2010 University of Minnesota Combined Research and Extension Plan of Work

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I. Plan Overview

1. Brief Summary about Plan Of Work

This plan of work describes the goals of seventeen integrated planned programs.These programs operate as areas of expertise delivered by the University of Minnesota Extension Service and share research interests with the Minnesota Agricultural Experiment Station research.Program teams involve researchers and educators in the design, development, deliver and evaluation of educational programs grounded in research related to their priority issue.By coordinating program, business and research plans, these teams reach target audiences, evaluate stakeholder input, evaluate their work and update their program design.Working alongside these teams are administrative structures that support programs, manage stakeholders and communicate the value of the land grant system to Minnesota.

From 2010 - 2014. the University of Minnesota Extension Service and the Minnesota Agricultural Experiment Station will work together to:

•strengthen the ties between Extension and the Experiment Station; •enhance the scholarship of programs and educators; •strengthen connections between research, extension programming and communities' assessed needs; •continue to analyze the outcomes and impact of programming; •strengthen the diversity ofprograms 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.Leadership and program accountability and evaluation will work to maintain those resources.In addition, Extension will work to grow its grants-funded activities, which may influence FTEs and output/outcome targets.However, our projections rely only upon maintenance of resources.

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

Year	Extension		Research	
	1862	1890	1862	1890
2010	326.2	0.0	462.0	0.0
2011	326.2	0.0	462.0	0.0
2012	326.2	0.0	462.0	0.0
2013	326.2	0.0	462.0	0.0
2014	326.2	0.0	462.0	0.0

II. Merit Review Process

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

- Internal University Panel
- 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.

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 program team is responsible for a planned program regularly reviews trends, conducts new research and interviews key informants to assure that educational programs and field research are addressing issues of strategic importance. Program teams meet regularlyto 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.

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

During the winter of 2004, the dean and director appointed a task force to examine the status of diversity and inclusion efforts within Extension.A full report was presented in May of 2005.Nineteen recommendations were made in the areas of 1) access and representation, 2) climate and environment, 3) programs and products and 4) special initiatives.

By the end of 2006, benchmarks were set for these goals.Adjustments have been made yearly based on data collected at year end 2007 and 2008.By 2014, progress will be made in each of these areas.These benchmarks and institutional investments will affect planned programs through HR documentation, personnel assessment of cultural competence, task forces committed to improving relationships with key groups, professional development and hiring and outreach incentives.

MAES has surveyed all colleges' departments that receive funding to ascertain their processes for getting input from underserved and under-representated populations to inform their research decisions, as well as their strategies for hiring graduate research assistants to achieve more diversity.

When important to making a difference, program teams will target specific minority groups, new immigrants and other underserved audiences.Efforts to redesign programs for these targeted groups will reach underserved populations from 2008-2012.Each year, we will provide qualitative and quantitative data about service to underserved audiences.

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

We have elected to describe our CSREES planned programs around Extension's seventeen areas of expertise. These 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 CSREES reporting system will assure field accountability to CSREES 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 CSREES 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 at the same time seeing no-growth or diminishing of

formula funding for that work.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 non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder groups
- Use of media to announce public meetings and listening sessions
- Survey of traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to traditional stakeholder individuals
- Survey of traditional stakeholder groups

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."

Generally, Extension and MAES builds relationships with opinion leaders in government, education, agriculture, business, community organizations, the media, nonprofits, communities of interest and other opinion leaders. Targeted communications strategies build appreciation and active support. 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
- Open Listening Sessions
- Use Surveys
- Needs Assessments
- Use Internal Focus Groups
- Use External Focus Groups

Brief explanation.

1.A statewide Extension Citizen Advisory Committee is convened three times a year and receives conference calls and informational reports.This committee reflects our various geographic and demographic constitencies.

2.Counties conduct yearly budget reviews, assess the past performance of local Extension positions and programs, as well as their current relevance to county priorities.They base their budget decisions on the quality and relevance of the service they receive from local positions.

3.Current program participants have their needs and satisfaction measured through post-event surveys.

4.Targeted program audiences and constituents are identified by regional educators and their needs are assessed through

regular conversations, end-of-event evaluations and more formal market surveys. By deciding whether or not to partner with Extension programming, they are "voting" on the relevance and effectiveness of programs.A study in 2008 took a snapshot of organizational networks engaged by Extension. This data will be used to identify gaps and opportunities for stakeholder engagement.

5.Regional educators and researchers act as an internal focus group.By forming program teams of regional educators and researchers who have relationships with key stakeholders, these stakeholders have a say in future program efforts.

6.Legislators and higher education committees are identified by university relations and Extension's government relations department.Through personal meetings and committee presentations, Extension monitors whether the goals of the state and the voters are considered.

7. Colleges receiving MAES funding have advisory groups to inform their research decisions.This broad based input is supplemented by the 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

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

Brief explanation

A study in 2008 took a snapshot of organizational networks engaged by Extension. This data will be used to identify gaps and opportunities for stakeholder engagement. 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.

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 understaken.

3. A statement of how the input will be considered

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

Brief explanation.

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

•Which stakeholders 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

4-H Programs in Minnesota

2. Brief summary about Planned Program

The 4-H Program of the University of Minnesota support three programmatic strategies that provide quality, research-based out-of-schooltime learning opportunities for youth in kindergarten through one-year post high school. Each strategy is built upon Eight Key Elements of Quality Youth Development. These three program strategies include: 1) "Adventures" programs which provide fun, short-term learning experiences that reach new audiences of youth and family meeting quality standards outlined by the Eight Key Elements of Quality Youth Development. Adventures programs also identify youth for long-term term experiences. 2) "Clubs" programs are intended to involve young people in a longer term and more intensive learning and personal development experience. 3) "Urban Youth Learn" programs provide program leaders with tools, strategies and information about multiple aspects of program planning and development so that they can become more informed participants thereby more empowered in their practices.

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 olds 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 rates, 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

- Multistate Extension
- In-State Extension

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

1. Assumptions made for the Program

Because use of out-of-school time is related to negative outcomes, positive use of out-of-school time will, ultimately, improve outcomes for youth. Trained community members and youth can deliver research-based experiences for youth. Long-term experiences are more beneficial than short-term experiences for youth, but short-term experiences can attract youth for long-term club experiences.

2. Ultimate goal(s) of this Program

To provide out-of-school time experiences that, by research, is connected to positive outcomes for youth.

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
2010	45.9	0.0	0.0	0.0
2011	45.9	0.0	0.0	0.0
2012	45.9	0.0	0.0	0.0
2013	45.9	0.0	0.0	0.0
2014	45.9	0.0	0.0	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

A variety of long and short-term activities conducted in counties will engage Minnesota's youth in long-term relationships and program activities that help them see their potential by:

•Learning By Doing •Practicing Leadership •Projects on gardening, animals, photography and much more •Science & Arts Enrichment

•Service to Communities •In urban areas, community partnerships will create these experiences, and will also provide youth-to-youth education that makes a difference.

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

Extension	
Direct Methods	**Indirect Methods**
• Education Class • Other 2 (Youth Activities) • Workshop • Demonstrations • Group Discussion • Other 1 (train the trainer/volunteer) • One-on-One Intervention	• TV Media Programs • Web sites • Other 1 (youth activity curricula) • Public Service Announcement • Billboards • Newsletters

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 targets 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	12300	6500	220000	0
2011	12300	6500	220000	0
2012	12300	6500	220000	0
2013	12300	6500	220000	0
2014	12300	6500	220000	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	0	4	0
2011	0	5	0
2012	0	6	0
2013	0	7	0
2014	0	8	0

V(H). State Defined Outputs

1. Output Target

- Well-trained adult volunteers will work with Minnesota's young people. (Target expressed as percentage of volunteers trained in effective practices for working with 4-H youth.)

