Minnesota's NEP are based on research on the impact of the education provided to children and the impact of access to food on the healthful eating of families.

Minnesota Agricultural Experiment Station research focuses on issues of food consumption for optimal health, food chemicals in processing and storage, and product characteristics of foods grown in the Midwest. Dietary research focuses on the relationship between vivolipid oxidation and its protection against heart disease, diabetes and cancer, on measuring the physiological effects of dietary fiber, investigating foods that help in the treatment for diabetes, the potential of phyto-estrogens as cancer preventatives, developing new sources of dietary antioxidants and fibers, understanding the link between fat, salt and hypertension, and the dietary influences of colon cancer.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	5%		5%	
701	Nutrient Composition of Food	25%		25%	
703	Nutrition Education and Behavior	60%		60%	
704	Nutrition and Hunger in the Population	10%		10%	
	Total	100%		100%	

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

1. Situation and priorities

Nutrition and optimal food intake is a fundamental physical building block important to the well being of Minnesotans. Research has established the link between adequate nutrition in the early years and adult productivity, between adequate nutrition and risks of disease and disability, and between adequate nutrition education and nutritional intake.

In the U.S., $92.6 billion in annual cost is related directly to obesity-related health concerns. One-half of these costs are covered directly by tax dollars via Medicare and Medicaid. More than half of all Minnesotans are considered to be obese or overweight (61%), putting them at risk for heart disease, stroke, certain cancers and type two diabetes, all of which are among the leading causes of death. For Minnesota, the cost of obesity is $1.3 million dollars with $227 million of this going into Medicaid population care. A comprehensive approach addresses not only individual behavior change, but environmental and systemic change as well. According to the Centers for Disease Control, during the past twenty years, obesity among adults and children has risen significantly, resulting in a host of poor health conditions. In 2004, in excess of 260,000 Minnesotans are certified as eligible for Food Stamps. Assuming 61% have weight problems, over 150,000 Food Stamp participants need nutrition education for this alone.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Healthful eating habits in childhood play a role in the prevention of chronic under-nutrition and acute nutrition problems throughout their lives. The development of healthful eating habits as a child can serve as a basis for adult dietary behaviors. Consumers will increase their healthful behaviors through adequate information, tools and motivation. Individuals benefit from an environment that reinforces changes to more healthful food selections and more nutritious food choices. In Minnesota, 16 percent of the population is estimated to lack adequate food each day.

2. Ultimate goal(s) of this Program

Through a comprehensive approach to change individual level decisions and the nutritional environment, Minnesotans will make decisions that will enhance their health and well-being.

Research goals to support these decisions include:

- Determining optimal food consumption for health of colon, reducing cardiovascular disease, cancer and diabetes.
- Determining the physiological effects of various dietary fibers.
- Analyzing the loss of food chemicals in processing and storage.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	2.6	0.0	44.0	0.0
2012	2.6	0.0	44.0	0.0
2013	2.6	0.0	44.0	0.0
2014	2.6	0.0	44.0	0.0
2015	2.6	0.0	44.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Efforts will:

- Deliver educational programs to individuals in groups or one-to-one settings regarding diet quality, food safety, food resource management and food security;
- Evaluate the effectiveness of nutrition education programs;
- Research the impact of nutrition education on children and the impact of access of food on families;and,
- Research the impact of healthy beverage consumption, and the food shopping behavior of low-income families.

MAES research will be conducted to develop better understanding of the nutritional content and health benefits of various foods, as well as developing methods to help the food processing industry provide healthy food.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● One-on-One Intervention	● TV Media Programs
● Demonstrations	● Web sites

3. Description of targeted audience

- Children, parents and other adults from low-income families.
- Professionals who work with low-income families.

• Members of Minnesota's ethnic minority groups who bring with them a history of food and nutrition based on culture and lifestyle.
• School personnel seeking assistance in implementing federal regulations and improving healthful food choices of children.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	34000	150000	53000	100000
2012	34000	150000	53000	100000
2013	34000	150000	53000	100000
2014	34000	150000	53000	100000
2015	34000	150000	53000	100000

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	27	3	30
2012	27	3	30
2013	27	3	30
2014	27	3	30
2015	27	3	30

V(H). State Defined Outputs

1. Output Target

- Classes will be provided in individual and group settings that teach about diet quality, food safety, food resource management and food security. (Target expressed as number of workshops/classes taught.)

2011:3500 **2012:**3500 **2013:**3500 **2014:**3500 **2015:**3500

V(I). State Defined Outcome

O. No.	Outcome Name
1	Program participants will increase human nutrition knowledge. (Target expressed as percentage of participants who report knowledge change.)
2	Program participants will increase their skills in selecting and buying food that satisfies nutritional needs, managing food budgets and preparing affordable foods within the food groups. (Target expressed as percentage of participants who reported learning those skills.)
3	An increased number of program participants will use research-based information from Extension to improve their intake of healthful foods and engagement in physical activity. (Target expressed as a percentage of participants who self-report change.)

Outcome # 1

1. Outcome Target

Program participants will increase human nutrition knowledge. (Target expressed as percentage of participants who report knowledge change.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:75	**2012:**75	**2013:**75	**2014:**75	**2015:**75

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Program participants will increase their skills in selecting and buying food that satisfies nutritional needs, managing food budgets and preparing affordable foods within the food groups. (Target expressed as percentage of participants who reported learning those skills.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

An increased number of program participants will use research-based information from Extension to improve their intake of healthful foods and engagement in physical activity. (Target expressed as a percentage of participants who self-report change.)

2. Outcome Type : Change in Action Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Changes in the economic status of families and institutions, such as schools, can positively or negatively affect how much an individual or institution can invest in behavior change. Greater or lesser emphasis on health and nutrition can enhance or decrease the effectiveness of our approach. Changes in population can affect who is targeted by the program and whether cultural adaptations may be needed.

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Description

An evaluation specialist conducts both formative and summative evaluations for the Nutrition Education program. In addition to continuing to assess post workshop knowledge gain and intent to utilize program knowledge and materials, we will be designing and implementing a control group study to explore the impact of the Nutrition Education Program.

In 2008, evaluation began on a school-based curriculum that teaches children about Minnesota's local fruits and vegetables. The study is examining increased intake of a variety of fruits and vegetables after participation in the "Go Wild with Fruits and Vegetables" project.

2. Data Collection Methods

- Sampling
- Telephone
- On-Site
- Structured
- Unstructured
- Observation

Description

Multi-method approaches will be used to collect data. The specific methods will depend upon the aspect of the program being studied and the questions to be addressed. Typically, on-site surveys and structured interviews will be utilized to collect the data.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Food Safety

2. Brief summary about Planned Program

While the food supply in the U.S. is one of the safest in the world, each year about 76 million illnesses occur, more than 300,000 persons are hospitalized, and 5,000 die from the food borne illness. Keeping that food free of contaminants, bacteria or pathogens, as well as fresh and wholesome through production, processing and distribution chain requires a high level of quality control. Food preparation is another critical stage, whether in the kitchen of a restaurant, home or institution. Minnesotans' changing food buying preferences add new demands. The local food movement, for example, raises new quality issues, and growing concerns among consumers about food allergies challenges the food supply.

Minnesota Agricultural Experiment Station research and University of Minnesota Extension outreach will combine to bring food safety processes and practices into the 21st century. Research will focus on designing new techniques for detecting contaminants and pathogens in foods during production, processing and storage, and evaluating the farm to table movement of food to determine where contamination may occur. Extension programs will focus on food safety certification programs for food services, food safety training for food handlers and food safety education to consumers.

The mission of Food Safety education is to provide research-based food safety education to Minnesota food service establishments, non-profit community events, schools, processing facilities, care facilities, homes and home-based businesses and to increase the safety of food products grown, caught, prepared or preserved in Minnesota. This is being accomplished through: 1) Food Safety Certification programs for Food Services; 2) Food Safety Training for food handlers; 3) Food Safety Education through distributed materials to the general public; and, 4) Development and coordination of training and inspection for food industry personnel.

Research to support these outreach programs investigate food production and processing practices, food safety and food quality issues.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
501	New and Improved Food Processing Technologies	40%		40%	
503	Quality Maintenance in Storing and Marketing Food Products	30%		30%	
504	Home and Commercial Food Service	30%		30%	
	Total	100%		100%	

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

1. Situation and priorities

An average of 39 foodborne outbreaks occur every year in Minnesota, involving more than 600 persons. Fifty percent of the food dollar is spent on meals prepared by the food service industry. The majority of foodborne outbreaks in Minnesota is

related to improper handling in these food service situations. Emerging trends to which the food service industry must adapt include food allergies, food irradiation and foodborne illness. In entrepreneurial food markets and community based care settings, similar concerns arise with less professional resources available for trainings and standards for food preparation.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Interventions in public food service settings will control the conditions under which food borne illnesses occur. For-profit and non-profit food service settings benefit from becoming trained in food handling because the reputations of their institutions and industry will be strengthened. The general public seeks information about food safety from timely, responsive mediums rather than workshop or certification settings.

2. Ultimate goal(s) of this Program

The ultimate goal is to prevent foodborne illnesses and assure the safety of food preparation in food service settings. Research goals include to:

- Create the basic knowledge to permit the food industry to develop safe and flavorful food products;
- Reduce incidence of pathogens by incorporating natural anti-microbials in ready-to-consume foods;
- Reduce food spoilage by using naturally occurring chemicals from edible plants;
- Optimize product quality by evaluating food component interactions;
- Increase understanding of the structural characteristics that proteins bring to food products;
- Develop a polymer science approach to study lipid replacement in cereal-based systems;
- Evaluate the farm to table movement of food and determine where contamination may occur.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	8.8	0.0	20.4	0.0
2012	8.8	0.0	20.4	0.0
2013	8.8	0.0	20.4	0.0
2014	8.8	0.0	20.4	0.0
2015	8.8	0.0	20.4	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted to meet the applied and basic research goals outlined under "Ultimate Goals." Research into the development of new products, processes and storage conditions is included under this program.

Food Safety for Food Service: Face-to-face and on-line courses will be delivered, resulting in examination and certification of food service workers. In 2006, Extension reported that cultural and language adaptations had made certification of Spanish-speaking food service workers more successful. Renewals of this certification will be offered and the course will continue to be offered in Spanish, with attention to evaluating program success.

Food Safety Employee and Volunteer training: Face-to-face education in food service settings and community settings will deliver food safety training to those who handle food. The public will have education available about food safety in the home through media campaigns, phone answering services, the web, fact sheets and workshops. A train the trainer format will also be offered, especially to those local community organizations that can reach high risk audiences with food safety information.

Food Safety for Home Growers and Entrepreneurs: The growing local foods economy is creating more interest in food safety education for those who can and preserve foods. By organizing educational events for these home grown food managers, Extension will help to sustain growing local industries.

The Inspection Division Project: A contract for services will provide a 3/4 time educator to develop and coordinate training for inspection and food industry personnel.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● One-on-One Intervention	● TV Media Programs
● Demonstrations	● Web sites
● Other 1 (Train-the-trainer)	● Other 1 (answering lines)
	● Other 2 (CDDVDs)

3. Description of targeted audience

Research supports the food development industry and food processing industry, while the direct audiences of the outreach efforts are food service workers through relationships with the National Restaurant Association, food handlers in community locations, fishermen and farmers, and high-risk audiences through the organizations they trust.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	3000	7400	0	0
2012	3000	7400	0	0
2013	3000	7400	0	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2014	3000	7400	0	0
2015	3000	7400	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	15	0	15
2012	15	0	15
2013	15	0	15
2014	15	0	15
2015	15	0	15

V(H). State Defined Outputs

1. Output Target

- On-line and face-to-face classes will be delivered for food service workers in English. (Target expressed as number of courses offered.)

  2011:70 **2012:**72 **2013:**74 **2014:**76 **2015:**76

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants of the Food Safety program classes will achieve significant learning gains regarding research-based food safety knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Food Safety classes.)
2	Participants of the Food Safety program classes will significantly improve their food safety practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their food safety practices as a result of attending classes intended to improve food safety practices.)
3	The MN Dept. of Health reports an 18-20% decrease in critical inspection violations in establishments that employ a Certified Food Manager. Food Safety Education programs will certify food managers. (Target expressed as % of pass rates.)

Outcome # 1

1. Outcome Target

Participants of the Food Safety program classes will achieve significant learning gains regarding research-based food safety knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Food Safety classes.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:74	**2012:**76	**2013:**78	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 503 - Quality Maintenance in Storing and Marketing Food Products
- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Participants of the Food Safety program classes will significantly improve their food safety practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their food safety practices as a result of attending classes intended to improve food safety practices.)

2. Outcome Type : Change in Action Outcome Measure

2011:68	**2012:**70	**2013:**72	**2014:**72	**2015:**72

3. Associated Knowledge Area(s)

- 503 - Quality Maintenance in Storing and Marketing Food Products
- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

The MN Dept. of Health reports an 18-20% decrease in critical inspection violations in establishments that employ a Certified Food Manager. Food Safety Education programs will certify food managers. (Target expressed as % of pass rates.)

2. Outcome Type : Change in Condition Outcome Measure

2011:90	**2012:**90	**2013:**90	**2014:**90	**2015:**90

3. Associated Knowledge Area(s)

- 501 - New and Improved Food Processing Technologies
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 504 - Home and Commercial Food Service

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Government Regulations
- Populations changes (immigration, new cultural groupings, etc.)

Description

If regulations become lax for food service establishments, incentive to engage in certification may decrease. As population demographic change occurs, the "where and how" of public food service situations may need adjustment in program planning.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Comparison between locales where the program operates and sites without program intervention
- Other (Inspection documents)

Description

Besides data collection, we plan to study program adaptations for new audiences to determine the cultural appropriateness of our program adaptations. Once program interventions are considered effective because of post-program evaluation, their outcomes will be measured through means similar to data collection for other programs.

2. Data Collection Methods

- Mail
- Tests
- Other (Inspection documents)

Description

The Life Skills evaluation system is used. Questions are selected from the groupings developed by the Extension Service. Analysis of material learned and behaviors changed is measured by pre- and post-class evaluations. For certification programs, a follow-up evaluation is sent to participants to determine the continuing influence of materials presented. Evaluation of facilities by MDH or MDA inspectors will be collected from inspection scores, which are public domain. Data primarily will be searched for changes in compliance at inspections done after facility personnel have completed training. Improved inspection scores, fewer violations and a decrease particularly in critical violations would be measures of success. Data are also collected from Certified Food Managers renewing their certification through Serve it Up Safely in the classroom setting. The percentage making significant changes to decrease the incidence of foodborne illness outbreaks is tabulated, along with specific practices put in place. These evaluations will determine whether Food Safety Education programs are making a difference.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

4-H Programs in Minnesota

2. Brief summary about Planned Program

Minnesota 4-H Youth Development non-formal learning programming is delivered during out of school time to youth by program staff, adult and youth volunteers, and community partners. Strategies are built on these common elements of design for trainings, curricula, and program: 1) Quality youth development principles, 2) Building effective non-formal learning environments, 3) Service learning, 4) Adult-youth partnerships, 5) Experiential learning/Methods of inquiry, and 6) The art of developing passion. Programming is delivered through after school, community club, site based clubs, project clubs, and shorter term "adventures" offerings. In addition, the 4-H experience is often supplemented with youth participation in events, showcases, fairs, and forums in four main content areas (Healthy Living, Citizenship/Leadership, Science/Technology/Engineering & Math, Animal Science).

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	20%		0%	
806	Youth Development	80%		0%	
	Total	100%		0%	

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

1. Situation and priorities

Research indicates that Minnesota has the highest percent of two-parent working families and the highest percentage of young people in self-care during non-school hours. In fact, 40% of Minnesota's 10-12 year old children are home alone after school, with 56% of children in this age group spending some time in self-care each week (Cappizzano, 2000). Non-school hours can be a time of great risk OR opportunity. Research reveals that how young people spend their free time is a more powerful predictor of risk behavior than is race, family structure or socio-economic status. The 2001 MN 4-H Youth Survey revealed that youth involved in 4-H are more likely to volunteer in their communities and less likely to smoke cigarettes, consume alcohol or ride with a driver who has, spend an unhealthy amount of time watching TV and/or playing video and computer games. They are also less likely to have stolen or damaged property. The need for productive activity is strong, and requires an individualized approach, in urban Minnesota. Sixty-five percent of students in the St. Paul Public Schools are from low-income households. The St. Paul Public School Class of 2000 had a 62% graduation rate, and rates for African-American, American Indian and Latino students were under 50%. In Minneapolis Public Schools, 65% of the students are from low-income households. The Class of 2000 graduation rate was 42%; rates for African-American, American Indian and Latino students were under 35%.

One way to positively impact the lives of urban youth is to ensure that out-of-school time opportunities are available to youth who need them. Youth-serving organizations, public school systems, and community members need to work together to optimize the learning and development of urban youth.

In the coming years, these out-of-school activities will be directed at three mission mandates.Minnesota 4-H is actively engaged in three national mission mandates. Each provides a structure to support and guide program delivery throughout the state. Program development and evaluation strategies will continue to be shaped around these mission mandates. They are:

1) Science, Engineering and Technology:These initiatives secured $150,000 from 3M to create and develop a sustainable program for the Power of Wind curriculum, while partnering with five other Extensions nationwide.

2) Citizen/Leadership: A literature review has identified best practices as their initial work will focus on developing the Minnesota 4-H Civic Engagement efforts with teens.

3) Healthy Lifestyle: This area is in the earliest phase of development, and intends to integrate a "nature-engaged families".

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

Youth are more likely to experience positive youth outcomes when interactions between adult and youth, and the non-formal learning environment of the program itself, reflect indicators of youth program quality:
They provide a safe environment.
They provide a supportive environment.
They create high levels of interaction.
They stimulate high levels of engagement.

Youth who participate more intensively in the Minnesota 4-H program offerings are expected to show signs of progress toward positive outcomes in learning and leadership related to their participation.

2. Ultimate goal(s) of this Program

1. Given vibrant non-formal learning environments and the use of experiential learning processes, **youth will master a topic of interest and develop passion for learning** by applying methods of inquiry in small group learning and individual projects in real world contexts.
2. Given the opportunity to engage in programs, **youth will lead through active citizenship** by sharing new knowledge, carrying out service learning, and facilitating dialogue for positive change.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	51.2	0.0	0.0	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2012	51.2	0.0	0.0	0.0
2013	51.2	0.0	0.0	0.0
2014	51.2	0.0	0.0	0.0
2015	51.2	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Full participation means that youth:
1) are trained in participating in youth-adult partnerships,
2) undertake a role that helps their program achieve its goals,
3) select form(s) of learning documentation and devote time to reflection after learning experiences as individuals or in group setting,
4) apply interests, talents, and learning to a field experience related to careers,
5) participate in campus visits,
6) design and deliver a presentation in a public setting (showcase, fair, community forum, etc.) to share their knowledge and its application to the community,
7) access community and organizational resources to complete their program activities, and,
8) complete a program evaluation.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Newsletters
● Workshop	● Web sites
● Group Discussion	● Other 1 (youth activity curricula)
● One-on-One Intervention	
● Demonstrations	
● Other 1 (train the trainer/volunteer)	
● Other 2 (Youth Activities)	

3. Description of targeted audience

The target market for 4-H clubs is youth. Since 2004, recruitment has been designed to double 4-H club membership by 2010 from 26,000 to 52,000. Through training and resources to support staff and volunteers to create quality learning environments in clubs that are inviting, accessible and welcoming to a broader range of Minnesota youth. The Urban Youth Learn audience includes adults working with schools, agencies and organizations and volunteers interested in building sustainable youth programs. Youth leadership programs target young learners who are working in the context of their neighborhood or community to make a difference.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	12300	6500	220000	0
2012	12300	6500	220000	0
2013	12300	6500	220000	0
2014	12300	6500	220000	0
2015	12300	6500	220000	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	5	5
2012	0	6	6
2013	0	7	7
2014	0	8	8
2015	0	8	8

V(H). State Defined Outputs

1. Output Target

- The overall percentage of youth of color participating in 4-H program activities will match or exceed the percentage of youth of color in Minnesota (2008 estimate is 23%, according to Kids COUNT data). (Targets will change as percentages change.)

  2011:23 **2012:**23 **2013:**23 **2014:**23 **2015:**23

- Parents of youth participants (fifth grade and lower) will report being satisfied with their child's first year of participating in 4-H programming. (Target is a percentage of first year parents.)

  2011:75 **2012:**75 **2013:**75 **2014:**75 **2015:**75

- Lead adult volunteers in clubs will be trained to work with Minnesota's young people who participate in 4-H program activities. (Target is the percentage of adult volunteers who receive training.)

  2011:83 **2012:**83 **2013:**83 **2014:**83 **2015:**83

- 4-H program groups (clubs) will use a validated assessment tool to guide quality improvement efforts. (Target is the number of clubs who use the tool that was piloted in 2010.)

  2011:20 **2012:**40 **2013:**60 **2014:**60 **2015:**60

V(I). State Defined Outcome

O. No.	Outcome Name
1	Youth involved in Minnesota's 4-H programs at high participation levels will report mastery of a topic of interest as a result of their 4-H involvement. (Target is a percentage of highly involved youth.)
2	Youth involved in Minnesota 4-H programs at high participation levels will report contributions to their community as a result of their 4-H involvement. (Target is the percentage of highly involved youth who report.)

Outcome # 1

1. Outcome Target

Youth involved in Minnesota's 4-H programs at high participation levels will report mastery of a topic of interest as a result of their 4-H involvement. (Target is a percentage of highly involved youth.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Youth involved in Minnesota 4-H programs at high participation levels will report contributions to their community as a result of their 4-H involvement. (Target is the percentage of highly involved youth who report.)

2. Outcome Type : Change in Condition Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect 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.)

Description

Public commitment to youth in Minnesota is strong. However, as local government face competing demands for local tax dollars and philanthropic dollars, commitment to youth development programs fluctuate.

In order to attract and sustain involvement of new cultural groupings, 4-H programs will vary their activities for cultural appropriateness.

V(K). 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
- 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.
- Comparison between locales where the program operates and sites without program intervention

Description

MN 4-H is made up of layers of local, regional and statewide programming opportunities all across the state. Given the complexity of the organization and the hundreds of program opportunities offered throughout the state, the evaluation strategies are also multi-layered. Short-terms activities are typically evaluated using post-only, retrospective pre-post survey, and pre-post survey strategies. Longer terms efforts will be evaluated using statewide studies. We have been participating in the national longitudinal study of 4-H Positive Youth Development spearheaded by Tufts University, which continues to give us important state and national information. We intend to continue that study longitudinally, hoping to grow the data to 900 4-H members. Statewide studies of a random, representative sample of 4-Hers will also be conducted to coincide with the Minnesota Department of Education's Minnesota Student Survey (this will offer us some ability to compare). This survey is a comprehensive impact survey designed to assess the eight keys to positive youth development, program satisfaction, and youth development outcomes such as life skills, connection to peers, family, school and community, and engagement in pro-social and risk behaviors. All clubs will continue to complete the annual "4-H Youth Program Survey" designed to assess the learning climate and critical educational processes.

2. Data Collection Methods

- Sampling
- Whole population
- On-Site
- Structured
- Observation
- Portfolio Reviews

Description

See above.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Youth Work Institute

2. Brief summary about Planned Program

The Youth Work Institute organizes educational activities to achieve program goals. These activities include: 1) education programs and training workshops that bridge research and practice; 2) community forums and public seminars; 3) organizational partnerships and collaborations; 4) development of publications and educational products; and, 5) applied research and evaluation. All of the Institute's program activities are based on a commitment to bridge university research and community practice, to promote an asset-based youth development framework, and to promote accountability and quality in program practice.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
805	Community Institutions, Health, and Social Services	30%		0%	
806	Youth Development	70%		0%	
	Total	100%		0%	

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

1. Situation and priorities

Major policy initiatives in the last five years have elevated understanding of the importance of out-of-school time learning opportunities for young people. Resulting reports on the state of youth in Minnesota validate the need for out-of-school-time learning, including he Minnesota Mott statewide network study (called Youth Community Connections), the Minnesota Commission on Out-of-School Time, and reports by the Rand Corporation and the Mott Foundation. Many in Minnesota are committed to ensuring that all young people have opportunities to learn and develop during non-school hours. Organizations and networks are promoting a major effort to build public will in support of community youth programs. The Youth Work Institute, a part of the University of Minnesota Extension's Center for Youth Development, plays a leading role statewide in providing educational programs and public learning opportunities to build strong professionals, strong programs and a strong field.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

1. While youth programs already exist, research indicates that quality is critical to the ultimate impact those programs make.
2. Youth workers benefit when they have access to current research and have an opportunity to apply it in their daily practice.
3. Community programs and organizations benefit from intentional efforts to bridge research and practice.