2010	2011	2012	2013	2014
90	95	95	95	95

- 4-H Club membership, which is known to improve youth development outcomes, will increase. (Target expressed as the number of 4-H club members in Minnesota.)

2010	2011	2012	2013	2014
52000	52250	52500	52600	52700

V(I). State Defined Outcome

O. No	Outcome Name
1	Youth involved in 4-H programs will demonstrate skills and knowledge on target with their youth development. (Target expressed as a percentage of 4-H youth showing appropriate skills.)
2	Youth participating in 4-H programs will demonstrate more civic leadership and/or volunteerism in their communities than a statewide comparison group. (Target expressed as a percentage of difference between the two groups.)
3	Membership in 4-H will result in a choice to pursue positive life choices. (Target expressed as a percentage of difference in one positive behavior choice between 4-H members and a comparison group.)

Outcome #1

1. Outcome Target

Youth involved in 4-H programs will demonstrate skills and knowledge on target with their youth development. (Target expressed as a percentage of 4-H youth showing appropriate skills.)

2. Outcome Type : Change in Knowledge Outcome Measure

2010 :75	**2011 :** 75	**2012 :** 75	**2013 :**75	**2014 :**75

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

Outcome #2

1. Outcome Target

Youth participating in 4-H programs will demonstrate more civic leadership and/or volunteerism in their communities than a statewide comparison group. (Target expressed as a percentage of difference between the two groups.)

2. Outcome Type : Change in Action Outcome Measure

2010 :20	**2011 :** 20	**2012 :** 20	**2013 :**20	**2014 :**20

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

Membership in 4-H will result in a choice to pursue positive life choices. (Target expressed as a percentage of difference in one positive behavior choice between 4-H members and a comparison group.)

2. Outcome Type : Change in Knowledge Outcome Measure

2010 :10	**2011 :** 10	**2012 :** 10	**2013 :**10	**2014 :**10

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 806 - Youth Development

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

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

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 MN Department of Education's MN 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

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

Description

See above.

V(A). Planned Program (Summary)

Program #2

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, provides 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 his/her 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 : 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
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 developed and provided by ABM increases yearly largely due to the quality of its information and events. 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 chages in the agricultural industry and policy include:strategic positioning, tranferring management capabilities, frequent performance monitoring, evaluating new technology, monitoring external factors, managing information, and accountability.

2. Scope of the Program

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

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

1. Assumptions made for the Program

If farm businesses understand the markets, and have the tools, they will market their products more successfully. 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
2010	8.7	0.0	22.9	0.0
2011	8.7	0.0	22.9	0.0
2012	8.7	0.0	22.9	0.0
2013	8.7	0.0	22.9	0.0
2014	8.7	0.0	22.9	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 •ag 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 maintainance of an analytical support system that facilitates research and analysis on food, agriucltural and trade policy isses. •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 • One-on-One Intervention • Group Discussion • Workshop	• Other 2 (Books, Articles and Pubs) • Public Service Announcement • Web sites • Other 1 (Software) • TV Media Programs • Newsletters

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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	7000	8000	0	0
2011	6800	8000	0	0
2012	6700	8000	0	0
2013	6600	8000	0	0
2014	6500	8000	0	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :** 0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	12	1	0
2011	12	1	0
2012	12	1	0
2013	12	1	0
2014	12	1	0

V(H). State Defined Outputs

1. Output Target

- Educational events will deliver agricultural business management content. (Target expressed as the number of events.)

2010 :140 **2011** :140 **2012** :140 **2013** :140 **2014** :140

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 Agriculture 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 Agriculture 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

2010 :6700	**2011 :** 6700	**2012 :** 6700	**2013** :6700	**2014 :**6700

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 604 - Marketing and Distribution Practices

Outcome #2

1. Outcome Target

Participants of the Agriculture 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

2010 :82	**2011 :** 84	**2012 :** 86	**2013** :86	**2014 :**86

3. Associated Institute Type(s)

•1862 Extension

4. 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

Outcome #3

1. Outcome Target

Participants of Agriculture 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

2010 :77	**2011 :** 79	**2012 :** 80	**2013** :80	**2014 :**80

3. Associated Institute Type(s)

•1862 Extension

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 #3

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. 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 area of expertise. 1) The U-Lead program creates stronger leadership in communities. 2) The U-Facilitate program offers local residents, staff and leaders skills and experiences to enhance community-based decision-making; and 3) The U-Connect program helps communities design and implement public participation processes and become intentional in building bonds within and across communities; 4) The Connecting Rural Communities program convenes communities to talk about their technological future.

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
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, including:

•Doing more with less •Mandates from above •The currents of change and unexpected events •Complexity of issues •Economic realities •Social and cultural unrest •Loss of confidence in institutions •Fear of personal "assassination" as

the populace scrutinizes public leadership more 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 -- to act together. This requires the leadership of an effective democracy.

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. •Through training and modeling, community decision-makers can learn how to improve the quality and quantity of their engagement with those who have a stake in public decisions. •Community-based assessments can provide revealing information that guide communities towards appropriate actions.

2. Ultimate goal(s) of this Program

The ultimate goal is to strengthen leadership and civic engagement systems that address problems, create positive visions, engage a wide spectrum of community members and enhance the quality of life in communities.

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
2010	10.0	0.0	0.0	0.0
2011	10.0	0.0	0.0	0.0
2012	10.0	0.0	0.0	0.0
2013	10.0	0.0	0.0	0.0
2014	10.0	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 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**
• Workshop • Other 1 (Community Coaching) • Demonstrations • Group Discussion • Education Class • 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	8000	5000	500	0
2011	8000	5000	500	0
2012	8000	5000	500	0
2013	8000	5000	500	0
2014	8000	5000	500	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	0	1	0
2011	0	2	0
2012	0	2	0
2013	0	2	0
2014	0	2	0

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.)

  2010 :21 **2011** :22 **2012** :22 **2013** :22 **2014** :22

- 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.)

  2010 :10 **2011** :10 **2012** :10 **2013** :10 **2014** :10

- 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.)

  2010 :200 **2011** :200 **2012** :200 **2013** :200 **2014** :200

V(I). State Defined Outcome

O. No	Outcome Name
1	Community leadership cohort members will increase the intensity of their leadership. (Target expressed as the percentage increase in the number of leadership roles held by members of U-Lead cohort groups.)
2	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.)
3	Structured community gatherings are more productive. (Target expressed as percentage of participants who report in follow-up surveys that participation in LCE programming led to improvements in the process and product of structured community gatherings.)
4	Findings generated from community-based social capital assessments guide communities to informed action. (Target expressed as percentage of community task force members who report in follow-up surveys that the social capital assessment led to actions designed to strengthen trust, networks or civic engagement.)
5	Community decision-makers 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 follow-up surveys that collective decision-making has effectively engaged relevant stakeholders.)

Outcome #1

1. Outcome Target

Community leadership cohort members will increase the intensity of their leadership. (Target expressed as the percentage increase in the number of leadership roles held by members of U-Lead cohort groups.)

2. Outcome Type : Change in Action Outcome Measure

2010 :42	**2011 :** 42	**2012 :** 42	**2013** :42	**2014 :**42

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2

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

2010 :90	**2011 :** 90	**2012 :** 90	**2013** :90	**2014 :**90

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2010 :85	**2011 :** 85	**2012 :** 85	**2013** :85	**2014 :**85

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #4

1. Outcome Target

Findings generated from community-based social capital assessments guide communities to informed action. (Target expressed as percentage of community task force members who report in follow-up surveys that the social capital assessment led to actions designed to strengthen trust, networks or civic engagement.)

2. Outcome Type : Change in Action Outcome Measure

2010 :40	**2011 :** 40	**2012 :** 40	**2013** :40	**2014 :**40

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #5

1. Outcome Target

Community decision-makers 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 follow-up surveys that collective decision-making has effectively engaged relevant stakeholders.)

2. Outcome Type : Change in Action Outcome Measure

2010 :80	**2011 :** 80	**2012 :** 80	**2013** :80	**2014 :**80

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 work with 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

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

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. Organizations and communities who sponsor programs will be assessed through case studies and interviews. Each year, an in-depth impact study will also be done on a particular program. We expect that from 2010 - 2014, we will examine social capital assessments more thoroughly, as well as other programs.

2. Data Collection Methods

- Structured
- Observation
- Other (surveys and assessments)
- Unstructured
- Case Study

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.

Community planning assessments will be collected through communication and observation by the intervening Extension Educator.

V(A). Planned Program (Summary)

Program #4

1. Name of the Planned Program

Youth Work Institute

2. Brief summary about Planned Program

The Youth Work Institute provides education, research, evaluation and consultation to develop strong professionals, strong programs and a strong youth development field.The Youth Work Institute works with individuals and organizations to develop curricula responsive to community needs and to bridge research and practice that assures quality, capacity, accountability and high levels of youth participation. The Institute also collaborates with other community leaders to promote public conversation and community action that shapes public policy and builds public will on behalf of out-of-school-time learning opportunities for young people.

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
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.The Minnesota Mott statewide network called Youth Community Connections, the MN Commission on Out-of-School Time, and reports by the Rand Corporation and the Mott Foundation are only a few of these important reports.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

- Multistate Extension
- In-State 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
2010	7.3	0.0	0.0	0.0
2011	7.3	0.0	0.0	0.0
2012	7.3	0.0	0.0	0.0
2013	7.3	0.0	0.0	0.0
2014	7.3	0.0	0.0	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**
• Group Discussion • Other 1 (Support for collaboratives) • Education Class • Workshop • One-on-One Intervention • Other 2 (on-line and internet study)	• Web sites • Other 1 (Publications & products) • Public Service Announcement

3. Description of targeted audience

The audience for Youth Work Institute programs is all persons 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 and parents, as well as youth program and school administrators, professionals, elected officials, voters, community collaboratives 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	4200	7500	0	0
2011	4200	7500	0	0
2012	4200	7500	0	0
2013	4200	7500	0	0
2014	4200	7500	0	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :**0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	0	2	0
2011	0	2	0
2012	0	2	0
2013	0	2	0
2014	0	2	0

V(H). State Defined Outputs

1. Output Target

- Educational events will be delivered through public offerings and contracts with youth-serving organizations. (Target expressed as the number of events, classes, workshops, etc. offered.)

  2010 :120 **2011 :**120 **2012 :**120 **2013 :**120 **2014 :**120

- The number of organizations participating in capacity building consultation and technical assistance will increase. (Target expressed as number of participating organizations.)

  2010 :85 **2011 :**90 **2012 :**95 **2013 :**95 **2014 :**95

- Individuals representing diverse organizations will participate in networks and collaboratives supported by Youth Work Institute Staff. (Target expressed as number of organizations involved.)

  2010 :140 **2011 :**150 **2012 :**160 **2013 :**170 **2014 :**170

V(I). State Defined Outcome

O. No	Outcome Name
1	Participants at public 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 report that their participation increased their ability to effectively serve youth. (Target expressed as percentage of those in agreement.)
3	Youth development professionals will report that they used Youth Work Institute products and publications to strengthen their youth programs. (Targets expressed as percentage of practitioners utilizing them.)

Outcome #1

1. Outcome Target

Participants at public 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

2010 : 85	**2011 :** 85	**2012 :** 85	**2013 :** 85	**2014 :** 85

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2

1. Outcome Target

Youth Development organizations participating in consultation and technical assistance will report that their participation increased their ability to effectively serve youth. (Target expressed as percentage of those in agreement.)

2. Outcome Type : Change in Knowledge Outcome Measure

2010 : 80	**2011 :** 85	**2012 :** 85	**2013 :** 85	**2014 :** 85

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

Youth development professionals will report that they used Youth Work Institute products and publications to strengthen their youth programs. (Targets expressed as percentage of practitioners utilizing them.)

2. Outcome Type : Change in Action Outcome Measure

2010 : 60	**2011 :** 60	**2012 :** 70	**2013 :** 70	**2014 :** 70

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

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

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 Studyand 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

- Observation
- Case Study
- Mail

Description

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

V(A). Planned Program (Summary)

Program #5

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 social 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 build 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.

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
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.

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

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

1. Assumptions made for the Program

•The family is the first intimate setting for the child with the family's role being to equip children with the skills and ways of understanding who he or she is.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 children's development, and educational efforts (i.e., additional information and support) can enhance or facilitate parent behaviors that influence positive developmental outcomes in children. •Individuals in families influence each other over time and that influence runs from parent to childand from child to parent. •The context within 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 possible. 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
2010	7.7	0.0	8.0	0.0
2011	7.7	0.0	8.0	0.0
2012	7.7	0.0	8.0	0.0
2013	7.7	0.0	8.0	0.0
2014	7.7	0.0	8.0	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. 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**
• Workshop • Education Class • Group Discussion • Other 1 (web instruction)	• Public Service Announcement • TV Media Programs • Newsletters • 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 ultimately reaches 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	3500	45000	50	0
2011	3500	45000	50	0
2012	3500	45000	50	0
2013	3500	45000	50	0
2014	3500	45000	50	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :**0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	19	5	0
2011	19	5	0
2012	19	5	0
2013	19	5	0
2014	19	5	0

V(H). State Defined Outputs

1. Output Target

- Publications will be distributed.

2010	2011	2012	2013	2014
13000	13000	13000	13000	13000

- Professionals will be trained.

2010	2011	2012	2013	2014
300	300	300	300	300

- Parents will participate in Extension trainings.

2010	2011	2012	2013	2014
3000	3000	3000	3000	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.)
4	Parents mandated to participate in Parents Forever because of contentious divorce situations will increase the access of children to both parents following divorce. (The lower percentage reflects that these cases often occur where having access to both parents is not in the best interest of the children.)

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

2010 : 70	**2011 :** 70	**2012 :** 70	**2013 :** 70	**2014 :** 70

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

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

2010 : 60	**2011 :** 60	**2012 :** 60	**2013 :** 60	**2014 :** 60

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

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 Action Outcome Measure

2010 : 75	**2011 :** 75	**2012 :** 75	**2013 :** 75	**2014 :** 75

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

Outcome #4

1. Outcome Target

Parents mandated to participate in Parents Forever because of contentious divorce situations will increase the access of children to both parents following divorce. (The lower percentage reflects that these cases often occur where having access to both parents is not in the best interest of the children.)

2. Outcome Type : Change in Action Outcome Measure

2010 : 35	**2011 :** 35	**2012 :** 35	**2013 :** 35	**2014 :** 35

3. Associated Institute Type(s)

- 1862 Extension

4. Associated Knowledge Area(s)

- 802 - Human Development and Family Well-Being

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 supportfor 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

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

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

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

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 #6

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 : 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
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.

•In the 2006 JumpStart survey of high school seniors, the average knowledge of personal finance questions reported a dismal 52.4% correct. With this poor understanding of personal finance, young adults enter adulthood making poorly informed choices in the areas of credit use, lending and consumer purchases. Undergraduates carry an average of three credit cards and have an average credit card debt of $2,327. •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. •The number of personal bankruptcies in the U.S. increased in 2005.New bankruptcy legislation in 2006 impacted the ease of reducing debt responsibility through personal bankruptcy. The impact of this new legislation, for individuals and households, is yet to be determined. •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 a year ago.