2. Ultimate goal(s) of this Program

The goal is to: a) develop competent youth work professionals; b) build strong, high-quality youth programs; and c) build a strong youth development field so that exceptional out-of-school learning opportunities are accessible and have the capacity to contribute to the positive learning and development of young people.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	13.8	0.0	0.5	0.0
2012	13.8	0.0	0.5	0.0
2013	13.8	0.0	0.5	0.0
2014	13.8	0.0	0.5	0.0
2015	13.8	0.0	0.5	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

The Youth Work Institute will organize educational activities to achieve our goals: 1)education programs and training workshops that bridge research and practice; 2) community forums and public seminars; 3) organizational partnerships and collaborations; and, 4) development of publications and educational products. All of the Institute's program activities are based on a commitment to bridge university research and community practice, to promote an asset-based youth development framework, and to promote accountability and quality in program practice.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Web sites
● Group Discussion	● Other 1 (Publications & products)
● One-on-One Intervention	
● Other 1 (Support for collaboratives)	
● Other 2 (on-line and internet study)	

3. Description of targeted audience

The Youth Work Institute serves individuals, organizations and systems working with and on behalf of

youth. This includes those who interact with youth through community-based programming as well as decision-makers who can improve the quality and quantity of opportunities for youth to be involved in out-of-school-time activities. Examples include: youth program directors, youth workers, volunteers, teachers, coaches, parents and elected officials, as well as community collaborative initiatives, state agencies, funders and policy makers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	4200	7500	0	0
2012	4200	7500	0	0
2013	4200	7500	0	0
2014	4200	7500	0	0
2015	4200	7500	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	2	2
2012	0	2	2
2013	0	2	2
2014	0	2	2
2015	0	2	2

V(H). State Defined Outputs

1. Output Target

- Educational offerings will be delivered for youth-serving organizations. (Target expressed as the number of events, classes, workshops delivered.)

2011:	**2012:**	**2013:**	**2014:**	**2015:**
100	100	100	100	100

- Capacity-building consultation and technical assistance will be delivered. (Target expressed as number of participating organizations.)

2011:	**2012:**	**2013:**	**2014:**	**2015:**
50	50	50	50	50

- Educational offerings will be delivered through distance education methods. (Target expressed as the number of online offerings delivered.)

2011:	**2012:**	**2013:**	**2014:**	**2015:**
10	10	10	10	10

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants in educational offerings will report that they increased their knowledge of current research and effective program practices. (Target expressed as a percentage of participants.)
2	Youth Development organizations participating in consultation and technical assistance will increase program quality. (Target expressed as percentage of organizations that improved one or more dimensions of program quality.)
3	Participants in educational offerings will report that they will be able to apply what they learned to their work. (Target expressed as percentage of those in agreement.)

Outcome # 1

1. Outcome Target

Participants in educational offerings will report that they increased their knowledge of current research and effective program practices. (Target expressed as a percentage of participants.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:85	**2012:**85	**2013:**85	**2014:**85	**2015:**85

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Youth Development organizations participating in consultation and technical assistance will increase program quality. (Target expressed as percentage of organizations that improved one or more dimensions of program quality.)

2. Outcome Type : Change in Condition Outcome Measure

2011:75	**2012:**75	**2013:**75	**2014:**75	**2015:**75

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Participants in educational offerings will report that they will be able to apply what they learned to their work. (Target expressed as percentage of those in agreement.)

2. Outcome Type : Change in Action Outcome Measure

2011:90	**2012:**90	**2013:**90	**2014:**90	**2015:**90

3. Associated Knowledge Area(s)

- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

This program seeks to promote a sustained commitment to youth activities despite political trends and burning issues. However, such trends and tensions will challenge the program to achieve those goals.

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

1. Evaluation Studies Planned

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

Description

1. We will utilize an on-line survey (Survey Monkey) collection process and satisfaction survey at the completion of each class.
2. Both Youth Program Quality Intervention Study and 4-H Club Study will be evaluated pre and post with part of the survey receiving intervention programs.
3. Community partners will be interviewed for feedback on effectiveness of Community Design Teams process.
4. There will be a case study of Intercultural Education Development (IED) effort and effect.

2. Data Collection Methods

- Mail
- Case Study
- Observation

Description

Participating programs and organizations will be surveyed to establish their progress over time.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Leadership and Civic Engagement

2. Brief summary about Planned Program

The primary goal of leadership and civic engagement programs is to improve the quality of community-based leadership and democratic processes used in communities. With the power of effective democracies, communities can choose a future and adapt to change. Leadership and civic engagement programs have a strong track record in building leadership capacity and helping communities manage their processes. In the coming five years, the primary goals are:

1) to ensure that regional development efforts integrate Leadership and Civic Engagement programming;
2) to further strengthen evaluation processes;
3) to develop viable curricula that assure the replicability of sound program delivery; and,
4) to maintain and strengthen the research connections of the work.

Four programs currently are aligned with the leadership and civic engagement program. The U-Lead program creates stronger leadership in communities. The U-Facilitate program offers local residents, staff and leaders skills and experiences to enhance community-based decision-making. The U-Connect program helps communities design and implement public participation processes and become intentional in building bonds within and across communities. The Connecting Rural Communities program convenes communities to talk about their technological future.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
608	Community Resource Planning and Development	50%		0%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	50%		0%	
	Total	100%		0%	

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

1. Situation and priorities

According to a study of community leadership done by Cornell University and the Heartland Institute in 2002, community leaders face a number of specific and complex challenges in modern times. They must do more with less. They must cope with mandates from higher jurisdictions of government. Demographic and economic changes are dramatic, and unexpected events occur. Issues are more complex. Economic realities are harsh. Social and cultural unrest result from volatile public opinion. There is a loss of confidence in institutions. And leaders fear more personal "assassination" from the populace as it scrutinizes public leadership harshly.

How can communities address these challenges? Case study examination shows that communities succeed when they realize that, "ultimately, we have to do it ourselves." While support from state government and other outside sources can affect the lives and outcomes of community life, the primary ingredient for success is a communities' ability to make decisions and act together. This requires the leadership of an engaged community.

2. Scope of the Program

- In-State Extension
- Multistate Extension

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

1. Assumptions made for the Program

• Leadership education is known to provide time for personal and community development as potential leaders decide what they can contribute. Providing leadership education will increase the quality and quantity of leadership in communities.
• Research-based facilitation design, delivery and education will positively change the process and product of structured gatherings in communities.
• Every community has resources. When these resources are invested to create new resources, they become capital (Flora, Flora and Fey, 2004: 9). By investing in the human capital in a community, and building stronger social capital (bonds, bridges and links to outside resources), community members and leaders are able to bring more political, cultural, financial, built, and natural assets to communities.

2. Ultimate goal(s) of this Program

The ultimate goal is to bring more political, cultural, financial, built and natural capital to communities by strengthening leadership and civic engagement systems in communities, educating about and strengthening social capital, and building stronger public participation in community problems.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	11.3	0.0	0.0	0.0
2012	11.3	0.0	0.0	0.0
2013	11.3	0.0	0.0	0.0
2014	11.3	0.0	0.0	0.0
2015	11.3	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Leadership and Civic Engagement programs will use multiple interventions to improve the quality of leadership, structured gatherings and public participation processes, specifically: 1) community-based assessments, 2) workshops, 3) consultation and facilitation, and 4) long-term cohort groups. Because long-term cohort groups are proven to strengthen the impact of the program, outreach efforts will encourage their implementation throughout the state.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● Demonstrations ● Other 1 (Community Coaching) ● Other 2 (Community Assessments)	● Web sites ● Other 1 (Radio programs, newspaper articl) ● Other 2 (Materials dissemination)

3. Description of targeted audience

Leadership and Civic Engagement programs reach out to five primary audiences:
local government agencies, employees and leaders

nonprofit organizations and collaborative associations
foundations and their grantees
the natural resources sector
the agricultural sector

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	6000	5000	500	0
2012	6000	5000	500	0
2013	6000	5000	500	0
2014	6000	5000	500	0
2015	6000	5000	500	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	1	1
2012	0	1	1

Year	Research Target	Extension Target	Total
2013	0	1	1
2014	0	1	1
2015	0	1	1

V(H). State Defined Outputs

1. Output Target

- Community cohort groups will meet to develop leadership skills and create civic connections. (Target expressed as number of cohort groups convened.)

  2011:25 **2012:**25 **2013:**25 **2014:**25 **2015:**25

- Community assessments and research projects will help communities understand their strengths related to civic leadership and social capital. (Target expressed as number of local assessments conducted.)

  2011:4 **2012:**4 **2013:**4 **2014:**4 **2015:**4

- Workshops and other structured gatherings will provide communities with increased skills, knowledge and behaviors related to leadership and civic engagement. (Target expressed as number of events.)

  2011:200 **2012:**200 **2013:**200 **2014:**200 **2015:**200

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants in Leadership and Civic Engagement programs will increase their knowledge of relevant leadership and civic engagement topics. (Target expressed as the percentage of participants reporting increased knowledge.)
2	Structured community gatherings are more productive. (Target expressed as percentage of participants who report in follow-up surveys that participation in Leadership and Civic Engagement programming led to improvements in the process and product of structured community gatherings.)
3	Community leadership cohort members will increase the intensity of their leadership. (Target expressed as the percentage of evaluated participants who increase their involvement in at least one of their organizational roles.)
4	Community decision-makers will improve the quality and quantity of engagement with those who have a stake in public decisions. (Target expressed as percentage of participants who report in a follow-up survey that collective decision-making has effectively engaged relevant stakeholders.)

Outcome # 1

1. Outcome Target

Participants in Leadership and Civic Engagement programs will increase their knowledge of relevant leadership and civic engagement topics. (Target expressed as the percentage of participants reporting increased knowledge.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:90	**2012:**90	**2013:**90	**2014:**90	**2015:**90

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Structured community gatherings are more productive. (Target expressed as percentage of participants who report in follow-up surveys that participation in Leadership and Civic Engagement programming led to improvements in the process and product of structured community gatherings.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:85	**2012:**85	**2013:**85	**2014:**85	**2015:**85

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Community leadership cohort members will increase the intensity of their leadership. (Target expressed as the percentage of evaluated participants who increase their involvement in at least one of their organizational roles.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Community decision-makers will improve the quality and quantity of engagement with those who have a stake in public decisions. (Target expressed as percentage of participants who report in a follow-up survey that collective decision-making has effectively engaged relevant stakeholders.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Cultural Adaptation)

Description

Greater emphasis on local control and required public participation tied to government funding positively impacts demand for this programming. More and less programming is demanded based on current priorities of local government. If communities begin to more effectively engage diverse members of the community, their outcomes may look worse, but simultaneously reflect that communities are taking on the hard work of engaging underserved communities.

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

1. Evaluation Studies Planned

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

Description

Evaluation of Leadership and Civic Engagement programs is monitored systematically and yearly. Post program assessments (six months or more) will be utilized using the Community Leadership Program Survey developed by the University of Missouri.

Using the Community Capitals framework, an in-depth impact study will be done each year to uncover whether leadership education cohorts (and other Leadership and Civic Engagement initiatives in communities) are building human and social capital and whether, as a result, community members brought other resources to communities.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- Structured
- Unstructured
- Case Study
- Other (surveys and assessments)

Description

The Community Leadership Program Survey is an evaluation tool administered to U-Lead cohort group members after the ending of the cohort group is finished. This survey will collect data about the number of communities impacted by our leadership education and the number of skill enhancements achieved through the program.

On-line and telephone surveys will be utilized to interview participants in leadership and civic engagement programs, as well as community members who have observed programs and their participants. Using a survey tool developed in 2009 (which will be improved over time and tailored for individual initiatives), the study will ask whether Leadership and Civic Engagement programs effectively improved the community's ability to bring more capital to their community.

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Community Economics

2. Brief summary about Planned Program

Community economics programming informs community decision-makers, through research-based information, so that they can mobilize the community to address economic changes and challenges facing them.

Community Economics outreach programs deliver education, local assessments and discussions as decision-makers plan for the future of their economy and public finance options. Programs include technology literacy programs, customer service training in communities, business retention and expansion programs, retail analysis and development, public finance education programs, tourism development and certificate in festival and event management. Each of these programs informs local decisions and builds on strengths of local economies.

MAES research addresses taxation, the relationship of supply and demand for housing in rural communities, understanding family businesses as a vehicle for economic development, and improving the management skills of small business owners relative to business structures, product development and market evaluation.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
602	Business Management, Finance, and Taxation	33%		33%	
608	Community Resource Planning and Development	67%		67%	
	Total	100%		100%	

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

1. Situation and priorities

Economic opportunities and challenges in both rural and urban areas depend significantly on the health of existing businesses, on the availability of affordable housing, and on the organization, delivery and finance of local government services. To remain healthy and viable, businesses in rural communities increasingly need information about local labor markets and employment trends, and assistance in market evaluation, new product development, and improved small business decision-making. Suburban and urban communities also need to examine their competitiveness and their role in Minnesota's new regional economy. All communities must address the quality of life for businesses and for the workforce during demographic shifts.

Many communities strive to build a strong economic future, but rely too much upon "guess work" to inform their ideas. Extension's priority is to strengthen the information base from which local leaders act, and to encourage them to develop a plan for their community's future. Minnesota communities are challenged to cope with shifts that develop from changing

industries, global markets, regionalization of the retail sector, and increased pressure on local governments to provide for their needs. As these shifts occur, local decision-makers need to learn, research, plan and act for the future of the community.

2. Scope of the Program

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

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

1. Assumptions made for the Program

• Actions on the part of the entire community can affect the success of individual businesses in that community. Research-based information can inform community action.
• In order for a community to successfully implement plans for economic development, social capital needs to be strong. That is, strong bonds need to exist in the business community; bridges need to be built among businesses, government and citizens; and links to external resources must be made so that they are tapped for the betterment of the community.
• In order for a community to successfully implement plans for economic development, communities need to leverage the political will of community members, businesses and local leaders.

2. Ultimate goal(s) of this Program

The goal of our community economics programs is to improve local decisions based upon high quality information and effective research. In conducting applied research and educating local players in economic development, Extension aims to increase social and political will that will lead to local action.

MAES research to support the understanding of community economics focuses on public policy, state and local taxation impacts and the state of Minnesota's economy and the challenges facing local communities and local governments.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	15.6	0.0	6.7	0.0
2012	15.6	0.0	6.7	0.0
2013	15.6	0.0	6.7	0.0
2014	15.6	0.0	6.7	0.0
2015	15.6	0.0	6.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted to assess the impact of public policies, the impact of change on rural, suburban and urban communities and businesses as well as community and business challenges and opportunities related to demographic changes, housing, and tourism.

Work in communities is achieved through the efforts of Extension Educators and campus Extension staff, researchers at the Department of Applied Economics, the Department of Design, Housing and Apparel, and the staff of the University of Minnesota Tourism Center. Extension educators deliver workshops in communities, conduct and deliver applied research at the community level, connect communities to university researchers and deliver skills trainings in the areas of customer service and internet education. Research is disseminated through a variety of web, publication and community-based education vehicles.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● Other 1 (Research and Summary Reports)	● Web sites ● Other 1 (newspaper articles) ● Other 2 (on-line courses)

3. Description of targeted audience

Primary audiences for community economics programs include chambers of commerce, the tourism industry, economic development officers, local governments, and nonprofits that can, in turn, support local economic development efforts.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	12000	34000	0	0
2012	12000	34000	0	0
2013	12000	34000	0	0
2014	12000	34000	0	0
2015	12000	34000	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	14	5	19
2012	14	5	19
2013	14	5	19
2014	14	5	19
2015	14	5	19

V(H). State Defined Outputs

1. Output Target

- Educational workshops will be provided (face-to-face and on-line). (Target expressed as numbers of workshops.)
  2011:240 **2012:**240 **2013:**240 **2014:**240 **2015:**240

- Community-based applied research will be conducted regarding retail trade, business retention and expansion and tourism development. (Target expressed as numbers of communities engaged.)
  2011:25 **2012:**25 **2013:**25 **2014:**25 **2015:**25

- Community-based trainers will be trained to continue providing education in communities through business retention and expansion programming, customer service training and internet literacy programs. (Target expressed as the numbers of trainers trained.)
  2011:100 **2012:**100 **2013:**100 **2014:**100 **2015:**100

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants in Community Economics programs will increase their knowledge of relevant community economic development topics. (Target expressed as the percentage of participants reporting increased knowledge.)
2	Participants in applied research (e.g., Business Retention and Expansion, Retail Analysis Development, Economic Impact Analysis, Tourism Development) will apply the new research-based knowledge to business and/or community improvements that affect the local economy. (Target expressed as a percentage of participants in applied research programs initiated in prior three years who report that they applied new research-based knowledge.)
3	Communities engaged in applied research programs (e.g., Business Retention and Expansion, Retail Analysis and Development, Economic Impact Analysis, Tourism Development) will strengthen their social and/or political capital, enabling them to better implement economic development plans. (Target expressed as a percentage of community stakeholders in studied communities who observe that groups have stronger ties and/or more political strength.)

Outcome # 1

1. Outcome Target

Participants in Community Economics programs will increase their knowledge of relevant community economic development topics. (Target expressed as the percentage of participants reporting increased knowledge.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation
- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Participants in applied research (e.g., Business Retention and Expansion, Retail Analysis Development, Economic Impact Analysis, Tourism Development) will apply the new research-based knowledge to business and/or community improvements that affect the local economy. (Target expressed as a percentage of participants in applied research programs initiated in prior three years who report that they applied new research-based knowledge.)

2. Outcome Type : Change in Action Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Communities engaged in applied research programs (e.g., Business Retention and Expansion, Retail Analysis and Development, Economic Impact Analysis, Tourism Development) will strengthen their social and/or political capital, enabling them to better implement economic development plans. (Target expressed as a percentage of community stakeholders in studied communities who observe that groups have stronger ties and/or more political strength.)

2. Outcome Type : Change in Condition Outcome Measure

2011:40	**2012:**40	**2013:**40	**2014:**40	**2015:**40

3. Associated Knowledge Area(s)

- 602 - Business Management, Finance, and Taxation

- 608 - Community Resource Planning and Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Economies shift with a myriad of external forces, including economic shifts that challenge or support local businesses; government regulations that affect tax bases or support one industry over another, and population changes that can drain communities of their population base or create influxes. All of these changes require communities to act on new information, and challenge research and Extension to respond.

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

1. Evaluation Studies Planned

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

Description

Different kinds of programs legitimately call for different evaluation designs, and evaluation of each Community Economics program is systematic and ongoing. To monitor the success of our applied research programs, we will continue to conduct retrospective post-program evaluations that learn about community progress. Progress will be monitored through phone calls, on-line surveys and one-on-one check-ins. Each year, we focus on one of the Community Economics program offerings for a more in-depth impact study involving multiple data sources and methods.From 2011 - 2014, we expect to do more in-depth analysis on our Retail Analysis and Development programming, as well as the new on-line tools for Business Retention and Expansion programs.

2. Data Collection Methods

- Telephone
- On-Site
- Structured
- Unstructured

Description

Data will be collected through post-program on-line surveys and one-on-one phone interviews with community leaders who are in touch with community actions and outcomes.

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Family Relations

2. Brief summary about Planned Program

The focus of Family Relations programming is the empowerment of people, through research-based information, to address the challenges facing families. MAES research examines characteristics of family systems to identify impact of environment and decision-making on quality of marriage and family life. Specific research addresses positive family development, and effective services that aim at security for the individual and family unit.

The field of parenting education builds family strengths through better family communication, nurturing and respectful discipline practices, strong parent-child relationships and authoritative parenting skills. Extension's family relations programs improve the quality and quantity of parenting education through service to practitioners in the field of education, health, social services and law. This program area provides education, training and technical assistance in three areas: 1) Parents Forever encourages parents to negotiate their divorce decisions so that children have the optimum opportunity for successful development. 2) Parent education offers parents effective parenting tools and strategies that benefit families of infants, school age children, and teenagers. 3) The Families with Teens program seeks to contribute to building family strengths through improving family communication and decision making, strengthening parent-teen relationships, and increasing parental satisfaction and confidence in their parenting role during adolescence.

In the coming years, the Family Relations team will build upon successful program pilots in 2009 to address school success and educational disparities among Minnesota's immigrant families. The program intervention will work with parents and with school connectors to: 1) increase communication among immigrant parents and school staff; 2) increase trust among school institutions and families; and, 3) enhance the schools' environment as a welcoming presence for immigrant families.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	100%		100%	
	Total	100%		100%	

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

1. Situation and priorities

One-third of Minnesota families have children under the age of eighteen. Families face critical periods of transition when their parenting decisions can support, enhance, or impede their child's development. Research at the University of Minnesota focuses on how parent behaviors regarding discipline, communication, co-parenting and relationship building can best support child development. Parents receive this information in a variety of ways, depending on their learning styles, the support systems they tap in their communities, and their tendency to seek help. Therefore, finding a variety of conduits for releasing relevant information is important.

For immigrant families, education has always been key to securing a future for the next generation of Americans. As the

variety and conditions of Minnesota's immigrant families change, schools continue to desire to address educational disparities and become a welcoming presence for immigrant families. Language and trust barriers can thwart those efforts. Intentional parent education and system changes to incorporate immigrant parents into school systems have shown, through program pilots, to be effective in changing parent response to schools and the educational process.

Cost-benefit analysis, conducted at the University of Minnesota and elsewhere, have demonstrated that enhancing the outcomes of parenting (for example, among divorced parents and in early childhood) decreases the cost of dealing with the consequences of poor youth development. Therefore, money invested in family relations program has a long-term financial benefit to society.

2. Scope of the Program

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

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

1. Assumptions made for the Program

The family is the first intimate setting for the child, and the family's role is to equip children with skills and ways of understanding themselves and others. We can reasonably expect that the child will take those skills, values and understandings and apply them outside of the family.

Parents play a central role in their child's development, and educational efforts (i.e., additional information and support) can enhance or facilitate parent behaviors. That influences positive developmental outcomes in children.

Individuals in families influence each other over time and that influence runs from parent to child and from child to parent.

The context in which children develop in addition to family (neighborhoods, faith organizations, historical and social events, culture, race, ethnicity, etc.) is critical to shaping assumptions.

Positive parental behavior leads to healthy outcomes for youth and that results in positive outcomes for the larger community.

2. Ultimate goal(s) of this Program

The ultimate goal of our family relations programs is to see children of parents in our program grow to the optimum developmental outcomes. In order to reach that goal, we aspire to create health, human service and education systems where professionals are prepared to work successfully with parents.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890

Year	Extension		Research	
	1862	1890	1862	1890
2011	8.1	0.0	5.1	0.0
2012	8.1	0.0	5.1	0.0
2013	8.1	0.0	5.1	0.0
2014	8.1	0.0	5.1	0.0
2015	8.1	0.0	5.1	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will examine characteristics of family systems to identify the impact of environment and decision-making on quality of marriage and family life. Specific research will address positive family development, and effective services that aim at security for the individual and family unit. Research efforts include study of processes and patterns of community adaptation, acceptance of youth and frail elders and various minority groups in Minnesota, i.e. Latino/a, Hmong, Vietnamese, Native American and Somalian.

Curriculum, training and research updates will be made available to professionals in the field. Parenting education programs will be delivered through regional educators and trained partners. New efforts will reach into school systems to address integration of immigrant families into Minnesota's educational experience through parent education. Research will be disseminated through publications, on-line resources, media and other resources.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● TV Media Programs
● Other 1 (web instruction)	● Web sites
	● Other 1 (Publications)

3. Description of targeted audience

The program serves professionals in collaborating agencies such as mental health professionals, parent educators, schools, courts, family service agencies, health care settings and others. The program also services directly parents who are divorcing, parents of adolescents and parents of pre-school and school-aged children.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	4000	45000	50	0
2012	4000	45000	50	0
2013	4000	45000	50	0
2014	4000	45000	50	0
2015	4000	45000	50	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	20	5	25
2012	20	5	25
2013	20	5	25
2014	20	5	25
2015	20	5	25

V(H). State Defined Outputs

1. Output Target

- Publications will be distributed.

  2011:13000 **2012:**13000 **2013:**13000 **2014:**13000 **2015:**13000

- Professionals will be trained.

  2011:1000 **2012:**1000 **2013:**1000 **2014:**1000 **2015:**1000

- Parents will participate in Extension trainings.

  2011:3000 **2012:**3000 **2013:**3000 **2014:**3000 **2015:**3000

V(I). State Defined Outcome

O. No.	Outcome Name
1	Professionals who work with parents and families will improve their skills in working with parents and families (e.g., utilizing best practices for improving parenting skills). (Target expressed as a percentage of participants who report improving skills.)
2	Parents will improve their parenting practices. (Target expressed as percentage reporting improvement.)
3	Parents who are mandated to participate in Parents Forever because of contentious divorce situations will reduce conflict in front of their children following divorce. (Target expressed as percentage of parents who report reducing conflict.)

Outcome # 1

1. Outcome Target

Professionals who work with parents and families will improve their skills in working with parents and families (e.g., utilizing best practices for improving parenting skills). (Target expressed as a percentage of participants who report improving skills.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:70	**2012:**70	**2013:**70	**2014:**70	**2015:**70

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Parents will improve their parenting practices. (Target expressed as percentage reporting improvement.)