2. Scope of the Program

- Integrated Research and Extension
- Multistate Integrated Research and Extension
- In-State Extension
- Multistate Research
- In-State Research
- Multistate 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 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 indiviudal 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
2010	9.6	0.0	7.0	0.0
2011	9.6	0.0	7.0	0.0
2012	9.6	0.0	7.0	0.0
2013	9.6	0.0	7.0	0.0
2014	9.6	0.0	7.0	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**
• Other 2 (webcast and other multi-media) • Workshop • Education Class • Other 1 (Training of trainers) • One-on-One Intervention	• Other 1 (Radio programs, newspaper articl) • Newsletters • Web sites • Other 2 (Publications)

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: some 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	7000	12000	7000	0
2011	7000	12000	7000	0
2012	7000	12000	7000	0
2013	7000	12000	7000	0
2014	7000	12000	7000	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	10	5	0
2011	10	5	0
2012	10	5	0
2013	10	5	0
2014	10	5	0

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.)

  2010 300 **2011** 300 **2012** 300 **2013** 300 **2014** 300

- Curricula and guides will be distributed.

  2010 3000 **2011** 3000 **2012** 3000 **2013** 3000 **2014** 3000

- Training will be held for trainers in other organizations so that they can deliver education to their constituents. (Expressed as number of events.)

  2010 80 **2011** 80 **2012** 80 **2013** 80 **2014** 80

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

2010 : 80	**2011 :** 80	**2012 :** 80	**2013 :** 80	**2014 :** 80

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

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

2010 : 80	**2011 :** 80	**2012 :** 80	**2013 :** 80	**2014 :** 80

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

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

2010 : 50	**2011 :** 50	**2012 :** 50	**2013 :** 50	**2014 :** 50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

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

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

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 #7

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:

1) The Master Naturalist Program reaches community volunteers and citizens who can disseminate environmental science education in their communities;

2) Best Practices in Field Days reaches natural resource professionals and teachers to improve the quality of their environmental science offerings; and

3) Educational Programming for Youth on the White Earth Reservation brings environmental science education directly to Native American youth.

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
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 citizen's 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

- Multistate Extension
- In-State Extension

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

1. Assumptions made for the Program

1) Quality of environmental science education can be improved through connections between research-based information and key audiences. 2) The quantity of environmental science education can be increased by expanding the number of ambassadors for environmental education. 3) 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
2010	3.5	0.0	0.0	0.0
2011	3.5	0.0	0.0	0.0
2012	3.5	0.0	0.0	0.0
2013	3.5	0.0	0.0	0.0
2014	3.5	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 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**
• Workshop • Education Class • One-on-One Intervention • Demonstrations • Other 1 (Train the trainer)	• Other 1 (electronic newsletter) • Web sites • Other 2 (events / conferences) • Newsletters

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, Environmental Sciences, the public schools and others involved in environmental science education programs. 3) 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	4500	4300	1000	0
2011	4500	4300	1000	0
2012	4500	4300	1000	0
2013	4500	4300	1000	0
2014	4500	4300	1000	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :**0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	0	1	0
2011	0	1	0
2012	0	1	0
2013	0	1	0
2014	0	1	0

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.)

  2010 :400 **2011 :**450 **2012 :**500 **2013 :**500 **2014 :**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.)

  2010 :75 **2011 :**75 **2012 :**75 **2013 :**75 **2014 :**75

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

  2010 :10 **2011 :**10 **2012 :**10 **2013 :**10 **2014 :**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	Minnesotans will have increased opportunities to participate in natural history learning activities. (Target measure reflects increases in number of events available.)
3	Master Naturalists will become more knowledgeable about natural history. (Measure expressed as a percentage of knowledge gain.)
4	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

2010 :90	**2011 :** 90	**2012 :** 90	**2013** :90	**2014 :**90

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2

1. Outcome Target

Minnesotans will have increased opportunities to participate in natural history learning activities. (Target measure reflects increases in number of events available.)

2. Outcome Type : Change in Action Outcome Measure

2010 :50	**2011 :** 50	**2012 :** 50	**2013** :50	**2014 :**50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 903 - Communication, Education, and Information Delivery

Outcome #3

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

2010 :20	**2011 :** 20	**2012 :** 20	**2013** :20	**2014 :**20

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #4

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

2010 : 5	2011 : 5	2012 : 5	2013 : 5	2014 : 5

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

- Competing Programmatic Challenges
- Competing Public priorities
- Public Policy changes
- 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 will be carried out during the development and early implementation phases of the programs (2006 - 2010) and results will inform and refine 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

- Structured
- Portfolio Reviews
- Tests
- Sampling
- Observation

Description

{NO DATA ENTERED}

V(A). Planned Program (Summary)

Program #8

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 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; and •The Onsite Sewage Treatment Program actively promotes the use of decentralized sewage treatment methods to provide wastewater 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 swimable. The pressure on water resources is growing, as the number of homes on Minnesota lakes grew 74% from 1967 to 1982. 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 Integrated Research and Extension
- Integrated Research and Extension
- Multistate Research
- Multistate 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 tomaintain 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
2010	8.0	0.0	20.7	0.0
2011	8.0	0.0	20.7	0.0
2012	8.0	0.0	20.7	0.0
2013	8.0	0.0	20.7	0.0
2014	8.0	0.0	20.7	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**
• Workshop • Other 1 (consultations) • Demonstrations • Group Discussion • One-on-One Intervention • Education Class	• Newsletters • Other 2 (DVDs) • Web sites • Other 1 (Publications)

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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	12000	15000	650	0
2011	12000	15000	650	0
2012	12000	15000	650	0
2013	12000	15000	650	0
2014	12000	15000	650	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :** 0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	45	1	0
2011	45	1	0
2012	45	1	0
2013	45	1	0
2014	45	1	0

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.)

  2010 20 **2011** 20 **2012** 20 **2013** 20 **2014** 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.)

  2010 85 **2011** 85 **2012** 85 **2013** 85 **2014** 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.)

  2010 30 **2011** 30 **2012** 30 **2013** 30 **2014** 30

- Coordinate shoreline demonstration projects that provide hands-on learning opportunities and add to educational goals.

  2010 3 **2011** 3 **2012** 3 **2013** 3 **2014** 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	Workshop participants will use information from shoreland education programming to provide education to 25 additional people, creating a multiplier effect. (Target expressed as a percentage of workshop participants.)
3	Shoreland education workshop participants will practice one or more of five lake/river friendly landscaping behaviors. (Target expressed as a percentage of workshop participants.)
4	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.)
5	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

2010 :50	**2011** : 50	**2012** : 50	**2013** :50	**2014** :50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2

1. Outcome Target

Workshop participants will use information from shoreland education programming to provide education to 25 additional people, creating a multiplier effect. (Target expressed as a percentage of workshop participants.)

2. Outcome Type : Change in Action Outcome Measure

2010 :50	**2011** : 50	**2012** : 50	**2013** :50	**2014** :50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

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

2010 :50	**2011** : 50	**2012** : 50	**2013** :50	**2014** :50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #4

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

2010	2011	2012	2013	2014
60	60	60	60	60

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #5

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

2010	2011	2012	2013	2014
3	3	3	3	3

3. Associated Institute Type(s)

•1862 Extension

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

- Mail
- Sampling
- Unstructured
- Telephone

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 #9

1. Name of the Planned Program

Natural Resources Management and Utilization

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 programs in Natural Resource and Management Utilization (NRMU) help citizens, landowners and natural resource professionals make well-informed decisions that affect theeconomic, social and ecological sustainability of their natural resources now and for future generations. NRMU programs address issues on forested, agricultural and urban landscapes.Educational programs are delivered through workshops,demonstration sites, publications, citizen-to-citizen training, and the Internet.