2. Outcome Type : Change in Action Outcome Measure

2011:60	**2012:**60	**2013:**60	**2014:**60	**2015:**60

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Parents who are mandated to participate in Parents Forever because of contentious divorce situations will reduce conflict in front of their children following divorce. (Target expressed as percentage of parents who report reducing conflict.)

2. Outcome Type : Change in Condition Outcome Measure

2011:75	**2012:**75	**2013:**75	**2014:**75	**2015:**75

3. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Populations changes (immigration, new cultural groupings, etc.)

Description

Currently, a statute exists which makes divorce education mandatory for parents in conflict who are divorcing. If that policy changes, there would be less demand for Parents Forever, the Divorce Education program. Legislation also impacts the staffing and funding of family relations programming.An increase and decrease in staffing and funding may occur if legislative support for parent education changes.Influxes of new immigrants are affecting cultural adaptations of the program that need to be made. For example, in 2006 Extension was contacted by Hmong elders because the divorce rate in Minnesota's Hmong population was increasing.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Description

The Family Relations program is a multi-faceted effort utilizing existing curricula, designing and implementing new curricula, providing web-based educational opportunities and other trainings to impact the delivery of services to parents and families. Thus, the evaluation efforts must be multi-faceted as well. Depending on the life-course or the stage of program efforts, multiple outcome evaluation studies will be conducted to: 1) explore the effectiveness of achieving specific program objectives, and 2) to aggregate the results across the evaluation studies to speak to the broader impact of Family Relations programming.

Beginning 2009, we are conducting a multi-year and multi-site evaluation of the Partnering for School Success program.In 2008, baseline information was drawn from focus groups from four cultures who are integrating into Minnesota's school systems. In 2009 and beyond, program interventions to strengthen parent and school partnerships to enhance student success will be evaluated. Ultimately, the study will examine the effect of stronger family and school partnerships on the school success of children.

2. Data Collection Methods

- Whole population
- On-Site
- Structured
- Unstructured
- Observation
- Other (Existing record analysis)

Description

The multi-faceted nature of our program calls for a multi-method approach to data collection. The method we use will depend upon the aspect of the program being studied and the questions being addressed.

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

Family Resource Management

2. Brief summary about Planned Program

Family Resource Management provides Extension education on subjects such as: managing a budget, credit and debt, family business, preparation for retirement, culture and money, and teaching children about money. Sound money management is important for people of all income levels and all ages. Three programs make up the Family Resource Management area of expertise: 1) Financial Security in Later Life is a series of workplace trainings that employers can bring to their employees. 2) Resource Management for Daily Life is training for professionals and consumers to develop financial management skills in order to achieve a sense of security and financial stability. 3) Youth and Money provides education for teachers that teach teens about budgeting, income, spending, credit, debt, insurance, and the time value of money.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	90%		90%	
806	Youth Development	10%		10%	
	Total	100%		100%	

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

1. Situation and priorities

According to the National Council on Economic Education: "Americans are experiencing a major change in the way our economy works -- marked by fundamental changes in the marketplace -- outsourcing, global competition, technological change in the workplace, the uncertain future of pensions and social security. Our nation's workforce and citizenry is expected to take on increasing responsibility for their own financial future ... Financial security begins with building skills and developing practices that foster decision-making to create financial security and stability. "There is evidence that the population needs more education to make its financial decisions.

The recent housing crisis has further stressed families and generated more personal incentive to address fiscal management behaviors. As the nation undertakes this "new normal", demand for corrective understanding of financial issues will grow. Likely new fiscal policies (such as health care reform) will also demand greater attention to financial management. These challenges are facing generations that were not prepared early in fiscal literacy. In the 2006 JumpStart survey of high school seniors, the average knowledge of personal finance questions reported a dismal 52.4% correct. More than 50% of working Americans have never even tried to determine how much money they need to save for retirement. The U.S. savings rate for the first time ever has a negative balance. There has been a dramatic increase of housing foreclosures in Minnesota. In Hennepin County alone in 2006, sheriff's foreclosure sales increased 62% from the same period the year before.

2. Scope of the Program

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

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

1. Assumptions made for the Program

• Partnerships with local nonprofits, educational organizations, social service programs and financial institutions can expand the outcomes of financial literacy programming.
• Some populations in need of financial literacy may be reluctant to take advantage of traditional classroom settings; therefore, creative outreach and partnership strategies should be used.
• Financial literacy must be translated for language and culture so that immigrant and non-English speaking residents can take advantage of it.

2. Ultimate goal(s) of this Program

The ultimate goal of Financial Literacy programming is that families and individuals increase their wealth and financial security by making sound decisions about consumption, debt, retirement, and daily finances.

To support this goal, specific MAES research addresses families' ability to cope with financial strain and at the same time, cope with the reduction of programs and support for families.Research addresses effective services that aim at security for the individual and family unit, as well as relationships between the viability of rural family businesses and family functioning.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	14.1	0.0	6.0	0.0
2012	14.1	0.0	6.0	0.0
2013	14.1	0.0	6.0	0.0
2014	14.1	0.0	6.0	0.0
2015	14.1	0.0	6.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

- Practitioner workshops will be held to help partnering organizations deliver education.
- Workshops and trainings will be held in community-based settings for each of the financial literacy topics.
- Publications will support programming.
- Media will be used to disseminate timely research and information.
- Curricula will be developed and adapted for language and culture as needed.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Newsletters
● Workshop	● Web sites
● One-on-One Intervention	● Other 1 (Radio programs, newspaper articl)
● Other 1 (Training of trainers)	● Other 2 (Publications)
● Other 2 (webcast and other multi-media)	

3. Description of targeted audience

Our audiences include the following:

For youth and money: adolescents moving into independent living, teachers k-12, professional staff-credit union representatives, college staff and faculty, college students and youth.

For financial security in later life: community non-profit groups and individuals who utilize on-line website resources and self-study modules.

For resource management for daily life programs: the general public, individuals and families who seek knowledge and skills by choice or mandate, professionals seeking to enhance knowledge, public and private agencies, organizations and businesses seeking training to enhance their delivery of resource management programs.

Family Resource Management programs arduously reach out to Minnesota's diverse population. Customized curriculum adaptations are commonplace for this program. As a result, a third of Minnesotans reached by this program are typically from Minnesota's minority ethnic groups.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	8000	12000	7000	0
2012	8000	12000	7000	0
2013	8000	12000	7000	0
2014	8000	12000	7000	0
2015	8000	12000	7000	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	10	5	15
2012	10	5	15
2013	10	5	15
2014	10	5	15
2015	10	5	15

V(H). State Defined Outputs

1. Output Target

- Community-based workshops will be held for individuals and families. (Target expressed as the number of events delivered.)

  2011:350 **2012:**350 **2013:**350 **2014:**350 **2015:**350

- Curricula and guides will be distributed.

  2011:3000 **2012:**3000 **2013:**3000 **2014:**3000 **2015:**0

V(I). State Defined Outcome

O. No.	Outcome Name
1	Individuals, families and employees who participate in Resource Management programming will report they have increased knowledge related to the targeted financial management goals. (Target expressed as a percentage of participants who report increasing knowledge.)
2	Individuals, families and employees who participate in Resource Management programming will report they have increased confidence (increased efficacy) in financial management, decision-making and planning for later life. (Target expressed as a percentage of participants who report increasing efficacy.)
3	Individuals, families and employees who participate in Resource Management programming will report they have used the knowledge/materials gained from the program to change behaviors related to targeted financial management goals. (Target expressed as a percentage of participants who reported making behavior change.)

Outcome # 1

1. Outcome Target

Individuals, families and employees who participate in Resource Management programming will report they have increased knowledge related to the targeted financial management goals. (Target expressed as a percentage of participants who report increasing knowledge.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Individuals, families and employees who participate in Resource Management programming will report they have increased confidence (increased efficacy) in financial management, decision-making and planning for later life. (Target expressed as a percentage of participants who report increasing efficacy.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Individuals, families and employees who participate in Resource Management programming will report they have used the knowledge/materials gained from the program to change behaviors related to targeted financial management goals. (Target expressed as a percentage of participants who reported making behavior change.)

2. Outcome Type : Change in Action Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 801 - Individual and Family Resource Management
- 806 - Youth Development

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Greater economic challenges create more of a challenge to financial literacy. (e.g., health care costs and availability, unemployment rates, costs of child care, cost of energy, cost of housing, war and rising interest rates.) Greater competition for attention to other issues in community-based institutions could decrease the amount of financial literacy training that exists. As new populations come to Minnesota, new adaptations of financial literacy program will be developed.

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

1. Evaluation Studies Planned

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

Description

Surveys for resource management for daily life will assess strengths, skills and needs of clients, recognition of effects of culture on resource management, promotion of money management skill building and sharing of best practices in financial management behavior. This data will be gathered immediately following train-the-trainer programs, within 12 months following or as an end-user summary. Youth and money programs will use end-of-event evaluation, as well as longitudinal evaluations utilizing web-based surveys.

In 2008, the team began a "Life Course Study".This study will examine the impact of the current financial crisis on individuals throughout the life course -- from adolescence through senior years. Results from this study should be completed and available for reporting in 2010.

2. Data Collection Methods

- Mail
- On-Site
- Structured
- Other (email, web surveys, focus groups)

Description

Onsite data collection is used to measure retrospective knowledge/skill gain.

Web-based (Survey Monkey) surveys will collect post-event information.

Focus group interviews will be conducted to assess cultural appropriateness of curriculum adaptations.

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Environmental Science Education

2. Brief summary about Planned Program

The mission of the Environmental Science Education work team is to employ the unique resources of the University of Minnesota to protect and enhance Minnesota's unique natural resources and environment through improved environmental education. ESE targets natural resource professionals, teachers and citizens who are engaged in providing environmental science education. Three programs are core to the Environmental Science Education work. The Master Naturalist Program reaches community volunteers and citizens who can disseminate environmental science education in their communities. Best Practices in Field Days reaches natural resource professionals and teachers to improve the quality of their environmental science offerings.Educational Programming for Youth on the White Earth Reservation brings environmental science education directly to Native American youth.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
135	Aquatic and Terrestrial Wildlife	20%		0%	
136	Conservation of Biological Diversity	20%		0%	
903	Communication, Education, and Information Delivery	60%		0%	
	Total	100%		0%	

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

1. Situation and priorities

The State Plan for Environmental Education (Lederman 2000) outlines legislated goals of environmental science education, stating that citizens should: 1) understand ecological systems; 2) understand cause and effect relationships between human attitudes and behavior and the environment; 3) be able to evaluate alternative responses to environmental issues before deciding on courses of action; and, 4) understand the effects of multiple uses of the environment (Minn. Statute 115.073, 1998). To assess citizens' level of knowledge in these areas, the Minnesota Office of Environmental Assistance conducted a survey of adult environmental knowledge, attitudes and behavior (Murphy 2002, 2005). The major findings were that 65% of Minnesotans believe they are knowledgeable about the environment but 46% have less than average knowledge, compared to a national pool. The task of education that connects research-based information to citizens can happen in schools, in communities and in professional settings.

2. Scope of the Program

- In-State Extension

- Multistate Extension

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

1. Assumptions made for the Program

• The quality of environmental science education can be improved through connections between research-based information and key audiences.
• The quantity of environmental science education can be increased by expanding the number of ambassadors for environmental education.
• Environmental science education will lead to greater care and maintenance of Minnesota's ecosystems.

2. Ultimate goal(s) of this Program

The mission of the Environmental Science Education work team is to employ the unique resources of the University of Minnesota to protect and enhance Minnesota's unique natural resources and environment through improving environmental education.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	5.2	0.0	0.0	0.0
2012	5.2	0.0	0.0	0.0
2013	5.2	0.0	0.0	0.0
2014	5.2	0.0	0.0	0.0
2015	5.2	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Extension will improve the quality and increase the quantity of environmental science education by: 1) training teachers and field day leaders in best practices for managing environmental science education programs; 2) training volunteers to deliver environmental science education in community settings; and, 3) training Native American Youth through culturally adapted summer programs.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Newsletters
● Workshop	● Web sites
● One-on-One Intervention	● Other 1 (electronic newsletter)
● Demonstrations	● Other 2 (events / conferences)
● Other 1 (Train the trainer)	

3. Description of targeted audience

Environmental Science Education programs reach: 1) Concerned citizens and volunteers who are willing to be trained and serve in a variety of roles as citizen teachers and scientists; 2) Minnesota professionals from within Extension, the Minnesota Department of Natural Resources, Soil and Water Conservation Districts, US Fish and Wildlife Services, Health and Human Services Departments and Environmental Sciences; 3) the public schools and others involved in environmental science education programs; and, 4) Youth on the White Earth Reservation in Northwest Minnesota, when funding allows.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	900	5000	500	0
2012	900	5000	500	0
2013	900	5000	500	0
2014	900	5000	500	0
2015	900	5000	500	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	1	1
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1

V(H). State Defined Outputs

1. Output Target

- Through training and other communications, volunteers, educators and natural resource professionals will be prepared to deliver research-based environmental science education programs. (Measure expressed as number of Minnesota Master Naturalist volunteers trained and supported.)

2011:450	**2012:**500	**2013:**500	**2014:**500	**2015:**500

- White Earth Reservation youth will graduate from a four week summer program that includes environmental science education. (Target expressed as a percentage of students graduating.)

2011:75	**2012:**75	**2013:**75	**2014:**75	**2015:**75

- Recruitment strategies for Environmental Science Education programs for adults will reach under-represented audiences. (Target expressed as a percentage of total audiences served.)

2011:10	**2012:**10	**2013:**10	**2014:**10	**2015:**10

V(I). State Defined Outcome

O. No.	Outcome Name
1	Within a year of environmental science education instructor training (i.e., Master Naturalist and Best Practices for Field Day Trainings), educators and community-based instructors will use the research-based educational methods in environmental science education delivery. (Target expressed as a percentage of participants.)
2	Master Naturalists will become more knowledgeable about natural history. (Measure expressed as a percentage of knowledge gain.)
3	Native American youth will increase their academic performance on standardized achievement tests following the four week ESE program. (Target expressed as a percentage of increase.)

Outcome # 1

1. Outcome Target

Within a year of environmental science education instructor training (i.e., Master Naturalist and Best Practices for Field Day Trainings), educators and community-based instructors will use the research-based educational methods in environmental science education delivery. (Target expressed as a percentage of participants.)

2. Outcome Type : Change in Action Outcome Measure

2011:90	**2012:**90	**2013:**90	**2014:**90	**2015:**90

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Master Naturalists will become more knowledgeable about natural history. (Measure expressed as a percentage of knowledge gain.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:20	**2012:**20	**2013:**20	**2014:**20	**2015:**20

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 903 - Communication, Education, and Information Delivery

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Native American youth will increase their academic performance on standardized achievement tests following the four week ESE program. (Target expressed as a percentage of increase.)

2. Outcome Type : Change in Action Outcome Measure

2011:5	**2012:**5	**2013:**5	**2014:**5	**2015:**5

3. Associated Knowledge Area(s)

- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Description

Funds are being raised to sustain and grow some elements of environmental science education. Field Days programs and White Earth Reservations programs are contingent on such funding, and additional evaluation and curriculum can be done (and has already been done) with that funding. A change in public policy and educational priorities may challenge Extension to find partners and volunteers. Demographic shifts may change where we target our participant marketing and whether we adapt the program to reach new cultures.

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

1. Evaluation Studies Planned

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

Description

ESE evaluations will guide the direction of the projects and assess effectiveness in meeting objectives. Front-end evaluations helped to define audience and partners. Formative evaluation carried out during the development and early implementation phases of the programs (2006 - 2010) are informing and refining programs. The dominant features of our evaluations are:

1) assessing participants' achievements, including potential to impact large numbers of people through volunteer and professional activities;

2) assessing impact on volunteers and professionals;

3) assessing the quality of materials. We will use a mixed-methods approach (Greene & Caracelli 2002) including surveys, observations, interviews and expert panels and including stakeholders at all levels.

2. Data Collection Methods

- Sampling
- Structured
- Observation
- Portfolio Reviews
- Tests

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Water Resource Management and Policy

2. Brief summary about Planned Program

MAES research is designed to develop a systematic, comprehensive and scientific approach for addressing agricultural profitability and non-point source pollution reduction in the Minnesota River basin.

Extension's Water Resource Management programs deliver education and consultation with community members, professionals and local institutions so that they are better stewards of Minnesota's water. Water Resource Management programs include three core programs.

The Stormwater Education Program assists local government in protecting and improving water resources by improving urban land use decision-making, improving stormwater practices and educating residents about new clean water practices. The Shoreland Education program provides information, practical experience and resources for people interested in implementing or promoting shoreland stewardship so that they can improve shoreland water quality. The Onsite Sewage Treatment Program actively promotes the use of decentralized sewage treatment methods to provide waste water treatment for rural areas and small communities.

3. Program existence : Intermediate (One to five years)

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
111	Conservation and Efficient Use of Water	25%		25%	
133	Pollution Prevention and Mitigation	30%		30%	
403	Waste Disposal, Recycling, and Reuse	25%		25%	
605	Natural Resource and Environmental Economics	20%		20%	
	Total	100%		100%	

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

1. Situation and priorities

Minnesota waters are part of the state's identity, pride, and a focal point of much of its tourism industry. Research and education focuses on the agricultural impacts on our lakes and rivers, and addressing other threats and challenges such as invasive species. The Minnesota River, for example, is considered one of the 20 most endangered waterways in America.

Pollution from controllable human-made sources are an obstacle to keeping Minnesota's waters fishable and swimmable. The pressure on water resources is growing because the number of homes on Minnesota lakes has grown. After assessing 14% of the state's lakes and 8% of the state's rivers, the Minnesota Pollution Control Agency's Impaired Waters

Program found 37% of the lakes and 40% of the rivers to be impaired. The State of Minnesota has responded with requirements that, for example, local units of government reduce stormwater pollution and control how sewage treatment is done and maintained. However important this legislation is, it is the decisions that homeowners, landowners and small communities make that will improve the quality of water. Additionally, since 1997 the US EPA has been actively promoting the use of decentralized sewage treatment methods to provide wastewater treatment for rural areas and small communities.Communities and individuals can use research-based education and consultation as they make the decisions that will create safer water in Minnesota.

2. Scope of the Program

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

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

1. Assumptions made for the Program

1) Pollution prevention requires an educational process in which those who manage land learn new methods and approaches.2) Property owners care about the quality of the water around them and want to maintain a pollution-free community. 3) Changing the norms, rules and behavior of community members will have an effect on pollution control.4) Professionals need high-quality education in order to be updated in new research about their work.

2. Ultimate goal(s) of this Program

The goal of water resource management programs and research at the University of Minnesota is to collaboratively work in the university and in communities to maintain and improve the quality of Minnesota's waters and the health of Minnesota residents.

Research goals:

• Develop a framework for describing and taking inventory of characteristics of the Minnesota River basin that affect non-point source pollution, agricultural management practices and their potential for reducing non-point source pollution.
• Develop an inventory for research on the risk associated with adopting crop management practices that can reduce non-point source pollution.
• Develop agroforestry practices that mitigate non-point pollution problems.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	8.0	0.0	30.2	0.0
2012	8.0	0.0	30.2	0.0
2013	8.0	0.0	30.2	0.0
2014	8.0	0.0	30.2	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2015	8.0	0.0	30.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted and best practices developed in order to be able to:

- Provide land management / water quality education, stormwater management practice assessment, and local government stormwater education and support.
- Provide education and consultation for professionals, small communities and homeowners about how to provide and maintain sewage treatment.
- Provide education, practical experience and resources about how to protect and improve the shoreland, environment and lake/stream water quality.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Newsletters
● Workshop	● Web sites
● Group Discussion	● Other 1 (Publications)
● One-on-One Intervention	● Other 2 (DVDs)
● Demonstrations	
● Other 1 (consultations)	

3. Description of targeted audience

Communities likely to use the Storm Water Education Program are those within the Twin Cities' third tier of urban development, communities in Minnesota's lake districts and the western Lake Superior Basin. We will reach those communities through local government and elected and appointed officials and their staffs. Local government engineers and planners, consulting engineers, planners and architects are also targeted as they help communities make decisions that impact Minnesota's waters. Homeowners are a key audience -- whether they be shoreland property owners, lake association members, the horticulture industry, volunteer groups, or owners of on-site septic systems. Professionals are also a key audience as their professions interface with the water resources. These include natural resource professionals, real estate professionals, the hospitality industry or professionals who have access to homes and communities with on-site sewage treatment programs.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	6000	12000	650	0

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2012	6000	12000	650	0
2013	6000	12000	650	0
2014	6000	12000	650	0
2015	6000	12000	650	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	45	1	46
2012	45	1	46
2013	45	1	46
2014	45	1	46
2015	45	1	46

V(H). State Defined Outputs

1. Output Target

- Provide useful information about shoreland, storm water and septic system management into web links, printed products and media. (Target expressed as numbers of products created per year.)
  2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

- Workshops, seminars, and presentations will educate community members and professionals about strategies that provide wastewater treatment for their community at a reasonable cost in a way that is consistent with community values. (Target expressed as number of events.)
  2011:85 **2012:**85 **2013:**85 **2014:**85 **2015:**85

- Provide workshops on water quality, stormwater issues and shoreland management, revegetation and use of plants to maintain shoreland structures. (Target expressed as number of events.)
  2011:20 **2012:**20 **2013:**20 **2014:**20 **2015:**20

- Coordinate shoreline demonstration projects that provide hands-on learning opportunities and add to educational goals.
  2011:3 **2012:**3 **2013:**3 **2014:**3 **2015:**3

V(I). State Defined Outcome

O. No.	Outcome Name
1	Local decision-makers will know: 1) Where stormwater goes; 2) Major stormwater pollutants and their impact and 3) Three things they can personally do to prevent pollution. (Measure expressed as percentage of residents in targeted communities.)
2	Shoreland education workshop participants will practice one or more of five lake/river friendly landscaping behaviors. (Target expressed as a percentage of workshop participants.)
3	Homeowners will modify or change their habits regarding home water and product use to better protect their on-site septic systems. (Measure expressed as a percentage of those evaluated.)
4	Small communities will develop a viable plan for onsite sewage treatment--plans that are affordable and address onsite sewage treatment. (Target expressed as number of communities per year.)

Outcome # 1

1. Outcome Target

Local decision-makers will know: 1) Where stormwater goes; 2) Major stormwater pollutants and their impact and 3) Three things they can personally do to prevent pollution. (Measure expressed as percentage of residents in targeted communities.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Shoreland education workshop participants will practice one or more of five lake/river friendly landscaping behaviors. (Target expressed as a percentage of workshop participants.)

2. Outcome Type : Change in Action Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Homeowners will modify or change their habits regarding home water and product use to better protect their on-site septic systems. (Measure expressed as a percentage of those evaluated.)

2. Outcome Type : Change in Action Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 403 - Waste Disposal, Recycling, and Reuse
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 4

1. Outcome Target

Small communities will develop a viable plan for onsite sewage treatment--plans that are affordable and address onsite sewage treatment. (Target expressed as number of communities per year.)

2. Outcome Type : Change in Action Outcome Measure

2011:3	**2012:**3	**2013:**3	**2014:**3	**2015:**3

3. Associated Knowledge Area(s)

- 111 - Conservation and Efficient Use of Water
- 133 - Pollution Prevention and Mitigation
- 403 - Waste Disposal, Recycling, and Reuse
- 605 - Natural Resource and Environmental Economics

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

If the regulations that mandate planning and education for stormwater runoff and on-site treatment change, communities will no longer have an incentive to engage in this programming. As population changes happen in communities, the types of education delivered requires cultural and language relevance. Weather extremes may change the program priorities when they influence lakes and streams.

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

1. Evaluation Studies Planned

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

Description

Evaluation will be at two levels: awareness surveys made of residents to see if program goals were met, and direct interviews with local government staff to see if the water resource programs provided are useful and effective.

2. Data Collection Methods

- Sampling
- Mail
- Telephone
- Unstructured

Description

Shoreland education evaluation will use self-assessment on surveys six - nine months after workshop delivery. The On-site Sewage Treatment Program will conduct follow-up evaluations 3 - 6 months after a program to assess changes made by participants, retention of learning and community progress.

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Forestry

2. Brief summary about Planned Program

Research in natural resources sponsored by MAES is carried out in forest resources, fisheries and wildlife and conservation biology.Other departments addressing natural resources issues include entomology; plant pathology; horticulture; plant biology; soil, water and climate; and applied economics.