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
123	Management and Sustainability of Forest Resources	50%		50%	
124	Urban Forestry	25%		25%	
125	Agroforestry	15%		15%	
133	Pollution Prevention and Mitigation	10%		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

- Multistate Research
- In-State Extension
- Multistate Extension
- Multistate Integrated Research and Extension
- In-State Research
- 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 Natural Resource and Management Utilization 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. •Greater energy conservation and increased environmental benefits will be achieved on urban lands and farmsteads. •Wood products will be chosen adn 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
2010	7.1	0.0	90.8	0.0
2011	7.1	0.0	90.8	0.0
2012	7.1	0.0	90.8	0.0
2013	7.1	0.0	90.8	0.0
2014	7.1	0.0	90.8	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 NRMU program business plans will address the issues of forest, agricultural and urban landscapes.NRMU 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 shelterbelt development.

Evaluation activities for these programs are likely to begin in2009.

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

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

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.Secondary audiences include investors, crop consultants and youth.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	1750	12000	190	0
2011	1750	12000	190	0
2012	1750	12000	190	0
2013	1750	12000	190	0
2014	1750	12000	190	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	70	4	0
2011	70	4	0
2012	70	4	0
2013	70	4	0
2014	70	4	0

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.)/

2010 :	80	2011 :	80	2012 :	80	2013 :	80	2014 :	80

- Print and digital publications will provide answers to questions about sustainable management of Minnesota's natural resources. (Target expressed as number of publications distributed.)

2010 :	10000	2011 :	10000	2012 :	10000	2013 :	10000	2014 :	10000

V(I). State Defined Outcome

O. No	Outcome Name
1	Landowners will implement new forestry, agroforestry and urban forestry management practices. (Target expressed as number of acres on which new land management was improved.)
2	Landowners that implement new management practices will improve management of a significant number of acres. (Target expressed as number of acres on which management was improved.)
3	Natural resource-based businesses will become more profitable. (Target expressed as dollars earned or saved by natural resources enterprises.)

Outcome #1

1. Outcome Target

Landowners will implement new forestry, agroforestry and urban forestry management practices. (Target expressed as number of acres on which new land management was improved.)

2. Outcome Type : Change in Action Outcome Measure

2010 :300	**2011 :** 300	**2012 :** 300	**2013** :300	**2014 :**300

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

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

Outcome #2

1. Outcome Target

Landowners that implement new management practices will improve management of a significant number of acres. (Target expressed as number of acres on which management was improved.)

2. Outcome Type : Change in Action Outcome Measure

2010 :18000	**2011 :** 18000	**2012 :** 18000	**2013** :18000	**2014 :**18000

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

Natural resource-based businesses will become more profitable. (Target expressed as dollars earned or saved by natural resources enterprises.)

2. Outcome Type : Change in Condition Outcome Measure

2010 :30000	**2011 :** 30000	**2012 :** 30000	**2013** :30000	**2014 :**30000

3. Associated Institute Type(s)

•1862 Extension
•1862 Research

4. Associated Knowledge Area(s)

- 125 - Agroforestry

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Changes 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

- Before-After (before and after program)
- Retrospective (post 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 iimplemented at least one new land management practice, numbers of acres on which management was improved, and dollars earned or saved in natural resource enterprises.

2. Data Collection Methods

- Observation
- On-Site
- Unstructured
- Sampling
- Telephone
- Mail
- 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 #10

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 : 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
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
2010	2.8	0.0	0.0	0.0
2011	2.8	0.0	0.0	0.0
2012	2.8	0.0	0.0	0.0
2013	2.8	0.0	0.0	0.0
2014	2.8	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
• Other 1 (certifications) • Education Class	• 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	600	2500	0	0
2011	600	2500	0	0
2012	600	2500	0	0
2013	600	2500	0	0
2014	600	2500	0	0

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

Expected Patent Applications

2010 : 0 **2011 :** 0 **2012 :** 0 **2013 :** 0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	0	1	0
2011	0	1	0
2012	0	1	0
2013	0	1	0
2014	0	1	0

V(H). State Defined Outputs

1. Output Target

- Educational courses will be delivered to the target audiences.

  2010 : 65 **2011 :** 65 **2012 :** 65 **2013 :** 65 **2014 :** 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.)

  2010 : 1 **2011 :** 1 **2012 :** 1 **2013 :** 1 **2014 :** 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

2010 :30	**2011 :** 30	**2012 :** 30	**2013** :30	**2014 :**30

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

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

2010 :1000	**2011 :** 1000	**2012 :** 1000	**2013** :1000	**2014 :**1000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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

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 #11

1. Name of the Planned Program

Food Safety Education

2. Brief summary about Planned Program

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 : 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
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 community based and care settings, similar concerns arise with less professional resources available for trainings and standards for food preparation.

2. Scope of the Program

- Integrated Research and Extension
- In-State Extension
- Multistate Extension
- In-State Research
- Multistate Research
- 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 service because the reputations of their institutions and industry will be strengthened. The general public seeks information about food safey 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:
•Create the basic knowledge to permit the food industry to develop safe and flavorful food products •Reduce incidence of pathogens by incorporating natural anit-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
2010	8.6	0.0	12.8	0.0
2011	8.6	0.0	12.8	0.0
2012	8.6	0.0	12.8	0.0
2013	8.6	0.0	12.8	0.0
2014	8.6	0.0	12.8	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 languate 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. In the coming years, cultural adaptation for other immigratn groups are likely. 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.

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

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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	1650	7400	0	0
2011	1700	7400	0	0
2012	1750	7400	0	0
2013	1800	7400	0	0
2014	1800	7400	0	0

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	15	0	0
2011	15	0	0
2012	15	0	0
2013	15	0	0
2014	15	0	0

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.)

  2010 69 **2011** 70 **2012** 72 **2013** 74 **2014** 76

- Content for food service professionals will be translated into Spanish and other languages and adapted for the cultural orientations for related participants. (Target indicates number of courses available in languages other than English.)

  2010 4 **2011** 4 **2012** 4 **2013** 4 **2014** 4

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 inspection critical 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

2010 : 72	**2011 :** 74	**2012 :** 76	**2013 :** 78	**2014 :** 80

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

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

2010 : 67	**2011 :** 68	**2012 :** 70	**2013 :** 72	**2014 :** 72

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #3

1. Outcome Target

The MN Dept. of Health reports an 18-20% decrease in inspection critical 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

2010 : 90	**2011 :** 90	**2012 :** 90	**2013 :** 90	**2014 :** 90

3. Associated Institute Type(s)

•1862 Extension

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

If regulations become lax for food service establishments, incentive to engage in certification may decrease. As population demographic change 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 #12

1. Name of the Planned Program

Commodity Crop Production

2. Brief summary about Planned Program

The Commodity Crop Production program focuses on the development and delivery of timely research information transferand sound agronomic production principles. This research accelerates the adoption of production practices that increase profitability and reduce risks that face commodity crop producers in Minnesota. Production capacity and efficiency and crop protection are major factors supporting Minnesota crop productivity. Minnesota producers seek ways to minimize their inputs in the areas of pesticides and fertilizers by adopting new crop technologies, diversifying their crops, minimizing soil erosion with less tillage operations, and taking advantage of new alternative crop markets. New technologies, including plant transformation, genomics, and computer-assisted biology will help provide the necessary tools needed to understand and later modify plants for improved production characteristics.

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
201	Plant Genome, Genetics, and Genetic Mechanisms	10%		10%	
204	Plant Product Quality and Utility (Preharvest)	20%		20%	
205	Plant Management Systems	20%		20%	
206	Basic Plant Biology	10%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	10%		10%	
212	Pathogens and Nematodes Affecting Plants	10%		10%	
213	Weeds Affecting Plants	10%		10%	
216	Integrated Pest Management Systems	10%		10%	
	Total	100%		100%	

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

1. Situation and priorities

The primary commodity crops produced in Minnesota are corn, small grains (spring wheat, barley and oats) and soybean. These crops produce approximately $3 billionin cash receipts to Minnesota farmers, contributing economically to Minnesota's rural communities and to the state as a whole. Another important commodity crop in Minnesota is sugar beets. Minnesota ranks first nationally in sugar beet production, raising 460,000 acres annually. The annual economic benefits from the beet sugar industry in Minnesota-North Dakota include $1.1 billion in direct impacts plus another $2 billion in secondary impacts.

2. Scope of the Program

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

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 this program is to accelerate the adoption of production practices that increase profitability and reduce economic and environmental risks that face commodity crop producers in Minnesota. Research components seek to:

•Identfy 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
2010	21.5	0.0	140.7	0.0
2011	21.5	0.0	140.7	0.0
2012	21.5	0.0	140.7	0.0
2013	21.5	0.0	140.7	0.0
2014	21.5	0.0	140.7	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 programming will:

•Offer research based educational opportunites to Ag Professionals •Produce regional events for crop producers on topics such as pest management, fertility, health and safety, and production practices. •Produce publications and support materials, both online and hard copy. •Do applied research on production practices.

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

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

3. Description of targeted audience

The primary audience are the producers of corn, soybean, small grains and sugar beets. The secondary audience is the consultants who have commodity crop producers as their customers.

V(G). Planned Program (Outputs)

1. Standard output measures

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

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	47900	20000	2950	0
2011	47800	20000	2900	0
2012	47700	20000	2900	0
2013	47600	20000	2900	0
2014	47600	20000	2900	0

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

Expected Patent Applications

2010 : 2 **2011 :** 2 **2012 :** 2 **2013 :** 0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	110	10	0
2011	110	10	0
2012	110	10	0
2013	110	10	0
2014	110	10	0

V(H). State Defined Outputs

1. Output Target

- Conduct regional and local events to provide producers with latest applied research for improved crop management. (Target expressed as number of events)

2010 : 700 **2011 :** 700 **2012 :** 700 **2013 :** 700 **2014 :** 700

V(I). State Defined Outcome

O. No	Outcome Name
1	Participants of the Crops program workshops/classes and conferences will achieve significant learning gains regarding research-based crops knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Crops program workshops/classes and conferences.)
2	Participants of Crops workshops/classes and conference sessions intended to improve participant crops practices will significantly improve their crops practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their crops practices as a result of attending workshops/classes and conference sessions intended to improve participant crop practices.)

Outcome #1

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2010 :82	**2011** : 84	**2012** : 86	**2013** :88	**2014** : 88

3. Associated Institute Type(s)

•1862 Extension

4. 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

Outcome #2

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2010 :52	**2011** : 54	**2012** : 56	**2013** :58	**2014** : 58

3. Associated Institute Type(s)

•1862 Extension

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 producers are 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

- Before-After (before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- After Only (post program)
- Retrospective (post program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- During (during program)
- 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

- Observation
- On-Site
- Case Study
- Sampling

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 #13

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 the economic change and challenges facing them.Specific 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.

Community Economics outreach programs deliver education, local assessments and discussions as decision-makersplan 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.

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
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. Our priority is to strengthen the information base from which local leaders act, and to encourage them to develop a plan fortheir 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

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

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.

2. Ultimate goal(s) of this Program

The goal of our community economics programs is improved local decisions based upon high quality information and effective research and Extension education on topics of business and industry climate, tourism and public finance issues.

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
2010	13.3	0.0	5.9	0.0
2011	13.3	0.0	5.9	0.0
2012	13.3	0.0	5.9	0.0
2013	13.3	0.0	5.9	0.0
2014	13.3	0.0	5.9	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Research will be conducted to assess 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 Housing, Design 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**
• Workshop • Group Discussion • Other 1 (Research and Summary Reports) • Education Class	• 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	10000	34000	0	0
2011	10000	34000	0	0
2012	10000	34000	0	0
2013	10000	34000	0	0
2014	10000	34000	0	0

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

Expected Patent Applications

2010 : 0 **2011 :** 0 **2012 :** 0 **2013 :** 0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	14	1	0
2011	14	1	0
2012	14	1	0
2013	14	1	0
2014	14	1	0

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.)

2010 240 **2011** 240 **2012** :240 **2013** 240 **2014** 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.)

2010 :15 **2011** :16 **2012** :17 **2013** :18 **2014** :19

- 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.)

2010 :90 **2011** :90 **2012** :90 **2013** :90 **2014** :90

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, Tourism Development, Connecting Rural Communities) will apply the new research-based knowledge to plans for local economic development. (Target expressed as a percentage of participants in applied research programs initiated in prior three years who report that participation in Community Economics programming led to improved plans.)
3	Communities engaged in applied research programs (e.g., Business Retention and Expansion, Tourism Development, Connecting Rural Communities) will implement plans that result in the improvement of local economies. (Target expressed as a percentage of community task force members from programs initiative in the past three years that report programming led to a betterment of the their local economy.) Note: Communities could be those of place (geographic) or those of interest (industry or sector-based.)

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

2010 : 80	**2011 :** 80	**2012 :** 80	**2013 :** 80	**2014 :** 80

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

Outcome #2

1. Outcome Target

Participants in applied research (e.g., Business Retention and Expansion, Tourism Development, Connecting Rural Communities) will apply the new research-based knowledge to plans for local economic development. (Target expressed as a percentage of participants in applied research programs initiated in prior three years who report that participation in Community Economics programming led to improved plans.)

2. Outcome Type : Change in Action Outcome Measure

2010 : 50	**2011 :** 50	**2012 :** 50	**2013 :** 50	**2014 :** 50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 608 - Community Resource Planning and Development

Outcome #3

1. Outcome Target

Communities engaged in applied research programs (e.g., Business Retention and Expansion, Tourism Development, Connecting Rural Communities) will implement plans that result in the improvement of local economies. (Target expressed as a percentage of community task force members from programs initiative in the past three years that report programming led to a betterment of the their local economy.) Note: Communities could be those of place (geographic) or those of interest (industry or sector-based.)

2. Outcome Type : Change in Condition Outcome Measure

2010 : 40	**2011 :** 40	**2012 :** 40	**2013 :** 40	**2014 :** 40

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Economies shift with a myriad of external forces, including economic shifts which can 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.These will be monitored through phone calls, on-line surveys and one-on-one check-ins. Each year, we focus on a particular on one of the Community Economics programs for a more in-depth impact study involving multiple data sources and methods.From 2010 - 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

- Unstructured
- On-Site
- Telephone
- Structured

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 #14

1. Name of the Planned Program

Nutrition Education Program

2. Brief summary about Planned Program

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 Food Stamp NEP (FSNE), the Expanded Food and Nutrition Education Program (EFNEP), and a University funded program.The FSNE and EFNEP programs focus on diet quality, food safety, food resources management and food security.These have been designed to reach specific targetpopulations ranging from pregnant mothers to children in Head Start to elders.Through the University of Minnesota Extension Service, the FSNE and EFNEP programs directly reach individuals in 85 of Minnesota's 87 counties.Educational programs are designed and delivered to youth, adults and seniors.Programs developed for adults and seniors focus on changing learned behaviors related to food purchase and consumption.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, the program not only works to change individuals' knowledge and/or behaviors, but are 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 ofthe 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 chemcials 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 on a variety of dietary influences of colon cancer.