Extension Forestry programs help citizens, landowners and natural resource professionals make well-informed decisions that affect the economic, social and ecological sustainability of their natural resources now and for future generations. Forestry programs address issues on forested, agricultural and town landscapes. Educational programs are delivered through workshops,demonstration sites, publications, citizen-to-citizen training, and the Internet.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	65%		50%	
124	Urban Forestry	10%		25%	
125	Agroforestry	25%		15%	
133	Pollution Prevention and Mitigation	0%		10%	
	Total	100%		100%	

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

1. Situation and priorities

Minnesota's 17 million forested acres provide timber, wildlife, recreation, wilderness, watershed protection, and biological diversity to the state. Through the forest products and tourism industries, those forests contribute substantially to the state's economy. About one-half of the commercial forest land is privately owned. Policy makers, forest landowners, loggers, natural resource managers, farmers and urban dwellers make decisions every day that directly affect the use, management and protection of Minnesota's trees and forests. Accurate, authoritative, scientific and technical information should be the basis for their decisions. Emerging priorities include: sustainable forest management on family forest lands; expanding agroforestry opportunities, production of biofuels, control of exotic invasive pests, wildfire damage reduction, tree planting and maintenance on urban lands and farmsteads for energy conservation and environmental benefits, and extending the useful life of wood products in service.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Broad adoption of innovative, research-based strategies is necessary to address the priority issues. Engaged citizens can both inform the process and implement strategies that address priority issues. Private lands change ownership frequently, requiring continual education of new landowners.

2. Ultimate goal(s) of this Program

The goals of Forestry programs are that future generations have full access to healthy and abundant natural resources. This will be accomplished by working toward the following Extension goals:

- Family forests will be managed sustainably.
- Landowners will diversify and increase income from agroforestry crops and biofuels.
- The spread rate and ecological impact of exotic, invasive pests will be reduced.
- Wood products will be chosen and used by consumers and builders to maximize their useful life.

Research goals:

- Improve understanding of factors affecting forest composition, diversity and function
- Improve understanding of northern Minnesota forest ecosystems and develop improved management techniques
- Investigate the biology and control of forest microbes and determine their importance to forest health and sustainable ecosystem functioning
- Better understand the decisions that affect the integrity and biological diversity of the ecosystem, and linkages between biosphere, microclimate and global climate

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	7.3	0.0	24.7	0.0
2012	7.3	0.0	24.7	0.0
2013	7.3	0.0	24.7	0.0
2014	7.3	0.0	24.7	0.0
2015	7.3	0.0	24.7	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

MAES research, including field and laboratory studies and computer modeling, will be conducted to achieve the research goals described earlier.

New research and education will be delivered to key audiences through face-to-face workshops, master volunteer programs, print and digital publications, multi-media, newsletters, conferences, community events and the Internet. Extension Forestry program business plans will address the issues of forest, agricultural and urban landscapes. Forestry programs cover a wide range of topics including forest ecology, siviculture, invasive species, timber harvesting, timber and non-timber forest products, wildlife management, recreation, urban forestry, windbreak and taxes.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● Group Discussion ● One-on-One Intervention ● Demonstrations	● Newsletters ● Web sites ● Other 1 (publications) ● Other 2 (dvds and cd-roms)

3. Description of targeted audience

Primary audiences: Farmers and woodland owners, loggers, wood processors and marketers, natural resource and green industry professionals, volunteer educators, and local and state government personnel engaged in forestry, parks and recreation, soil and water conservation. A secondary audience is youth.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	2500	28000	190	0
2012	2500	28000	190	0
2013	2500	28000	190	0
2014	2500	28000	190	0
2015	2500	28000	190	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	60	4	64
2012	60	4	64
2013	60	4	64
2014	60	4	64
2015	60	4	64

V(H). State Defined Outputs

1. Output Target

- Workshops, tours, and demonstration projects will increase awareness of landowners, volunteers, loggers, natural resource professionals and businesses involved in forestry, agroforestry, urban forestry and forest products. (Target expressed as the number of events.)

2011:100 **2012:**100 **2013:**100 **2014:**100 **2015:**100

V(I). State Defined Outcome

O. No.	Outcome Name
1	Program participants (landowners) will learn new information that helps them manage forest land. (Target expressed as percentage of participants.)
2	Program participants will improve forest management on a significant number of acres. (Target expressed as number of acres on which management was improved.)

Outcome # 1

1. Outcome Target

Program participants (landowners) will learn new information that helps them manage forest land. (Target expressed as percentage of participants.)

2. Outcome Type : Change in Action Outcome Measure

2011:80	**2012:**80	**2013:**80	**2014:**80	**2015:**80

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

Outcome # 2

1. Outcome Target

Program participants will improve forest management on a significant number of acres. (Target expressed as number of acres on which management was improved.)

2. Outcome Type : Change in Action Outcome Measure

2011:99000	**2012:**99000	**2013:**99000	**2014:**99000	**2015:**99000

3. Associated Knowledge Area(s)

- 123 - Management and Sustainability of Forest Resources
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation

4. Associated Institute Type(s)

- 1862 Extension
- 1862 Research

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Changes resulting from natural disasters, economy or government regulations could affect the content of educational programs we offer. Changes in appropriations affect staffing and funding levels necessary to conduct educational programs. Land use issues created by growing economies can create conflicts with stewardship of forest environments.

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

1. Evaluation Studies Planned

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

Description

We will conduct after-program evaluations, pre-and-post tests, and surveys of program participants several months after certain events. Depending on the program, we will count numbers of program participants that increase their awareness, number of participants who gain knowledge, number of landowners that implemented at least one new land management practice, numbers of acres on which management was improved. Post-program assessment will ask participants about dollars earned or saved in natural resource enterprises after utilizing information.

2. Data Collection Methods

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

Description

We will count direct contacts in programs to measure awareness, use pre-and post-tests or after program evaluations to determine the number of participants that gained knowledge, survey a sample of participants by mail or telephone several months after an event to document management practices implemented, acreage impacted and dollars earned or saved.

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Housing Technology

2. Brief summary about Planned Program

The Housing Technology Program of the University of Minnesota Extension Service delivers courses and provides the tools that secure good air quality in new homes, or mitigates problems in existing homes. Educational partners come from government, industry and non-profit organizations. Together, these courses identify the extent and cause of the major structural and environmental problems in housing. This serves housing professionals so that they can ensure the quality of new and existing homes to their customers. This also helps the housing consumer/investor be better informed on home-buying decisions.

MAES research supporting outreach education on housing in developing new knowledge and understanding of building systems.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	100%		0%	
	Total	100%		0%	

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

1. Situation and priorities

A host of home air pollutants can impair the health of residents, creating asthma, allergies, bronchitis, carbon monoxide poisoning, lead poisoning, and more. Examples of harmful housing substances include asbestos, biological contaminants, chemicals, combustion pollutants, lead, mold, and radon. Maintaining and building durable, healthy and affordable housing requires knowledgeable housing professionals and consciencious home buyers.

2. Scope of the Program

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

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

1. Assumptions made for the Program

Public policy alone cannot assure indoor air quality. Creating a culture of knowledge and action about air quality among both buyers and sellers will improve the quality of Minnesota's housing stock.

2. Ultimate goal(s) of this Program

The goal of research and outreach in housing technology at the University of Minnesota is to mitigate health risks through the reduction of indoor environmental risks, while improving the quality and durability of Minnesota's housing stock.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	3.3	0.0	0.0	0.0
2012	3.3	0.0	0.0	0.0
2013	3.3	0.0	0.0	0.0
2014	3.3	0.0	0.0	0.0
2015	3.3	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Courses will be offered in Minnesota and across the United States in partnership with the building industry and its constituents. Ongoing research will continue to increase the quality and quantity of these educational opportunities. The following topics are core to our Housing Technology Programs: Indoor Air Quality in Residential Settings; Moisture Control and Mold; Radon Measurement, Radon Mitigation, and custom courses on new and emerging subjects.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Other 1 (certifications)	● Newsletters ● Web sites

3. Description of targeted audience

The overall target audience for this information is builders, remodelers, contractors, mitigaters and others involved with avoiding and resolving problems in homes.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	1000	5000	0	0
2012	1000	5000	0	0
2013	1000	5000	0	0
2014	1000	5000	0	0
2015	1000	5000	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	0	1	1
2012	0	1	1
2013	0	1	1
2014	0	1	1
2015	0	1	1

V(H). State Defined Outputs

1. Output Target

- Educational courses will be delivered to the target audiences.

2011:65 **2012:**65 **2013:**65 **2014:**65 **2015:**65

- New research will result in the development of new and revised educational materials. (Target expressed as the number of new or revised curriculum materials.)

2011:1 **2012:**1 **2013:**1 **2014:**1 **2015:**1

V(I). State Defined Outcome

O. No.	Outcome Name
1	Improve the durability of new homes by working with builders. (Target expressed as the number of builders trained.)
2	Improve the availability of healthy and affordable housing through the mitigation of indoor environmental risks. (Target expressed as number of homes affected.)

Outcome # 1

1. Outcome Target

Improve the durability of new homes by working with builders. (Target expressed as the number of builders trained.)

2. Outcome Type : Change in Condition Outcome Measure

2011:30	**2012:**30	**2013:**30	**2014:**30	**2015:**30

3. Associated Knowledge Area(s)

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Improve the availability of healthy and affordable housing through the mitigation of indoor environmental risks. (Target expressed as number of homes affected.)

2. Outcome Type : Change in Condition Outcome Measure

2011:1000	**2012:**1000	**2013:**1000	**2014:**1000	**2015:**1000

3. Associated Knowledge Area(s)

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Natural disasters could increase or change the amount of content that needs to be provided. If government regulations no longer support the program in giving incentive to builders to make homes safe, the market for the program could decrease. Population changes will generate a demand for programming in additional languages. Public policy will influence the content and audience for housing technology programs and research.

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

1. Evaluation Studies Planned

- After Only (post program)

Description

Evaluation of program is done collaboratively with the housing industry, which indicates whether standards are being addressed and that they are in compliance with government regulation as a result of educational inputs.

2. Data Collection Methods

- Sampling
- Whole population
- Mail
- Telephone
- On-Site
- Structured
- Unstructured
- Case Study
- Observation
- Portfolio Reviews
- Tests
- Journals

Description

Evaluation of program is done collaboratively with the housing industry, which indicates whether standards are being addressed and that they are in compliance with government regulation as a result of educational inputs.

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Agricultural Business Management

2. Brief summary about Planned Program

Agricultural Business Management (ABM) provides farm decision-makers with knowledge about production, marketing and management that they need to improve their farming operation. ABM is also concerned for the whole Minnesota economy. ABM tracks financial performance of Minnesota farms to provide farm management information to farmers, bankers and others concerned with the future of Minnesota agriculture and develops educational programs on and off campus. ABM improves farmers' information and knowledge in areas where strategic and operational management changes can improve progress toward their business and family goals. The information this program provides farmers is based on MAES research that considers long-term and short-term business decisions, the impact of global markets, the opportunities of new technologies and the impacts of Minnesota's geography, and political and social landscape for farm business management.

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

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

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

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

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

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	20%		20%	
603	Market Economics	30%		30%	
604	Marketing and Distribution Practices	20%		20%	
610	Domestic Policy Analysis	10%		10%	
	Total	100%		100%	

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

1. Situation and priorities

Farm records compiled by the University of Minnesota Department of Applied Economics consistently show a net farm income range of over $150,000 between the most profitable and least profitable Minnesota farms each business year. As farm incomes have become more variable, the job of managing a farm has become ever more complex. Today's farm managers are managing more dollars and more people. They are often their own accountants, business analysts, market specialists, and human resource departments, as well as being production specialists. Shifting public policy demands attention to business decisions that affect their accountability and their bottom line. Demand for the information and events is shaped yearly as the reliability of the information is more commonly known, and as current events create demand for new information. The professionals on the team have a priority to increase the information received by farmers and producers, as well as those providing inputs, services and markets to them.

Some of the primary issues Minnesota agricultural producers need to address as a result of changes in the agricultural industry and policy include: strategic positioning, transferring management capabilities, frequent performance monitoring, evaluating new technology, monitoring external factors, managing information, and accountability.

2. Scope of the Program

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

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

1. Assumptions made for the Program

If farm businesses understand the markets, and have tools for making business decisions within those markets, they will maximize their productivity and longevity. Farms have assets that are transferred to the next generation, requiring a careful plan of transfer. Those who own farms need unbiased and broad-based information to understand their opportunities in the market and be able to effectively access those opportunities.