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
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 and 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 annual costs are 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

- Multistate Integrated Research and Extension
- Multistate Research
- In-State Research
- Multistate Extension
- In-State Extension
- 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 environmental change, 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, and

•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
2010	11.7	0.0	19.2	0.0
2011	11.7	0.0	19.2	0.0
2012	11.7	0.0	19.2	0.0
2013	11.7	0.0	19.2	0.0
2014	11.7	0.0	19.2	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

Efforts will include:

•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.
In addition, a series of research projects will explore:the impact of nutrition education on children and the impact of access of food on families; impact of healthy beverage consumption, and the food shopping behavior of low-income families. In addition, 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
• One-on-One Intervention • Education Class • Demonstrations • Workshop	• Web sites • Public Service Announcement • TV Media Programs • Newsletters

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 food service workers and managers 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	35000	250000	52500	75000
2011	37500	300000	55000	100000
2012	40000	350000	57500	125000
2013	42500	400000	60000	150000
2014	45000	450000	62500	175000

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

Expected Patent Applications

2010 :0 **2011 :**0 **2012 :** 0 **2013 :**0 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	27	3	0
2011	27	3	0
2012	27	3	0
2013	27	3	0
2014	27	3	0

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.)

2010 3500 **2011** 3500 **2012** :3500 **2013** 3500 **2014** 3500

V(I). State Defined Outcome

O. No	Outcome Name
1	An increased number of individuals will use research-based information from Extension to improve their intake of healthful foods. (Target expressed as percentage of participants who self-report change.)
2	Program participants will increase human nutrition knowledge. (Target expressed as percentage of participants who report knowledge change.)
3	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 these skills.)

Outcome #1

1. Outcome Target

An increased number of individuals will use research-based information from Extension to improve their intake of healthful foods. (Target expressed as percentage of participants who self-report change.)

2. Outcome Type : Change in Action Outcome Measure

2010 : 50	**2011 :** 50	**2012 :** 50	**2013 :** 50	**2014 :** 50

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

Outcome #2

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

2010 : 75	**2011 :** 75	**2012 :** 75	**2013 :** 75	**2014 :** 75

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

Outcome #3

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 these skills.)

2. Outcome Type : Change in Knowledge Outcome Measure

2010 : 65	**2011 :** 65	**2012 :** 65	**2013 :** 65	**2014 :** 65

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 703 - Nutrition Education and Behavior

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Reviewers should know that the number of "direct contacts" projected in our outputs section is the number of actual participants engaged in enough programming to assure positive outcomes.So, the actual number of contacts is quite higher.For example, for 2010, we are projecting 35,000 program participants who are engaged in six classes, and thus can most likely enjoy program outcomes.However, 180,000 persons are contacted to secure those 35,000.By choosing the participant numbers, the Nutrition Education program is being accountable to its program outcomes.

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

1. Evaluation Studies Planned

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

Description

We have invested in a new evaluation specialist to conduct 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.The results of this study will be available in 2010.

2. Data Collection Methods

- Structured
- Unstructured
- Sampling
- Telephone
- On-Site
- 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 #15

1. Name of the Planned Program

Livestock

2. Brief summary about Planned Program

This program includes a wide range of programming related to beef, swine, poultry, dairy cow and horse.It also includes work on animal facilities, pasture and manure management.

Animal production strategies, research development and niche markets are rapidly changing.In response,research and extension programming related to this planned program is flexible, applicable and adapts to audiences needs. The livestock industry is in the midst of major structural changes. Issues such as animal identification, disease surveillance, biosecruity, profitability, food safety and quality and the impacts of international markets are identified throughout all facets of the industry. This program is focusing on inclusion of new partnerships in educational delivery, regionalization and multi-state efforts to provide new resources and opportunites.

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
301	Reproductive Performance of Animals	10%		10%	
302	Nutrient Utilization in Animals	15%		15%	
304	Animal Genome	5%		5%	
305	Animal Physiological Processes	10%		10%	
306	Environmental Stress in Animals	5%		5%	
307	Animal Production Management Systems	30%		30%	
311	Animal Diseases	20%		20%	
315	Animal Welfare, Well-Being and Protection	5%		5%	
	Total	100%		100%	

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

1. Situation and priorities

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

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

1. Assumptions made for the Program

The major livestock categories--poultry, swine, beef, and dairy cows--share similar challenges. All face the challenge of minimizing production costs while supplying high quality product to consumer markets. Consumers are indicating a preference for high protein meat, lower fat products, convenience, product variety and high quality taste. Livestock producers must respond to these demands. One recent survey indicated producers prefer easily accessible information, such as short publications and internet/web based offerings. Local programs were preferred over travel to other locations. Disease/health remains a high priority topic.

2. Ultimate goal(s) of this Program

The ultimate goal is to assure a thriving livestock industry.To accomplish this:
Research goals are:

•To improve production efficiency. •To increase research on lean growth and alternative animal products for consumer driven markets. •To evaluate alternative feeds and feeding and management strategies to improve economic efficiency. •To determine nutrient requirements to enhance economic and environmentally sustainable animal products. To improve definition of dietary nutrient needs for food animals. •To identify major animal genes that affect growth and development, reproductive performance, lactation, and disease resistance characteristics. •To identify biotechnology that would assist producers in their efforts to accelerate the genetic improvement of animals.

Extension goals are:

•To reduce economic loss related to animal disease, environmental factors, and stress •To educate consumers and youth regarding animal production and products •To develop animal feeding strategies considering nutrient use and alternative ingredients •To increase understanding of animal management and disease. •To complete applied research to support extension efforts in animal nutrition, production, health, processing and food 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
2010	16.3	0.0	49.8	0.0
2011	16.3	0.0	49.8	0.0
2012	16.3	0.0	49.8	0.0
2013	16.3	0.0	49.8	0.0
2014	16.3	0.0	49.8	0.0

V(F). Planned Program (Activity)

1. Activity for the Program

MAES research will be conducted to achieve the goals outlined under "Ultimate Goals.
Extension activities will:
•Provide direct education via regional and local programs. •Offer train the trainer opportunities. •Use media, websites, on-line educational delivery systems, listserves, audio-conferencing and other technologies to offer extention education to a diverse audience.

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

Extension	
Direct Methods	**Indirect Methods**
• Demonstrations • Other 2 (listservs, Breeze Live-web) • Group Discussion • Other 1 (train the trainer) • Workshop • One-on-One Intervention	• Other 1 (MN Farm Information Line) • Web sites • Newsletters

3. Description of targeted audience

Minnesota dairy producers, pork producers, poultry producers, beef producers, veterinarians, consumers, Minnesota feed industry. Forage growers and feeders, and commercial hay 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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	37800	3800	4000	0
2011	37700	3800	4000	0
2012	37600	3800	4000	0
2013	37500	38000	4000	0
2014	37500	38000	4000	0

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

Expected Patent Applications

2010 : 1 **2011 :** 1 **2012 :** 1 **2013 :** 1 **2014 :** 0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	74	10	35
2011	74	10	35
2012	74	10	35
2013	74	10	35
2014	74	10	0

V(H). State Defined Outputs

1. Output Target

- Through demonstration projects, provide ideas and solutions to producers on such topics as milk house waste, manure rate application on fields, and on-farm demonstrations of forage topics such as alfalfa brown root rot variety screening, and

alfalfa fall cutting. (Target expressed as number of demonstration projects.)

2010 20 **2011** 20 **2012** 20 **2013** 20 **2014** 20

- Provide workshops, training sessions, schools, and other processor specific events. (Target expressed as number of events.)

2010 200 **2011** 200 **2012** 200 **2013** 200 **2014** 200

- The Quality Count$ initiative will sustain its cooperative partnerships with regulatory, association and production groups that assist in addressing the issue of somatic cell count. (Target expressed as the minimum number of groups involved.)

2010 25 **2011** 25 **2012** 25 **2013** 25 **2014** 25

V(I). State Defined Outcome

O. No	Outcome Name
1	Through the Quality Count$ program, the average bulk tank somatic cell count in Minnesota dairy operations will be maintained at a low level, and move downward over time through changed attitudes and improved consistency of dairy producers. (Target expressed as the somatic cell count under which Minnesota's dairy industry will stay.)
2	Participants of the Livestock program workshops/classes and conferences will achieve significant learning gains regarding research-based livestock knowledge and skills. (Target expressed as the percentage of participants who achieved significant learning gains as a result of attending Livestock program workshops/classes and conferences.)
3	Participants of the Livestock program workshops/classes and conference sessions intended to improve participant livestock practices will significantly improve their livestock practices as a result of attending the program. (Target expressed as a percentage of participants that significantly changed one or more of their livestock practices as a result of attending workshops/classes and conference sessions intended to improve participant livestock practices.)

Outcome #1

1. Outcome Target

Through the Quality Count$ program, the average bulk tank somatic cell count in Minnesota dairy operations will be maintained at a low level, and move downward over time through changed attitudes and improved consistency of dairy producers. (Target expressed as the somatic cell count under which Minnesota's dairy industry will stay.)

2. Outcome Type : Change in Condition Outcome Measure

2010 : 250000	**2011 :** 250000	**2012 :** 250000	**2013 :** 250000	**2014 :** 250000

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Production Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare, Well-Being and Protection

Outcome #2

1. Outcome Target

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

2. Outcome Type : Change in Knowledge Outcome Measure

2010 : 75	**2011 :** 76	**2012 :** 77	**2013 :** 78	**2014 :** 78

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Production Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare, Well-Being and Protection

Outcome #3

1. Outcome Target

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

2. Outcome Type : Change in Action Outcome Measure

2010 : 66	**2011 :** 67	**2012 :** 68	**2013 :** 69	**2014 :** 69

3. Associated Institute Type(s)

•1862 Extension

4. Associated Knowledge Area(s)

- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 305 - Animal Physiological Processes
- 306 - Environmental Stress in Animals
- 307 - Animal Production Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare, Well-Being and Protection

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

Description

Pressures on this industry include shifts in consumer quality demands, biosecurity threats, increasing regulations on producers related to environmental concerns, urban and suburban development creating land use issues, energy expenses and global economics.

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)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Before-After (before and after program)
- Case Study
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Description

Many evaluation components of this planned program include immediate evaluations to get feedback on events. For example, workshops are evaluated through end of session questionnaires but have also included follow up questionnaires mailed out at some interval after the workshop. Some specific areas have data bases that give evaluative information.For example the Dairy Herd Improvement Association provides somatic cell count summary reports of association member dairy herds.From that monthly data can be determine whether there are changes occurring in the industry.Similar cumulative data is available for milk plants.

2. Data Collection Methods

- Mail
- Whole population
- Case Study
- Sampling
- On-Site
- Tests
- Observation

Description
see above

V(A). Planned Program (Summary)

Program #16

1. Name of the Planned Program

Renewable Energy

2. Brief summary about Planned Program

MAES will support research to investigate the potential of renewable energy resources.Much 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, as well as 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 improve rural economic development.

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 make thoughtful decisions about our country and state's energy future.

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	0%		30%	
601	Economics of Agricultural Production and Farm Management	0%		30%	
605	Natural Resource and Environmental Economics	0%		30%	
610	Domestic Policy Analysis	0%		10%	
	Total	0%		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.

2. Scope of the Program

- In-State Research
- Multistate Research

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

1. Assumptions made for the Program

•As the U.S. seeks to reduce its dependence on petroleum products, demand for bio-based products will steadily increase. •At the same time, 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

•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 . (I am not sure I understand what you wanted to do with this statement, so the suggestion may not be helpful) •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
2010	0.0	0.0	22.0	0.0
2011	0.0	0.0	22.0	0.0
2012	0.0	0.0	22.0	0.0
2013	0.0	0.0	22.0	0.0
2014	0.0	0.0	22.0	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.

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

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

3. Description of targeted audience

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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	0	0	0	0
2011	0	0	0	0
2012	0	0	0	0
2013	0	0	0	0
2014	0	0	0	0

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

Expected Patent Applications

2010 :0 **2011 :**1 **2012 :** 1 **2013 :**0 **2014 :**0

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	15	0	0
2011	15	0	0
2012	15	0	0
2013	15	0	0
2014	15	0	0

V(H). State Defined Outputs

1. Output Target

- Graduate student research assistants

2010 :10 **2011 :**10 **2012 :**10 **2013 :**10 **2014 :**0

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.

Outcome #1

1. Outcome Target

Research will provide information on new uses for ethanol byproducts.

2. Outcome Type : Change in Knowledge Outcome Measure

2010 0 **2011 :** 0 **2012 :** 0 **2013** 0 **2014 :** 0

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

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

2010 0 **2011 :** 0 **2012 :** 0 **2013** 0 **2014 :** 0

3. Associated Institute Type(s)

•1862 Research

4. Associated Knowledge Area(s)

- 601 - Economics of Agricultural Production and Farm Management

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

2010 0 **2011 :** 0 **2012 :** 0 **2013** 0 **2014 :** 0

3. Associated Institute Type(s)

•1862 Research

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 wil 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

- {NO DATA ENTERED}

Description

{NO DATA ENTERED}

2. Data Collection Methods

- {NO DATA ENTERED}

Description

{NO DATA ENTERED}

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 to those grow Minnesota's fruits and vegetables, as well as those who grow and maintain Minnesota's green spaces.Under this program area we will report on research to support Minnesota's vegetable crops, as well as development of new varieties of such horticultural crops as potatoes, flowers including woody plants, and fruits including apples, strawberries and cold hardy grapes.

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.

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 int he media.Faculty research is closely tied to this effort.

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 : 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 focus on:1) answering questions; 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 Research
- Multistate Extension
- Multistate Integrated Research and Extension
- In-State Extension
- Integrated Research and Extension
- Multistate Research

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 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 other 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.

•To enhance the quality of life for Minnesotans in their homes and communities through the availability of green spaces.

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
2010	13.8	0.0	40.2	0.0
2011	13.8	0.0	40.2	0.0
2012	13.8	0.0	40.2	0.0
2013	13.8	0.0	40.2	0.0
2014	13.8	0.0	40.2	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 adn 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, farmer's 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**
• Workshop • Education Class • Other 1 (on-line classes) • Demonstrations • One-on-One Intervention	• Web sites • Newsletters • Public Service Announcement • TV Media Programs

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 Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
2010	143600	70000	5200	0
2011	143700	71000	5200	0
2012	143800	72000	5200	0
2013	143800	73000	5200	0
2014	143800	74000	5200	0

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

Expected Patent Applications

2010 : 1 **2011 :** 1 **2012 :** 1 **2013 :** 1 **2014 :** 1

3. Expected Peer Review Publications

Year	Research Target	Extension Target	Total
2010	32	1	0
2011	32	1	0
2012	32	1	0
2013	32	1	0
2014	32	1	0

V(H). State Defined Outputs

1. Output Target

- Workshops, classes and seminars will provide information to targeted audiences. (Target expressed as number of events.)

2010 :160 **2011 :**160 **2012 :**160 **2013 :**160 **2014 :**160

- 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.)

2010 :103100 **2011 :**103200 **2012 :**103300 **2013 :**103400 **2014 :**103500

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

2010 : 60	**2011 :** 60	**2012 :** 60	**2013 :** 60	**2014 :** 60

3. Associated Institute Type(s)

•1862 Extension

4. 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

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

2010 : 50	**2011 :** 50	**2012 :** 50	**2013 :** 50	**2014 :** 50

3. Associated Institute Type(s)

•1862 Extension

4. 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

V(J). Planned Program (External Factors)

1. External Factors which may affect Outcomes

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

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 service is affected by local appropriations, 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 different groups of individuals or program participants experiencing different levels of program intensity.
- Comparisons between program participants (individuals,group,organizations) and non-participants

Description

{NO DATA ENTERED}

2. Data Collection Methods

- Sampling
- Case Study
- Observation

Description

{NO DATA ENTERED}