2. Ultimate goal(s) of this Program

Agricultural Business Management programs will bring in-depth, research-based expertise to critical, cutting edge issues in managing farms. As a result, revenue generated by the agricultural sector in Minnesota will be optimized.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	8.3	0.0	1.2	0.0
2012	8.3	0.0	1.2	0.0
2013	8.3	0.0	1.2	0.0
2014	8.3	0.0	1.2	0.0
2015	8.3	0.0	1.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Through educational events, consultations and media resources, Agricultural Business Management programs will provide education about:

- agriculture tax issues
- land rent data
- machinery management

- strategic planning and business planning
- earning a living on a modern farm
- current events in agricultural business management
- special purpose technology
- agricultural lending
- farm business transfer and estate planning

Research foci will be on review of policy that relates to agricultural business management, the farm bill, commodity crops and precision agriculture. Key research studies will include the following:

- Research to support improved decision-making in farm planning and financing for farmers and lenders
- Research to support improved decision-making in financing for agricultural business owners.
- Research on the economic interrelationships in both the domestic and foreign food and agricultural industries.
- Development and maintenance of an analytical support system that facilitates research and analysis on food, agricultural and trade policy issues.
- Evaluation of supply, demand and policy factors in the U.S. and abroad that influence both short-term and long-term trade prospects and patterns.
- Information to help public policy participants and decision makers evaluate issues and increase public understanding of these issues.

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

Extension

Direct Methods	Indirect Methods
● Education Class	● Public Service Announcement
● Workshop	● Newsletters
● Group Discussion	● TV Media Programs
● One-on-One Intervention	● Web sites
	● Other 1 (Software)
	● Other 2 (Books, Articles and Pubs)

3. Description of targeted audience

Our survey and anecdotal data has shown that Extension and Experiment Station research has a greater impact on agriculture when it directly reaches those who disseminate key information. Therefore, our target audiences for Ag Business Management programs include:

- Minnesota's farmers
- Farm business management associations
- Agricultural leaders
- Other agricultural professionals (e.g., crop consultants)
- Farm business management educators
- State and federal policy makers

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	5000	8000	0	0
2012	5000	8000	0	0
2013	5000	8000	0	0
2014	5000	8000	0	0
2015	5000	8000	0	0

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

2011:0 **2012:**0 **2013:**0 **2014:**0 **2015:**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	12	1	13
2012	12	1	13
2013	12	1	13
2014	12	1	13
2015	12	1	13

V(H). State Defined Outputs

1. Output Target

- Educational events will deliver agricultural business management content. (Target expressed as the number of events.)

2011:100 **2012:**100 **2013:**100 **2014:**100 **2015:**100

V(I). State Defined Outcome

O. No.	Outcome Name
1	In post-program surveys, farm owners will report increased net in farm income as a result of actions taken. (Target expressed as an average net income increase for outcomes of any program intervention.)
2	Participants of the Agricultural Business Management (ABM) program workshops/classes and conferences will achieve significant learning gains regarding research-based agriculture business management knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending ABM program workshops/classes and conferences.)
3	Participants of Agricultural Business Management (ABM) workshops/classes and conference sessions intended to improve participant agriculture business management practices will significantly improve their management practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their agriculture business management practices as a result of attending workshops/classes and conference sessions intended to improve participant management practices.)

Outcome # 1

1. Outcome Target

In post-program surveys, farm owners will report increased net in farm income as a result of actions taken. (Target expressed as an average net income increase for outcomes of any program intervention.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:6700	**2012:**6700	**2013:**6700	**2014:**6700	**2015:**6700

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Participants of the Agricultural Business Management (ABM) program workshops/classes and conferences will achieve significant learning gains regarding research-based agriculture business management knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending ABM program workshops/classes and conferences.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:84	**2012:**86	**2013:**86	**2014:**86	**2015:**86

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 3

1. Outcome Target

Participants of Agricultural Business Management (ABM) workshops/classes and conference sessions intended to improve participant agriculture business management practices will significantly improve their management practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their agriculture business management practices as a result of attending workshops/classes and conference sessions intended to improve participant management practices.)

2. Outcome Type : Change in Action Outcome Measure

2011:75	**2012:**75	**2013:**75	**2014:**75	**2015:**75

3. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 603 - Market Economics
- 604 - Marketing and Distribution Practices
- 610 - Domestic Policy Analysis

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect 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.)

Description

The Agricultural Business Management educational content constantly adjusts to help farmers address current public policy issues, current economics and risk management for natural disasters. We expect that these matters will be constantly fluctuating and that the program will continue to be nimble in addressing those issues.

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

1. Evaluation Studies Planned

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

Description

Surveys are distributed six months after program delivery in order to determine how information from agricultural business management programs was used, and the impact on profitability.

2. Data Collection Methods

- Sampling

Description

Surveys are distributed six months after program delivery in order to determine how information from agricultural business management programs was used, and the impact on profitability.

V(A). Planned Program (Summary)

Program # 17

1. Name of the Planned Program

Horticulture

2. Brief summary about Planned Program

Research and Extension come together to provide answers and new technology to those who grow Minnesota's fruits and vegetables, as well as those who grow and maintain Minnesota's public and private green spaces. This program area conducts and supplies research to support Minnesota's vegetable crops, and will develop new varieties of such horticultural crops as potatoes, flowers including woody plants, and fruits including apples, strawberries and cold hardy grapes. It will also mobilize community volunteers to help those who develop green space in yards, gardens and community spaces.

Commercial Horticulture: Horticultural research is disseminated to commercial fruit and vegetable growers, landscape services, nurseries/greenhouses and florists. Within the nursery sector, there are three basic activities -- production of plant materials, wholesale distribution and retail distribution of nursery products. Research to develop new varieties and new growing methods range from basic to applied. Extension and outreach activities engage growers and businesses to integrate new production systems, employ organic growing methods, and integrated crop management strategies. Another program in this area connects the nationally recognized and leading apiculture research at the University with commercial and hobby beekeepers.

Consumer Horticulture: The Master Gardener program at Extension mobilizes and educates thousands of volunteers who share horticulture information in their communities. The program also provides informational materials in writing and on the Internet to assure that gardeners have answers to questions at their fingertips. The University of Minnesota is seen as a premier source for homeowner horticulture and environmental information, with a strong community-based presence as well as presence in the media. Faculty research is closely tied to this effort.

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

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

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

6. Expending other than formula funds or state-matching funds : No

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	5%		10%	
132	Weather and Climate	5%		5%	
201	Plant Genome, Genetics, and Genetic Mechanisms	5%		25%	
204	Plant Product Quality and Utility (Preharvest)	20%		10%	
205	Plant Management Systems	50%		25%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		15%	
213	Weeds Affecting Plants	5%		10%	
	Total	100%		100%	

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

1. Situation and priorities

Commercial horticulture and the green industry are some of the fastest growing segments of Minnesota's agricultural economy. Commercial growers and turf and nursery professionals continue to seek new research information and educational opportunities to refine their production practices, to increase profitability, reduce inputs and protect natural resources. Minnesota's cold climate makes conditions for growth of horticultural products challenging. Research and education will continue to reach the horticulture industry with new products and management practices that assure success.

The National Gardening Survey suggests more than half of Minnesotans are involved in some form of activity that is horticultural. This means that some 2.5 million people are creating and maintaining gardens and are affecting Minnesota's landscapes. Each of these Minnesotans ask questions that can be answered with university-based horticulture information. Technological resources are enhancing the ways that we can deliver this information, as well as the way we can use Master Gardeners to disseminate information.

For Minnesota's horticulture industry and Minnesota's gardeners, research and education will:
1) answer questions; 2) learn about and disseminate best practices in horticulture and plant health care for Minnesota's cold climate; 3) support issues and practices that protect Minnesota's climates; and 4) engage Minnesotans on behalf of horticulture research and dissemination.

2. Scope of the Program

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

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

1. Assumptions made for the Program

1) Minnesota's unique and difficult climate makes it essential that we undertake horticultural research specific to our geographic conditions. 2) Most consumers of horticulture information need timely answers to questions. 3) Within the horticulture industry and with consumers, there are conduits available to support the dissemination of information. 3) There will be continued growth in the number of small-scale commercial growers, due to the "buy local" movement and environmental concerns. 4) There are opportunities for increased impact from the results of MAES horticultural research, as solutions for Minnesota's green industries may be applicable in other northern states and areas of the world.

2. Ultimate goal(s) of this Program

Extension goals:

- to enhance the profitability of commercial growers, while maintaining food security, increasing the potential of locally-grown resources and adding value to the sustainability of the vegetable and fruit crops in Minnesota.
- to make Minnesota a place where those who create and maintain lawns, gardens and community green spaces have research-based information and local support available.

Research goals:

- To develop products that enhance the ethical and economic progress of the industry.
- To improve the products and techniques available to Minnesota growers.
- To develop new technologies and strategies that increase profitability, grower satisfaction, and decrease environmental impact of plant maintenance.
- To develop new turf grass varieties and management practices.
- To research cultivars/rootstocks and cultural systems that improve production efficiency and promote sustainability.
- To research post-harvest handling practices that improve crop use and product safety.

V(E). Planned Program (Inputs)

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

Year	Extension		Research	
	1862	1890	1862	1890
2011	8.9	0.0	50.6	0.0
2012	8.9	0.0	50.6	0.0
2013	8.9	0.0	50.6	0.0
2014	8.9	0.0	50.6	0.0
2015	8.9	0.0	50.6	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research: will be conducted to achieve the goals outlined under "ultimate goals", including discovery and development research.

Extension: will organize, coordinate and participate in events that create and update research-based education for those who grow plants, fruit, vegetables and landscapes in Minnesota. As a result of outreach and education, workshops and conferences will reach Master Gardeners, potato growers, beginning growers, farmers' markets distributors, high tunnel users, apple growers, small fruit and vegetables growers and more.

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

Extension

Direct Methods	Indirect Methods
● Education Class ● Workshop ● One-on-One Intervention ● Demonstrations ● Other 1 (on-line classes)	● Public Service Announcement ● Newsletters ● TV Media Programs ● Web sites

3. Description of targeted audience

The audiences are:

1) fresh market producers, including growers of fruits and vegetables for processing, the processing industry, associated agribusiness turf professionals, nurseries and garden centers, and landscape professionals. Several of these groups have high representations of new immigrants.

2) consumers of horticultural information for yards, gardens and landscapes. These include audiences where information is needed in a timely fashion and those who want to build basic knowledge about horticulture and environmental stewardship over time.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contact Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2011	135000	71000	50000	0
2012	135000	72000	50000	0
2013	135000	73000	50000	0
2014	135000	74000	50000	0
2015	135000	74000	50000	0

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

2011:1 **2012:**1 **2013:**1 **2014:**1 **2015:**1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2011	32	10	42
2012	32	10	42

Year	Research Target	Extension Target	Total
2013	32	10	42
2014	32	10	42
2015	32	10	42

V(H). State Defined Outputs

1. Output Target

- Workshops, classes and seminars will provide information to professionals in the commercial horticulture industry. (Target expressed as number of events.)

2011:100 **2012:**100 **2013:**100 **2014:**100 **2015:**100

- Master Gardeners, trained by Extension, will deliver hours of educational service to the residents of Minnesota. (Target expressed as the number of volunteer hours committed by Master Gardeners in a year.)

2011:200000 **2012:**200000 **2013:**200000 **2014:**200000 **2015:**200000

V(I). State Defined Outcome

O. No.	Outcome Name
1	Participants of Horticulture program events will achieve significant learning gains regarding horticulture. (Target expressed as the percentage of participants who achieved learning gains.)
2	Participants of Horticulture program events intended to improve participant horticulture practices will improve practices as a result of attending events. (Target expressed as a percentage of participants that changed one or more horticulture practice.)

Outcome # 1

1. Outcome Target

Participants of Horticulture program events will achieve significant learning gains regarding horticulture. (Target expressed as the percentage of participants who achieved learning gains.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:60	**2012:**60	**2013:**60	**2014:**60	**2015:**60

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 132 - Weather and Climate
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 213 - Weeds Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

Outcome # 2

1. Outcome Target

Participants of Horticulture program events intended to improve participant horticulture practices will improve practices as a result of attending events. (Target expressed as a percentage of participants that changed one or more horticulture practice.)

2. Outcome Type : Change in Knowledge Outcome Measure

2011:50	**2012:**50	**2013:**50	**2014:**50	**2015:**50

3. Associated Knowledge Area(s)

- 102 - Soil, Plant, Water, Nutrient Relationships
- 132 - Weather and Climate
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 213 - Weeds Affecting Plants

4. Associated Institute Type(s)

- 1862 Extension

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Because commercial horticulture is a fast-growing industry, new government regulations and public policy interventions may influence the industry in the coming years.The degree of local volunteerism available is affected by economic and social influences, and population changes will affect outreach and education practices.

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

1. Evaluation Studies Planned

- Time series (multiple points before and after program)
- 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.

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Case Study
- Observation

Description

{NO DATA ENTERED}